Creative Art-Based Technologies for Interagency Working Together for Safeguarding Children and Young People

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Declaration

I declare that this thesis is my own work and that it has not been submitted in any form for the award of a higher degree elsewhere.

Sarah Carlick

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Dedication

I dedicate this thesis to my late mother Rosalyn Helen Carlick and the last promise I made to her was that I would complete my PhD. My mum was my best friend and was the kindest, most supportive women I had the privilege of knowing and it's been with the memory of her unconditional love, support and belief in me that I arrive here today.

I also dedicate this thesis to my beautiful daughter, Ella Rose Goodall.

Abstract

Children themselves rarely engage directly with the child protection system unless they are already referred into the system by a third party adult. New technologies have enabled children to communicate in different ways than previously. A guiding question for this thesis is whether one type of technology access, that of an application or 'app', could also facilitate children's direct access for advice, help and response from the child protection system in the UK. The current UK policy emphasis on child-focused systems and outcomes (Munro, 2011) forms a background to this thesis, which aims to identify the work required to co-produce new ways of working at the front door of child protection to extend the current socio-technical framework to improve outcomes for children. Past and present social and political developments in UK child protection and early help, a data review of smart phone apps relating to managing risk and safeguarding, and a comparison of the use of technology in related settings provide an overview of the context within which socio-technical change can occur.

The underpinning methodology recognises a crucial factor in the successful design and implementation of socio-technical change: that any proposed alteration to existing ways of working must also be adopted by a range of gatekeepers to the system, including practitioners in social work, the police, health and education, who may identify barriers and present challenges to implementation. Two separate weeks of ethnographic observation were focused on the use of technology in information management in a Multi-Agency Safeguarding Hub (MASH). Data on the child's perspective on technology and app design for safeguarding was collected through school-based workshops. A co-produced design of an application is proposed as a way of sharing information and communication pathways for multi-agency professionals and children/young people.

The project offers new ideas for promoting a child-centred approach to safeguarding. In doing so, it proposes the design principles of a digital platform consisting of a smart phone application. The proposed application is an extension of the traditional early intervention child protection discourse that will capture children's social media conversations and stories connected to keeping themselves safe. It will also include educational 'stay safe' age-appropriate games and twenty-four/seven access to multi-agency advice and guidance. Challenges for app adoption are changes to the police communication departments and the creation of a localised children's MASH to provide digital responses for self-referrals.

Table of Contents

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List of Abbreviations

A&C	Advice and Consultation
ANT	Actor Network Theory
CAF	Common Assessment Framework
CCI	Child Computer Interaction
CCG	Clinical Commissioning Group
CDS	Clinical Decision Support
CEOP	Child Exploitation and Online Protection Centre
CIN	Children in Need
CWDC	Children's Workforce Development Council
CoNR	Continuum of Need and Response
CLAE	Children Looked After by Another Authority
CMC	Computer-Mediated Communication
CP	Child Protection
CCPAS	Churches Child Protection Advisory Service
CSCW	Computer-Supported Cooperative Work
CSE	Child Sexual Exploitation
CYP	Children and Young People
DA	Domestic Abuse
DBS	Disclosure and Barring Service
DCS	Director of Children's Services
DSO	Designated Safeguarding Officer
ECPAT	End Child Prostitution, Child Pornography and Trafficking
EEIG	Electronic Educational Interactive Game
EHM	Early Help Module
EU	European Union
FA	Football Association
GIF	Graphics Interchange Format
GP	General Practitioner
GPS	Global Positioning System
HCI	Human Computer Interaction
HRA	Health Research Authority
IA	Initial Assessment
IAG	Information, Advice and Guidance
IDC	Interaction Design Community
ICS	Integrated Children's System
ICT	Information Communication Technology
IDVAC	Independent Domestic Violence Advocate Coordinator
IM	Instant Message
IRAS	Integrated Research Application System
IT	Information Technology
JCAHO	Joint Commission on Accreditation of Healthcare Organisations
LA	Local Authority

LAC	Looked After Child
LCS	Liquid Logic Children Social Care
LGBT	Lesbian, Gay, Bi Sexual, Transgender
LSAB	Local Safeguarding Adult Board
LSCB	Local Safeguarding Children Board
MASH	Multi-Agency Safeguarding Hub
MFH	Missing From Home
MIS	Management Information System
MISPA	Missing Person
NHS	National Health Service
NSPCC	National Society for the Prevention of Cruelty to Children
NWAS	Northwest Ambulance Service
NYAS	National Youth Advocacy Service
PANSS	Positive and Negative Syndrome Scale
PDF	Portable Document Format
PNC	Police National Computer
PVP	Protecting Vulnerable People
QA	Quality Assurance
RAG	Red Amber Green
RC	Referral Clerks
RIC	Referral Information Coordinator
RE	Requirement Engineering
RR	Risk Rated
RTC	Risk to Children
SCR	Serious Case Review
SDM	Structured Decision Making
SMS	Short Message Service
SNS	Social Networking Site
STD	Sexual Transmitted Diseases
UCD	User Centre Design
UK	United Kingdom
UML	Industry Standard Notions
UNCRC	United Nations Convention on the Rights of the Child
UX	User Experience
VA	Vulnerable Adult
VC	Vulnerable Child

List of Figures

List of Tables

Glossary

'Children' refers to all children and young people under the age of 18 as specified in the United Nations Convention on the Rights of the Child (UNCRC).

Introduction

The aim of the study is to identify creative art forms that inform new technologies that can be incorporated into the current inter-agency protection system. Since qualifying as a social worker, my passion has always been safeguarding children and I have dedicated my career to this, thus undertaking this research with twenty years' experience. I have worked in the voluntary, statutory and private sectors on a national and international level. After ten years in practice, I completed my Masters of Arts Degree, which researched how the creative arts can be incorporated into inter-agency training. Using the knowledge from my research I created my own business, applying it to consultancy and training for creating safer cultures within organisations as part of safeguarding children and adults at risk. Care, creativity and partnership working are intrinsic to my business. Thus it has given me the opportunity to work on technology projects that are located within a safeguarding context. For example, I was commissioned as a safeguarding expert to ratify and write the procedures for a company that supplies the Early Years Foundation Stages in the form of a tablet application for nurseries. The work undertaken was to ensure the application reduced the risks of misuse, security breaches and that the application was safeguarding compliant against national guidance.

Both my earlier studies and the work I have undertaken have given me a curiosity for possible technological developments and solutions. Furthermore, I bring to the study a wealth of knowledge and skills from direct work with children as a volunteer, practitioner and manager. As an observer and from engaging with them, I see how children use and interact with technology and I believe that children's safeguarding services are trailing behind the youth of today. This has led me to question how agencies communicate with children and to explore how technology can play a bigger part in bringing the two worlds together whilst still remaining child centred.

My research question remained constant over the course of this project. The research set out to explore:

- What new technologies can be incorporated into current interagency child protection systems to enable the child's voice to be heard and to improve their safety and wellbeing?

Two secondary questions followed from this:

- What are the challenges to the application of new technologies for safeguarding? And

- How might these challenges be overcome?

The questions encourage collecting new evidence for a child-centred approach by exploring possible forms of technologies that could contribute to the systems and processes for safeguarding children. This includes exploring inter-disciplinary communication pathways for managing risk and how this process can be more child centred, as well as gaining an understanding of real-time situations for assessments as part of the child protection process. The research aims to advance a shift in the way the child protection system is currently organised, away from an adult-as-gatekeeper paradigm based on the referral principle to one that is driven by children's own data capture and communication. *The Munro Review of Child Protection* (2011) found that the current system is not child friendly and children's voices are not transparent within it. The review reinforced that a child protection system should be child centred, meaning: 'Everyone involved in child protection should pursue child-centred working and recognise children and young people as individuals with rights, including their right to participation in decisions about them in line with their age and maturity' (Munro, 2011, p. 23).

Children now interact in a cyborg-childhood space that perpetrators of abuse can exploit but that many practitioners fail to engage with fully (May-Chahal et al., 2014). There may be many good reasons that prevent practitioners from optimising the potential safeguarding value of new technologies. These include access to up-to-date devices, restrictions on use, fear of confidentiality and the erosion of professional boundaries (Taylor, 2017). Central to my research question is an assertion that successful socio-technical processes must be designed with and for those who use them (Druin, 1999a, 1999b; Gavin and Read, 2016; Jenson and Skov, 2005; Sim et al., 2015; Read et al., 2014; Fitton and Read, 2016; Druin and Solomon, 1996; Horton et al., 2012). This relates to existing traditions in the established discipline of Human Computer Interaction (HCI) but includes the work of others in the field of social work that references how users as professionals (in this case social workers) are not actively involved in the design of technologies intended to assist them in everyday practice (Munro, 2005; Peckover, Hall and White, 2009; Broadhurst et al., 2010a, 2010b; Boardhurst and Mason, 2014; Hall et al., 2010; White et al., 2010). This literature shaped the choice of theory and methods including,

- Acknowledging the importance of participatory design involving children directly;

- Drawing on actor network theory to enable a view of the child protection task that examined how the child is processed through the system as an informational object;

- Carrying out ethnographic observations to make this visible and enable the identification of points in the 'network' that would be impacted by technology designed with children;

- Using focus groups to test out design proposals that emerged from this methodology.

How the use of creative technology can be placed to empower parents, carers and children to manage their own risks appears to be an under-researched and very limited field. As I will go on to show, such research calls for a repositioning of the 'child's journey' (Munro, 2011) from the perspective of the service user, rather than the service, and requires new knowledge with regard to the place of technology in sharing information, insofar as the child would have to be repositioned as a partner in the information-sharing process. Hitherto, the child has not been positioned as an equal partner but only as the subject and not always listened to (Lefevre, 2010). Since the early nineties, children have been subjects of research (DoH, 1995) but rarely have they been co-designers of the technologies (human or otherwise) aimed at their protection. The argument of whether a child is listened to and heard has been researched and debated for decades, as children continue to suffer violence and abuse at the hands of adults and others alike (Butler-Sloss, 1988; Butler and Williamson, 1994; Parton et al., 1996).

Whilst it is now commonplace, theoretically, to accept childhood as socially constituted (James and Prout, 1997), or changing over time and place (DoH, 1995), what is intriguing and relevant is how the childhood that is subject to professional practice, legislation and guidance seems to have remained largely consistent over time; however, significant and consequential changes have advanced rapidly over the last decade, connected with the role technology plays in the childhood space. Technology is now ubiquitous in the child's world, from the way in which toys are made, the use of computers in the education settings, mobile phones in the community and the internet, to the attendant extension of computer-assisted communications via social network sites and, increasingly, the 'Internet of Things'.

Within child protection discourse, childhood is framed in a different, specific way that has not adequately been explored within a social welfare dialogue. There is a sense of what the reality of the child means at any given time, as well as being implicated in the way children

are treated. This can be seen in the dialogue surrounding schools, for example, in the way in which debates have progressed concerning curricula and assessments. By a certain age and at a defined stage (such as Key Stage), a child should be able to evidence certain achievements. Such biological markers are central to child protection practice where the child is assessed against quartiles in developmental charts and against their achievement of milestones. Listening to the child sits within a different legal and therapeutic discourse. Whilst it has a developmental aspect, in terms of language and comprehension, it brings the concept of a person of equal status to an adult (worthy of hearing) into childhood. Therefore, there is a need to explore how the social welfare childhood experience adapts to this dialogic relationship, through listening and hearing, within this power dynamic. The digital world offers a range of opportunities in this regard: new ways to speak, convey information, listen and hear. How might new knowledge be gained in order to facilitate where the child is being positioned in terms of the sharing of information? Further investigation is needed into how children might feel about being 'objects of concern' (Butler-Sloss, 1988; Parton, 1991) and whether they are even aware that they are. If positioned as equal partners, enabled through technology, it is possible that children could be viewed from a new perspective, as the information entering the safeguarding discourses will come from them, rather than the circumstances surrounding them. The source of technological objects and their operation that can currently be seen within everyday childhood experiences is a valid place to begin.

Chapter One reviews the literature highlighting the overarching policy for child protection, children's rights and evidence from Serious Case Reviews (SCR). It considers the background and context in which significant change to safeguarding practice must take place. It places the role of technology in childhood safeguarding practices, identifying systemic Information Technology (IT) problems, referring specifically to the role of technology and its potential to enable the voice of the child to be heard within safeguarding by reflecting on the growth of children's use of technology devices.

Chapter Two focuses on the use of mobile phones as the most-used technology device by children and discusses how this may be used as a communication tool within child protection. It also makes the case for real-time applications to be used as a transparent way to share information as part of a multi-agency system on both a technological level and practical level to enhance children's safeguarding.

Chapter Three explores and compares the development of applications within health care where technology has served to increase patient clinical care. The chapter has been limited to drawing upon studies that convey the technological features of applications that facilitate self-management and self-reporting.

Chapter Four is an analysis of data collected in 2014 and 2017 on the availability of applications on the two main apps stores. This review analyses the basic content and creativeness of applications that enable children to safeguard themselves against abuse. The context of the analyses follows the sociological paradigm that childhood is socially constructed (James and Prout, 1997; James and James, 2004), framing discussion on the direction and growth of the market.

Chapter Five provides an outline of the methodology and the rationale synthesising HCI (Dickenson et al., 2007; Fleury, 2012; Fuchs and Obrist, 2010; Ham et al., 2008; Rosenbaum et al., 2002; Satchell, 2006; Zhang and Li, 2004) and Computer Child Interaction (CCI) (Druin 1999a, 1999b, 2002; Read, 2008, 2015; Read et al., 2002; Read et al., 2014; Read and Bekker, 2011; Read and Gilutz, 2016; Marshall et al., 2015; Scaife et al., 1997) as part of a multi-method approach. The chapter explains how data was collected through ethnographic observation and situated enquiries of a MASH: workshops for children based upon an adopted model of the KidReporter (Bekker et al., 2003) and a series of focus groups with practitioners from the MASH. It also incorporates the details of gaining access and recruiting participants and ethical considerations.

Chapter Six explains the workshop format of the adopted model of KidReporter (Bekker et al., 2003) and how these workshops were then facilitated. It then discusses the findings and analysis, which is set within a social-technical childhood space (James and Prout, 1997; James and James, 2004) and positions the child as a social-technical agent for change. The findings offer a discourse for design principles for a safeguarding application.

Chapter Seven sets the scene of the ethnographic observation of a MASH and presents the findings within the frame of reference of HCI (Dickenson et al., 2007; Fleury, 2012; Fuchs and Obrist, 2010; Ham et al., 2008; Rosenbaum et al., 2002; Satchell, 2006; Zhang and Li, 2004) and Computer-Supported Cooperative Work (CSCW) (Viller and Sommerville, 1999a, 1999b, 2000; Schmidt, 1997, 2000, 2002, 2011; Star and Griesemer, 1989; Carlile, 1997, 2002; Suchman, 1987; Star, 1989). This framework enables an interrogation of the social-technical network and reconstructs its actors and actants for design purposes for the purpose

of Requirement Engineering (RE). The chapter includes the coherence method by using viewpoints for system design to enable the sharing of information pathways in and around the MASH.

Chapter Eight presents the findings from the focus groups on their attitudes, experiences and views of a social-technical environment in respect of introducing an application and/or other digital platforms. This covers three key areas: the barriers and technical possibilities for children accessing the MASH, changes to the current ways of working and a technical public interface. Finally, this chapter discusses key features of an app that strengthens the assessment process whilst offering direct access for children.

Chapter Nine triangulates and synthesises the findings from Chapters Six, Seven and Eight using Actor Network Theory (ANT) (Callon, 1986; Latour, 1987, 1991, 1996, 2005; Law, 1987, 1994; Law and Hassard, 1999) as a framework for enquiry. The chapter lays out the network of human and non-human actors, describing disconnects within this socio-technical space. It discusses the problematisation on how a referral enters the MASH and how the information travels through the system, going on to suggest that the major disconnects attached to the referrals are rooted in language and current framings of risk and assessments, along with trust and uses of Information Communication Technology (ICT).

Chapter Ten proposes the design of the safeguarding app and introduces the app as part of the wider safeguarding framework. It describes the architecture of a multi-layered app and its features. It shows how children can share information through a technological front door to the MASH and outlines some of the adaptions for implementation. The chapter also offers reflections on the research project and its empirical, conceptual and technical contributions.

Chapter One. Background and Context

Safeguarding Practice in the United Kingdom (UK)

This thesis begins from the position taken by Munro (2011), examining how technology is interwoven into childhood. Munro's (2011) perspective is that the child protection system did not integrate the child's voice into child protection practice. The system was identified as not being accessible for children and families by Munro in 2011 and since then little has changed in this respect. Further 'thinking outside the box' for improvements still need to be considered, researched and adopted. Therefore, this research review focuses specifically on the use of technology in social care sectors, with a particular emphasis on discussing how this technology and its use promotes the voice of the child. It also conceptually introduces the idea of a child user led approach rather than a professional or adult user led approach.

It is not possible to promote change in safeguarding practice with children without consideration of the legal and policy context, since the law is a primary consideration in practice. Over the past decade, UK governments have introduced a range of policies that impact and interact directly with social care, including establishing measurable outcomes for children, multi-agency responsibilities for their safeguarding, further concepts of partnership, and working with families. Three pieces of legislation that are directly relevant to the purposes of this study are the United Nations Convention on the Rights of the Child (UNCRC) (UNICEF, 1989) (adopted by the UK in 1991), The Children Act 1989 (DfE, 1989), and The Children Act 2004 (DfE, 2004).

The UNCRC, Article 12, describes a state's duty to take into account that children's views matter in decision-making about their lives. Evidence suggests that children resent tokenism where consultation in the development of services takes place (Woolfson et al., 2010). However, as child welfare policies have evolved, the rhetoric regarding greater child participation has not been matched by their presence in the debates regarding the processes of governance and safeguarding. The process appears to remain largely adult-focused, and a view persists that children are talked about rather than being talked to and fully participating in the process (Gilligan and Manby, 2008; Munro, 2011).

The Children Act 1989 was the first legislation to comprehensively set out that the welfare of the child was paramount within the UK. It brought together a new way of thinking by bringing many pieces of legislation under one umbrella, but most significantly for the current

study, it confirmed statutory requirements on Local Authorities to make Section 47 enquiries where a child is suffering or is likely to suffer significant harm (DfE, 1989). This placed the responsibility for child protection enquiries with the social worker from the Local Authority (LA) in which the child lives or is found. It also placed a duty on other services to help the Local Authorities with their Section 47 enquiries. Furthermore, if the Section 47 enquiries reveal that there are no risks of significant harm or cause for concern, but that a child's needs could be met by other short-term service provision, then under Section 17 of the Act, a family should be signposted to other agencies for intervention. It is the primary context of Sections 47 and 17 with which this research is concerned. As defined in *Working Together to Safeguard Children*:

> The purpose of an assessment is always to gather relevant information about a child and family; to analyse their needs and/or the nature and level of any risk and harm being suffered by the child; to decide whether the child is a child in need (Section 17) and/or is suffering or likely to suffer significant harm (Section 47); and to provide support to address those needs to improve the child's outcomes to make them safe (DfE, 2015, pp19-20).[1]

Assessments should be a dynamic process, which analyses and responds to the fluctuating nature of levels of need and/or risk faced by a child. A good assessment monitors, records and reviews the impact of any service provision offered to the child and family. Whilst services may be delivered to the family (including parents or carers), the assessment should be focused on the needs of the child and the impact of any services on the child (DfE, 2015).[2]

Individual Local Safeguarding Children Boards (LSCB) publish a threshold document that outlines the process for the early help assessment and the type and level of early help services to be provided, including the level of need for when a case should be referred to Local Authority children's social care for assessment and for statutory services[3]. The research site area (the MASH) uses a children's Continuum of Need and Response Framework (CoNR) (see Appendix One) as their local threshold model. This is supposed to assist practitioners to identify the level of help and protection needed to assist children to reach their full potential. The CoNR also includes guidance on risk indicators (see Appendix Two) and underlying risk factors (see Appendix Three). It can also act as a visual tool used by practitioners when working with children and families. This framework provides guidance on the appropriate

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[1] See statutory assessments under the Children Act 1989

[2] An assessment of the support needs of parent carers, or non-parent carers, of disabled children may be required.

[3] The Children Act 1989, Sections 17, 47, 31 and 20.

assessment and planning procedures to follow at each level, to meet or prevent the escalation of need and support de-escalation from statutory services. Level one is access to universal services for all children, which is the critical entry point for them, for example, attending school and/or no risks identified. Level two is where children would need parental consent and where there is single agency targeted service provision based around the child and their family.[4] It may involve some unmet needs and underlying risk factors that are not being met, requiring a multi-agency early help response. Level three is where there is a variety of unmet needs and underlying risk factors that are not being addressed under a Child in Need Section 17 and level four where there is reasonable cause to suspect the child is suffering, or is likely to suffer significant harm, requiring immediate multi-agency intervention under Section 47.

In terms of access to the fours levels (of the CoNR) from a child's access point, level one is critical although, theoretically, children have access to all the levels. In the majority of cases child access has to be facilitated and authorised by an adult, for example, enrolling in a school or attending a medical appointment.[5] This is a reflection of the extent of the acknowledgement of children's agency in childhood.

Paradoxically, Lefevre's (2010) guidance on communication with children claims that open-ended work is the most effective and that assessment frameworks may impact on practitioners' abilities to work creatively, thus leaving both parties feeling powerless and frustrated.

Gillingham's (2011) study identified the unstated conditions that forty-six practitioners had developed in relation to their use of Structured Decision Making (SDM) tools. They found that the tool did not assist them in targeting those most in need. Social workers reported that they needed to go beyond the tool to make good decisions and practice effectively. They would also find ways to manipulate the SDM tools so they could work more creatively when

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[4] These early help assessments, such as the Common Assessment Framework, should identify what help the child and family require to prevent needs escalating to a point where intervention would be needed via a statutory assessment under the Children Act 1989, paragraph 26.

The early help assessment should be undertaken by a lead professional who should provide support to the child and family, act as an advocate on their behalf and coordinate the delivery of support services. The lead professional role could be undertaken, for example, by a family support worker, teacher, health visitor and / or special educational needs coordinator. Decisions about who should be the lead professional should be taken on a case-by-case basis and should be informed by the child and their family.

[5] Gillick competency and Fraser guidelines refer to a legal case which looked specifically at whether doctors should be able to give contraceptive advice or treatment to under sixteen-year-olds without parental consent. But since then, they have been more widely used to help assess whether a child has the maturity to make their own decisions and to understand the implications of those decisions (Cornock, 2007).

responding to risk. Gillingham (2011) concluded that, 'The key question for future research is whether, over time, the implementation of tools are 'just breeding workers who are good at ticking boxes', who lack the broader knowledge and skills associated with expertise in decision-making' (p. 419).

A national structured framework for assessment has been in place since 1991, as the Children Act 1989 came into effect, enhanced in 2000 with the introduction of *The Framework for the Assessment of Children in Need and their Families* (DoH, 2000). This provided guidance as part of the statutory response for an assessment process that drew together available information about a child and their family. It is presented as a triangle, placing the child in the middle of three domains: a child's developmental needs, parenting capacity, and family and environmental factors. What this begins to show is that the rhetoric concerning the place of the child in safeguarding is consistent with the paramountcy principle of the Children Act 1989. New Labour continued the move in statutory guidance away from a 'family' to one that claimed to be explicitly 'child centred', aiming to put children at the heart of policies with *Every Child Matters* (Chief Secretary to the Treasury, 2003), for Looked After Children (LAC) and the Children Act 2004. This is summarised in the welfare checklist, through reference to the wishes and feelings of the child and the 'no order' principle of intervention and action; all actions should be taken in the context of the child's best interests.

Child protection continues to be a salient political and public concern, particularly due to the death of children as a result of child maltreatment. Brandon et al.'s (2012) study from a two-year analysis of SCR's database notifications between 2009 and 2011 estimated that,

> (T)he total number of violent and maltreatment-related deaths of children (0-17 years) in England is around 85 (0.77 per 100,000 children aged 0-17) per year. Of these, around 50-55 are directly caused by violence, abuse or neglect, and there are a further 30-35 in which maltreatment was considered a contributory factor, though not the primary cause of death (Brandon et al., 2012, p. 1).

These child deaths emphasise the crucial importance of working together, the need for effective co-ordination in safeguarding children and the necessity for promoting holistic childhood development and wellbeing (Reder and Duncan, 1999; Brandon et al., 2010). A summary of three biennial analyses of SCRs highlights the need for a different approach to safeguarding practice:

> It is the individual *differences* in each child's case that pose the most challenges for understanding and hence for practice and decision making. The demands and the complexity of the task of protecting children and the importance of supporting professionals, especially social workers, to make sound professional judgements has been accepted by policy makers and, increasingly the public (Brandon, Bailey and Belerson, 2011, p. v) [author's emphasis].

In recent years there has been a growing recognition that it is not just infants and very young children that are at risk. Reports from Rochdale, Rotherham and elsewhere have highlighted the vulnerability of adolescents to child sexual exploitation, for example, as Biehal (1999) found, that eight out of thirty-six young people missing from care had been subject to brutal sexual assault such as rape and a further ten had been sexually exploited. Older children have arguably been missed within the child protection system, yet their needs are no less (Biehal, 1999, 2012). As the age range of children increases, the percentage of SCRs decreases significantly. This needs to be viewed in the context of the increased vulnerabilities of babies and young children as they grow into young people and are subject to wider community cultures. However, young people are still a product of their early childhood that created strategies for dealing with issues, coping mechanisms and reactions to others (Brandon et al., 2010). Young people can be portrayed as being too hard to reach or displaying uncontrollable behaviour and be labelled as such as a consequence of earlier events (Brandon and Thoburn, 2008). Brandon et al. (2010) found that, 'Most young people had experienced neglect and or abuse and had grown up living with the 'toxic trio' of family violence, parental substance misuse and parental mental ill health' (p. 33).

In this study, other documents of child protection information convey that in less than half of the incidents where children were concerned, they were not allocated a social worker. Even if they were allocated a social worker, children reported their dissatisfaction with communicative practices. As Lefevre, (2010) found,

> Practitioners have attributed these problems [children finding it difficult to get hold of their social worker, not returning calls and messages, social workers not spending enough time to get to know them properly] feeling overwhelmed with administrative tasks and having to report on children's experiences, wishes and feelings according to the timescale's of the court, child protection conference, assessment framework or ICS rather than at the pace at which children feel ready to communicate (Lefevre, 2010, p. 21).

Furthermore, for those that did have social workers, the chaos and dysfunction of some families were mirrored within the practitioner's actions and interventions, leading to losing

sight of the child. The lack of age-appropriate consultation with children was because they were out of sight, out of mind or too harmed to speak openly (Brandon et al., 2010). As well as the use of jargon, inflexible pre-structured working tools were found to be complex, patronising and off-putting for children (Lefevre, 2010).

These principles and themes were affirmed where the referral process was further criticised by Lord Laming (2003) in the inquiry into the death of Victoria Climbié from neglect and deliberate cruelty by her great-aunt and her aunt's partner. Lord Laming claimed at the time that Victoria's death would mark a 'turning point in ensuring proper protection of children in this country' (Hopkins, 2007). However, most publicly, the case of Peter Connelly (Haringey, 2008), a seventeen-month-old baby boy who was killed in 2007 in the same London Borough as Victoria Climbié, along with the continuing rising number of child deaths caused by maltreatment (Brandon et al., 2012), supports an argument of enduring systemic failings within the social care and health sectors (Munro, 2011). The inquiry and other research echoed that there continued to be 'practice' and 'systematic risks' within the system (Webb, 2006; Pithouse et al., 2001).

The aftermath of both the Climbié (Laming, 2003) and Connelly (Haringey, 2008) deaths sparked political debate and reworking of legislation and national guidance. It led to further regulation, internal and multi-agency inspection regimes and computerised systems that aimed to improve information exchange. The three major elements of ICT programmes have been the Integrated Children's System (ICS), the Common Assessment Framework (CAF) (Children's Workforce Development Council (CWDC), 2007), and ContactPoint, all of which were devised in order to address the needs of universal services to identify and protect the vulnerable. These were designed to make it easier to share information and aid communication in relation to individual children ultimately adopting a shared common language by agreeing a process for working together (Hall et al., 2010). The CAF was introduced as a framework to enable practitioners across agencies to assess children's additional needs for services earlier and more effectively. ContactPoint was an online database holding basic information on all children in England from birth to their eighteenth birthday and was established reactively by the government, following the recommendations made by Lord Laming (2003). ContactPoint's proposed purpose was to improve safeguarding children by strengthening the way information about children was shared between services. However, the ContactPoint database legislatively created under the Children Act 2004, proved extremely costly to set up and run. It was heavily criticised by a number of social and

health professionals due to significant privacy concerns. This resulted in its abandonment by the incoming coalition government in 2010.

Following the death of Peter Connelly (Haringey, 2008), the government commissioned Professor Eileen Munro to review the child protection system in England. Two interim reports were issued after national consultation produced criticism of the level of bureaucracy in the system. In May 2011, the final report was published with fifteen recommendations urging that there is a need for more child-focused systems that were not centred on meeting central government targets. Consequently, another revised version of *Working Together to Safeguard Children: A guide to inter-agency working to safeguard and promote the welfare of children* (DfE, 2013) was reduced from a seven-hundred-page document to just sixty-eight pages. This revision of the national guidance aimed to withdraw, 'Constraints to local innovation and professional judgment that are created by prescribing or endorsing particular approaches, for example, nationally designed assessment forms, national performance indicators associated with assessment of nationally prescribed approaches to IT systems' (Munro, 2011, p. 45).

It appears that the question of the place of the child in the process is always being addressed between what the legislation is trying to achieve and the evolving range of problems or difficulties that it is trying to accommodate and provide for. For example, the Children Act 1989 and 2004, Climbié Inquiry Report (Laming, 2003) and the Munro Review (2011) all address this question. Munro (2011) focuses upon what the child may want in all of this and posed the following questions: What is the child's journey? Where is the child's voice? The Children Act 1989 specifically lays out that the child's wishes and feelings should be taken into account, and *The Framework for the Assessment of Children in Need and their Families* (2000) places the child at the centre of assessments. Yet even though the child should be seen and the voice of the child should be heard, repeated cycles of legislation, allegations of systemic failure, inquiry, review and further legislation continue to ask but not answer how this should be done. For over three decades, the research also indicates that the voice of the child should be clearly and authentically heard (Wattam, Blagg and Hughes, 1989; Wattam, 1992; Butler and Williamson, 1994; Parton, Thorpe and Wattam, 1996; Parton and Wattam, 1999, Lefevre, 2010). Although there are clear rationales in the Children Acts of 1989 and 2004, Laming and Munro still found that the child was not central to decision-making and that the child's journey was not prioritised as late as 2003 and 2011. The child's journey is still not at the heart of practice today thus questions must be confronted, such as, how is the

child's positioning within child protection practice going to be changed? Furthermore, there are calls for a focus on 'humanity' in professional practices and upholding the human rights of children (Pithouse et al., 2011; Lefevre, 2010; Smeeton, 2015).

Multi-agency working encompasses organisational and professional boundaries as well as conceptual and theoretical issues at all levels, from senior managers to frontline practitioners. The varied terms and language used to refer to it in today's policies and statutory guidance around safeguarding children include: partnerships, multi-agency, inter-agency, multi-disciplinary, joined-up thinking, early help, working together, collaboration and integrated working. *Working Together to Safeguard Children*[6] (DfE, 2010, 2013, 2015) brought professionals from wider partner bodies who had not traditionally thought of themselves as having a safeguarding role, despite legislative mandates imposed by the Children Act 2004. The outcomes specified in that Act (Section 10 (2)), that all professionals working with children should be aiming for, remains simple: that arrangements for children should aim to improve their wellbeing in terms of harm, neglect, physical and mental health, education, social and economic wellbeing and contributing to society.[7] Furthermore, the recent introduction of the Children and Social Work Act 2017[8] (Section 16 (E)) extends safeguarding partners to include Clinical Commissioning Groups (CCG) and the police (Section 17) and establishes a National Child Safeguarding Practice Review Panel to consider learning from serious incidents (formerly SCRs). Provision has also been extended to educating children[9] with compulsory relationship education for primary school pupils in England, as well as sex and relationship education for secondary school children.

Professional groups in the child protection system can be theorised as communities of practice (Wenger, 1998). 'Communities of practice' refers to the way in which a group of professionals act as a community with a unifying identity through participation and

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[6] Working Together to Safeguard Children is the statutory guidance issued under the Local Authority Social Services Act 1970, Section 7 for multi-agency working in child protection.

[7] CA 2004 Section 10 (2)
The arrangements are to be made with a view to improving the wellbeing of children in the authority's area so far as relating to:

(a) physical and mental health and emotional wellbeing;
(b) protection from harm and neglect;
(c) education, training and recreation;
(d) the contribution made by them to society;
(e) social and economic wellbeing.

[8] The Children and Social Work Act received Royal Assent on the 27 April 2017 and aims to improve support for looked after children in England and Wales, especially for those leaving care; enable better learning about effective approaches to child protection and care in England and establish a new regulatory regime for the social work profession in England.

[9] CSW 2017 Section 34 Relationships, sex and PSHE Education.

reification. The group take an active role in building their own world and forming their own norms of practice. In extending communities of practice, the way in which information is shared between group members is learned from one another and new forms of practice are open to collective development. Multi-agency practice, recommended in successive analyses of SCRs, requires the extension of single professional communities of practice to work in new ways collectively. As Harris and Allen (2013) note in their research of children's views of multi-agency working:

> Multi-agency practice necessarily involves more complex forms of social interaction than single-agency provision and requires the renegotiation of power, control and authority across different professional boundaries. Multi-agency working is not only a reconfiguration of professional practice but is also a redefinition of professional practice (p. 406).

However, the way a child can get lost in the middle of interventions may lie in the way in which each professional group sees the child. For example, in research involving interviews with children missing from Local Authority systems (education and social care) May-Chahal and Broadhurst (2006) found that,

> Children become visible to different agencies for different reasons […] Each agency has its own priorities; they focus on a different part of a child's life, all of which will be known to connect in some way but all which are available to solution fragments (p. 449).

Paradoxically, current practice has been driven towards placing multi-agency working at the forefront of safeguarding children, with the potential unintended consequence that no single agency or practitioner may be either responsible for, or able to recognise, respond and effectively manage child abuse. Whilst the Children Act 1989 places legal responsibility for safeguarding on the Local Authority, the Children Act 2004 expands responsibility to include agencies beyond social care. These bodies include the police, youth offending teams, General Practitioners (GPs), school nurses, teachers, health visitors, midwives, housing staff, and other public service officers (DfE, 2004, S10 (4)).[10] In an in-depth, qualitative study

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[10] CA 2004 Section 10 (4)

For the purposes of this section each of the following is a relevant partner of a [local authority] in England—

(a) where the authority is a county council for an area for which there is also a district council, the district council;

(b) [the local policing body] and the Chief Officer of Police for a Police area any part of which falls within the area of the [local authority];

(c) a local probation board for an area any part of which falls within the area of the authority;

[(ca) the Secretary of State in relation to his functions under sections 2 and 3 of the Offender Management Act 2007, so far

concentrated on a sample of five local authority schools investigating the impact of multi-agency working for children and families, Harris and Allen (2013) found that the benefits of multi-agency working were felt when they were streamlined and, in effect, seamless, offering an array of benefits for children: 'These included improved educational outcomes and achievement; positive impacts on behaviour; improved attendance; raised confidence levels; improved engagement with learning; enhanced well-being; and better safeguarding process' (p. 414).

As previously mentioned, ContactPoint was introduced as a technological solution to facilitate multi-agency information sharing but was then dismissed by the government in 2010. The development of co-located social work, recommended in the Munro Review (2011), was a potential solution to the same problem: how to enable agencies to share information to safeguard children. This led to multi-agency teams taking information jointly at the point of referral, thereby reducing the complexity of the pathway into protective services in principle. These teams, referred to as 'Locality Teams' or 'Multi-Agency Safeguarding Hubs' comprise professionals from lead agencies such as social care, police and healthcare, co-located within the same office and sharing relevant information, sign-posting children and families, based upon a shared understanding of assessment and managing risk (Munro, 2011). In this arrangement, co-location has become a human-technological solution in place of electronic communication between databases where practitioners share information by accessing multiple databases within a contained environment.

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as they are exercisable in relation to England;

(cb) any provider of probation services that is required by arrangements under section 3(2) of the Offender Management Act 2007 to act as a relevant partner of the authority;]

(d) a youth offending team for an area any part of which falls within the area of the authority;

(e) a Strategic Health Authority and Primary Care Trust for an area any part of which falls within the area of the authority;

(f) a person providing services [in pursuance of section 68 of the Education and Skills Act 2008] in any part of the area of the authority;

(fa) the governing body of a maintained school that is maintained by the authority;

(fb) the proprietor of a school approved by the Secretary of State under section 342 of the Education Act 1996 and situated in the authority's area;

(fc) the proprietor of a city technology college, city college for the technology of the arts or Academy situated in the authority's area;

(fd) the governing body of an institution within the further education sector the main site of which is situated in the authority's arearen were

(fe) the Secretary of State, in relation to the Secretary of State's functions under section 2 of the Employment and Training Act 1973.

Post-Munro, the 'safeguarding world' of today embeds the practice of co-location of multi-agency professionals with the underlying rationale: that by doing so information will be shared more freely. Helm's (2017) three-month ethnographic study in a Scottish Local Authority social work team found that shared office spaces created proximity and interaction and supported critical reflective practise and feedback. Social workers appeared to act intuitively and informal discussions promoted trust and created a space for, not only informal discussion, but to make sense of emotional information. Furthermore where practitioners were given choice over office layout and space it gave them a solid foundation for sense-making which created opportunity for reflectivity. Teams can be built around the child in an effort to centralise their needs and follow the child's journey (Munro, 2011). The Home Office (2014) reported on a survey of all Local Authorities to understand the broad issues surrounding the safeguarding of vulnerable adults and children. It found that two-thirds had multi-agency models in place as the gateway to the safeguarding process and around half of these used the term MASH to describe their model. 'Although the models appear different in presentation they were all largely based upon three *common principles*: *information sharing*, *joint decision making and coordinated intervention*' (Home Office, 2014, p. 6) [author's emphasis].

Smeeton (2015) provides a new learning in the way he addresses 'knowing' and 'new forms of knowledge'. He addresses an important debate concerning new relationships, for example, co-locations of teams or children and technology. From a social work perspective he argues that practitioners (as humans) have the capacity to create new stories and that 'action' can also create new beginnings:

> Humans acting together give birth to new ideas and understandings from within the already existing set of ideas and understandings from which they come and move them onwards. New stories are created through people acting together. One of the consequences of natality is that any new understanding is fleeting, for it will cause people within this web of relationships to think and behave in new ways, which in turn will cause others to have new understandings ad infinitum (p. 21).

Drawing on Aristotle's concept of 'scientific knowledge' and Arendt's discussion on 'action', Smeeton proposes that current social work practice is one of process and not action where dominated by compliance (Munro, 2011). Smeeton's (2015) view is that in constructing children as users of their social workers' work (i.e. service users) they 'reduce their humanity to that of, at best, "consumers" of social work labour' (p. 24).

In this context, research on early help and multi-agency working as a new form of knowing in action brings a fresh new avenue of enquiry, new narratives and new beginnings to the debates concerning information sharing, the role of ICT and the safeguarding of children.

The Role of Technology in Childhood Safeguarding Practice

'In 'completing' a social work assessment and placing it on a permanent record, we are attempting to fix an understanding of the people who are its subjects and then formulate a piece of work towards stated outcomes' (Smeeton, 2015, p. 24). National policy has driven the introduction of technology into the social care sector for the purposes of time effectiveness, as well as for a system for controlling auditing and monitoring. However, many studies confirm differential implementation at a local level (Munro, 2005; Peckover, Hall and White, 2009; Broadhurst et al., 2010a, 2010b; Boardhurst and Mason, 2014; Hall et al., 2010; White et al., 2010; Gillingham, 2011, 2013; Munro, 2011; Pithouse et al., 2011). The use of technology has mainly been for the social care practitioner to record their interventions with the children, parents and families/carers that they come into contact with, rather than as a bottom-up vehicle for the child's voice that drives their overall care and safety. Furthermore, the system is not 'child-friendly' (Munro, 2011; Sanders and Mace, 2006). Studies have mainly been conducted within Local Authorities in the UK and there is little evidence of the impact on or within multi-agency settings or the voluntary sector or other organisations such as health, police and schools. However, the research finds an array of micro-practices and the outcomes of technology use in practice can depend on a range of factors (Munro, 2005; Brandon et al., 2008; Peckover, Hall and White, 2009; Broadhurst et al., 2010a, 2010b; Hall et al., 2010; White et al., 2010; Gillingham, 2011; 2013; Munro, 2011; Pithouse et al., 2011).

Peckover, Hall and White (2009), in their ethnomethodologically-informed study in one Local Authority, found that policy was interpreted variously within the local context. There was localised interpretation and usage, which appeared to be dependent on the staff training that was delivered or available. This gives rise to questions of how practitioners and children are consulted on the delivery of training in newly-deployed systems. A key finding in their study of eighty-two electronic CAFs was that child welfare practitioners did not have their own computers, that there was a lack of access to computers, and when there was access, they functioned very slowly. Although a relatively small and selective sample, these practitioners showed a wide range of confidence and skill in using computers in finding their way around the information system. The CAF purports to act as a voluntary confidential preliminary

assessment that can be accessed on a shared database and this technological element has raised familiar arguments (Parton, 1991) concerning surveillance, scrutiny and control (Pithouse et al., 2009). Alongside this, when new data sets, frameworks and hardware are introduced in attempts to ensure computer efficiency and access, there still remain a host of 'digital divides' and 'categorisations'. The issues for moving forward are bound up in an entanglement of funding, management and technical issues (Peckover, White and Hall, 2008; Pithouse et al., 2011).

As part of the same study, Broadhurst et al.'s (2010a, 2010b) multi-site ethnographic study, based in five Local Authorities in England and Wales, drawing data from fifteen social work duty and assessment teams, examined working practices in the context of the computerised systems for children's social care safeguarding. Findings show that it makes the job more demanding and has led social care practitioners to develop innovative strategies around the computerised database system to ensure it does what they need it to do. They found that there are latent conditions of error in design elements of the 'front door' (White et al., 2010) and they claim that through organisational procedures and the use of the current IT the systems is one of systemic risk. The more referrals that come through the system, the more shortcuts and 'systemic games' are played out to reach set targets. In meeting local eligibility criteria they found commonalities across the five sites, where referral rates ranged from eighty to over three hundred per month, including stagnant workflows and 'workarounds'. Referral rates are often higher due to police domestic abuse (DA) notifications. 'Speed practices', 'strategic deferment', 'sign posting' or sending the referral back to the refer asking for further information all provided ways of working round the system to meet national standards, compliance and timescales (Broadhurst et al., 2010a, 2010b; White et al., 2010). Broadhurst et al. (2010a) were told that, 'Children aged thirteen, fourteen and fifteen were routinely 'NFA-ed' (i.e. 'No Further Action' was recorded) on the basis that these children and young people 'must have lived with these concerns for a long time and be quite resilient' (p. 360).

The use of data in the social care sector has primarily been used for capturing quantitative service level data such as 'rates' of referral, compliance data, key indicators, timescales, deriving from a central and local government doctrine to measure performance (Broadhurst et al., 2010a, 2010b; Pithouse et al., 2011; Hall et al., 2010). The systems are created around this paradigm of performance management. Typically, questions that have been raised pertain to information security, consent and confidentiality and how technological practices and tools lend themselves to becoming a paperless cyber-based system:

The ubiquitous 'front and backing' of the IA [Initial Assessment] form indicates the lack of fit between tool and trade, leading to practitioners omitting whole sections. Even in the context of these short-cuts, data input demands seriously eroded valuable face-to-face time with children and their parents/carers (Broadhurst et al., 2010, p. 365).

A further issue within the computer-based systems is the use of logins and passwords. Whoever owns the passwords has an element of control and therefore reporting is not transparent. Not being able to access the system and 'being locked out' follows a pathway of then having to make telephone calls to get back into the system, which is considered time-wasting and causes frustration. A comparative study (Gilligan and Manby, 2008) of the CAF assessment for early help, launched with an electronic version of the form, conveys that a one-size-fits-all system is not that at all. The reasoning is pragmatic: practitioners are not sitting at a computer when completing the CAF. Laptops, tablets, iPads and smart phones to access electronic records are a way to incorporate the completion of the form whilst on the move, for example by inputting data between home visits whilst in the car. Working at home and working on iPads and tablets are now coming into general use in children's social care (Jeyasingham, 2016). Furthermore, practitioners firstly complete the assessment on paper (the CAF form) then transfer the same information onto the database on a computer later, thus conducting the same task twice and creating further work. Fundamentally, the findings show that using technology takes place at a different time and in another environment than at the time of face-to-face contact with the child. As a consequence, the system is laborious and imposes on workers' time by taking practitioners away from face-to-face work. The authors conclude that IT systems should not be made obsolete but that the architecture needs redesigning to ensure it acts as a more effective tool for social care workers and is fit for purpose.

The IT system famously known as the ICS implemented across Local Authorities in England has restricted social workers to working in a formally prescriptive assessment model. It is the ICS technical infrastructure that is driving the intervention and not the child's journey. One reason for this lack of attention to the child's journey may be the lack of user-centred design (Wastell et al., 2011; White et al., 2010). ICS arguably further marginalises the child in what, ironically, was intended as a child-friendly system that creates a traceable, auditable assessment process. The system architecture has encouraged a 'cut-and-paste' culture in response to referrals, often mediated by unqualified staff, with fewer home visits, a fragmented narrative (where the child and their families are broken up into isolated

compartmentalised pieces of information in multiple drop-down boxes) and widened gaps between 'help-seeker' and 'help-provider'. The child becomes an object, yet again, with a variety of concerns attached to the CAF or ICS, restricting holistic practises, thereby reducing children's information to 'stacking' databases (Broadhurst et al., 2010b; Hall et al., 2010, White et al., 2010).

> In all sites, there is increasingly little opportunity for a 'customer' to walk in and directly request help: rather, all approaches are mediated through some form of 'front of house' customer service interface, with unqualified workers often acting as initial gate keepers, with varying degrees of oversight (Broadhurst et al., 2010a, p. 358).

Refreshingly, rather than a static application of research, Ferguson (2008, 2009a, 2009b, 2010a, 2011a, 2011b, 2014a, 2014b, 2016a, 2016b, 2016c) adopted a mobile research approach offering a contemporary fluidity to the way practice is enacted. Ferguson's study was based in two Local Authorities in England, with social work teams compromising of duty short term and longer term social work teams. Over a three-month period, a total of twenty-four social workers were observed and audio-recorded. This included eighty-seven practice encounters, of which seventy-one were on home visits, nine were interviews with children in schools and seven were office interviews. The research focused on what social workers do every day. Ferguson travelled with them, becoming their shadow by accompanying them from the office, walking to the car, in the car and on to the home visit with interventions with service users. He interviewed the practitioners about their thoughts, feelings and plans and post-visit reflections, as it was imperative to understand how people acted and moved as well as their direct conversations. Findings conveyed that children are seen on their own but the amount of time is inadequate (see also Lefevre, 2010) and recommends that the culture of social work practises should be more suited to a child's world with 'experiences of time' and 'playfulness'.

> In the first survey of 132 social workers conducted in 2015, 14.5% of their time at work was spent travelling [...] and in the second survey of 187 practitioners carried out in 2016, they spent 12% of their working time travelling. By far the most time is spent on administrative tasks such as case recording and report writing, coming in at 39 and 45% respectively, figures that do not include attending meetings, which social workers in both locations spent another 12% of their time doing. The proportion of their time spent in direct contact with service users was 21 and 27% respectively (Ferguson, 2016a, p. 195).

Movement creates new behaviours, practices and relationships, in contrast to stationary desk work. Yet, ethnographic research finds that the administrative burden impacts on the time

that can be spent seeing children outside the formal office setting. Statutory requirements, performance indicators and time frames all work to limit opportunities for practitioners to be more mobile, as they are judged against such criteria (Munro, 2005; Broadhurst et al., 2010; Smeeton, 2015; Ferguson, 2016a, 2016c).

Family's' private spaces are an important feature for practice, including access to the home, and most popular is talking to a child in their bedroom (Ferguson 2011a, 2011b, 2014; Broadhurst and Mason, 2014). Through a social science lens of mobilities (Urry, 2007), Ferguson affords practitioners more opportunities to see the world from the child's standpoint and engage in direct communication. The concept of a safe confidential space allows children to become visible, for example, on a journey in the car, their bedroom or within Social Networking Sites (SNS). This neutral space gives children a crucial arena to open up in discussions on topics which they may find distressing or difficult (Ferguson, 2016a; Lefevre, 2010; Boyd, 2014). Furthermore, it breaks past parental resistance and parental barriers for workers to speak with children directly (Ferguson, 2008, 2009a, 2009b, 2010a, 2011a, 2001b, 2014a, 2014b, 2016a, 2016b, 2016c; Haringey, 2008). Homes are enclosed environments that could be reached and renegotiated with technology as the enabler to do so. Having a willingness to move either physically or technologically can pierce through such barriers, offering quick access and a valued space that might positively reframe understandings of risk. The idea of moving the body, for example crouching down or sitting next to a child (Ferguson, 2016a, 2016c), mirrors the mobility of technology and every day experiences in the lives of children today. Applications (apps) have the potential to move social work technologically into the child's world. Rather than physically walking with the child, social workers would be walking the technological path of the child. The lived experience of social work child safeguarding practice should mirror what the child does in the way they use technology, moving to manage risk together as a new digitally-mobile practise.

Thus, the present research aims to take the relevance of Ferguson (2008, 2009a, 2009b, 2010a, 2011a, 2001b, 2014a, 2014b, 2016a, 2016b, 2016c) a step further and to develop a concept of digital mobility to practise that would enable the child to enter the 'front door' with a 'true voice' and ultimately receive a response from a safe practitioner. Increasingly, through virtual motilities such as the internet, mobile phones and SNS, communicating and being connected is shifting where there is not such a need for practitioners to be desk bound. However, although I promote physical distance, realism and effective practise, this does not detract from the requirement for child and practitioner need for human contact being 'co-

present' and 'face-to-face' (Ferguson 2011a, 2011b, 2014; Broadhurst and Mason, 2014). Taking this into account and relating to the stifling processes generated by the ICS, a way in which to view this is that the more marginalised children are in the system, the more practitioners have to seek new innovative ways to engage them. To do this they must speak to children directly (Lefevre, 2010).

The Potential of Technology to Facilitate the Child's Voice in Safeguarding

Findings regarding the lack of consultation and recording of the child's voice being heard were similar to those observed in other studies over the last two decades (Parton, Thorpe and Wattam, 1997; Munro, 2011; Lefevre, 2010). There are clear limitations for parents and children to reflect and contribute to the plans produced for and about them, with the boundaries of their input prescribed (such as which meetings they can attend) and, at best, filtered through the social worker into records about them (Devaney, 2008; Spratt, 2002; Broadhurst et al., 2010; Gilligan and Manby, 2008).

> Sources of discontent and frustration include children and young people feeling they have not been given the right kind of opportunities to talk about their experiences and feelings; have not been provided with enough of the right kinds of information; have not had matters explained in a way which makes sense to them; and /or have not been consulted or involved sufficiently in assessments or decision-making process (Lefevre, 2010, p. 26).

Parents remain apprehensive about social workers getting involved with their family (Lefevre, 2010; NICE, 2017). Spratt and Callan (2004), in an interview study with twelve families, attribute safeguarding practice relationship success to social work skills, sensitivity and professionalism, which were the key elements in improved outcomes for families. The evidence was not totally reliable, as there were some contradicting perceptions by a minority of parents interviewed. A report by Mace and Saunders (2006) into children's participation and citizenship divided the study into four components: an analysis of policy documents, an analysis of child protection conference minutes, interviews with social workers, and interviews with chairs of child protection conferences. This found that social workers identified a number of barriers to engaging with families. These barriers included a lack of attendance and therefore a lack of participation, as well as social workers not having enough time, extra workloads, and their organisational procedures not being child-friendly. The study concluded by asking how a child protection system could empower the children within it with a true voice, when historically it has been built upon an unequal sharing of power. Lefevre (2010) endorses a children's human rights position; fundamentally children are 'entitled' to

be consulted. She also continually highlights that it must not be forgotten that some children have experienced harrowing and distressing situations and may find it frightening and difficult to vocalise them.

Broadhurst et al. (2010a, 2010b) found that, whilst some initial assessments were allocated an outcome of 'no further action', more typically and specifically, when initial assessments were further scrutinised in detail, they found there were repeated initial assessments of escalating severity. If parents or children had a user-friendly way to access the social care's front door for the purpose of an initial assessment and share their own information about themselves, this could improve the power imbalance and manage risk more effectively. It could allow important and relevant information to be accessed faster instead of 'no further action' or directly by children (Lefevre, 2010). Written summaries in language free of jargon that are age appropriate and that include pictorial information is seen as helpful for children to revisit (Lefevre, 2010), all of which have the potential for technology enhancement.

In decision-making by senior social workers at point of first referral, the research makes reference to the increased rate of child protection referrals over the years, making the point that it is about giving 'choice' and communications between families and professional social care workers at initial referral stage, and refers to models of risk, refining procedures and radical restructuring (Spratt, 2000; Devaney, 2009). Information sharing, more effective inter-agency relationships, and inter-professional working are key components for better outcomes for children (Devaney, 2009). There is a strong link between the CAF being used as a referral mechanism rather than in the form of 'early help' (Peckover, Hall and White, 2009; Pithouse et al., 2009). It maybe, therefore, that the current role of technology at referral for safeguarding help, alongside the media portrayal of SCRs and social work, has increased the fear of social workers and the view that they are 'interfering in family life and they will take your kids off you' (Spratt and Callan, 2004, p. 213). This acts as a barrier to technology-enabled early help for children and parents within child protection practice. Much depends on relationships that can facilitate the development of trust, safety and engagement (Biestek, 1957; Ruch, Turney and Ward, 2010; Lefervre, 2010). Children expressed the need for practitioners to be 'more like a friend' and 'someone you can contact easily', as well as having their views taken seriously (Lefervre, 2010). This highlights the potential for examining the relationships within a wider triangular dynamic between the child, the practitioner, and the technology as a relationship interface.

A debate remains over statutory powers and the individual's right to have a say in decisions about themselves (Smeeton, 2015). It is argued that age and understanding is of significance for children to retain their 'childhood' and that children should not be burdened with unnecessary information, which may cause them stress (Sanders and Mace, 2006). However, contrasting this is that,

> It is clear that children and young people want a child-centred approach, one which goes at their pace and uses modes and methods of communication which are facilitative. They want professionals to consult them about matters that concern them and keep them well informed. This means practitioners must speak directly with them, not just their parents or carers, listen to them and take what they say seriously (Lefevre, 2010, p. 38).

Current definitions of childhood in social work practice today do not incorporate the way that children live their lives within an interface to a digital world. Childhood in this century is inherently part of a ubiquitous computing culture and surrounded by technology, with the majority of children now interacting with some form of technological device, referred to as Computer-Mediated Communication (CMC) (Boyd, 2008, 2014; Lefevre, 2010; Mann et al., 2016) such as a smart phone, iPad, computer (Ofcom, 2014, 2016) and such facilitates access to information via the internet (Druin et al., 2009). The use of 'big data' by global companies interacting with children, such as Facebook and Google, increases daily. Norris and Soloway (2011) refer to this as the age of mobilism, where children's use of iPads and mobile phones are intrinsic personal devices (Mann et al., 2016; Crichton et al., 2012). In the UK, Ofcom (2016) report on how things are changing as going online is more likely by using a mobile phone. The report found:

> Tablets and mobile phones are now the most popular devices for going online, knocking laptops back into third place.
>
> Since 2015 there have been increases in the numbers of 5-15s who say that a tablet or a mobile phone is the device they use most often to go online, (39% vs. 33% for tablets and 28% vs. 19% for mobile phones). As a result, the mobile phone is now the second most popular device to go online (after tablets), overtaking laptops which were the second most popular device in 2015.
>
> 5-15s are more likely to both own and use a mobile phone than in 2015
>
> 5-15s are more likely to both use and own a mobile phone than in 2015, and four in ten (41%) now have their own smartphone. The increases in smartphone ownership are particularly evident for 8-11s (32% vs. 24%) and for 12-15s (79% vs. 69%). As a result, although tablet ownership is higher than smartphone ownership up to the age of 10, the two are then fairly even until

age 12, when smartphone ownership begins to outstrip tablet ownership (p. 6).

Thus, a key question for safeguarding services that are mandated to support children is how better to embrace the constantly emerging and changing digital space.

Children resent tokenism in consultation for the development of services and the way in which this is conducted is not yet sufficiently advanced to centralise the child (Woolfson et al., 2010). Given the dearth of literature that focuses on children and their voice being heard for consultation purposes, the research is virtually non-existent for understanding their views on their use of technology for child protection. A child's identity offline and their journey through social networks are connected, but questions remain about differences in communication between the on/offline worlds and, importantly for safeguarding, how distinctions are made in what information children share in public and private domains.

There is one significant piece of literature reporting on children's methods for assessing who they are talking to online, which was part of a wider study designed to develop software tools for improved child safety (May-Chahal et al., 2014). It proposes that children's use of the online world rarely features within everyday practice of social care. The data showed the exposure of children to online identity insincerity and the way in which they can manipulate selfhood in an online world. The report notes, 'The cyborg's ontological meaning offers social work an opportunity for revised thinking around distinctions between such concepts as male/female, adult/child, harm/wellbeing, on/offline and thus potentially new ways of thinking about childhood, social work and safeguarding' (May-Chahal et al., 2014, p. 598).

This work suggests that child protection needs to rethink its understanding and use of technology, to become more child-centred in its application and to look for new ways of incorporating technology into safeguarding practice. This means providing information in a format that is understood by children and is truly child centred and ensuring that children are able to hear what is being said in their inner worlds with confidence that their information will not be shared without their permission. Thus, creating a new safe space that enacts a new 'meta language' and offers conditions free of 'noise', using creative technological play will hopefully give children more control and importantly, re-centre them in the safeguarding process.

Conclusion

The evidence suggests that children continue to find themselves at risk as a result of other people's actions. However, the ICT systems in current multi-agency practice restrict the potential use of CMC for tackling safeguarding risks in a creative way, using mobile technology as a tool for empowering children to be heard. It therefore calls for a shift at policy and practice level to incorporate a bottom-up approach (Sanders and Mace, 2006; Peckover, Hall and White, 2009; May-Chahal et al., 2014). Although the focus of this chapter is not to argue for a change in policy, it is relevant to suggest that policy has to be continually reviewed in the light of rapidly-changing emergent technologies such that children may be more effectively safeguarded.

It appears that, in terms of safeguarding, e-technologies may be making the sharing of information less effective by interrupting the communication flow. The ICT structures the information, rather than the other way around. User design is a crucial element to overcome some of these issues, as time on the computer, sat at a desk, is time away from face-to-face practice with children or families (Wastell et al., 2011; White et al., 2010). The failure to allow the child's voice to shine through is because the technology-literacy of the child has not been factored into the equation. The introduction of ICT in social care presents a hindrance to practice, rather than being part of a system that offers a wraparound service for the child (Munro, 2005, 2011; Broadhurst et al., 2010a, 2010b; Hall et al., 2006, 2010; Pithouse et al., 2009, 2011). Furthermore, the technology becomes part of a disengaging process, with practitioners rejecting the use of equipment. For example, Peckover, White and Hall (2008) found in one Local Authority that there was a lack of access to computers or they functioned very slowly, leading to frustration and raising the question as to why other forms of ICT such as the mobile phone had not been used. For those practitioners who had learnt to live with the current ICT system, it is evident that they still struggled to make it part of their everyday work. Moving forward, if it is understood how children wish to share their concerns over their own welfare and their environmental digital world, the introduction of technology could have the potential to be an effective tool for practice.

Highlighted by its introduction in 2000, the *Framework for the Assessment of Children in Need and their Families* (Department of Health, 2000) gave the initial assessment stage a separate identity and function in its own right, although this has now been removed. The technology attached to it, ICS, was the difficulty here and not the initial assessment form. The

same issues recur across the field with the integration of electronic and paper forms for assessment, whether it is ICS, ContactPoint or the CAF. Most research studies were located within a limited geographical context, even when they crossed Local Authority boundaries. However, it may be useful for further studies to compare wider and more diverse geographical areas. Some research has been focused upon observations and interviews with professional workers relating to practices in using somewhat basic technology (Peckover, White and Hall, 2008; Westall et al., 2011). The term 'basic technology' denotes having access to a word-processing computer and ICT systems and processes that have been built to monitor and record the work flow. My research supports the work of Broadhurst et al. (2010a, 201b) and Ferguson (2008, 2009a, 2009b, 2010a, 2011a, 2011b, 2014a, 2014b, 2016a, 2016b, 2016c) embracing mobilities from a single agency connection to multi-agency front door responses. As well as walking with the child on their path, I adopt the view of multi-agency work as digitally mobile and, in doing so, understand how it needs to move to adapt to the digitally-mobile childhood space of today.

I want to propose that the connections between child, professional and technology can be greatly improved to create a more child-centred seamless approach. Such an approach has been trialled in other fields related to social care, such as telecare. In the absence of research in social care and safeguarding, there is a need to investigate these fields as to how technology, designed and employed from a child, a professional and policy perspective can be applied. Following on from the work of White et al. (2008, 2009) and Broadhurst et al. (2010a, 2010b), a question to be addressed would be how conducive the use of technology and CMC is in enhancing safer practice in today's rapidly-changing safeguarding context. Based on the research reviewed here, another question would be how such use of technology may affect systems that are currently in place, albeit ones whose operation is currently enshrined by a complexity of errors. Would risk be minimised, power displaced, better outcomes achieved, and appropriate services delivered more efficiently? Could there be a decrease of time in relation to workloads with an overall theme of location within multi-agency settings? Is it feasible to devise a comprehensive technology-enabled system that adopts a genuine mobile 'bottom-up' approach? In essence, the child could open the front door, via the idea of the cyborg child reaching out using real-time communication, to an interdisciplinary professional culture, emanating from two parallel platforms that open up 'the voice', transparency and management of 'risk' about decision-making and judgements made on or behalf of a child.

The current system creates as many barriers as it removes, in pursuit of a multi-agency approach to safeguarding children. The computer-generated information systems are still situated as silos, isolated without full integration, and thus do not manage risk effectively. Moving forward, one route for integration is the self-referral processes that link children and networks, mobile, embodied and digital, within a 'cyborg world' – a world of social networks that capture and convey information about children who may be at risk of significant harm, the people that they 'choose' to tell, and after making that choice of who to tell, how they might get the support and protection they may need. How can technology help children to move early help as part of a seamless self-referral process for protection? In exploring the potential for such a radical step in safeguarding, there is a further need to investigate how other sectors use technology in the field of everyday practice.

Chapter Two. Enabling Children and Young People as Equal Partners in Child Protection

Introduction

> The smartphone can be considered as the most important and personal tool that allows teens to be online anytime and anywhere because no one but the owner has access to it. Therefore, it makes it the most used tool for different purposes, including social media communication (Balta and Read, 2016, p. 2411).

In the previous chapter it was noted that mobile phones are now used by the majority of children. I have therefore elected to focus on mobile phones as the most promising vehicle for introducing the child's voice into the child protection system. The focus of this chapter is therefore on existing research on mobile phone technology and its use by children, examining how the use of 'real time' applications can be integrated into two agendas: safeguarding and creative technologies. The underpinning hypothesis is that real-time applications can be used by an individual to feed into and act in an effective transparent single and multi-agency system, both on a technological and a practice level to enhance children's safeguarding. The context for this research is what has traditionally been referred to as HCI research (Dickenson, et al., 2007; Fleury, 2012; Fuchs and Obrist, 2010; Ham, et al., 2008; Rosenbaum, et al., 2002; Satchell, 2006; Zhang and Li, 2004), particularly how, when and what an individual does via a mobile phone or mobile device. Communication in this format is situated in time and frequency and is contingent on the type of device (Barkhuus and Polichar, 2010; Ishii, 2006; Falaki et al., 2010; Cui and Roto, 2008; Minh tri Do, Blom and Gatica-Perez, 2011). Within HCI, children have already been defined as a user group (Driun et al., 1997; Druin, 1998; Scaife et al., 1997; Thomas and O'Kane, 1998) and have been involved in design for their own use of technologies (Jenson and Skov, 2005; Druin and Solomon, 1996). This is known as Child Computer Interaction (CCI) research (Druin, 1999a; 1999b; Gavin and Read 2016; Jenson and Skov, 2005; Sim et al., 2015; Fitton and Read, 2016; Druin and Solomon, 1996; Horton et al., 2012). Moreover, is the empirical work of the Child Computer Interaction Group (ChiCI) at the University of Central Lancashire[11]. The group share a common belief that the usability of technology for children is of importance. The group's main purpose is to provide a space for the pursuit of research into the design and evaluation of interactive products for children and novel technologies.

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[11] http://www.chici.org/

The Interaction Design Community (IDC) prefers to use a variety of research methods when engaging children in activities for new technologies (Read et al., 2014). CCI research brings in to the domain of usability, fun and playfulness, which is a key area and has been well researched (Driun 1999a, 199b, 2002; Read, 2008, 2015; Read et al., 2002; Read et al., 2014; Read and Bekker, 2011; Read and Gilutz, 2016; Marshall et al., 2015; Scaife et al., 1997).

Existing research studies on mobile phone use show how people use smart phones and smart phone applications; however, there are no studies that convey any connection to safeguarding the person, including the safeguarding of children. With regard to children, research focuses on how a subculture has emerged in mobile phone use as an extension of 'self'. This extension of self and human interactions can be seen through the use of social media such as Facebook and Twitter, email and other forms of internet use (Frohlich et al., 2007). Principal research themes are architectural design, user interaction with mobile phones, and the social and cultural context of mobile use.

This review is set out in three sections: smart phone usage, previous research methodologies and what this conveys for managing risk and ethics for any further field work and system architecture of applications. Databases searched for the review are drawn from the SCIE systematic review database list and those available through Lancaster University Library. Results are listed in Table 2.1:

Table 2.1: Databases and Search Results for Child Protection and Technology 2005-2018

Database	Technology AND Child AND Social AND Care N=	Technology AND Child AND Protection N=	Technology AND Child AND Health AND Care N=	Technology AND Assessment AND Child N=
Academic Search Complete	16	7	52	26
British Education Index	2	0	0	0
C2-SPECTR	0	0	0	0
ChildData	22	3	176	142

CINAHL	22	3	153	142
Cochrane Library (CDSR, CENTRAL)	385	194	1530	2239
Dissertation and Theses (ProQuest)	3	4	9	2
IEEE Xplore Digital Library	30	51	116	112
International Bibliography of the Social Sciences (IBSS)	21	38	53	2
Medline	40	45	195	256
PsycINFO	15	5	58	32
ScienceDirect	70	79	229	281
Web of Science	37	27	133	144

These databases were searched between 2005 and 2018. Articles were excluded if they fell prior to 2005, if they were duplicates and if they only mentioned technology in passing. This search method resulted in sixty-one publications for review. In addition, research was screened from Google Scholar, retrieving any relevant empirical studies not identified in the databases above, starting from 1980.

Smart Phone Usage and User Interaction

This review sought to find out how and why people use mobile phones. The results include many descriptive aspects such as: usage by gender, the time of day when devices are used, habit forming behaviours, triggers, contextual and environmental situations and factors, age group usage and other demographics, emotional attachments, and types of communication methods, for example, entertainment, educational learning, social networking and email.

Lenhart et al. (2010) found that girls may be at higher risk of exploitation as they tend to use the internet via their mobile phone for socialising and the use of the camera for taking photos, whereas boys tend to play more electronic games and use the internet for investigating information. A further trend was that the older the child, the more texts they send and that

girls engage with more aspects of the mobile phone than boys. These findings were validated via focus groups. The way in which children are using mobile phones is bringing a shift in traditional community dynamics: creating networks of virtual friends, extending risky behaviours (Steinberg, 2008) forming individual identities (Steinberg and Morris, 2001) and enabling the sharing of personal information. These trends are drawing in younger children who own and use phones, allowing them the opportunity to communicate in a different way to previous generations (Davidson and Martellozzo, 2013). Peer communication and the sharing of personal information are now massively expanded; information moves into and across arenas and time zones, which significantly increases the frequency of information sharing. In some countries the primary source of information for children is the internet rather than, for example, television and books (Livingstone et al., 2011). As Davidson and Martellozzo (2013) state, 'The advent of mobile technology has resulted in a converged online/offline environment in which it is possible to be in contact with friends 24 hours a day from almost anywhere in the world' (p. 4).

In the age of mobilism (Norris and Soloway, 2011) akin to Ferguson's (2008, 2009a, 2009b, 2010a, 2011a, 2001b, 2014a, 2014b, 2016a, 2016b, 2016c) work on mobility, more recent studies within CCI have emerged. Mann et al., (2016) undertook a longitudinal study where they observed a class of twenty-two primary school children (aged 10-12) in Scotland. They observed the children as they adapted to a one-child-per-iPad programme as part of the curriculum. For the first four months of the study, the children only had access to the iPads in school and thereafter they were allowed to take them home. They found that children saw the iPad as a friend that they personalised and kept close, developing a personal relationship with the device. For example, they kept checking it was still on their desk or they personalised the screen saver and shared this with friends. The children's bond with the iPad developed over time resulting in digital personalisation as a common theme. Mann et al., (2016) state: 'These behaviours were reflective of children's feelings of ownership toward their iPad, which they clearly considered as a precious personal artefact, maybe even as a companion, rather than just a helpful functional device' (p. 1839).

They also found children becoming more independent and increasing their self-confidence when given the freedom to work on the device creatively and at their own speed. The similarity here is that usually applications such a safeguarding app is likely to be downloaded on a smart phone or iPad. The tablet and smart phone is seen as a very personal device (Mann

et al., 2016; Crichten et al., 2011) and is of critical importance as a device that is in-situ with the person (Meyer, 2015; Harrison et al., 2007).

Moreover, whether children are on or offline, they participate in risk-taking behaviours in order to experiment and to form and establish their self-identity (Coleman, 2010; Livingstone et al., 2011). In this context, the mobile phone can be seen by parents as an anxiety-reducing device. This describes a two-way process in that both parents and children can call or contact each other to reduce worry. On the one hand, this may be interpreted as parental control but on the other, it offers independence and freedom whilst allowing a sense of protection and connectedness (Ribak, 2009; Ishii, 2006; Walsh et al., 2009). Furthermore, mobile phones allow children to communicate with others without being watched over; for example, without parents knowing or without constraints.

The versatility and convenience of the mobile phone is key to its success; however, this does not come without negative consequences. Six focus groups with thirty-two children (Walsh et al., 2008) discussed how the use of mobile phones interfered with other activities and how people felt lost or naked without it. There are issues of attachment and addictive behaviours by users in relation to use of mobile phones and this, in itself, can be problematic. The most powerful element of this phenomenon is the frequency of contact by users when responding to dialogues of communication. Children described the emotional roller coaster that this can cause (Walsh et al., 2008). One can never be completely confident or assured that the person receiving the information or data is not going to experience personal distress. As a seventeen-year-old female focus group participant commented, 'If no-one has contacted me I get really depressed and I'm like oh no-one loves me' (Walsh et al., 2008, p. 20).

Children are easily able to rationalise their mobile phone use as acceptable peer group behaviour. Comparatively, when forming a social identity or with the social support of groups, a new mobile phone application's popularity can rapidly increase or decrease, based upon the peer group's acceptability within their network. The essence of this is creating a shared experience. This is about being part of a social group where normalised behaviour is achievable within a different context, for example, creating social groups between children and professionals. Online communities are also a major part of communication networks and have important indications for application design. Moreover, the mobile phone for children has been used to increase feelings of safety and having it available can contain or reduce potential risky or harmful situations (Ai and Chhanabhai, 2011).

Social constructs and habitual behaviours are important to understand as these can be simultaneously modelled through the formats of one's smart phone. Predictable patterns of behaviour can also help understand relationships and communication pathways. Smart phones are more pervasive than computers and opportunities for checking behaviours such as quick access to a variety of information. There are many ways to change behavioural patterns by designing features in an application or smart phone itself, which promote behavioural triggers beyond the phone ringing. For example, it may be the interactive value of an application or simply someone had nothing else to do or is in transit (this may be termed 'down time') (Oulasvirta et al., 2012) or their mood changed (Larson et al., 1980; Balta and Read, 2016).

In a pilot study by Balta and Read (2016) that builds upon the concept of colour-mood communication with the aim of gathering teenagers feedback on a new social interaction product. There were twenty-two teenagers from a UK school aged eleven to thirteen years old. Three group sessions were conducted for 30 minutes consecutively. The groups of participants expressed themselves and interacted for social support via the app, which aimed to afford freedom to express moods with a chosen trusted friendship group. Uniquely, they were able to express their mood or feeling by attaching a colour to and sharing it. . The results conveyed that teenagers most favoured using the secret code feature (using a hidden coloured coded language) without others in the group knowing. The use of colour was most liked for its speediness and accessibility. Balta and Read (2016) reported that: 'The majority of teenagers said they would like communicating using colours, 'because it is colours'. They like the idea of associating colours with emotions because it is 'different and faster' (p. 2413).

Forty-one per cent of children aged five to eleven own a mobile phone and their usage is growing (Ofcom, 2016). Further exploration is needed to find out what triggers a younger child to use a mobile phone, even more so as this age group is categorised as the 'most vulnerable' in terms of safeguarding.

Introducing new forms of technology within family relationships can invoke a dynamic that fuels the powers of negotiation. The mobile phone gives teenagers more power in negotiations as well as expanding their spatial context beyond the traditions of the home. It can give the child more autonomy within their own time and space, but as the 'absent other' (Williams, 2005), the parent can use the mobile phone to enter into the 'teenage space'. The

mobile phone can be seen as a positive extension of parental authority outside of the home for both parent and teenager. Moreover, it can influence and have an effect on patterns of behaviour, for example, who the child is with and where they are geographically. Everyday transitions from home to community and back have moved from a traditional observable and reportable context (face-to-face), to a way of understanding human interactions where there is a strong element of trust and social interaction taking place within a concept of spatial real-time technology.

Results from the study by Walsh et al., (2009) found a strong affiliation between mobile phone use and social identification processes. It also relates to a child creating a role and social identity above and beyond the family norms. The external environment is transported by mobile devices and their downloadable applications into personal space, broadening social constructs for identity and belonging. It transforms virtual communities into meaningful relationships that are now not solely constructed in traditional ways or based on traditional values. The question then becomes how the professional sphere that is concerned with child safeguarding must itself adapt. This brings not just the device, such as the computer or the mobile phone, into the frame but crucially the changed world of childhood, including identities, practices and risks. For example, there may be a need to scrutinise and place greater emphasis on how children feel and be very mindful of feelings of 'being loved' when they are perceived as popular, as they are frequently contacted by other users, or the opposite feeling of 'lows', feelings of disconnectedness and a sense of being unwanted when there is no two-way communication or feedback to the user. This relates strongly to the safety and design aspects of smart phone applications based on similar considerations of communication, connectedness, immediate response in real-time and the misunderstanding or interpretations of the actual information that has been sent or received. The smart phone application and information that is passed through it, or entered into it, may aggravate the mood of the user, especially as there may already be vulnerabilities or risks.

This is also related to how children use SNS's to express themselves and as a means for their voice to be heard (Boyd, 2014). Thus the design of SNSs that can also become an application develop and facilitate communication environments. Going online has been part of children's everyday lives for over a decade, which is reflected in EU (European Union) Kids Online data gathered in 2009, that surveyed 25,142 internet users aged between nine and sixteen years old from 25 countries:

49 per cent go online in their bedroom, 33 per cent go online via a mobile phone or handheld device, and most use the internet at home (87 per cent) and school (63 per cent). [Furthermore, SNSs] enable children to communicate and have fun with their friends (Livingstone and Brake, 2010, p. 2).

This is steadily on the increase with figures of eighty-three per cent of twelve to fifteen year olds owning their own smartphone and fifty-five per cent have their own tablet with sixty-eight per cent watching TV mostly on a tablet or mobile. This age group state their mobile phone is the device they would miss the most and mostly use a tablet to go online (forty-nine per cent). Among eight to eleven year olds, thirty-nine per cent have their own smartphone and fifty-two per cent have their own tablet. This age group (eighty-four per cent) go online for nearly thirteen hours a week and do this by use of a tablet (forty-six per cent) and a mobile (twenty-two per cent). The younger age group five to seven year olds mostly have their own table (thirty-five per cent) and use this mostly to go online (sixty-three per cent) (Ofcom, 2017).

SNSs offer endless possibilities of creating self-images that build social online identities. Whereas once it was decorations and personalisations on bedroom walls, it can now be seen as a Facebook, Twitter or Snapchat profile, for example, having different social media accounts to show different aspects of identity. As well as 'hanging out' on social media from the comfort of home, rather than standing on a street corner, SNS's allows and supports this sense of online community (Boyd, 2007; Boyd and Ellison, 2007; Buckingham and Willett, 2006).

What does appear constant is that online social media is mainly used by children to stay in touch and share stories and experiences within their networks. Livingstone and Brake (2010) found that most children (seventy-five per cent) use the internet for communication and a quarter (twenty-three per cent) of children surveyed spent time in a virtual world, engaged in activities such as blogging and file sharing. This network has the same contacts and connections they have with their offline network and therefore is all part of maintaining their relationships within a childhood network (Livingstone and Brake, 2010; Body and Ellison, 2007; Ellison et al., 2007). How children learn to navigate the childhood social network, the social environment and how they represent themselves in public is an essential part of their growth into adulthood (Boyd, 2014).

Architectural Design

There are many elements to the system architecture of both smart phones themselves and the applications available for download. These elements can cover tracking data tools, context awareness systems, multi-functional applications and persuasive computing.

Studies in this field tend to focus on practical issues such as how long people have owned their phone, what type of smart phone it is and how often they tend to use it on a daily basis. Alongside this, there is evidence that some applications drain the battery and the energy of the phone life can become short (Falaki et al., 2010; Froehlich et al., 2007). This inevitably has an impact on any design and usage. Understanding why, when and how often people use or would use an application is an important start for the design. It has to be taken into account that there can be a diverse range of usage across users, coupled with the frequency and type of usage. The more that is learned about user behaviour, the more effective the design architecture and its purpose (Wulf, Schmidt and Randall, 2015). In their study, Falaki et al. (2010) employed a hidden tracker system (custom logging tool) but they gave the participants of the study the phones to use. A major issue was that the custom logging tool worked only when the phone was plugged in to the mains to maximise battery life. It also contradicts the findings by children where they are likely to be at maximum engagement when the application is on their personal phone, incorporating the phone as an extension of their own identity. As Falaki et al. (2010) states 'Our findings strongly motivate the need for customizing smart phones to their users' (p. 190).

The custom logging tool found it hard to identify any correlation between times and the duration of time when users use the phones. Users appeared to devote time to a subset of applications of their choice with the applications' popularity with usage being dependent on the time of day. Direct observation of usage combined with an in-built tracking system into the architecture of the application could enhance findings. Falaki et al. (2010) found that with the use of contextual inquiry, examining and interviewing the users can prove difficult in real time. However, a logging tool system can offer this information from a platform in the background (Cui and Roto, 2008).

Cui and Roto (2008) conducted a series of user studies on how people use the internet via mobile devices with forty-seven participants between 2004 and 2007, complemented with phone log analysis of five hundred and seventy-seven panellists in 2007. They found that usage was dependent on where people were and what they were doing. For example, usage

increased at night or if people were stationary, such as sitting at home or in a cafe. The main characteristic of tracking or logging systems is not to allow it to interfere with the user experience. For example, if the phone system or application crashed, this could lead to a decrease in participation of the application by the user (Froehlich et al., 2007).

In the argument for whether the design increases a person's usage for their enhanced experience or how they perceive multifaceted functionality, the design of the interface is critical. As Barkhuus and Polichar (2010) stated,

> The richness of multi-functionality permits unprecedented integration in the immediate world of the user. If we want to understand and design for the world as it is, rather than the world as forecast, we must consider seriously how multi-functionality benefits users (p. 630).

The question is how multi-functionality fits into 'creative technologies' and its capability to work in sophisticated multi-media data sets. For example, when someone chooses to text rather than email or use Facebook Messenger, how would these forms of communication be captured in real-time, where the content of the communication is exactly the same but just delivered via a different function or format? Barkhuus and Polichar (2010) found that, 'Users found creative ways to adapt less-suitable technology to their own circumstance by mixing applications' (p. 633).

The creation of a safeguarding application could have the ability to create different applications or layers in one architectural structure. The application then becomes 'creative' in its own right as a foundation that is built upon permitting the flexibility for the user experience. It should be remembered, first and foremost, that the smart phone is a personal device and an extension of self, and the journey of safeguarding is an individual's own personal journey.

Barkhuus and Polichar (2010) highlight in their discussions:

> Transparency seamlessness is not attained in smooth use of the functions on the users' phones, but instead in the combining of every day applications and tasks on a single mobile platform and in the possibilities offered by a portfolio of services (pp.637-638).

If children use the applications for information-seeking and fact-finding (Cui and Roto, 2008; Mann et al., 2016) then a safeguarding application could be built with factual information that is needed by the child (for example, communicating with trusted adults, watching videos or information on staying safe), and for professional purposes (such as assessments, case notes

and managing of their own processes). It may be possible that an application could interconnect with agency information and practitioners' daily logs, allowing for a free flow of information and a constant feeling of connectedness. An application for safeguarding and children should be an extension of the personal self and personal space that both links to a personal journey and to the wider community at an experiential level. However, there can be different perceptions as to what information is perceived as urgent (Ai and Chhanabhai, 2011) and this could lead to misunderstandings of a person's communications, This was found to be the case Ai and Chhanabhai's (2011) mixed-methods study detailing how smart phones were adopted for communication between clinicians in the setting of four general medical wards across two teaching hospitals. Furthermore, the purpose and objective of any application and how the information flows has to be very clear. An aspect that could prove problematic is having too many choices for information placement, as this can lead to confusion and mismatching responses. In any trial of an application, consideration must to be given to guidance or a built-in instruction manual:

> Without being given formal guidance in using this new technology, residents appear to handle interruptions by trying to be efficient and minimize response times but at the expense of interprofessional and patient relationships (Ai and Chhanabhai, 2011).

Discussion

In conducting ethical research that allows children to be involved with the design of any form of real-time safeguarding application, it is imperative that research methodologies are scrutinised. This is to avoid risk of significant harm and to gain an understanding of the most protective ways to gather and analyse data. From the comparisons of previous studies, mixed methods approaches are proving to be most valid (Ai and Chhanabhai, 2011). Jenson and Skov (2005) found in their literature review of 105 papers that there was a strong focus (sixty-five per cent) of CCI research conducted in the child's natural environments, for example, within a school. They advocate that researchers should embrace real world contexts rather than view it problematically. Thus, it should be perceived as a necessary and beneficial part of any study for understanding the usability of new designs.

It would be useful to undertake focus groups of both single and mixed gender groups, as it has been previously shown that mobile phones and their applications are used differently by females and males. As well as focus groups for practitioners and children, if an application was developed and trialled with children, semi-structured interviews have been popular

alongside any tracked data (Oulasvirta et al., 2012). Likewise, for understanding a person's use of applications or accessing the internet from the mobile phone, phone logs or diary logs have been widely used (Cui and Roto, 2008). In-depth semi-structured interviews of the user's experience, transcribed from open-ended questions with probes, are an effective method of collecting the 'user experience' (Ai and Chhanabhai, 2011).

The findings indicate that the user experience of both interaction with a mobile phone device and with certain applications or internet use can vary dependent on the time of day. It may be useful to select and pre-survey children on the subject of time frames and perhaps at a later stage include diary logs of time and description of activity. Another theme that can be time-consuming, costly and complex is database tracking and the monitoring of devices. This should only be considered in the pilot of an application when testing the architectural design.

Conclusion

Mobile phones are now a key part of people's everyday lives (Barkhuus and Polichar, 2010; Ishii, 2006; Walsh et al., 2008). They are all-encompassing; a combination of human interaction and what is stored on the device, what the individual chooses to use and what the device 'chooses' to use, resulting in constant interaction between human and machine. Although smart phones have an extraordinary ability to 'share', they are first and foremost a personal device. This feature connects with a crucial element of the safeguarding process. Child abuse is personal: it is directed onto or at the self. A mobile phone and its smart phone applications could be viewed as a partial reflection of the self, in that the data stored within the phone is a data copy of one's self and one's personal information (Boyd, 2007; Boyd and Ellison, 2007). Moreover, having the right information at the right time is key to the user and, therefore, product design and product architecture need to be linked to the way in which children facilitate their own communication in time and space.

A number of methodological points follow from the review of the research here. Firstly, methods that explore users' views or experimental designs can be downloadable to the children's current smart phone rather than providing an extra device for the trial. Equally data should be collected in the child's natural environment (Jenson and Skov, 2005). The user experience (UX) is widely recognised within HCI and the IDC primarily focused on adults, but increasingly on children. However, some within this field of HCI /CCI advocate that there is still insufficient research focus on young people aged range from elven to nineteen years and there should be a teen-specific interaction. Teenagers are often early adopters of

technology (Fitton et al., 2013, 2014; Fitton and Bell, 2014; Pool and Peyton, 2013). Secondly, a series of group activities is needed to ensure open dialogue and participation with children and practitioners in the process of designing a safeguarding application. There is potential for risks to privacy and the protection of information/data within the free flow of information over the internet and this must be a priority within any application design (Druin, 1999a, 1999b; Gavin and Read 2016; Jenson and Skov, 2005; Sim et al., 2015; Fitton and Read, 2016; Druin and Solomon, 1996; Horton et al., 2012).

There is also a need to map and discover what apps are readily available for children in relation to managing risk, child abuse and safeguarding themselves. A question stills stands as to what information and what type of communication are appropriate, inclusive and relevant material within an application design that not only encourages repetitive usage but also adds value for safety purposes. Alongside this is how the concept of real time functionality can be a standing feature and whether this feature should be linked to other forms of popular social networks and applications. Further thought is needed on how a blended approach to architectural design and employing creative systems of technological developments for smart phones, offer a welcome purpose for individual user experience in the context of safeguarding.

Any further studies or group work should be centred on engaging with children from the age of nine years and into secondary education (Fitton et al., 2016), as well as gaining an understanding from the perspectives of the practitioners. Moreover, another challenge is understanding how smart phone technology can, if possible, integrate with the e-systems used within the field of social care. It has been demonstrated that children use and perceive their mobile phone applications as part of their own socially-constructed identities and has become a cultural norm in their communication with their peers.

To summarise, the implications for design are:

- Communication between people is taking place in a different format that is more instant and connects online and offline networks.

- Sharing of information can move more rapidly and wider than ever before. Having the correct information at the right time is key for users.

- There could be gender differences in usage.

- Downtime such as at home in a bedroom, in a café or at night shows increased use of a mobile device. Therefore, usage can be dependent on the time of day.

- Children's mobile phone use can increase risk-taking behaviour but it can also can increase their safety.

- Functionality features may need to link to other SNS's as well as having standalone features.

- There is a link to increased social capital and investment in maintaining offline and online relationships by the use of SNS's.

- Children's use of mobile devices and SNS's supports their growth, especially through adolescence, that gives them a virtual space for self-expression, power and freedom.

- Children should be included in design and conceptual framing at the earliest opportunity.

- A mixed method approach based on the principles of CCI should be included in the research project.

Chapter Three. Why Focus on the Development of an Application?

Introduction

In order to expand the field and further knowledge of technology use in building and maintaining professional relationships with service users, arguably the most relevant advances to date have been made in health care. Technology introduced as a means of delivering health services is referred to inter alia as telehealth, telecare and tele-rehabilitation or e-health (Plaza et al., 2011). This technology has enabled a far greater reach in terms of patient clinical care (Gagnon et al., 2005; Engel et al., 2011; Pandey et al., 2013). It may be that from this perspective, comparisons can be drawn for the introduction of creative technologies within social care and/or children's services. Telecare takes services that are normally delivered within the organisation, for example, a hospital, directly in real-time in to the patient's home (Gagnon et al., 2005; Finch et al., 2008; Peeters, et al., 2012).

> Telehealth can be defined as the delivery of health-related services and information via telecommunications technologies. Telehealth consists of Tele-care and Tele-rehabilitation. Tele-care and Tele-rehabilitation provide services directly to the end-users, as distinct from telemedicine, which uses ICT systems for diagnosis. E-Health describes the combined use of electronic communication and information technology in the health care sector: the use of digital data in the health care sector – data transmitted, stored and retrieved electronically – for clinical, educational and administrative purposes, both at the local site and at a distance (Curri et al., 2003 in Melander et al., 2007, p. 1981).

The use of technology in health-related settings thus covers a wide range. The research reviewed here has been limited to areas of patient-initiated interaction, for example, self-management and self-reporting, as well as an investigation into the technological techniques used to facilitate it. This is the most applicable area of research to the issue of self-reporting by children and young people for safeguarding purposes. This has led mainly to concentrating on smart phone applications as these are the most common features in researched platforms.

Self-Management

Telecare supports self-management, which is seen as key to empowerment (Finch et al., 2008). Self-management gives the patient choices, a sense of control and theoretically, an increased knowledge about their own health condition.

The study Engel et al. (2011),designed to compare the precision between remote smartphone photographic assessments and in-person examinations for free flap recording, was an analysis of where a camera was used to capture the image[12]. The findings show remote assessments facilitated by the iPhone camera 3G photographic evidence (sent by encryption email using 3G) gave accuracy and reduced health professionals' response time. The process was a fast and effective tool that did not compromise patient care and circumvented the bureaucracy of the hospital setting. Moreover, the photographs did not reveal the person's identity: risk of breached confidentiality did not emerge as an issue and thus shows potential for development and expansion in this arena.

In an evaluation of diabetes self-management applications for android smartphones, it was found that both hand held devices and text messages became standard operating practice. In the study by Demidowich et al. (2012), two reviewers independently evaluated six features per app of diabetes medications or calculated prandial insulin dosages using a five-point Likert scale. Of the eighty Android diabetes apps identified, forty-two unique apps were eligible for the study and analysis of the data tracking and downloads. A key finding was the lack of educational tools within these applications, which is somewhat contradictory to many other self-management applications available. The research questioned the validity of some information about the apps' features and noted that, as soon as the study was concluded, more apps were available, illustrating the constantly changing nature of this field.

A comparative pilot project based in the UK and Spain on two residential nursing homes involving health professionals to examine the use of a telecare system to support chronically ill patients found that, for patients, being part of a wider e-enabled social network improved patient satisfaction (Fitzgerald and Serrano, 2008). This was essentially a qualitative case study that showed how patients' involvement in their own care and treatment extended their social support, however, it found the system still gathered continuous data about vital health care needs. An important issue raised was the increased impact on healthcare assisting those patients that lived in a remote location or in an area difficult to access. A barrier identified was the lack of training for managers in using telecare services and, although it was the health professionals who were resistant to change, it was perceived as a benefit due to 'changing the way normal practice is conducted' (Fitzgerald and Serrano, 2008, p. 64).

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[12] Postoperative monitoring of microvascular free tissue transplantations (free flaps). Because failure of a free flap is almost always caused by postoperative thrombosis of the artery or vein, early identification of vascular compromise is imperative to maximise successful outcomes.

Self-Reporting

Palmier-Claus et al. (2013) conducted a feasibility study to define the reliability of ambulatory self-reporting of psychotic symptoms using a smartphone software application. A total of forty-four participants (with acute or remitted DSM-4 schizophrenia and related disorders, and prodromal symptoms) completed fourteen branching self-reporting items concerning key psychotic symptoms on a touch-screen mobile phone when prompted by an alarm at six pseudo-random times each day, for one week. Face-to-face Positive and Negative Syndrome Scale (PANSS) and Clinical Decision Support (CDS) interviews were conducted before and after the assessment period blind to the ambulant data. They used three clinical sub-groups for comparison and checked reactivity at the end of the test period. Testing was limited to six days and the design of the application was specific to android-based mobile phone systems only. The design of the software gave the instruction or question based upon clinical assessment models; however, the application was structured for the participant so that alongside this there was an area for personalisation. For security, there was a password-protected administration screen. This study shows there is a feasible and validated way for assessing symptoms of mental health patients through a smart phone application. Furthermore, it could be viewed as an alternative to the traditional forms of assessment in this field. The more chaotic the symptoms or severe the illness the patient suffers, the more likely they are unable to maintain compliance for self-reporting. The research did not take into account socioeconomic status or literacy levels of the user as this could also affect compliance results, however, it does provide evidence that real-time monitoring can have a place within clinical management settings.

Another format for self-reporting is through text messaging. Palmier-Claus et al. (2013) studied twenty-four community-based individuals who filled in self-reporting questions about their symptoms of psychosis via text-messages on their own phone over a period of six days, or via a purpose-designed software application for Android smart phones. Qualitative interviews with the participants conveyed positive experiences about text messaging as part of use of their care and subsequent treatment. The way the questions were duplicated was found to be a significant barrier to implementation long term.

In a very small sample undertaken by Rollo et al. (2011), ten adults recorded their food consumption by using the camera on their phone to take a photograph of their food, adding a narrative, uploading the information and electronically sending this to a website for dietician

analysis. This was carried out over a three-day period using a mobile phone application named Nutricam and a written food dairy. Evidently, the clinician was able to gain information about the nutritional value from the photographic images when they were of good enough quality. The only drawback identified was that, at times, the participants forgot to record meals, as there was no reminder alert built into the system.

Concerns about the use of technology in older populations with chronic health needs/diseases seem to be unfounded. Finch et al. (2008), in their qualitative study based on in-depth semi-structured interviews conducted between September 2002 and May 2004 found that older people would use any form or method of health service to 'just' receive treatment. Although this study's participants of health professionals ($n = 11$), patient advocates ($n = 7$), telemedicine experts ($n = 6$), policy-makers ($n = 4$), administrators ($n = 4$), researchers ($n = 3$) and technologists ($n = 3$) did not included direct users of the service, it did indicate the magnitude of an increased quality of life and patients as citizens and stakeholders. It showed how the technical and interpersonal are connected through interactivity. Findings refer to the patients as educated self-managers with choice and control over their health conditions. As well as the patient becoming more knowledgeable about their own condition, it was concluded that there is significant cause to drive service user consultation in the development of the use of telecare systems. The validity of this may be questioned as direct results were not collated by the service users.

A disadvantage to the use of many different e-enabled methods is that, where the technology is unable to increase and sustain the flow of information for the e-patient, it can become disjointed. Several health professionals perceived the patient as if they were fragmented into particles of information that are moved around systems and clinicians. Health policies dictate that the technology is for a whole patient approach. Finch et al. (2008) show contrasting perspectives, revealing that what is projected at a policy management level can be quite different in clinical practice.

Telecare Smart Phone Applications

There are many innovative ways in which smart phone applications, text messaging, visual screens, digital photography, Global Positioning System (GPS) (Palmier-Claus et al., 2013; O'Neill and Brady, 2012; Hebden et al., 2012; Hswen et al., 2012; Pandey et al., 2013; Rosser and Eccleston, 2011; Haffey et al., 2014; Engel et al., 2011; Demidowich et al., 2012; O'Neill and Brady, 2012; Plaza, 2011) are being utilised in reaching patients in real-time

communications for diagnosis and treatment of health conditions. In 2001 there was an estimated number of 5,820 health care apps and this is known to be on the increase (Rosser and Eccleston, 2011).

Many studies conclude that the use of smart phone applications is ground-breaking in the health sector for patient management, increased communication with hard to reach locations, sharing of information and a direct support structure for patients. Smart phone applications are now widely accepted in the field of health care. Most studies have established that applications designed by health care professionals are likely to convey scientifically-accurate information. Smart phone based assessments can be uploaded with relevant data images and basic written information in real time, assisting in an early response or more comprehensive intervention. They can also be used to promote more in-depth self-assessments and risk-management strategies, thus, increasing opportunities to reduce directly risk-taking and risks of illness or disease deterioration by engaging both informal and formal support networks, and patients reporting a feeling of being more in control. Operating in real time, the information flow is directed back to the patient and, in turn, back to the clinician, which could facilitate earlier intervention and improved decision making.

In relation to increased quality of life, gerontechnology (Plaza et al., 2011) is a stance that is parallel to that of the youth of today. A review of research papers (from scientific and technical journals and proceedings of conferences) and internet sources (web sites of mobile phone providers, web sites of research projects, etc.) as the main source of information, examined the strengths and weaknesses of the current systems for the elderly population. It illustrates that older people are using mobile phones in the UK, more than the internet, on a daily basis.

Researching Smart Phone Applications

The practice of researching smart phone applications can be quantified simply or in a complex manner. There are a number of ways in which data are collected for these studies of 'what is available to download in smart phone application format'. In a study by Haffey et al. (2014), six smartphone app stores were searched for apps aimed at the healthcare professional with drug, pharmacology or prescribing content. Three hundred and six apps were identified. Thirty-four per cent appeared to be for use within the clinical environment in order to aid prescribing, fourteen per cent outside the clinical setting and fifty per cent of apps were deemed appropriate for both clinical and non-clinical use. Pandey et al.'s (2013) study aimed

to identify and analyse cancer-related applications available on the Apple iTunes platform, limiting their search to the Apple iTunes store for cancer-related smartphone applications on 29 July 2011. The content of the applications was analysed for cost, type of information, validity, and involvement of health-care agencies. A total of seventy-seven relevant applications were identified. There were twenty-four point six per cent apps uploaded by healthcare agencies, and thirty-six per cent of the apps were aimed at healthcare workers.

In comparison, Rosser and Eccleston (2011) conducted a study in which they identified smart phone applications which viewed patients as consumers and not health professionals, although the use of the search criteria was similar to those described above. The search was conducted between June and August 2010 on the official applications stores for five major smart phones: iPhone (App Store), Android (Android Market), Blackberry (App World), Nokia/Symbian (Ovi) and Windows Mobile (Marketplace). The health/lifestyle and medical categories, when present, were searched. In addition, search terms relating to pain, both generic and condition-specific (e.g. pain, migraine), were employed to identify any remaining relevant applications. One hundred and eleven applications were identified according to these criteria. The spectrum of pain and related health concerns was easily categorised and identified. This shows how it could be applied to areas of abuse or wider emotional and physical wellbeing such as domestic violence, bullying and child sexual exploitation. The researchers go on to discover that informational content was presented through a range of media, giving tutorials and skills training or, at its basic level, instructions for remedial relief. Approximately a quarter of these apps had a journal or diary tracking facility, one of which allowed anonymous sharing of diary data (Rosser and Eccleston, 2011).

The study by Engel et al. (2011) was designed to compare the accuracy of diagnosis between remote smart phone photographic assessments and in-person examinations for free flap monitoring. They were divided into two teams for comparative purposes. The accuracy rate was ninety- eight point seven per cent and ninety-four point two per cent for in-person and smart phone photographic assessments, respectively. The remote smart phone photography assessment has a comparable accuracy rate and shorter response time compared with in-person examination for free flap monitoring. In the context of the present study, as was the case with studies relating to child protection, it was noted that: 'The timing is opportune, as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) has indicted poor communication as a major cause of medical errors and compromised patient care' (Engel et al., 2011, p. 589).

O'Neill and Brady's (2012) study of smart phone applications relating to colorectal conditions used a range of topical colorectal theme designs of his own sub-categories and divisions and found sixty-eight related applications. The search took place within smart phone app stores of iPhone, Android, Blackberry, Nokia, Windows and Samsung. A thought-provoking angle of this study was the concept of categorising the applications by target audience, for example, according to professional job roles. The difficulty was that it was not easy to validate whether medical input was part of the application's creation; since if medical information is not validated, it can be misleading.

A collective finding is the lack of quality control, validity of score rating, governance and regulation of medical and health-related applications within this industry. The applications range from pain management, information giving, recording information, and reference materials of the subject related content. Pricing of applications also rated as a feature. There were limited inclusion criteria within all the research studies in that the applications were from the UK and written in English only (Haffey et al., 2014; Pandey et al., 2013; Rosser and Eccleston, 2011; O'Neill and Brady, 2012; Demidowhich et al., 2012; Demidowich et al., 2012; Hswen et al., 2012).

In the simplest format of searching for availability of specific subject-related applications, Hswen et al. (2013) conducted a search on the descriptions of the ten most popular paid and free smart phone applications available on the Apple iTunes store for ages four and up as of March 2012. These were qualitatively analysed using the Apple ratings in the sub-categorisation. The relevance of key characteristics found in these applications was then further explored for their potential to improve dietary behaviours amongst children, and a mobile application was developed. Three key themes of virtual avatars or characters, gaming and social networks were found and in essence it is the longevity of the app for the consumer – the children or young people – that appears to be important.

Moving on, there are a variety of ways in which applications are developed. Hebden et al. (2012) developed four apps aimed at modifying key lifestyle behaviours associated with weight gain for young adults (aged eighteen to thirty-five). The development process involved: deciding on the behaviour change strategies, relevant guidelines, graphic design, and potential data collection; selecting the platform (web-based versus native); creating the design, which required decisions about the user interface, architecture of the relational database, and programming code and testing the prototype versions with the target audience

(young adults aged eighteen to thirty-five). Significantly, the preliminary background to the research was based upon the growth of smart phone purchase, ownership and score ratings according to young people. Focus was then placed on the agency of a public health perspective. The impact of this is vital and can be related to safeguarding and agencies' ability to protect children. An excellent design feature was that the apps were web-based and therefore could be downloaded and used on multiple operating systems. This type of platform needs to be discussed and further researched. As seen previously, use of logins and passwords was a key feature for security and privacy. However, as there was a built-in online survey, less than half completed the feedback. Results also showed the logins were not liked and the web-based apps made them slow, freeze or not work optimally. Limitations of the research were that it did not state who the researchers involved in the design, for example the end user, and it was unable to show results for behavioural changes.

Discussion

The research reviewed was limited in terms of looking at systemic change within organisations for embracing telehealth adaption. An exception is the study by Gagnon et al. (2005), whose purpose was to explore the influence of hospitals' organisational characteristics on telehealth adoption by healthcare centres involved in the extended telehealth network of Quebec. This was a three-stage study based on a review of the literature and a questionnaire, which was administered via telephone interviews to the thirty-two hospitals involved in the Extended Telehealth Network of Quebec. Contingency analyses were performed to determine which organisational factors have influenced telehealth adoption. Subsequently, a multiple case study was conducted among nine hospitals representative of different categories of telehealth adopters. In-depth interviews with various actors involved in telehealth activities have permitted a deepening of understanding of the impact of clinical and administrative contexts on telehealth adoption.

Studies that initially employed a theoretical framework (as seen in other telecare health research (Ganon et al., 2005; Fitzgerald et al., 2008; Peeters at al., 2012) enabled an overview of both the political and social associated factors for adoption of telecare across geographical locations. This mirrors early findings within the context of social care (see Chapter One) and links to the influencing factors of the adoption of smart phone applications within social care. The fundamental aspects are the individual, professional and organisational factors in relation to system adoption (Gagnon et al., 2005).

According to these authors, technology adoption in healthcare organisations is not only influenced by instrumental considerations such as efficiency, performance, and profitability. They have adopted an institutional theory perspective that has allowed for considering non-instrumental factors, such as symbolic, cultural and political aspects involved in the processes of work computerisation in hospitals (Gagnon et al., 2005, p. 37).

Organisationally smaller hospitals and remote or isolated locations are more likely to adopt telehealth. This also equates to time saving, for example, avoidance of travel (Gagnon et al., 2005; Finch et al., 2008). Thus, it is important to understand the characteristics of the organisation and its work to uncover the facilitators and barriers to adopting new technology.

In the health sector, the most resistance has come from physicians and once they have had a poor experience of immature telehealth technology, they are more likely to hold on to these experiences and reject its utilisation (Gagnon et al., 2005). However, where resources are limited, thematic trends, the capability of the technology, ease of use and user friendliness were key to adoption. Telehealth adoption relies on professional group attitudes towards the technology and equally on being consulted and having a voice in the design architecture and area of clinical practice in which it will be applied. Consideration must be given to the infrastructure of any organisation for any kind of technology. The use of telehealth can alter the tasks and effects of tasks in the daily practise of professional roles and responsibilities. Thus, design must afford respect to professional autonomy and the socio-political context:

When the technology introduced is perceived as threatening professionals' autonomy and modifying their roles and responsibilities, resistance is expected. Change in the professional bureaucracy does not sweep in from new administrative rules, but seeps in by the slow process of changing professionals' norms, skills and knowledge (Gagnon et al., 2005, p. 50).

Triangulation of data sources and both quantitative and qualitative studies were carried out to gain greater understanding and in-depth analysis of the dynamics and influences of adoption of telehealth care on a large scale. It is of note that one key agency in the multi-agency safeguarding community of practice leads the way and revolutionises its internal agency business, patient/professional care in relationships with patient focused outcomes, but this has not extended to other partners in the social care sector for the purposes of child protection. Speculative reasons may be that health professionals do not see themselves as leading in safeguarding and therefore have a lesser responsibility to apply learning from telehealth care. Alternatively, it may be that safeguarding is seen as too risky an environment in which to trial

emerging technology, for fear of reprisal and the 'worst case scenarios' of child death (Parton, Thorpe and Wattam, 1997).

On a minute scale, the software of telecare, for example, the photos sent by encrypted email using 3G, had high success rates. The sharing options between email, Twitter and Facebook are all seen as a further way forward. Furthermore, there is caution about what information is wanted in the public domain. However, by using these methods of sharing data by socialisation through Twitter and Facebook, it does allow for social support and wider social network input. One application allowed the users to share information by exporting the phone data to a computer, which then could be shared anonymously with health care professionals; perfect for systematic change of information flow. Although the diary entries were a patient-orientated task, it was person-centred; likewise for optional sharing of data between social and professional networks. This may work for a universal application for children but caution must be given that the information that is provided is not misleading, open to misinterpretation or irrelevant.

Conclusion

There are a variety of mobile applications for older people, for example, with dementia, such as *Mobile WristCare*: with features such as travelling by bus; service centre and reminders (Plaza et al., 2011). It is possible to record diary entries and share information. One may question how useful it may be for the child to record their own diary entries and whether this would be relevant for contributing information for initial assessments. A clear comparison can be made between patients who are in their own homes and live independently, and as for children being safe and in control of decision-making in their lives. Investment into the research and design of mobile applications have been brought to the market for older persons when there has been an inherent stereotyping of elder people not using technology, however, Finch et al. (2008) found that: 'Nonetheless, boundaries of responsibility between patients and health professionals appear to be – or at least are perceived to be – changing' (p. 60).

There are a few known evaluations of smart phone applications for pain management; self management within clinical practice; self-diagnosis or self-rating of symptoms in real time of patients with severe mental health issues, that the research has indicated are in the field. It does demonstrate there are wide variations in the abilities of mobile applications in the correlations of pain management and a wide range for patients able to purchase these. Categorically, it was found that iPhone and Android applications are the dominant key

players on the market. The only drawback from collecting data in this way is that, once the data is collected, it is outdated as smart phone applications and technology development can be rapid. However, the growth of app use in health and social care settings establishes that they do have potential for an empowering and radically different approach to safeguarding children and young people. I therefore moved to examine the current use of apps in this field.

Chapter Four. A Review of Existing Applications

Introduction

The health sector has led the way in adopting various smart phone, iPad and tablet applications However, in social care and other public sectors, applications for enhancing communication per se are still at the beginning of their existence. If there is a way to continue to produce technological innovation and advancement of communication tools for the sharing of information by children, there is a need to understand and review applications currently available. Historically, technology systems for inter-agency child protection fail in keeping up-to-date with the pace of social and technological change. Therefore, two reviews (three years apart) have been conducted on mobile phone applications available on the market, based on the rationale that smart phone applications exist as a daily form of communication and a source of information for a significant majority of children.

The primary aim of this smart phone applications review was to find out if there were any related applications available from the two main outlets (app stores) to download or purchase. Furthermore, the intention was to analyse the basic content, creativeness, and availability of any application designed to help children safeguarding themselves against abuse.

The theoretically driven construct of childhood (James and Prout, 1997; James and James, 2004) provided a useful heuristic analysis of apps designed to operate in the childhood social space. Contemporary anglophile constructions of childhood recognise that children are part of families and are associated with certain practitioners, such as teachers, health visitors, midwives, foster carers and also social workers who respond to reported allegations of abuse and have a statutory duty to safeguard. Therefore, the availability of applications for parents and professionals within a safeguarding concept and the theoretical positioning of them as part of a discourse of childhood have been included in the search.

Method

Two of the most popular smart phone app stores were searched. They were Android Market (Google Play) and Apple iPhones (iTunes Store apps). These two platforms were chosen, as they are the main app stores to search for downloadable apps for use on android and smart phone devices. Two searches were conducted, the first between the period 4 September 2014 and 18 September 2014 and the second on the 19 and 20 June 2017.

Data recorded for every app included: average ratings, number of ratings, content assessment, number of reviews, recommended on Google, category of app, language, installs, the name of the app, publisher information, user-led design component and cost. Data was grouped into the above categories and results were tabulated using Excel Workbook 97-2003.

Selection Criteria

Search terms were decided from the perspective of either a practitioner, child or parent searching the app stores. Search terms for the first search in 2014 to select for eligible apps were the following keywords, placed into three groups:

- Group one keywords in relation to abuse and safeguarding: abuse, child protection and parents.

- Group two keywords in relation to managing risk and making decisions: decision-making, risk assessment, stay-safe, diagnose my symptoms, emotions and young people.

- Group three keywords in relation to young people: information for young people, mental health and young people, NHS (National Health Service) young people, safe young people, teenagers, young people, and NHS[13].

The search terms in 2017 included all of the above and the following keywords were added to group one: safeguarding, child safety and child abuse.

Data were generated for each from the overview of content provided by the developer.

Basic upgraded versions of the same app were considered to be separate if they differed in the information content. The content and screen shots provided by the developer's description were evaluated.

The definitional criteria applied were:

App Category: The stated category of the app on Android Market and iTunes app store.

Cost: All apps were eligible based on the cost of downloading the app into the following categories:

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[13] In 2014, initially, the project focused on young people. However, this expended to included children in 2017. Therefore, in this chapter. the term children and young people is interchangeable.

- Free: The apps which could be downloaded free of cost.

- Paid: The apps which could be only be downloaded on payment.

Target Audience: In 2014 all apps were selected based on the content aimed at adults, adults as parents, and young people. In 2017, children, foster carers, professionals and volunteers were also included. The apps were classified based on the information content into the following categories:

- General information in relation to safeguarding children or child protection (2014 and 2017).

- General information relating to self-assessments for children or assessments undertaken by parents (2014 and 2017).

- Information helping children through decision-making processes especially about their own safety and managing risky situations (2014 and 2017).

- General information written for children and/or parents or carers/adults in relation to abuse that may cover areas associated with child abuse, domestic violence, substance abuse, and mental health issues (2014 and 2017).

- General information written for professionals and/or volunteers in relation to safeguarding children (2017).

Miscellaneous: There were apps that were multipurpose in the nature of their design. Such apps featured information on resources, the integration of calendars, a camera and unique ways of engaging the user, for example, the use of the smart phone technology linking to social networks and social network sites such as Facebook and Twitter.

Usefulness: The apps were classified based on the product ratings, reviews and the number of comments recorded by users. For visual reference purposes, the screen shots of the app were also gathered.

Exclusion Criteria

In 2014, the key terms 'assessing risk', 'real time' and 'safeguarding' were also used for the initial search, however, these did not produce any relevant apps. Apps were excluded if the developer description did not contain content related to managing risk and safeguarding from abuse. Owing to the methods used for the search, hundreds of applications could be seen on the screen; therefore, every app needed to be initially opened to view the content. It quickly became apparent that most of the apps' names did not correlate to relevant content. It could have been possible to select many apps under the auspices of GPS tracking but most were excluded if they were not specifically focused on parents and children. The same applied to apps related to decision-making in 2014, and in 2017, the search mostly retrieved apps with emojis. Furthermore, in the 2017 search on Apple iPhones, the following search terms brought up no new apps that met the inclusion criteria: teenagers, risk assessment and parents. Also in 2017 the terms 'diagnose my symptoms', 'mental health and children' and 'NHS and children' showed no matches.

Results

Blocking and Parental Controls

In 2017 the term 'safeguarding' also retrieved apps related to parental controls, for example, how to manage children's activity such as safe browsers or child locks to block access to adult websites. Android Market returned fifty-six parental spyware apps and one hundred and seventy-five blocking apps. Apple iTunes (iPhone apps) returned eighty spyware apps and one hundred blocking apps. These apps relate to a variety of key features such as surveillance monitoring, cameras, blocking calls or SNS, block access to websites. These apps act as a form of parental control having the ability to restrict the type of content their children can view online, or let parents monitor their activity, for example, web browsing and filtering engines. Other parental control apps only block inappropriate websites, but others can also record conversations and track keystrokes.

Although these apps are popular and used by parents to safeguard their children, they only focus on control, restrictions and surveillance. There has been mixed results of their effectiveness to protect children from online risks. They only act as a subset of managing online risks (Wisniewski et al., 2017). Therefore, these were excluded firstly, due to the high volume and secondly, due to their lack of ability for self-reporting and self-management.

Furthermore, these blocking and parental spyware apps are often downloaded onto children's devices without their prior knowledge and this research is aimed at children's ownership.

Excepting blocking software apps, the search on the 18 September 2014 returned sixty-one apps. Forty-three were identified on Android Market and eighteen on iTunes (iPhone apps). Of the sixty-one apps, four were duplicated from both stores, so fifty-seven apps were analysed.

The apps identified within both stores (2014) were classified into a category by the stores in every case and these included fourteen (24.5%) education, fourteen (24.5%) lifestyle, thirteen (22.8%) health and fitness, four (7%) books and reference, two (3.5%) social, and one (1.75%) reference, puzzle, social networking, business, travel and local, utilities, medical, games, communication and productivity. Fifty-one (72%) apps were available for download free of charge. One 'may incur extra charges' and one that offered an 'in-app purchase $0.99 Super Talker subscription service'. For those sixteen (28%) that charged for access, the prices ranged from £0.61 for an educational app for children on the subject of bullying to £3.11 for a lifestyle app for teenagers on the subject of teenage depression.

The search in June 2017 returned eighty-five apps. Twenty-one were identified on Android Market and fifty-nine on iTunes (iPhone apps). Of the eighty-five apps, nine (*Wud U?, Reduce the Risk, Help Me, The Lisa Project, FM Stay Safe, Table Talk for Young People, Young Epilepsy, My Journey, Need Tay Know*) also appeared in the 2014 search. Eight were duplicated on both stores and six were identified as associated with safeguarding adults, therefore sixty-two apps were further analysed.

The apps identified within both stores were classified into categories by the stores as follows: thirty-one (19.22%) education, seven (4.34%) reference, five (3.1%) health and fitness and lifestyle, three (1.86%) medical and social networking, one (0.63%) utilities, games, and communication. There were three new categories: three (1.86%) sports, one (0.63%) liabilities and one (0.63%) tools. All of the apps were available for download free of charge. If the two platforms (Android Market and Apple iPhones) are conceptualised as networks from the critical standpoint of ANT (Callon 1986; Latour 1987, 1991, 1996, 2005; Law 1987, 1994; Law and, 1999), then the main connectors for these apps are located in a commercial world. This network has an intersecting but different ontology from that of child protection on a societal level that includes actors and actants such as social workers, the police, health and educational professions and concepts such as protection, empowerment, community,

abuse and exploitation. The app network works on categories such as education, reference, health and fitness but extends to lifestyle, sports, social networking, utilities, games, and communication. Taking the app as the entry point to the child safeguarding digital network allows an analysis of the many roles, formats, actors and assumptions that can be identified within it. Parents take on a more significant role as protectors, with professional information at the periphery of the network. These network actors and actants have moved and grown at a slow pace over the last three years. They are themed in the analysis that follows by conveying the connections and relationships between human actors as target audiences or users and the non-human elements such as the app functions and design features.

The social and technical enactment of the apps is dependent on content, design and user-friendliness. Enactments through GPS, video diaries, locality-orientated limitations, advice and guidance, reporting or assessment form eco-systems within the network (Tatnall, 2013). These combinations of entities of apps and their eco-systems are described under sub-headings.

Apps for Young People

In 2014, thirty-three apps were identified that were specifically targeted at young people. Out of the thirty-three apps, seven of these apps were targeted at both young people and their parents. One app came up twice from two different eligible key words. Four of the apps appeared in both the Android Market and Apple iPhones. Four apps came from the key term 'abuse', one each from the key term 'diagnose my symptoms' and 'child protection', five from the key term 'young people', ten from the key term 'information for young people', and two each from the key term 'mental health and young people', 'NHS young people', 'safe young people', 'parents', 'emotions' and 'teenagers'.

From the thirty-three apps selected, ten (30.3%) had to be paid for and ranged from £0.61 to £4.99. Out of the free apps, it was noted that a user may incur a fee and another had an in-app purchase of $0.99 for the *Super Talker* subscription service.

In 2017, nineteen apps were identified for which the target audience was children. Eleven of these apps were primarily only for children, one for children and parents, two for use by children and professionals and five with a multi-targeted audience that included children, their parents and professionals. One of the apps was available on both searched platforms.

Analysis of Apps for Young People (2014)

The following is the analysis of the app descriptions found in the 2014 data.

Apps for Young People and Parents

The seven apps that were designed for both young people and their parents had a different purpose and focus. The app *Escape: No Escape!* is a game featuring escape from a difficult situation. Another had been specially personalised for young people with epilepsy and their parents or carers. It is a multi-purpose app with up-to-date information portal, video and diary that helps track and manage seizures and symptoms. *Safe Dating for Teenagers* was in the format of a book for young people and the adults who care for them, as a guide to dating and relationships between sexes. It aims to act as non-directive guide, presenting not a set of answers but stimulus for further questioning and discussions on topics of sexual relationships. The book belongs to the young person, it has been directed and written by them.

Four apps were simply GPS trackers for sharing information (via email or Short Message Service (SMS) or chat via a 'groups' setting) instantly locating family and friends to send help should the young person find themselves in a location where they are vulnerable.

Limited to Geographical Locality

Blow The Whistle was solely focused upon 'blowing the whistle' in the locality of South Africa. This app acted as a guardian and alerted the young person's contact if they had not arrived at their specific location during a journey. Similarly, another app offered assistance for young people on the issues of substance abuse by the way of providing a phone directory. However, this was restricted to a specific locality in America. *Need Tay Know* app provides health information for young people in Tayside (Scotland) encouraging safer sex and details of related services in the area of Tayside. Another app was specific to Haringey (London) and tests the skills and knowledge of young people on health-related topics through the medium of games and quizzes. The app also offers free and confidential advice and information about events taking place in the area. Young people are able to give their opinions via quick polls and surveys.

The Teenager app is a directory of resources for young people in Orange County, California (USA) regarding sexual health, domestic violence, Lesbian Gay Bi-Sexual and Transgender (LGBT) issues, drug use, and mental health. Each of the listings have been investigated by a

physician from the American Academy of Paediatrics to ensure that they are safe, locally accessible, helpful and confidential.

Providing Information, Advice and Educational Tools not Limited to Geographical Location

The app *Symptoms of STDs* (Sexual Transmitted Diseases) *Helpful Guide* is aimed at dealing with signs and symptoms of STDs covering a range of educational information on this topic including signs, cures and prevention. *Young People Affected by Another's Drinking* provided information for young people that may be affected by a family member's drinking of alcohol.

R U Safe poses questions about whether a young person is worried that their boyfriend, girlfriend or someone else is mistreating them. It explores healthy and unhealthy aspects of young people's relationships, as well as helping young people understand if their parents are in an abusive relationship. The app also offers information, advice and guidance on keeping safe, how to get further help and safe use of technology. *Going it Alone Leaving Home UK* was aimed at young people when they were leaving home for the first time. This app is based on the assumption that living on one's own is a daunting prospect for a young person at any time. *Beat Bullying with Confidence* was created by two young people, who were themselves bullied. This app was developed for young people who have been, or are being bullied and/or know of other young people being bullied. It contains practical tips on how to overcome bullying, how to support others and how to avoid being bullied. Another app gives information to teenagers about the teen years with links to contact telephone numbers.

Assessment and Decision Making

The *My Journey* app is designed for young people to track how they are feeling and make informed choices with regard to their own mental health. It provides a series of assessments in the format of surveys for young adults to assess their own emotional and psychological health, including whether the young person was in abusive relationships. The young person can set goals, track their progress and medication intake at their own pace. It also offers advice and information on who to contact if further help is required, along with tips on how to feel better, for example, on healthy eating and sleeping. *Explore Autism* allows young people and their families to track their progress through interaction with a visual calendar and multi-item graphs to identify and discuss patterns. The user is able to share events or entire

screens with others via email and Twitter. It also provides information on the subject area of autism.

K2n Keeping Safe provides strategies to help people keep safe whilst they work through their problems (whether with a professional or as a self-help tool). This app is for people who need some self-help support whilst they await therapy, during therapy or whilst working through self-help materials. It suggests it could also be useful for people who need help in coping with the consequences of bad experiences. The *Breaking Free* series of apps are concerned about abuse but are directed at adult survivors, designed to help men and women who were sexually abused when they were children or young people.

The *Attitude Tracker: Thoughts, Feelings & Photo Journaling* app gives the opportunity for young people to make a photo journal whilst keeping track of their thoughts and feelings, alongside a diary feature and is password protected. It tracks user's feelings throughout the week and shows it in graphical representation. Each feeling has its own motivational quote. There is an alert system to remind the user to log their feelings, which encourages them to assess how they are feeling. The photo journaling allows users to keep their memories by taking pictures or uploading pictures which they can share by social media.

The *Teens Toolkit* app acts as a tool kit for teenagers exploring how to cope with teenage pressures of life and guides them through self-reflective questioning.

Games, Quizzes and Surveys

Several of the apps include games as part of their function. The *Young & Healthy* app (for thirteen to nineteen year olds) tests young people's knowledge through the use of games and quizzes restricted to a locality. It offers free and confidential advice and tells young people about events going on near them. It also has a feature to ask their opinion in quick polls and surveys in relation to making health services better for young people in Haringey. Two apps use surveys, one restricted to locality and the other not. *Assist Safety* app, focused at younger children, allows a child to identify five adults on a picture of a hand who they could ask for help if feeling unsafe. The hand assists children to remember their safe people. The safe hand can be emailed, saved as a screen saver or printed. Another app uses a game to explore life decision-making. This game is over six rounds and categorised by age ranges.

The *Get Connected* app is a free confidential helpline for young people aged under twenty-five who live in the UK. It is aimed at young people who need help but do not know where to

find it, providing instant access to helpline services. This app includes regular fun features such as competitions and exclusive money-off vouchers.

Social Networking via Uploads, Videos, Twitter and More

YouNG Network allows a young person to view all upcoming events and activities that are happening near them. They can view all the app's videos, photos and interviews via the live gallery, access their blog via the social tab and also tweet to the app if they want any information. The uniqueness resides in the fact that the young person can communicate with the network though this app. The other app in this section is simply a 'safe social network' where young people can get help and give help within a virtual community setting. It is a peer-to-peer support network.

Co-produced with Children

In 2014, only two apps were co-produced with children. The *Wud U?* app was created by young people and professionals from Barnardo's and Microsoft providing information about how some young people may end up being sexually exploited. *Wud U?* is a free educational tool that aims to show young people the behaviours that could put them at risk of being sexually exploited, through illustrated, interactive stories. The app is for teachers and care professionals when interacting with young people who might be at risk of sexual exploitation. It is designed to help them present sensitive issues to groups of young people in order to discuss the decisions they would make if they were in the same situations as the characters in the stories. The app also offers advice about these decisions.

Positive about Young People is designed by young people to explore the consequences of crime and uses a game to explore the risks of getting into trouble.

Analysis of Apps for Children and Young People (2017)

The following is the analysis of the app descriptions found in the 2017 data. It consists of six apps for children, one of which appeared on both the search engines and the remaining five appeared on the Apple iPhones. The research located eleven apps for children, of which one appeared in both the Android Market and Apple iPhones, three on the Android Market and seven on the Apple iPhones. One app for children and parents was found on the Android Market.

Of the six apps for children, one was found under the key search term 'stay safe' and the other five under the key search term 'child safety'. Five of the apps for children were located through one key term 'stay safe', 'information for children', 'mental health and children', 'NHS children', and 'safeguarding'. Three apps came from the key terms 'abuse' and 'children'. One app for children and parents came up under the key term 'stay safe' and two from the key terms 'information for children' and 'safeguarding'.

Apps for Children

A children's app was made up of two community safety stories specifically for children with autism. One story focused on safer strangers and buildings and the other on what to do if they were lost.

Child Safety Online was an activity-based app for children staying safe online. Its aim is to act as support for children and help build their confidence. One app named *Safety Club* is an interactive, fun way to introduce and test children aged two to seven years old on safety concepts. Two other apps are similar, focusing on road and home safety. The *Safety for Kids* app teaches children what to do in an emergency.

The *E-safety – Stay Safe Surfing* app described itself as 'new' app with the purpose of teaching children about being safe on the internet with an extended focus for those being bullied. This app was entirely made and designed by a thirteen year old. *Grief Support for Young People* had been created by a leading bereavement children's charity that works with eleven to twenty-five year olds who have been bereaved of someone important to them. The app can also be accessed by family, friends, teachers and professionals. It has information about grief feelings and how to manage these effectively. The user is also able to read others' stories, watch short films written and made by bereaved children as well as personalise, diarise and share their own information.

There were four apps that all came under a health and wellbeing umbrella. *My Teen Mind* is aimed at teenagers to encourage children to take control of their situations and encourage emotional intelligence and resilience. Its focus is on children's mental, physical and emotional health. It provides definitions, signs to look out for, advice and where to get help in school and the community. *NHS go* is available to download on both platforms and is a new initiative for children to have greater access to medical information. Users can add health-related activities, search for nearby services and find out more information regarding their

rights as an NHS customer. Two of the four apps act as a safe community where children can talk, read and comment anonymously about their issues/problems for example mental health, depression, anxiety, eating disorders and relationships.

The app that stood alone in this section, *Don't get Sextorted,* is an app specifically designed to prevent teenage sextortion (a form of sexual exploitation where there is an abuse of power to coerce the victim to self-generate sexual images and then these are used as a form of blackmail and/or threats to release the sexual images). The app is a naked mole rat that can be sent by imessage instead of nude photos. Children can make the mole rat as GIFs (Graphics Interchange Format), memes and stickers.

Apps for Children and Parents

Only one new app was found under the 'stay safe' key search term for children and their family and friends. *SOS – Stay Safe* is a personal safety app that states it can be useful in a wide range of scenarios such as being stalked, attempted physical or sexual violence, road accidents or medical emergencies. It works by the users pressing the power button of their phone three times in succession and the *SOS – stay safe* automatically sends an emergency message to friends and family along with the phone's location and device battery level. The GPS tracking helps the recipients track the exact location of the device.

Category Status Determined by Developer

The apps retrieved through the search were distributed across a range of categories by the provider (see Table 4.1). The most popular across both years was 'education' followed by 'lifestyle' and 'health and fitness'. This is a finding in itself, indicating how child protection networks are situated in the online marketplace. It also confirms the way in which childhood continues to be closely associated with certain activities. It primarily assumes the 'empty vessel' version of childhood; as a space in which information can be conveyed in anticipation that it will be received, but also a space for play (nine apps included some gaming element) and the healthy child (ten apps). Lifestyle apps also contained these three features.

Table 4.1: Application Categories Relevant to Child Safeguarding 2014-2017

Application Category	2014	2017
Education	12	7
Health & Fitness	7	3
Lifestyle	8	2
Social Networking	2	2
Games	2	1
Medical	2	1
Books & Reference	1	1
Business	1	0
Utilities	0	1
Total	35	18

Analysis of Apps for Parents

Apps for Parents 2014

Twenty-three apps were identified that were targeted at adults/parents. Eighteen appeared in the Android Market and five in the Apple iPhones. Seven were retrieved from the key term 'abuse' and five from the key terms 'teenagers' and 'parents'. Two were selected from the key terms 'decision making' and 'risk assessment' and one from the key terms 'safe young people' and 'child protection'. Seventeen apps were targeted at adults as parents and six were generic to adults.

A quarter (six) of the twenty-three apps selected had to be paid for and ranged from to £0.62 to £3.11.

Information Sharing

The *Emotional Manipulation* app allows adults to share their experience with others about staying in a manipulative relationship. *Safe Parent*, designed by an American child advocate and attorney for victims of abuse, shares information for parents to assess potentially risky behaviours of adults in their child's life. Designed by a clinical psychologist, another app provides information about the developmental phases throughout the teenage years. It also

provides education and solutions on how to manage teenage behavioural changes. The app *Teenage Drug Use* provides information on how to deal with teenage drug use and another on teenage depression. *Keep teens safe* online e-book is an app written as a book with information taken from research as a safety guide book to keep a child safe whilst online.

Two apps are focused on domestic abuse containing advice and information for both female and male victims. One is aimed at giving practical advice to support victims showing how to recognise the signs of abuse either in their own relationship or someone close to them. It shows adults how to keep safe while living with an abuser and what to do once the victim has left and provides details of relevant local and national support agencies. The other app solely focuses upon giving practical advice for those adults worried about their own abusive behaviour. These two apps were created by the same developers.

Reporting

Report Child Sex Tourism is a *European Platform* designed to help adults report sexual exploitation of children in the context of travel and tourism. It is described as an intelligent mobile gallery app that displays all the users' best photos and allows the user to take a photo of a situation that's looks suspicious. This photo can then be sent to Every Child Protected Against Trafficking (ECPAT).

Teaching

One app provides information for parents to teach their children safe decision-making skills and a further app similarly encourages parents to ask questions of their child. This is with an aim to completing tasks and goal setting. *Child Safety Online* provides information for parents to teach their children about child safety online and safe rules for use of the internet. The *Child Abuse Information* app is prescriptive in describing the signs and symptoms of child abuse. Moreover, it gives suggestions to parents and could be used to assist in starting a conversation on the topic of child abuse.

Assessment

Two apps aim to allow parents to undertake assessments: one for pre-school children and the other for teenagers in the way of a survey. One also covers the topics of behaviour and parenting issues as well as abuse. These are both produced by the same developer. *The Academy for Professional Excellence's Child Welfare* app is for adults to assess risk in the

cases that involve intimate partner violence. It includes four areas of assessing intimate partner violence and resources to learn more about this topic.

Reflective

There was one unique multi-sensory app (*The Lisa Project*) that acted as an exhibition gallery about how to prevent child abuse told from a child's perspective. In essence, it allows visitors to take a child by the hand and see, hear, feel and know the child's perspective on living in abusive situations. Acting as a reflective tool, it allows the adult to give feedback, having visited the exhibit. The intent is to raise awareness, educate and put people in touch with resources in their own community to help themselves.

GPS Tracking

Five apps feature GPS tracking aimed at parents to monitor their child's whereabouts. The *Morecambe Foundation 'Help Me'* app is designed to help the user assist people from seven to ninety-seven through all kinds of personal emergency situations. The major features are safety networks and resources.

Analysis of Apps for Parents, Foster Carers and Adults (2017)

There were five new apps identified for parents, one found on the Android Market and four in the Apple iPhones. All the apps for the foster carers and adults were found on the Apple iPhones.

Key search terms retrieving apps for parents included 'safe young people' (one), 'safeguarding' (two) and 'child safety' (two). The app for the foster carers was found under the key search term 'safeguarding' and for adults more generally, one under 'child abuse' and two under 'stay safe' and 'abuse'.

Apps for Parents

The *Safe Parent* app acts as guidance to help become a safe parent for assessing risky behaviours of the adults in their children's lives. Three apps are designed for real-time tracking of children's activities and can automatically alert parents when their children have arrived at their destination. The *Safe Sport* app designed by the Irish Sports Council is based on the Code of Ethics and Good Practice for Children's Sport. It is aimed at creating greater awareness and understanding about safeguarding and best practice in children's sport. This

app also features a tracker function to enable parents to track their child's journey to and from sports events. One app acts as a quick and easy parental control to create a safe kids' zone.

Apps for Foster Carers

Fostering in a Digital World is intended as an interactive pocket guide specifically for foster carers. It is an initiative across health and social care across Northern Ireland. The app consolidates training and resources, making them immediately accessible. It provides carers with access to specific advice, functions and technologies guiding them through the digital environment and hopefully making their role easier. It can also act as a support mechanism that equips carers with information on to how to report, seek help and advice, and access the Trust child protection procedures. Resources include guidance, advice and the language required to aid discussion and engagement with children in care. It also contains a library of resources and further training to increase carers' knowledge and develop their skills in child protection in the online world of social media, to ensure online safety. A digital certificate can be issued upon completion and enables carers to test their knowledge regularly. The tests issued assess competence, increase confidence and help carers identify and address gaps in their knowledge.

Apps for Adults

Four apps were aimed at adults. They could be categorised as miscellaneous, however, due to the 2014 search being so wide and varied, these four apps have been included as they connect with this agenda. *Signs of Emotional Abuse – Love Hurts* was aimed at women only, offering information for recovery from emotional abuse. One was developed in partnership with the police in Scotland to raise awareness of disability hate crime. Another is a support, advice and signposting service for anyone concerned for themselves, a friend or family member suffering from the effects of domestic abuse, hate crime, mental health, child sexual exploitation and similar. The other was an interactive app that allowed the user to stop being abused by emailing their story of abuse to the abuser, colleagues or their boss.

Apps for Professionals

There were thirty-two apps in this category. Twenty-two solely targeted professionals, five of these could be found on both Android Market and Apple iPhones and the remaining seventeen were found on Apple iPhones. One was found on Android Market and two on the Apple iPhones for professionals and parents. There are two for professionals and children,

one each of the search platforms. The five apps that are multi-targeted for professionals, parents and children and one for volunteers were all found on the Apple iPhones.

Seventeen of the apps for professionals came from the key search term 'safeguarding', three from 'child abuse', one from 'NHS' and one other showed up twice under 'safeguarding' and 'child protection'. Two apps for professionals and parents were located under the search terms 'safeguarding' and one under 'abuse'. Professionals and children apps were located under the key search terms 'information for young people' (one) and 'safeguarding' (two). Apps aimed at professionals, parents and children together and also volunteers were all found under the search term 'safeguarding'.

Overall themes developed as follows: three apps are specifically for health professionals, three combine information about safeguarding children and adults for any professional, four have direct reporting mechanisms into a single agency, three tell the user how to make a child protection referral, thirteen include information to educate and relevant resources and literature, two are aimed at sport, five are an e-learning or training resource, two are for managing child protection training events and five are for schools or teaching institutions.

Professionals

Nimos Safeguarding app only allows users to be registered and approved; moreover, in order to become an approved user, contact has to have been made via the LSCB or Local Adult Safeguarding Board (LASB). The user is then able to submit concerns they may have about children, young people or vulnerable adults to that LSCB or LSAB.

Safeguard My School is an easy way to report concerns to the safeguarding lead and can be managed for compliance with legislation and is auditable for Ofsted. The Churches' Child Protection Advisory Service (CPPAS) has developed *CCPAS Safeguarding* that gives essential basic information so the user can have all the details of their safeguarding coordinator and other key people in one place. The user can text, phone or email the safeguarding coordinator as well as having a downloadable copy of their organisation's safeguarding policy.

The *Child Protection and Safeguarding* app is intended to support those professionals who come into contact with children and their families during their work. Its main purpose is to inform and educate professionals who are concerned about a child's immediate safety. It features supporting information, diagnostic flow charts and an LSCB finder.

The *NHS Safeguarding Guide* is an app as a resource for NHS healthcare professionals to increase their awareness and understanding of safeguarding requirements. Although it includes some information about children, it is more focused upon safeguarding adults.

Safeguarding 4 U has been specifically designed for all health professionals who work with Derbyshire Councils, employed in commissioning or provider environments, but also offered as a useful resource for professionals or members of the public. It provides the user with instant access to relevant documents and local safeguarding children procedures. It aims to provide professional guidance in their day-to-day work and decision-making processes in relation to protecting children from abuse and neglect. The app provides information on what child abuse is, what to do if someone is worried about a child and how to make a referral.

Nottingham GP Safeguarding is an information service for GP's with phone numbers, websites, training, notifications and information updates.

The Irish FA (Football Association) Safeguarding in Football is an education tool for adults involved in youth football, as well as young players. The app is aimed at creating greater awareness and understanding about safeguarding best practice and addresses contemporary challenges such as social media, bullying and transportation. The aim is to improve identification and reporting of child protection concerns. Users also have access to exclusive messages from former football players (Manchester United and Northern Ireland Internationals).

The *North Yorkshire and York Safeguarding Children* app provides information for professionals and the public, for example on how to make a referral. *Disability & Abuse – Forensic* has been created to give professionals points to consider for pre-interview and interviewing children with disabilities related to child abuse. Additionally, it has information and resources across disability that are also provided through a linked online website. *Plan to Protect – Abuse Prevention* provides a best practice manual for child abuse prevention and has been created by a charitable organisation.

Four apps are solely for e-learning or training purposes with the subjects being safeguarding children (two), safeguarding children and adults (one) and domestic abuse (one). Another app is a tool for professionals for news and events updates as well as receiving alerts and another is simply for guest registration and management at child protection training events. One app is just a series of downloads of published safeguarding documents.

Two apps are internationally focused, the first is the *Children and Armed Conflict*. This app seeks to ensure important progress is achieved within the UN's children and armed conflict agenda to translate into the negotiations of the Security Council's countries for specific and thematic resolutions. It aims to provide policy makers and those seeking to influence them with readily available key documents and appropriate language on child protection issues in order to increase the agenda's impact. The app additionally offers guidance to field-based child practitioners responsible for monitoring and reporting grave violations via an interactive training tool of attacks on schools and hospitals. The second is an app created by Save the Childhood Movement, a global and multi-disciplinary movement of experts, practitioners, parents and teachers who are concerned about child and family wellbeing and who want to help create 'a world fit for children'. Their app enables the user to keep updated with movement activities such as news and events. It also gives information on child labour, child trafficking, child servitude and information about missing children, which the user can share via social media networks or email.

Professionals and Parents

Safeguarding Board for Northern Ireland provides information on safeguarding children to be used by parents/carers and professionals on subjects such as child sexual exploitation, legal highs, gaming, different forms of abuse and the importance of healthy relationships. It also has news feeds and updates, signposting to key safeguarding gateways, supported locality features, reporting information and advice. The app also includes videos and audio content with immediate access to topic-specific advice.

One app simply gives information on child abuse for parents and professionals and the other helps parents and professionals to identify, understand and respond to children's sexualised behaviour.

Professionals and Children

The National Youth Advocacy Service (NYAS) have developed an app that gives the young person (or user) direct contact to the NYAS helpline if they need an advocate. It also contains information about children's rights if they are in care (including mental health settings) or if they are a care leaver or there are child protection concerns about themselves. The app is also a quick reference for professionals to find out about advocacy and the services NYAS provides. The key features are remote access to the helpline, information for children on how

to get involved with NYAS, NYAS legal services, staying safe and links to relevant websites.

Tootoo has been developed in partnership with Barclays to be used in primary and secondary schools, colleges and universities. Students can use *Tootoo* to report anything ranging from issues of bullying and cyber bullying to questions about homework or worries about a friend. Staff can respond and manage the reports via a case management feature, building up a chronology. This app provides reports and metrics that can help professionals make sense of the data, discover trends and give them information in order to make evidence-based decisions in their organisation about the issues children raise.

The app *For Me* produced by Child Line in April of 2017 has similar features where children can access reference material for tips and techniques for their own wellbeing[14]. Children can make a telephone call, send an email or chat to a counsellor via the app. It has also been created in partnership with Barclays bank.

Professionals, Parents and Children

There are four apps all with the same digital content and they are only available on Apple iPhones. They fall under the school name with two senior schools in Ireland, one in England and the other in Scotland for seven to eighteen year olds. The app is designed for teachers, parents and pupils to help usher teaching and education into the digital age. It proposes to support and protect children by educating and empowering them at school and at home.

The other app in this category is similar to *Tootoo* but is *Tootoo Sport,* which allows users to report any concerns or issues to their club. Users can report anything directly to their welfare office or coach and attach supporting evidence, general feedback and safeguarding issues such as bullying. This app is there to enable welfare offices to be more effective in safeguarding and listening to club members. It has the same key features as *Tootoo*.

Volunteers

There was one app specifically for volunteers. It has been developed to support people working in volunteering in social care, early years and childcare. It builds on the safeguarding awareness training. It tests a user's progress by using a quiz for understanding safeguarding concerns and can be used by managers as a tool in supervisions.

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[14] In 2014, initially, the project focused on young people. However, this expended to included children in 2017. Therefore, in this chapter the term children and young people is interchangeable.

Category Status Determined by Developer

All apps retrieved in the search were again distributed across a range of categories by the developer (see Table 4.2). There is a clear distinction in that, from 2014, the most used category was 'health and fitness' followed by 'lifestyle', which in 2017 moved to 'education'. This increase in 2017 of 'education' and 'books and reference' suggests that there has been an increase in the availability of apps for professionals. It also confirms how developers' interests have changed in this safeguarding space with an increased focus on safeguarding through educational tools.

Table 4.2: Application Categories Relevant to Child Safeguarding and Parents, Adults and Professionals 2014-2017

Application Category	2014	2017
Education	4	23
Health & Fitness	14	2
Lifestyle	9	1
Social Networking	1	1
Games	0	0
Medical	0	2
Books & Reference	3	6
Business	0	0
Utilities	1	0
Communication	1	1
Travel & Local	1	0
Productivity	1	0
Sport	0	4
Liabilities	0	1
Total	35	41

Discussion

In 2014, the app search was unable to identify any models with the terms 'safeguarding' and 'child protection', however, three years later the situation has evolved. The app analysis addresses the nature and content of a wide variety of mobile smart phone apps with indirect and direct relevance to safeguarding, staying safe and child protection. They varied widely with differences in their functionality, design, programme architecture and price. The search was limited to only two app stores (albeit the most frequented) and since apps can be downloaded from sites other than the Android Market and Apple Stores, the review was inevitably incomplete. Although a search including other sites (such as Microsoft or

Blackberry) may have offered further results, given the scope, emergence and scale of the internet, such a search is potentially inexhaustible. What can be seen from the 2017 search is that more relevant apps are prevalent on the Apple iPhone, which may reflect the growing popularity of the iPhone.

In this technical age, reconstructing childhood (James and Prout, 1997; James and James, 2004) inevitably combines the social and technical child who is often described as a digital native, living in what has been described as a cyborg childhood (May-Chahal et al., 2014). This ideological viewpoint is central to gaining further insight into the way apps have been designed and sold to the user. There were only two apps, a significantly low number that were found to be co-designed with children in the 2014 data. These apps specifically were firstly free and secondly they stated they promised more interactivity with simple easy-to-use instructions. The majority of the apps found were aimed at adults as parents or professionals reflecting certain assumptions made in the construct of the digital child. In most of these, the child has been omitted from the entity which ultimately leaves a child powerless. Many apps reinforce adultism (James and Prout, 1997; James and James, 2004): the adult is licensed to use the technology to exert authority over the child, for example, real-time tracking of a child's activity or location. This underpins a 'stranger danger' understanding of child abuse: the assumption that abuse is primarily about the child being snatched off the street or lured into a car, for example. It also implies a lack of trust in children and of those that are employed to work with them. Similarly, as Wisniewski et al. (2017) found in their study of seventy-five Android mobile parental control apps designed for the purpose of promoting adolescent online safety that:

> The apps made teens' mobile devices less useful for them, albeit more 'safe'. The lack of teen-focused features and associated value propositions ignores teens as stakeholders in the design process, and thus, makes them forced as opposed to willing, users of parental control apps (p. 59).

Only available for single users, the app *SOS-Stay Safe* is a progression from the basic GPS tracker apps seen in 2014 and incorporated GPS tracking into staying safe apps such as *Safe Sport*. The apps featuring GPS tracking were designed as a means of parental surveillance or as a personal safety mechanism to check on someone's whereabouts. However, three years on, some GPS tracker apps could alert the user's emergency contacts via email or text message. This is not a way of sharing the user's own data but rather an automatic feature. Therefore, the child is positioned as a docile agent in the sharing of their personal information

and the process lacks a sense of ownership and participation (James and James, 2004).

The national app for children, *NHS Go,* is aimed solely at children as a standalone target audience to enable them better access to services. This is designed and offered by an institution in a way that exercises control over how a young person can access their services. Although the NHS is reaching out to children, it is doing so on its own terms and positioning children as recipients of a pre-defined menu of services (Wattam, 1996; James and James, 2004).

The majority of apps are designed through adult-centric discourses (Goode, 1986; Barford and Wattam, 1991; Petre, 1992). In their descriptions apps include words such as 'control', 'empowerment', 'build confidence', 'reporting', 'share worries' and 'concerns' and 'know how to make a referral'. However, these avocations to action appear to be adult-dependent, in that it is adults importing these concepts into the app design for use by other adults and not a child. The position and agency of contemporary digital childhood is largely ignored. Furthermore, there are few indications of how the child's social and technological journey, from their perspective, might shine through apps that are developed from an adult-centric position. As such, these apps arguably continue to repeat the way in which policy and services are already disconnected from children. Once positioned within a digital childhood space, these apps may appear unfamiliar and unhelpful.

The study identified some apps directing children to local services. This assumes that firstly, it is what they may want and secondly, it does not make the child an active co-producer of such services (Barford and Wattam, 1991; James and Prout, 1997) but merely a seeker of help. A potential alternative would be that the child could be a champion of their own needs by having an accessible digital pathway defined and designed in partnership, directly sourced from the internet and accessible for all. These needs may not fit well with previous safeguarding pathways and services, however for example, see the work of Michelle Fine and her team in New York in Polling for Justice[15].

The use of an assessment format and tools to provoke thinking when making decisions appeared to be a potential starting point for managing risk-taking behaviour or risky situations. This gives the child or young person some agency in self-management. These apps could be termed 'blank canvasses' that allow the child to fill the space with their own

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[15] http://publicscienceproject.org/polling-for-justice-3/

information. A small number of apps existed in 2014 that showed how the field could develop. This is because they use creative methods that enabled children to track their own feelings and make choices by tracking, for example, diary logs, interaction with visual calendars, multi-item graphs and being able to upload and view videos, photos, blogs and tweets. In 2014 only one app had the interface to be able to share entire screens and data via email to key people. In 2017 this had increased to thirteen. These types of apps may begin to help the child to portray digitally part of their life by recording and sharing but stops short from allowing them to be a digital change agent in the safeguarding process.

If apps are an actor in the childhood digital network, what do current content and design features convey about this childhood space? In 2014 there was only one app through which users were able to report abuse and no apps aimed specifically at children managing risk for their own protection. None of the apps in the 2014 search were directly able to be part of the interface with child protection systems or provided comprehensive methods for managing risk. They did have some educational value and provided topical information relevant to the user. By 2017 there were three apps where children were able to enter into an online social network. The aspect of real-time situations may be captured within these apps acting as a live social network through a peer-to-peer community. Childhood is a social network that exists online and offline. In the context of safeguarding, certain questions emerge: Does the child emerge from this digital world making more unsafe choices and decisions? And are the risks online greater than those offline? Research on online risks by EU Kids Online in Europe (including the UK) and the Youth Internet Safety Surveys in the US (Livingstone et al., 2011; Jones et al., 2012) suggests not, although their research finds that children who are at risk online are also often those at risk offline. A further question is how the digital native – cyborg child place value on these social networks and what content or facilities are desirable, which needs further exploration. In 2014 there was little variety in special or additional features, apart from a simulation gallery, but by 2017 apps are becoming more interactive, incorporating video, audio content, social media sharing and personalisation. A major omission noted from an analysis of the apps retrieved in both searches is that there is no validation (tool or otherwise) for the usefulness of the apps for the users: adult or child. It is, therefore, not possible to assess whether apps designed to improve safeguarding in childhood actually do so, or whether they enhance or reduce risk.

There are now a few apps designed specifically for children to start conversations and explore the meaning of staying safe. This is limited to stranger danger, road and home safety.

Subjects within the apps for professionals and other adults cover safeguarding issues generally such as sexting, child sexual exploitation, domestic abuse, abusive relationships, bereavement, depression, bullying and cyber bullying, and internet safety. Abuse is categorised in most apps as something that happens 'over there' as in 'happening to someone else', a friend or family member. Only a few apps are designed for the experience of abuse situated as happening directly to the user. This user could be a child but most of the apps situate abuse as an adult concerned about a child or a story about a child at risk, such as the *Wud U?* app that is aimed at professionals for use with young people. If the apps are viewed from the lenses of the digital childhood space then there appears to be a disconnect with the reality of every day childhood experience. Thus giving the child as the community a sense of connecting to social networks and by doing so having choice when to reach out for help.

A number of new apps are for use in Ireland and in educational establishments. In 2014 there was a distinct lack of apps that connected children with their parents or professionals. There is a range of resourceful apps for professionals that include updates, basic information on how to make a referral, the signs of child abuse and supporting documentation. Apps have also been developed for e-learning and for training professionals and volunteers. The two *Tootoo* apps are examples of third party reporting which replicates the current system where a child tells an adult and then that adult makes the referral. Thus, so far there are no applications that enable a direct line for children to refer themselves. This demonstrates a lack of engagement with the issues that currently prevent children from entering themselves through the front door of child protection systems, and continues to reinforce that system as adult-centric. For this reason, the present study aims to bring the digital childhood space to the fore, as a starting point for the architectural design of new safeguarding applications.

A non-trivial development and design challenge is how an app can become part of a universal provision that continuously keeps children connected within the safeguarding network or the global community network. As a consequence, this is something that no technology currently enables.

Conclusion

In the global network of the commercial app market, the network displays a sense of beginning safeguarding conversations. The searches conducted here were based solely on product summaries and screen shots. The number of screen shots differed between apps with

some showing just the first few entry screens, where others provided more detailed information of the app content (see Appendix Four screenshots of examples of the data retrieved). The use of online stores as search engines indicates a commercial aspect to generate revenue. It is argued that this element in itself reflects a challenge for public bodies within a child-centred approach. The rating tools used in the app stores are not objective, potentially biased and lack validation. In the apps selected, there were no emotional wellbeing statements or warnings, even though the topics that were covered had the potential to evoke emotions for the user. If further apps were to be developed in relation to the welfare of children then measures to improve the accountability and scrutiny of the published content need to be put in place. There could be disruption in the network for both the end user and developers in the way the apps are displayed and written and the associated charges. The study was unable to assess whether the prices of apps changed according to their popularity and one limitation is to understanding more about why an app is free or fee-paying. Only one app offered an in-app subscription but it was unclear why a user would subscribe and what they would get as added value for the subscription fees.

Across the board there is no regulated body for the development, content, user suitability, user ratings or user reviews. There is no mechanism in place to verify whether the ratings and reviews were written by the actual app users or the app developers themselves. Therefore, this makes their validity questionable. Once in the market, there is no peer review or professional review mechanism in place as yet, so the degree of validity at this point remains uncertain. Precise analysis of downloads is impossible to collect as Android Market only offers the number of downloads in a bulk range format. A download still does not suggest the app has been used. Alongside this, the user reviews are subjective and subject to change and could be viewed as biased. The reviews and recommendations on Google were mainly completed on apps aimed at an adult audience.

This study has shown there is a new trend with potential for growth and further developments of apps relevant to safeguarding and child protection. It has shown that some apps connect to the safeguarding network but only for professionals or through a third party, for example, a national helpline, national organisation or safeguarding lead in an organisation. The fact that more apps were available on the Apple iTunes store could be coincidental in that this year marks the tenth anniversary of the iPhone with over a billion having been sold, making it one of the most successful technology products. Apple has created a family of products that can claim to have influenced people's daily lives similar to that of the introduction of the

television. However, in this era of the iPhone and mobile technology, although there are some useful safeguarding apps for adults (professionals, volunteers, parents), the review finds no evidence for facilitating a direct connection with those who have a duty to safeguard under Section 47 of the Children Act 1989.

The design and content of apps is becoming more creative and innovative by the introduction of games for staying safe, sharing on social media, possessing video content and encompassing a reporting process for formal management auditing. Children are now able to share their thoughts and feelings or concerns with trusted adults via an app, if the organisation they belong to has bought it or signed up to the technology. Professionals or parents can also access up-to-date safeguarding information immediately via a number of apps. However, still not evidenced is a combined approach within an app that includes a differentiation of methods of real-time communication by children's ages, the ability for a child enabled GPS tracking rather than adult surveillance and immediate access to help aids, reporting into a multi-agency forum with multi-user ability by front and end users.

It is proposed that regulation guidelines and monitoring should be introduced to improve the quality and validity of the information shared and disseminated by the apps. Furthermore, the involvement of children, their parents and professionals in developing the apps aimed at children for both self-managing and sharing crucial reporting of abuse would perhaps ensure valid and relevant information reaches the correct users.

Overall, there are a small number of apps relating specifically to safeguarding and there is now a platform to build upon and next steps warrant the construction and reconstruction of the digital native child as the starting point for the design principles.

Chapter Five. Methodology

Introduction

This chapter identifies and justifies the selection of appropriate research methodologies and methods used to fulfil the aims of this study, broadly situating it in the field of Human Computer Interaction (HCI) (Dickenson et al., 2007; Fleury, 2012; Fuchs and Obrist, 2010; Ham et al., 2008; Rosenbaum et al., 2002; Satchell, 2006; Zhang and Li, 2004) that foregrounds positive user experience and technology usability issues. The current project synthesises a HCI approach, collecting data on inter-agency technologies and practises at the point of referral of concerns about a child into social care, and examines the use of mobile phone technology in help-seeking for such concerns, in consultation with professionals and children who are part of a wider community context. Design of Management Information Systems (MIS) in social care has been found to be inherently problematic (Peckover et al., 2008; Peckover et al., 2009). This previous research focused on the physical inputters to the system – social workers as users – whereas the current project extends the notion of user to include new users i.e. the child as the referrer. Whilst all referrals to children's social care have a topic focus on children, they rarely directly self-refer into the system (see Chapter One). The project therefore required a creative methodology supplementing HCI and CCI methods to engage with children and open up the possibilities for their communication with information systems in children's social care, which has not been part of their experience, or professional experience within the child protection system to date.

Mason (2006) argues mixing methods can be a good thing and places value on theoretical logic and asking questions of the social world such as the MASH as a social experience and lived reality. Mixing methods serves to explain and interpret, offers a theoretical perspective and critically addresses the research questions on different levels. In doing so, the approach answers the research question strategically allowing theoretically driven comparisons can be made. It also enhances fluidity and innovation of research practice as well. She suggests that

> a 'qualitatively driven' approach to mixing methods offers enormous potential for generating new ways of understanding the complexities and contexts of social experience, and for enhancing our capacities for social explanation and generalization (Mason, 2006, p. 10).

However undertaking ethnography can depend on its purpose and in this case it was not about generalising about every single MASH in the UK but choosing to undertake an ethnographic observation and apply ANT to question and examine how the child is processed through the MASH as an informational object. The rationale was that understanding the child's journey as an informational object would highlight points at which the system might change to better accommodate self-reporting. Furthermore, alongside the children's workshops and focus groups it has a distinctive real world immediacy and vibrancy. The value of mixing methods and the concept of triangulation is helpful for design purposes and can overcome the weakness of one method by using others to confirm, cross-validate and corroborate findings. By making this methodological choice of using ethnographic observation, participatory children's workshop and focus groups overrides the weaknesses in using only one method with the strengths of collaboration being able to gain a fuller picture (Mason, 2006; Bryman, 1998, 2004; Fielding and Schreier, 2001; Kelle, 2001; Mason, 2002). Mason (2006) terms mixed methods as being able to view the research as 'multi-dimensionally. Thus being able to consider the socio-cultural and more specifically for this project the socio-cultural – technical space. She further argues that

> My point is that, to understand how relationships work and are done, what they mean, how and why they endure or do not, how they are remembered, emulated or reacted against and in general what matters in and about them, we need a methodology and methods that open our perspective to the multi-dimensionality of lived experience (Mason, 2006, p 11).

The lived experience is about connections between these multi-dimensional domains of the network. The 'macro' organisation of the MASH systems, the socio-cultural statutory responsibility to protect children by the way of sharing information, and the public narratives of children's voice are all part of the network along with the 'micro' of relational, informational and technical every day practices. Thus, mixed methods can provide some routes to validation and a more robust picture (Fielding and Fielding, 1986). Mason (2006) gives three reasons for using a mix method approached summarised as:

1. Mixing methods encourages us to think 'outside the box'.

2. Mixing methods can enhance our capacity for theorising beyond the macro and micro.

3. Mixing methods can enhance and extend the logic of qualitative explanation (pp.13-16).

Therefore, this methodological choice and the data analysis aimed to generate and inform new ways technologies such as how information, using the medium of an app, can enter the MASH for a child-centred safeguarding approach in a way that informs designs for children to be end users.

Children's mobile phone use and the use of applications are increasing (see Chapter Two). There are apps currently available in relation to engaging with service users as can be seen in Chapters Three and Four. These show characteristics of apps that lend themselves to potential solutions to the problem of children not engaging directly with children's social care (e.g. private, multiplatform, possibility of extending feature, interactive in real time). This study, therefore, focuses on capturing the design principles for an application that will wrap around or concurrently connect with the MASH's day-to-day activities to enhance the way in which children enter the 'front door' (Chapter One) to the child protection system. The mixed methods approach offers the potential for introducing a more authentic voice for children seeking help in a safeguarding context. This is a non-trivial matter; authenticity may require a complete shift in the way that the current child protection system 'hears' children and the ways in which children engage with it. A holistic understanding of how children could engage with the system and how the safeguarding system could engage with them more effectively in the digital world is urgently needed alongside knowledge of the possibilities and limitations of an application that will facilitate that engagement. HCI is empirically driven and focuses upon evaluating and understanding human behaviours as well as the engineering of the technology. This research requires both understanding the people and the systems and appreciating how to be innovative and design new creative technologies. A key factor concerns understanding how design will be used in a real world context. From an HCI perspective, the challenge for this project is 'for interactive systems design to be integrated synergistically as one element in this human environment' (Nahl 1998, p. 1022). Ultimately, this implies there is a requirement to grasp who is the object of the information and the sharing of information and how this information connects or disconnects.

HCI research has focused upon defining the problem of product development as well as its user friendliness from a person-centred or user-centeredness approach (Kjeldskov and Stage, 2012; Wulf, Schmidt and Randall, 2015). Therefore, rather than focusing solely on functionality and what is problematic, there has to be a balance that addresses both the user's perspective and the social setting itself. A multi-method approach will help address the

fundamental challenge of how technology could be introduced in a supportive way for all users (different professional groups, children and their families) within the current child protection system. This frame of reference is critical for the design and long-term embeddedness and effectiveness of technology. To enhance improved outcomes for engagement by children the methodological and organisational experiences of actors in the network demand observation and analysis in order to arrive at the architectural principles of shared new technologies (Dickinson, Arnott and Prior, 2007; Kjeldskov and Stage, 2012).

Usability of an application will impact on the children using it and, in this case, affect their safety or access to the help they request or need. Therefore usability here can be defined as understanding the principle of the application content, how it may look and feel to the user and its capabilities. Gavin and Read (2016) state

> Usability therefore is more concerned with the gourmand design of software. On the other hand usability could be approached 'before' accessibility with the aim to at least make the system logically useful before ensuring its use for a more diverse range of users. (p. 696).

This study therefore adopts a mixed-methods approach to data collection that adheres to the principles of User Centre Design (UCD) (Lewis and Coles-Kemp, 2014a, 2014b). UCD is a framework based upon human narratives that creates a distance between designer and the user narrative. These narratives can, in turn, offer a different perspective for understanding users and product development. UCD originated in the 1980's advocating four tasks for understanding the concept of use, specifying requirements, creating designs and evaluating designs (Fitton and Read, 2016). A socio-technical design process complements the participatory design elements of research (Wulf, Schmidt and Randall, 2015) ensuring that end users have a significant amount of input in the design principles.

The main focus of children participating in product development and evaluation is an important principle within CCI. Furthermore, key design principles should be routed in usability, fun and playfulness (Sim et al., 2015). The position and agency of the children is crucial for ethical research practice in working with children as research partners (Iverson and Smith, 2012). There has been debate over whether the ideas that children shared ever materialised into something tangible and equally whether they were participants in evaluation.

Participatory Design (PD) which is commonly used within HCI and CCI takes a socio-

technical embodiment and was pioneered in Norwegian work experiments (Mumford, 1993; Schulner and Namioka, 1993; Bjerknes et al., 1987; Muller, 2003). Previously software designed for children as the end user had little input from them and the adults engineering the products had little knowledge of the children needs and want for such interactive technology (Mazzone, 2007).

Participatory Design is a way embedding the child's voice within research of how new technologies are designed and evolve. Participatory Design is a way for groups to work together and empower them as a group of users to influence, in the case the design principles. Thus becoming experts in their own right (Bødker et al., 2004; Fitton and Read, 2016; Roussou et al., 2007) although some may claim that children come up with barmy, crazy, weird concepts and ideas that are unable to be modified into elements of design they should still be given merit and still maintain authority (Stringer et al., 2006). Wittgenstein's (1968) work foregrounds an understanding of how children (in this case, but alternatively all people) interpret the world differently and yet retain and practise shared understandings and logics. The interpretation of children's understandings and ideas as strange dismisses the logics of childhood. It prioritises a certain adult version of the way the world should be and what counts as knowledge within it. Much of child protection is premised on this understanding. Whereas I sought to enter the child's world to represent their priorities even if these could not be readily accepted by adult-driven systems. In order to find means and methods to enhance communication between child and adult worlds there is a need to understand what is important to them. Hence, my choice of the Kid Reporter methodology – taking what children reported within that framework, without a priori interpretation, and re-presenting this to MASH participants. Children may not always be expert in the implementation of the technology but they certainly will be able to inform what they and other children may want from it (Fitton et al., 2015; Read, 2015; Fitton and Read, 2016). It may always be a challenge for the IDC to transform children's design ideas into real product development that satisfies usability requirements in a real world context (Kelly et al., 2006). Participatory Design a wide description of what HCI cites as including end users as informants in the design of technology (Read et al., 2014; Sim et al., 2015; Fitton and Read, 2016). 'This approach not only improves 'usability' and enhances the 'user experience' of the products designed but also ensures that the design is appropriate for children of that age and is understandable by them' (Sim et al., 2015, p. 267).

A study of designing evaluating serious games by Sim et al. (2015) found that it was possible

to include groups of children from two separate continents (England and Uganda). They achieved this by using a participatory design methods with one group of children that were familiar with the subject and technology for a population of children who were hard to reach and had little knowledge of the technology. This emphasises and shows the possibilities of participatory design techniques when including children as research partners. Furthermore, participatory design sessions should always be fun and engaging for the participants, using familiar adaptations of play (Kelly et al., 2006; Read, 2008).

There have been a number of studies where children have been included in design activities where there was no end product developed (Read et al., 2005; Kano and Read, 2005). Equally there have been studies where children took part in participatory design sessions for a real product (Antle, 2003; Theng et al., 2000). Kelly et al. (2006) offer an understanding of the term design in such a way that gives preference to this research project where design is conceptual.

> This confusion is in part caused by the marriage of traditional design and interaction design as well as being the result of the difficulties in defining where, in a lifecycle, analysis becomes design and design becomes implementation (p. 362).

Fitton and Read (2016) identify three key barriers for understanding user-centricity for envisioning and early concept generation activities. These are knowledge gaps; the user journey and complex requirements. Designs usually need to take into account multiple interdependent, more often than not complex, requirements to solve a problem. In the present study focused specifically on safeguarding, giving children direct access to help they may need to keep themselves safe. Participatory design activities can help to address these barriers and give children a more active role beyond prototyping (Landoi et al., 2016). Thus giving the conceptual framework a user centred perspective to the design of a safeguarding application. If children are primed with scaffolding techniques within the design session it enables them to have further understanding of the tasks they are participating in. This scaffolding technique has been seen in the designs of gaming, ultimately providing an explicit user journey and coherent narrative in the elements of the stories of design (Fitton et al., 2014; Fitton and Read 2016):

> In order to meet the aims decisions had to be made for each activity, often these decisions constrained or heavily scaffolded the design activity. These decisions must be considered carefully in order to ensure that the scaffolding does not bias participant designs, and the use of the scaffolding must be remembered

when interpreting the designs produced (Fitton and Read, 2016, p. 58).

Having focused on children as informants and equal research partners it is also important to distinguish between the generational stages of childhood as children are not a homogenous group. As mentioned in Chapter Two it is argued that in HCI research teenagers should be seen as a separate population when it comes to research partners. These young people (eleven to nineteen years old) are live in a very different situated context (for example, with regard to personal freedom and access to devices and resources) which makes them distinctive from younger children (seven to eleven year olds) and adults. (Druin, 1999a; Read et al., 2011; Fitton et al., 2016). Teenagers are often classed as 'early adopters' and are the most prominent consumers of technology products (Boyd, 2008, 2014; Fitton el al., 2016). Although Fitton et al. (2016) and Poole and Payton (2013) argue that to fully understand the requirements of this age group a variety of research techniques should be adopted, these techniques are still part of participatory design frameworks. Mezzone (2012) developed a set of nine methodologically driven guidelines for understating teenagers as users. These include diary / log books; story-making sessions; mind-mapping; paper design activities; recorded internet search; focus groups; engagement events; obstructed theatre; questionnaires; mission from mars and personas. He goes on to suggest that the design phase should include exploration, generation and evaluation.

Target users, in this case children, are not research subjects but are research partners and should be included from the outset. (Fitton and Read, 2016; Gould and Lewis, 1997; Scaife et al., 1997) In previous technology-driven research (Druin, 1999a, 199b), children have mainly been involved in testing out prototypes. Many technological products have been designed without input from the child as end user, with the design process being led by adult software engineers who may have little knowledge of what the child may want or need from an application. Research in technology design according to Wynekoop and Cognor (1990) has five purposes: to understand; engineer; re-engineer; evaluate and describe. However four pathways to child involvement in the process of developing technology have been proposed: user; tester; informant and design partner (Hanna et al., 1999; Guha et al., 2005; Garzotto, 2008; Markopoulos and Bekker, 2003).

Furthermore, children have traditionally been subjects or informants of research and evaluation in the way of storytelling, gaming, taking photos or writing dairies (Alborzi et al., 2000; Guha et al., 2005; TaxEn et al., 2001; Garzotto, 2008; Dindler et al., 2005) but have not

been found in the literature reviewed in Chapter One concerning the application of technology to the safeguarding process. Approaching children as co-designers is recognised as a method called 'cooperative inquiry' (Druin, 1999a, 199b), which has made some progress within the HCI community, positioning children as equal stakeholders (Druin 1999a, 1999b, 2002; Read, 2008, 2015; Read et al., 2002; Read et al., 2014; Read and Bekker, 2011; Read and Gilutz, 2016; Marshall et al., 2015; Scaife et al., 1997). Druin (1999a) developed a cooperative inquiry framework that included participatory envisioning, contextual inquiry and laboratory observations, to ensure children were active participants in the design process. Participatory design and cooperative enquiry has given children greater equality and brought children and adults closer together in terms of technology design and development (Guha et al., 2005; Alborzi, et al., 2000; Kelly et al., 2006). Druin (2010) discusses how children's experiences make unique contributions in the co-design of new technologies, as exemplified in the digital architecture and establishment of the International Children's Digital Library.[16] She notes that, 'The searching experience should not be ignored since children look for their digital books or online information in ways that are very different from the way adults do this' (p. 35).

Drawing upon the theoretical importance of children as informants and design partners the 'cooperative inquiry' methodology provides a framework for capturing an authentic voice for children from which they can begin to communicate with safeguarding systems. The belief is that partnering with children is essential to understand what is necessary in developing new applications or technical platforms that connect to and attain reciprocal and meaningful communication in a multi-agency network.

The inclusion of children in group work establishes their responses as a starting point in drawing out themes for the design principles, with an emphasis on stimulating thoughts among the groups' participants. The children's narrative (Lewis and Coles-Kemp, 2014a, 2014b) and in-depth perspective from a child's viewpoint will also be complementary to the ethnographic observations and MASH focus group as this will offer a baseline from which to develop a preliminary set of concepts for what is a dynamic and rotational journey.

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[16] www.childrenslibrary.org; University of Maryland, 2002

Figure 5.1: Methodology Schema

Methodology:
1. KidReporter Workshops
2. Ethnography
3. Focus Group

KidReporter Workshop x 2
Primary School
Children Years 5 &6
Aged 9-11 years

KidReporter Workshop x 5
Senior School
Years,7,8,9,10& 11
Young People
Aged 11+ years

KidReporter Workshop x 1
Young People within the
Child Protection System
Aged 9 + years

Collate Data
Thematic Analysis

Ethnography
Local Authority
MASH
5 days observation
(2 week gap)
5 days observation

Collate Data
Thematic Analysis

Focus Group x 3
Local Authority
MASH
Focus Group Guide
Length 1 hour

Aims
- Understand design principles from the perspective of children and young people
- For children and young people to be experts in their own right and share ideas from a personal viewpoint

Aims
- Observation to discover themes that are relevant for the principles and architectural design of applications
- Understand the social and technological individual and organisational practices
- Discover if there are other socio-material components that contribute to the main purpose and function of the MASH

Aims
- In-depth discussions on the design assumptions and findings from the ethnography and KidReporter workshops
- Examine the social / technical relations of the MASH with the app design for adoption

Alternatives to Participatory Design Approaches Within HCI

Simulation

Simulation is a valued data collection tool in HCI. In simulation experiments, researchers observe behaviour in a controlled case situation within a work setting. However, a simulation exercise in this research would fail to capture the real-time activity that would be essential to improving understanding for the design process. Work in a MASH has organic variability in interactions between participants and their technological and physical environment. It would also be unethical to attempt to control the work in the context of safeguarding interventions, which necessarily must be responsive. Even if it were possible to implement a new technological computerised system, training of the participants (staff) and the development of the technology would prove expensive. There would need to be detailed instructions on how to use it. The development and introduction of an application would be significantly different to the way in which participants currently work and the simulation time period may not account for the complexity of this as part of the process.

There are also many considerations to be made to the conditions of any specific study. A MASH is the single point of contact for all safeguarding concerns regarding children in a Local Authority geographical area. It brings together a multi-agency team, which is co-located with a view to identifying risks to children better, and improving decision-making, interventions, and outcomes. The co-located multi-agency team's role is to review appropriately their information systems, share all relevant information in a secure environment, and ensure that the most appropriate response is provided to safeguard effectively and protect children from significant harm. Agencies are represented across all sectors, with practitioners from social care, police, health, education, and the voluntary sector. Therefore, the MASH acts as a front door to manage all safeguarding referrals, providing a secure and confidential environment for practitioners to share information. As well as identifying low-level repeat referrals, it also activates a first response for social work services to provide immediate child protection.

Dependent and independent variables are potentially numerous in a study of human performance, as are variables in computer interactions when undertaking tasks. Understanding these variables and the relationship between them is an essential element of experimental design, which presents difficulties for the current study. For example, recognising and measuring all the possible variables in this case would be very difficult as the process of direct technologically-facilitated engagement by children with safeguarding systems is rare. Therefore, a simulation experiment set up with the MASH that adopts an existing application such as *R U Safe* or *My Journey* (see Chapter Four for a discussion of the limitations of these apps) or an application that is not co-designed by children and MASH participants, would be largely invalid as a test for co-produced and creatively-designed safeguarding technology.

Moreover, a simulation experiment utilising a prototype of an application in this case could render significantly different findings from the way in which the MASH may work with it in everyday practice. Therefore, due to the current system's structures and the absence of validated technologically-facilitated processes in this space, ethnographic observation should precede an experimental study. As Ham, Park and Jung (2008) state, '(In) a full-scope simulation study, researchers need to identify as many compatibility and understandability issues as possible before experimentation to avoid unwanted time and effort' (p. 364).

The typical technical viewpoint is that researchers make assumptions about what the problem

is and therefore build a prototype to solve their assumed problem. In this research there is a clear hypothesis to gain an understanding of the challenges for making the pathway for new technologies and firstly, it is necessary to identify the relevant themes in the field (Kjeldskov and Stage, 2012, p. 71). A final argument against the use of a simulation exercise covers some of the unknown and potential risks and limitations, such as legislative requirements for child protection issues, risk of loss of control and unsafe mechanisms for managing risks effectively. It is for these reasons that design research is encouraged to engage with real practice, not with experimental settings (Wulf, Schmidt and Randall, 2015).

Ethnography

Ethnographic methods are used by researchers in HCI studies to explore the characteristics and decisions of potential users of new systems (Cunningham, Knowles and Reeves, 2001). In terms of technology design, knowing the user can be seen as critical in the design of a proposed new information system. Being aware of the user's story and being empathic to their world and discovering the intricacies of micro-practices and connectors in specific situations between technological systems and users, enables the designers of new technologies to blend and mould applications into their environment more effectively. Ethnographic observation in a MASH refers to observations of the methods and techniques of the naturally occurring communicative interactions between professionals representing separate bodies within a multi-disciplinary setting[17]. Secondly, it notes how these multi-professionals' interwoven practices engage with the computer systems and other artefacts in their environment that emerge as workarounds (Broadhurst et al., 2010). The rationale for such observations is that understanding these transactions can avoid poor design at a later stage. In this case, the research is necessarily exploratory with the aim of identifying themes that will be relevant to the principles and architectural design of safeguarding applications going forward. As Obrist et al., (2011) explains, 'The experience a person has with a technology, product, service or just a simple artefact does not exist in a vacuum, but depends on multiple qualities perceived and interpreted by the person' (p. 385).

In the ethnographic element of this study, the site was the room in which the MASH was located and the users were the practitioners within it: social workers, police officers, health visitors and others. Viller and Sommerville (2000) state this is 'because coherence has its

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[17] In 2014, initially, the project focused on young people. However, this expended to included children in 2017. Therefore, in this chapter the term children and young people is interchangeable.

roots in ethnography it is concerned with how work is carried out in practice, rather than how it is documented. As a consequence, it is also concerned with how practice differs from documented procedures' (p. 197).

In investigating the MASH as a social entity, questions that arise relate to what makes its culture and which of those components have an effect both culturally and as part of the wider societal context for safeguarding children. This cannot be ignored. If the various dynamics and complexities for introducing new creative technologies such as mobile communications are to be used, sharing data is crucial for the design element. The interaction of the human subject (the MASH team member), the culture and the technology (the context and means through which information flows into, through and out of the MASH) comprise a social, organisational and technical conceptual framework (Latour, 2005). Several questions underpin this theoretical framing of the MASH. How would the introduction of new technologies, such as mobile applications, change the MASH culture, the network of professional roles and responsibilities, actions, actors, artefacts and connections between them, within an organisational system? Furthermore, how would this socially impact on the stories and journeys of the other actors currently outside the MASH system (other than as objects of information), particularly the children, and how would a new actor within the network (an app) contribute to safeguarding their welfare?

What is learnt from the site, the people and technology should dominate the design and usability principles. As Zhang and Li (2004) note, 'human-computer interaction related to the society and organisations is not predetermined. Instead, it is shaped by the way the IT is designed and implemented' (p. 128). This holistic actor network framework (Latour, 2005) conceptually cuts across the various disciplines, user interfaces, artefacts and practises within the MASH that are gathered through observation and interpretation of the MASH at work. Uncovering how the team members behave and react in their own natural setting, for example in response to an assessment process or when receiving information on an open case, provides indispensable data for creating the architecture for new technology-facilitated engagement, such as through an application.

Further ideas will come from the results of theory building efforts (Nahl, 1998). Cultural theory is often used in HCI to capture the context of day-to-day situations and to uncover users' behaviour (Satchell, 2006). Although this can offer new ways of thinking about data, it does also produce descriptive data. In ethnographic methods there is no attempt to control the

variables within the natural settings for this could alter or destroy the phenomenon of the world being studied (Weinberg and Stephen, 2002). By gaining an in-depth understanding of the MASH as an actor network, the data gathered inductively informs key themes that will have relevance to the institutional positioning for the new technology. The grounded theory approach is to generate a theory that explains how an aspect of the social world functions. Therefore, the aim is to develop a theory that emerges from the ethnographic observations and children's workshops that connects to the same reality that the theory is developed to explain (Glaser and Strauss, 1973). Most of the theory underpinning safeguarding apps is implicitly deductive, in that the apps reviewed in Chapter Four will facilitate and help safeguard children. However, there is no tested evidence or research to suggest they do in fact increase safety or protect children. Ethnographic methods lend themselves to uncovering 'collaborative and complex practices' to develop theoretical concepts that can inform technology design (Wulf, Schmidt and Randall, 2015, p. 342).

It has already been identified that the current ICT systems within social care are not user friendly (Peckover et al., 2008; Peckover et al., 2009) laden with assessment processes that are prescriptive and arduous for the end user. However, the desktop computer is becoming an historic artefact within a world where front users are digital natives (May-Cahal et al., 2014). A key question is whether data/information is currently received and stored in the most appropriate place in an ever-changing cultural and social system. And will this be the case in future? A key activity in child protection is sharing information, which also has generic relevance:

> Whatever a person is doing, this is part of an experience she is living with some other people, with whom she exchanges documents and other things, she shares information and knowledge, and she has mutual commitments. All that participants do during a social experience intertwines language and action, so that, at the same time, things are created, imported, and/or modified and knowledge is created and shared (Wulf, Schmidt and Randall, 2015, p. 68).

Accordingly, I aimed to capture what these actors who are working in the MASH do; how, why and when they share information, and what is happening or not in the physical and cultural space of these interactions. From there the ethnographic data moves forward, to discuss detailed descriptions of the work and, together with the team members, consider what can be added in a technological sense that would transform practices and make way for a new creative technology as the information sharing object. Wulf, Schmidt and Randall (2015) summarise this:

> For our target users, i.e. the knowledge workers, whose work is woven of what they read and write, the issue is not if they are using the word processor, the spreadsheet or the mail, but, which is the story in which they are engaged so that they can act effectively in it (p. 69).

One element of observation is to understand the spatial context and see if it can allow further communication pathways for both the front and end users that would inevitably develop new kinds of digital content. This builds on work on the use of space and mobility in social care (Jeyasingham, 2014; Ferguson, 2011) and applies it to e-spaces such as databases but to mobile phone communications in particular. Space in this digital context can be identified as, 'A social context (that) is generated by a thread of past and future events involving an actor network within which its participants create their common place and knowledge for sense making and effective actions and interactions' (Wulf, Schmidt and Randall, 2015, p. 72).

Therefore, an ethnographic study needed to take account of the locally situated micro-practices of professional action. Analysis will focus on how the design can accommodate the social context, as described above, of professional interaction along with possibly the redesign of work technologies to accommodate the space between informational objects. Attention will be paid to information and data flow and ensuring it is attaching, and not breaking the threads of children's and professionals' communications in the social spatial sphere. Furthermore, if the ethnographic observation is to develop themes for creating new digital social practices and establishing how they could fit into the MASH, then analytic attention had to be paid to current practice, including both the emotional and motivational elements of social practices as they were observed.

The efficacy and quality of the actual application design will only be known by examining the changes in the social practices that have been observed as a result of common activities. Furthermore the functionality and usability of the application can be scrutinised by the use of heuristic evaluation (Jenson and Skov, 2005; Mezzone, 2007; Sim et al., 2015; Read, 2015; Gavin and Read, 2016). In order to move new technology to fit into everyday practices, the researcher will have to reflect continually on the existing practices and view the space between interactions as the design space.

The researcher's agenda may not mirror what is observed by practitioners when their contribution will be influenced by their specific professional identity, discipline and organisational practices. One aim of the ethnographic observation was to understand these 'stories' through observing. New technology design is not sequential and the world of the

MASH is complex and fluid; design will inevitably be emergent. It is about how the practice and the technology are intertwined and are not static and separate entities with dynamic factors evolving over time. A central question for this stage of data collection was how might extending technology-facilitated engagement for children through digital applications move forward social and professional child protection practices? This was challenging, for there are many disciplinary, interdisciplinary and multi-disciplinary relationships and information exchanges involved in safeguarding children. These partners also go beyond children in their working practises, including families and the wider community along with their own organisations.

The role of the ethnographer is not to decide on the specifications and ideas of a prototype but how the technology (in this case an application on a mobile phone or iPad) would work as a dynamic object of information that changes over time and changes a system that is known for systemic failures (see Chapter One). The object is an application, which has the potential to offer a shift in power in a complex set of internal and external information-sharing relationships. In this setting, the external object could be many things, for example, the application on the device, information stored digitally on the device, or the way in which information is transacted. The aim is to discover if there are other socio-material components that contribute to the main purpose and function of the MASH.

ANT was chosen as a research lens for the methodological analysis in order to explore the relationship of the MASH practitioners as part of a complex practice environment and the technology they use in practice (Booth et al., 2015). Similarly ANT has been used in research studies to understand health technology use by nurses (Mullen, 2002; Ackerman et al., 2012; Cressweel, Worth and Sheikh, 2012; Foth, 2013; Unnithan et al., Burgin, O'Rourke and Tully, 2014). As the MASH practices become increasingly digital applying ANT as a sociotechnical research lens offers value and appreciation of the social and technical space (Koppel et al., 2005; Ashe et al., 2007; Vogelsmeier, Halbesleben and Scott-Cawiezell, 2008). Furthermore, ANT can offer the research an 'innovative lens' for analysis and interpretation of the sociotechnical relationships of the MASH environment, as well as to synthesize a large amount of data (Booth et al., 2015). As Booth et al. (2015) summarises

> As data collection and analysis within ANT research tend to be iterative and concurrent in nature, the constant comparative technique can assist a researcher in being reflective in the data analysis process, while seeking new related actors for data collection. This is especially important during the early stages of

data collection and analysis, when the true complexion of the actor-network(s) being studied may not be obvious (pp.115-116).

The MASH can be seen as an actor network so that the observer is able to understand how the social and technical connects or disconnects or becomes one of the same. As well as grasping how the child's information travels through the technological systems and tracking its direction of journey, for example what is a database or information. In doing so then there will be a culture of participation where the devices and people together contribute in different ways to enhance creativity, share information and build collaboration within the system. The management information that the safeguarding network has available to it at the present time is arguably inflexible and lacking in creativity (legislation, statutory guidance, local rules governing practises, dominant ideologies of abuse and childhood – see Chapter's One and Two) and could be a poor solution to information flow from, to and with children. This research aims to explore new ways to enhance information flows that will inform a more receptive socio-technical safeguarding environment for children.

Research Ethics and Confidentiality

Issues of confidentiality and consent are central to this study due to the sensitive nature of the work with children, exploring issues of potential harm, and also access to highly confidential information and interactions across several agencies working with child protection within the MASH. Ethical approval was obtained from both Lancaster University Research Ethics Committee and the Integrated Research Application System (IRAS) at the Health Research Authority (HRA) Greater Manchester East Research Ethics Committee (see Appendix Five). The process for ethical approval was over eight months. Firstly, there was an NHS post (job-shared by practitioners) located in the MASH and therefore the research project was instructed to apply through the national HRA and submit all ethics forms through IRAS. Secondly, the police constabulary would only allow access if comprehensive vetting was undertaken as the agencies within the MASH were all part of a multi-agency information-sharing safeguarding agreement, which outside researchers are not party to. This meant completing internal vetting procedures as well as undergoing a drugs test. In relation to information sharing, a confidentiality agreement was signed on the behalf of the MASH and the researcher. As part of the procedures for accessing schools, enhanced DBS (Disclosure and Barring Service) check and clearance was required.

Confidentiality issues were set out clearly to all partner agencies within their invitation letters, participant information sheets and consent forms. I am a qualified social worker bound to maintaining confidentiality under the Social Work Code of Ethics (British Association of Social Work, 2012). Any information provided was treated in the strictest confidence, anonymity was preserved at all times and any publication will not identify individual participants. The data has been stored securely under the information security guidelines of Lancaster University and used only for the purpose of this research project[18].

Information sheets and consent forms were issued and signed by all participants (see Appendices Six, Seven and Eight). The information sheets and consent forms for the children were designed in child-friendly language including pictures for simple explanations. There were various levels of consent, firstly from the management within the institutions such as the Local Authority and other MASH partner agencies, consent from all professionals who worked in the MASH during the observation periods and consent from other outside professionals that visited the MASH. Further levels of consent were required (see Figure 5.2), including gatekeepers for the children. Teachers in the schools and a senior social worker ensured all the consent forms were signed and returned.

Figure 5.2 People from Whom Consent was Obtained[19]

Gate keepers	Local authority, MASH partner organisations, school head teachers in whose setting the	Letter Written permission	

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[18] In 2014, initially, the project focused on young people. However, this expended to included children in 2017. Therefore, in this chapter. the term children and young people is interchangeable.

[19] **During the workshops there were two incidents that I reported back to the school under the grounds of the ethics agreement. The first was in the primary school where I felt the picture a child had drawn and written about warranted sharing with the head teacher. She knew which child this story related to as one of the children was subject to child protection plan and the story resembled some of the current issues. The second was from one of the stories written by a young person in the senior school. The content was concerning and I shared the information with the Designated Safeguarding Officer.**

		research will take place		
MASH Practitioners	Those who work in the MASH	Professional Information sheet Consent form	
Responsible others	Those who have responsibility for the welfare and wellbeing of the child/young person, i.e. Teachers, social workers	Professional information sheet Consent form	
Parent(s) or Carer(s)	The person(s) with parental responsibility for the child or young person	Parents information sheet Opt-in consent forms	
Participants for workshops	Children and young people	Children and young people information sheets Opt-in consent forms	Verbal presentation to the children and young people

Ethnographic Observation in the MASH

Access

Gaining access to a MASH must be through a Local Authority Chief Executive or Director of Children's Services (DCS), therefore I chose to exploit my existing professional networks. I emailed a number of Chief Executives and DCSs, explaining the research project and seeking their interest and subsequent permission. Shortly after I received written permissions from a DCS (who I knew to be innovative in their approach to service developments). A meeting was then set up with the Head of Service Social Work and Early Help who passed on the

names and contacts details for the line supervisors/managers of the practitioners located within the MASH. I therefore contacted and arranged meetings with the following partner agency managers: the NHS Designated Safeguarding Lead, the Police Detective Inspector, Head of Education and Chief Executive Officer (voluntary organisation). The meetings were used to explain the project aims as well as discussing any internal ethical procedures that must be followed. All consent forms were returned electronically by the managers.

Partner managers were responsible for emailing participation information sheets and consent forms to their staff. However, the first day I entered the MASH the practitioners were aware of the study but had not completed consent forms. All the consent forms were signed manually and a set of consent forms and information sheets were made available for any new staff, for example, the duty social worker, as this changed daily. I was given an electronic pass to access the building and the key code for the MASH office door. This meant that I had free access to enter and leave the observation site at any time. There was also a sign on the MASH office door informing people to be aware a research project/observation was taking place.

The ethnographic study took place over two five-day periods two weeks apart, with access to the MASH from 8am to 6pm daily. I reflected on how my presence as a researcher within the MASH could affect the actions of practitioners when dealing with potential safeguarding information they receive. However, the team members seemed to 'forget' over time that I was a researcher and that I was only there to collect data. Perhaps this was because of my status as a registered social worker who had a clear understanding of their work. A constant issue for me was ensuring that I did not blur the boundaries between the two and to balance this with a duty of care to the team members as participants. This was monitored and discussed daily through my own supervision with my academic supervisor in telephone discussions.

Data Analysis

The ethnographic data had to be collected by writing comprehensive field notes as permission was only given to observe and not to record digitally. Field note templates were developed inductively to catalogue themes as they arose, as well as to help keep focused and maintain a position of treating the scene as 'anthropologically strange' (Garfinkel, 1967) even though I was an 'insider'. The template slowly developed over several days to cover the following:

- Spaces between the team interactions (physical and temporal)

- How the MASH team members use and interpret information

- The behaviours and decisions taken between team members and computer systems

- Interactions between team members (physical, verbal and digital)

- Evidence of acting out professional requirements within the current system

- The social and cultural entities in play

- The communication flow(s) including the daily journeys of information

- Receiving, responding and the passing on of information

- Methods of communication

- What information is digital, verbal, written etcetera

- Social and collaborative practices

Undertaking ethnography depends on the purpose of the study. To generalise is to claim what took place in one setting or time would be the same in some other place at another time (Payne and Williams, 2005). In this case is was not to generalise out to every MASH in the UK but I was attempting to understand the everyday practices of technology use in the work of a MASH. My aim was to cover as much as possible within the limitations of sight and what I was able to hear. For example, I was limited in my view of the room depending on where I was seated, so at times my line of vision was obscured. Further limits included; what was happening in the room at the time of day I was in the research site; the practitioners that were in the room at that time and what specific events unfolded on that particular observation period. However, I could of never have been able to know and observe everything because the setting is constantly changing. This does not mean that observation is not possible, it merely limits the range of generalisability. Repeated observations across different time points were included for this reason; to strengthen a validity that is inevitably and always tentative and open to interpretation.

Banal generalisation (Payne and Williams, 2005) that focuses on everyday social practices and relies upon actors' own generalising through their interactions. It is then for the researcher to base future on what has been observed. The observations made from the MASH site in the two week period generated enough observation of repetitive practices to be able transfer these observations into candidate findings for further exploration as they might apply to other similar MASH settings.

There are some everyday practices that were observed that will be replicated in every MASH; for example practitioners sit at desks and work on desk top computer screens every day; they input data in to databases; they answer phone calls (in this MASH via headsets) and they have conversations. It is these practices that form modest generalisations (Payne and Williams, 2006) that were open to interrogation for the purpose of conceptualising design principles. However, there are some practices that remain inconstant, such as the content of conversations, the behaviours and exchanges between specific MASH members. By adopting a mix-methods approach I aimed to amplify and support generalisations made from the observations by validating them through re-presenting these to focus groups comprised of the MASH members. The observations were made purely for design purposes; to begin to understand how a new technology would potentially impact the professional practices of that setting. For example, how the child's information in a new format that reflected the child's world would enter or join with the MASH. Making generalisations into conceptualizations is to ensure that evidence is identified from the data to defend that conceptualisation (Firestone, 1993).

In relation to reflexivity, 'that social researchers are part of the social world they study' (Hammersley and Atkinson, 1995, p 16), I adopted ANT as a lens to view the MASH in a way that differed from reflexivity as it is understood from my social work background. However I could possibly have been seen as an insider - researcher conducting research within my own profession (Innes, 2009; Kanuha, 2000). The biography of the researcher from a similar professional background is a consideration when the primary goal of the research is the production of new knowledge (Hammersley and Atkinson, 1995). My insider status is clearly recognised as having commonalities with some the MASH practitioners such as a shared profession, qualifications, and shared language. Although I was privy to familiar language and professional characteristics and other parallels (DeLyser, 2001) I was able to overcome many of these challenges and take on more of a novice outsider role (Hammersley and Atkinson, 1995). This is due to the fact that the observations were not directly about understanding the participant's behaviours but how their actions connected with the technology, the technical processes and data flows. Therefore this gave my position as the researcher more distance whilst in the research site which can enhance the research outcomes (Bryan and Deyhle, 2000). This was supported by daily telephone calls and discussions to my supervisor to ensure I retained an observer position.

Workshops

There are two main research methodologies for working with children as partners in design technology, namely cooperative enquiry (Druin, 1999; Guha et al., 2005) and the KidReporter (Bekker et al., 2003). Both approaches place responsibility on the role of children as design partners. As Mazzone notes, 'Participatory design and co-operative enquiry, which are closer to the ideal of design partner, suggest greater equality between children and adults, more involvement by the children, and a democracy of ideas' (Mazzone, 2007, p. 197).

This research project included children as informants at the earliest stage possible to enable a plethora of new ideas and as principle for innovation and creativity for technology-facilitated engagement. Co-operative enquiry is a creative process (Druin, 1999; Guha et al., 2004) that originated at the University of Maryland's Human-Computer Interaction Lab. The process has produced a range of storytelling technologies. Children aged seven to eleven years old have taken part by being invited to the Lab after school twice a week during term time and for two weeks during the summer holidays for six hours per day (Druin, 2009, p. 131). Co-operative inquiry uses a variety of research methods depending on which stage of the design process is taking place. For example, at an exploratory stage, adults and children may observe and/or conduct interviews in local public places. A frequently used feature is where the team (children and adults) write one idea, like and dislike on a single post-it note each and then collectively analyse the notes grouping them into themes. For low-tech prototyping, a range of art materials are used with groups to create models or drawings of the new technology, then once a group has created a model, it is fed back in a whole group process, naming and generating big ideas (Druin, 2009). Co-operative inquiry requires an intergenerational team of researchers to generate a large quantity of ideas rather than interrogating individual children to solve complete design solutions. Druin (2010) has found that,

> Over the years, I have found that the most important goal of any partnership between adults and children is idea collaboration. The children I have had the opportunity to work with have not been my 'sample' or 'subject pool' but partners in understanding their world (p. 37).

Unfortunately, there are limitations to the use of adopting cooperative inquiry for this research; however, the validity of this process in which adults work with children to create innovative new technology used by children is proven. The constraints were that there was not an intergenerational research team available, nor was there access to children over a long

period of time.

However including participatory design was an option that would offer children a space for the democracy of their ideas (Mazzone, 2007; Landoi et al., 2016). Novel approaches to participatory design are The KidReporter method (Bekker et al., 2003), Mission from Mars and the design of the eBag (Dindler et al., 2005). These methodological approaches allowed the participants to be innovative within a creative process. Such frameworks are usually chosen for specific project driven research (Mezzone, 2007; Landoi et al., 2016). As Fittion and Read (2016) explain that 'The contexts of use, and therefore desired designs, of new and novel technologies will likely be dynamic and context sensitive, more closely resembling a *user journey* that an single static scenario of use' (p. 50.)

An alternative is The KidReporter method, used by Bekker et al. (2003) for early design requirements for an Electronic Educational Interactive Game (EEIG) in which children can learn about animals during a visit to the zoo. They particularly wanted to gain information directly from the children and sought views from the children's perspectives, including their interests, use of language and vocabulary. Moreover, to enrich the standard of the data, they chose method-based activities such as taking photos, making lists and writing articles that would engage their audience as well as produce different kinds of data sources. The KidReporter methodology can be adapted to a range of age groups and other groups of children, for example, children that have had experience of the child protection system or children in universal mainstream education. Furthermore, the research activity is best undertaken in familiar surroundings in which children feel safe to explore their experiences (Druin, 1999). When working with children in the context of HCI, it is about understanding the complexities of their world and how these connect or interface with technologies. 'These techniques do not necessarily offer a magic formula for working with children, but rather a philosophy and approach to research that can be used to gather data, developing prototypes and forging new research directions' (Druin, 1999, p. 94).

It is via the use of these creative methods that the adult and child begin to share a narrative space. This style of participatory design located within the HCI field, works reflexively with the end user, shifting the power onto the end user to allow them to create and contribute their own thoughts and vision for the design of (in this case) an application. Children in this field are working as an influential and credible knowledge source and voice, with a collective right as end users in design and development of ideas for the integration of the technology being

investigated (Fuchs and Obrist, 2010).

In the conception of new technologies in child protection networks the aim was to build upon scenarios that reach the personal space of the child or young person, as safeguarding is both personal and emotive. This is why participatory design workshops were selected in preference to more customary methods in order to investigate how children would identify with the application and what would be expected from it (Fleury, 2012).

Making pictures, drawing and narrative have the potential for participants to establish their creative scenarios for the application's design and children can connect with drawings as a tool for self-expression. The challenge for the researcher is to allow children to construct and form their own mental pictures, for example, on paper or through photography, to strengthen the unfolding of the new technology and processes that go beyond familiar and recurring concepts (Brouwer-Janse et al., 1997). Drawing can also assist with the methodological challenge of gaining an in-depth perspective of the child's world in a less formal way with a larger group (Fleury, 2012):

> In their first years of life, children learn to use drawings as a communication mediator. At the same time, the child gradually includes writing in the drawings, enhancing clarity in the ideas expressed. The important role drawings play in human development explains the vast academic literature available related to children's drawings and their interpretation (Fleury, 2012, p. 270).

Using drawing as a research tool requires minimal training for the participants compared with a lab observation.[20] Analysis can be challenging but if drawings are facilitated in a structured way by using a framework, the ideas and expressed opinion can produce good quality data. Fleury (2012) was able to analyse drawings and understand there to be five essential functions for a mobile phone device, proposing that drawings promoted the expression of what mattered most to the children.[21] Drawings can be used in triangulation with other research methods supporting the multi-method approach taken for this research; for example, Guilliemin (2004) and Kearny and Hyle (2004) who both advocate drawings complemented and contributed to the findings of their studies. Allowing children to express relevant issues and problems does not eradicate the need for technical expertise but respects them as experts

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[20] Fleury (2012) found that storyboards were interpreted and understood without the author in all cases except one.
[21] In average each participant of the study thought about a little less than 5 functions to be essential for both devices (TV and mobile phone). The 56 functions named were then categorized into eight clusters: Access to information, Specific use, Communication, Design & specification, Entertainment & relaxation, Secondary function, Music & sound and others (unspecific, excreta).

who need to contribute to the design.

When including children in research groupings, their age ranges need to be considered. The cooperative inquiry approach involves partnership with seven to eleven year olds, as they are competent at prototyping. This age group are more verbal than younger children and able to be self-reflective as well as participate in discussions of critical thinking (Druin, 1999; Guha et al., 2005).

The qualitative study by Kaare et al. (2007) that examined the social connections and relationships of different types of communication technologies with children aged between ten and twelve years old helped show that there is a possibility to survey younger children within the primary school catchment age. Ethical considerations on the issue of consent regarding children demand that they should be given permission not to answer questions and / or be able to stop at any time. The size of the focus groups for younger children needs to be taken into account. Furthermore, to enable more participation when undertaking qualitative interviews with children, the interviews should be related to 'themes' (Kaare et al., 2007).

The KidReporter method was adopted to emphasise that children are experts in their own right, sharing their ideas from their own viewpoint (Dindler et al., 2005). The framework is activity-based, mixing a variety of data sources that should enhance the value of the data. The techniques have been chosen as they motivate and stimulate children; taking place in a guided workshop it offers a safe process (which is essential in the context of safeguarding).

The version of KidReporter adopted for this project is based on an adaptation from Bekker et al. (2003) to make the activities relevant to the current subject regarding the sharing of information between children and professionals, whilst considering being safe.

- Drawing pictures and writing augmentations about their pictures and 'being safe' and 'who would be a safe person to tell if you felt unsafe?'
- Partnering to create a list of questions and answers intended to tease out information on how to share this information if they had an application to do so and thus giving them the opportunity to share their own experiences and ideas.
- Each child to have the opportunity to write a story about how they would design an application. This would mean they could write about how they share information about being safe, who they get help from when they felt they need it, what information is important to share, who with and why, and how they would use an application to do so.

- Filling in a questionnaire to provide quantitative data about what technology is currently accessed and the information that is shared through it.

Access

Primary School: The Head of Education was only approached after permission was given by the Director of Children's Services. [22] A meeting was then arranged with the Head of Education to discuss the contents of the invitation letter and agree a way to recruit schools for access to undertake the workshops. The agreement was for the Head of Education to email local senior school head teachers as there was only a small number senior schools in the area. I was invited to present a summary of my research project at the Primary Head Teachers Forum and I attended the next available meeting. At the end of the short ten-minute power point presentation, one head teacher approached me and stated her school would definitely be interested in participating, as she was keen to look at new ways to incorporate technology. Subsequently, I went to meet the head teacher and she suggested that I come in and facilitate a session with the children (Years Five and Six) to tell them about the research project and myself and ask them to do some thinking around apps. I attended one assembly with both year groups present and told them about the project and myself. I had a short discussion answering any questions and I asked the children to think about their favourite apps and with help from their teachers if they wanted to, they could make a poster about these. As well as meeting me to put the children at ease and to know I was not a teacher, it also gave the children a chance to ask questions about the research. A further suggestion by the head teacher was to keep the interviewing section of the workshops to a maximum of five questions, on the grounds that the more structured the task, the easier it would be for the children to complete. All participants in the primary school workshops were volunteers with parental consent. The workshops were limited by class size, which ranged from twenty-one to twenty-five and undertaken in a classroom with the class teacher present. Parent and child information sheets and consent forms were sent home in school bags and returned signed via the class teacher.

Senior School: The Head of Education for the area emailed senior school head teachers attaching the project invitation letters, a copy of the information sheets and consent forms

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[22] The schools are located in a small unitary authority in the North of England with a diverse child population.

(for school staff, children, young people, and parents/carers – see Appendices Six, Seven and Eight). Two senior school head teachers showed an interest and a further meeting was arranged between myself and a representative from the first school. At this school, I met with the deputy head who thought the research project could be linked with the mental health wellbeing agenda. They also used a Google shared drive where there was the possibility of sending information out electronically to the pupils. However, after exploring this option the deputy head sent an email stating the head teacher did not want the school to participate. The second senior school agreed to access and supported the project wholeheartedly from the beginning, wishing to share their participation with Ofsted. I met with the deputy head in the summer term, which was at end of the school year and she was then assuming a new post part time as the school's Designated Safeguarding Officer (DSO) in the new school year. Prior to the September term, I met again with the DSO. Although the staff at the school were extremely helpful, access was permitted only if the workshops could be delivered within the school's timetable and daily routines. Each year group had a separate assembly at 8.30am and I attended five assemblies. As it was the beginning of the new term, the deputy head teacher gave every year group a presentation on the school's mission. I then followed with a presentation consisting of the aims of the project, why and what the project is and what they would be expected to do if they participated in the workshops. If pupils were willing to take part, they were directed to their year head to collect information sheets and consent forms.

Workshops were organised by the DSO to operate alongside the timetable and I received an emailed schedule detailing one-hour slots over a two-week period. I was given a classroom as my base that was used for every workshop apart from year eleven. There was also a support teacher in the classroom but they maintained the role of observer/supervisor. All of the young people who attended volunteered to participate (n=50).

Looked after Children: The MASH senior social worker had been tasked with contacting all the staff who worked directly with children in Children's Services. This workshop group of participants took more organising and it was postponed once as the senior social worker ran out of time to organise the transport for the young people. Social workers and support workers transported the participants to and from the venue. This workshop had to run during an evening after school as participants came from different locations across the locality and therefore refreshments were made available. The workshop was held in a room in local Children's Centre.

All the children that participated in all the workshops received a certificate of participation and a £10 gift voucher as a thank you.

The Children's Sample

Convenience sampling was adopted where all the children who volunteered in the two schools were accepted to undertake the workshops. In total ninety-six children participated; fifty-one percent female and forty-nine per cent male. Table 5. 2 below gives a breakdown of gender, disability and ethnicity and Table 5. 3 shows their ages. Almost half the sample were in years five and six and fifty-seven point nine per cent were aged between nine and eleven years old. Eighty-two point fifty-six per cent were white British (N=86) and ten per cent from other ethnic backgrounds, primarily Asian. This is broadly representative of the general UK population but slightly less representative for the local area which has sixty nine point two per cent recorded as white British and thirty point eight per cent from other ethnic backgrounds with twenty—five point five per cen Asian.[23] Five children described themselves as disabled. Ethnicity and disability were recorded as these are known to be relevant to children's use of technology (Livingstone et al., 2011).

Table 5. 1 Participants' Gender, Disability and Ethnicity N=96

	Total number of participants	Female	Male	Disability	White British	British Asian	British Asian Pakistani	British Asian Indian	Black Caribbean	White Polish	Dual Heritage White & Asian
Year 5	25	12	13	0	25	0	0	0	0	0	0
Year 6	21	10	11	1	21	0	0	0	0	0	0
Year 7	11	7	4	2	6	1	2	0	1	1	0
Year 8	8	4	4	2	8	0	0	0	0	0	0
Year 9	14	12	2	0	11	0	0	2	0	0	1
Year10	6	1	5	0	5	0	1	0	0	0	0
Year11	4	1	3	0	3	0	1	0	0	0	0
LAC	7	2	5	0	7	0	0	0	0	0	0
Totals	96	49	47	5	86	1	4	2	1	1	1

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[23] 2011 Census

Table 5. 2: Age Ranges of Participants (N=96)

Year	Total	9 years	10 years	11 years	12 years	13 years	14 years	15 years	16 years
Five	25	21 (84%)	4 (16%)	0	0	0	0	0	0
Six	21	0	18 (85.71%)	3 (14.29%)	0	0	0	0	0
Seven	11	0	0	10 (90.9%)	1 (9.1%)	0	0	0	0
Eight	8	0	0	0	7 (87.5%)	1 (12.5%)	0	0	0
Nine	14	0	0	0	0	12 (85.71%)	2 (14.29%)	0	0
Ten	6	0	0	0	0	0	6 (100%)	0	0
Eleven	4	0	0	0	0	0	0	4 (100%)	0
LAC	7	1 (14.29%)	0	0	0	2 (42.86%)	1 (14.29%)	0	2 (28.57%)
Totals	96	22 (22.92%)	22 (22.92%)	13 (13.54%)	8 (8.33%)	15 (16.66%)	9 (9.37%)	4 (4.12%)	2 (2.09%)

Data Analysis

Children's competence, their views, representation and reflexivity are all crucial factors within the methodological choice of including children as research partners. There is a need to be explicit in understanding the child and how analysis can authentically represent the children's world. If children are viewed as experts in their own lives then there is an appreciation that children may see things other than the way adults see them. As Morrow and Richards propose, children's competencies 'need to become a methodological technique in itself' (1996, p.100). Increasingly, research studies have focused on understanding children's views, experiences and inner world by adopting methodological approaches to convey children's competencies as a reflexive and critical agent (Alderson, 2004; Kellet and Ding, 2004; Hamilton and Redmond, 2010). Children's competence can be nurtured through the

research process and this was my aim when promoting creativity in the workshops in an everyday childhood social setting i.e. school. My standpoint was that knowledge is constantly and situatedly co-constructed and that both the children and I are competent - incompetent participants throughout the research project. As Fattore et al., (2012) explain:

> It can be argued that the slowness of research in arriving at child-centred meanings and interpretations of well-being is related to adult-centric resistance to recognising children as competent to contribute, at the conceptual level, to measuring and monitoring of their well-being. Attitudes to children's competency can be seen as associated with how the child is viewed ontologically. Recognition of child competency is embedded in an understanding of the child as existing ontologically as a *being,* as having their own ontological status, rather than only the status of *becoming adult,* an ontological status defined in terms of adulthood (p. 24).

For the children taking part in the workshops as participants and data that generates it is 'not about making performed ideas visible but more about, hearing, interpreting and making meaning' (Ebrahim and Muthukrishna, 2004, p.85). It is the workshop process, the interpretation of the data as a process of co-construction between myself as the researcher and the children as research partners with the understanding that the children's views and knowledge are authentically represented and developed. The children were knowing subjects able to contribute in the specifics and functionality of a safeguarding app. The framework laid out by the KidReporter method allows the data to be open ended and child driven. The primary source of the workshop data is the children's knowledge guided by peers focused on the conceptual design principles for a safeguarding app. As Fattore, et al. (2012) state that

> Structural epistemological framework of the sociology of childhood, places children centrally as knowers. It acknowledges that as a consequence of children's generational location, their social and cultural realities may be different from those of the 'expert' adults conducting the research (p. 428).

Therefore my role as the researcher was to approach the workshop data from 'where children stand and act, as subjects in their everyday lives' (Alanen, 2005, p. 43). Rather than analysis of the data, for example as a corpus of stories to be interpreted as a window into the child's world, through constant iteration with children during the process I attempted to ensure that any interpretation was meaningful within a childhood ontology. It is acknowledged that there can be a lack of active participation of children as research partners in the data analysis and final conclusions (Gabhainn and Sixsmith, 2006). Some maintain that for authentic child focused participatory research, children should be included in every stage of the research

process (Thomas and O'Kane, 1998; Christensen, 2004; Sinclair, 2004). The KidReporter research method begins this process by asking children what a safeguarding app should look like. Once a prototype is realised it is my intention to fully involve children in design modification, misuse case scenarios and further development. The analysis of the data for this prototype design must be read with the understanding of the inter-subjectivity between myself as the researcher, the children's data and the wider context of the research project (Pink, 2001). As an adult researcher I acknowledge that my interpretation of the children's drawings, narratives and stories are influenced by who I am and my own social and professional background. The ensuing thematic analysis is one that is co-constructed in the context of an understanding of the socio-technical childhood space, as reported by the children themselves and in ethnographies about them (see for example, Boyd, 2008, 2004). By using a conscious social work practice form of reflexivity (Schon, 1991). I sought to address the issues of positionality and power between myself as the researcher and the participants. Thus approaching the data as much as possible from a child's standpoint.

Co-production of knowledge is of central importance to the thematic analysis (Fattore et al., 2012) and required interrogation of my own assumptions. By constantly checking back and forth with the workshop data and critiquing the assumptions that I made to determine themes and meta-themes. Thematic analysis is an accessible and theoretically flexible approach to analysing the workshop data (Braun and Clarke, 2006). Ryan and Bernard (2000) argue that thematic analysis is a method in its own right and is a process undertaken within 'major' analytical traditions. The analysis was guided by relevance to the research questions as well as the questions posed to the children in the workshops. Extracts and images were selected for reporting to highlight the essence of a theme whilst aiming to reflect a 'rich and detailed, yet complex account of data' (Braun and Clarke, 2006, p.5).

Thus, the themes have relevance and importance to the overall research question which is 'What new technologies can be incorporated into current interagency child protection systems to enable the child's voice to be heard and to improve their safety and well-being?' However, themes also emerged inductively. For example when the same words or phrases appeared in the data over and over again this indicated important child relevance, even where it may not be possible to understand from an adult (and particularly a professional safeguarding adult) perspective. For example, the prevalence of clowns in the dataset was a surprise and one that did not easily fit within current understandings of safeguarding. Rather

than ignoring this, I endeavoured to draw clowns out as a theme. This inductive approach (Patton, 1990) was a way of co-constructing coding without pre-existing coding frames. Relying heavily on the analysis being data driven. Themed descriptions were organised by different colours to show patterns in the data set and then summarised for interpretation. From there I began to theorise the significance of underlying ideas and suggestions to be able to make broader explanations and conceptualisations (Patton, 1990).

I adopted Braun and Clarke's (2006) six phases for thematic analysis:

1. Familiarise yourself with your data
2. Generating initial codes
3. Searching for themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

All the data from the workshops were captured and filed into an electronic format. All the children's drawings were photographed and these were pasted onto a word document, then the narrative was typed under each photograph and labelled with the child's age, gender (if available) and school year. The interview activity that consisted of questions and answers was then typed into an excel spreadsheet and separated into the groups of workshops. The stories were all typed up into a word document and labelled by the workshop group. The questionnaire results were also typed and collated into an excel spreadsheet.

After being immersed in the data by re-reading the content and generating initial codes manually they were organised into meaningful groups (Tuckett, 2005). Each theme was coded around a central idea or concept. I did this by 'work[ing] systematically through the entire data set, giving full and equal attention to each data item and identify interesting aspects in the data items that may form the basis of repeated patterns (themes) across the data set' (Braun and Clarke, 2006, p. 18). The colour codes helped to indicate immediate potential patterns. Then I copied over these potential themes and data extracts to another spreadsheet and coded them until saturation point was reached. Following this, I refocused my analysis at a broader level taking the codes and applying themes. By refinement and reflection I was able to make clear identifiable distinctions between the themes. Constant comparison and theme checking with my supervisor allowed me to see whether they appeared in a coherent pattern and the theme had validity, as well as deciding on sub-themes to ensure the data told the story

that was a logical, coherent co-constructed account within and across themes (Braun and Clarke, 2006).

Grounded theory (Glaser and Strauss, 1967) coding means 'naming segments of data with a label that simultaneously categorizes, summaries, and accounts for each piece of data' (Charmaz, 2006, p. 43). Open coding enabled conceptualisation of the data by revisiting, comparing and contrasting the narrative attached to the worries, the questions and answers exercise, and the storytelling narratives. Then, for example, this was compared in age ranges/year groups and then cross-referenced back to allow codes to emerge from the data. This followed with a more structured coding and then selective coding (Charmaz, 2006) 'which mean that data are scanned for more evidence for core categories' (Flick, 2014, p. 403). This process was repeated until theoretical saturation (Flick, 2014) when no more themes could be established.

Data was initially open coded to identify any emerging themes and then a comparison made in response to the specific questions the children had been asked to focus on. These were:

- Exploring being safe and keeping themselves safe.
- Who would they tell if they felt unsafe or were put in a risky situation?
- Who and how would they tell through the app?
- Ideas of what they may want included in an app.
- Their experiences of sharing information with other people.
- Providing information on being safe and people they would tell if they were not safe.
- Understanding gender differences to sharing information.
- What technology they are familiar with to share information?
- What elements they would like to see in an application?
- How and why they would share personal information?
- What information is important to them and why?
- What other means they consider to share information and why?
- What do they worry about most in getting help to being safe?

Focus Groups

The primary purpose of the focus groups was to validate observations and probe professional

reactions to children's design ideas. Focus groups have been a popular method of obtaining information regarding countless topics. This methodology is traditionally rooted in consumerism and market research. They involved a series of guided discussions about particular subjects with selected small groups, and they are a way to obtain information and themes (Bloor et al., 2001; Kruger and Casey, 2009; Litosseliti, 2003; Stewart and Shamdasani, 1990). The researcher is able to set the direction and prescribe ideas that the group should take, which may also be influenced by the type and quality of data.

One way in which users can have participatory input is through participation in a series of focus groups (Weinberg and Stephen, 2002). Researchers tend to use focus groups when having a large sample is not necessary and when drilling down into specific issues is more advantageous. Likewise, focus groups have been used to explore usability in the development of a product (Rosenbaum et al., 2002). The use of focus groups enabled the MASH practitioners to discuss and validate design assumptions obtained after analysis of the data from observations and workshops with children. These focus group participants from the MASH were presented with a synthesis of the data from the ethnographic observations and KidReporter to examine the social relations of the MASH with new technologies and how they may be implemented. In doing so, the focus group was comprised of a small cohort of the MASH team members to gain an understanding of the theoretical reframing being proposed through the inductive approach to data analysis, with the aim of providing a greater coverage of the issues than would have been possible through other means, such as a survey.

Discussions in these contexts can help to develop group think and the researcher can move towards a consensus for the principles of design that complements the other HCI methods. Focus groups can also be productive for generating theories in contrast, for example, to systematic analysis of well-structured interviews (Rosenbaum et al., 2002). Furthermore, being focused on a clear goal would allow people to vote on the ideas generated (Rosenbaum et al., 2002), in this case from the KidReporter and ethnographic findings, providing some validation for the end user roles, tasks and the information flow as well as the strategic direction of the proposed application.

Access

Three focus groups were eventually held. There were problems releasing staff at the same time owing to an increase in workloads, annual holidays, attendance on a training course or diary clashes. Attendance was arranged by the two MASH Team Manager who did not attend

any group. I had to email and phone them a number of times to get commitments to dates. The groups eventually took place three months after the second MASH observation, running one week apart with small numbers (n=14). Rooms were booked by an administrator and the focus groups took place in a meeting room that was in the same building as the MASH.

The first focus group participants comprised of two Referral Information Coordinators (RICs), a health safeguarding practitioner, the Independent Domestic Abuse Advocate Coordinator (IDAVC), an Advanced Practitioner and a student social worker. The second focus group participants were two RICs and an Advice and Consultation (A&C) social worker. In the last focus group, participants comprised two Health Safeguarding Practitioners, two RICs, a Child Support Officer and a Police Referral Clerk.

Data Analysis

A focus group guide was produced on the themes developed from the ethnographic observation and the workshops. The focus groups were audio recorded and verbatim scripts were transcribed (Braun and Clarke, 2016). At the end of each focus group the notes were transcribed and reviewed in order to identify key issues (Krueger, 1994) to ensure a transparent and systematic approach to the data analysis for validity (Webb and Kevern, 2011). Thus, by adopting Bohnsack's (2004, 2014) approach to analysing focus group data I was able to make inference from the content of the discussions as well as the interactions between participants. 'It is important to distinguish what is said, reported or discussed, that is, what becomes a topic, from what is documented about the group in what is said' (Bohnsack, 2004, p. 220). Firstly, this was analysis of the content (thematic composition). As Kitzinger and Barbour (1994) explain this was carried out by 'drawing together and comparing of discussion of similar themes and examining how these related to the variation between individuals and between groups' (p.16). Secondly there was a need to compare the results from the focus groups again with the summaries from the data collections from the workshops and ethnographic observation which included interrogation of the formal aspects of the focus group discussions (Flick, 2014; Bohnsack, 2004, 2014).

In doing so patterns were identified of the relevant issues alongside examining the differences found across the three groups. Furthermore, scrutiny of what each participant said and how this related to them as a group of MASH professionals was undertaken (Bonhsack, 2004). The differences and comparisons made across individual professional backgrounds, such as policing, health and social care, was taken into account and therefore added value to the

knowledge produced in the data collection (Flick, 2014). This increased validity and reliability and added an additional layer of richness and validation to the interpretation of the collective findings to inform the design principles of the safeguarding app. The aim was to:

- Discuss the findings – referring to themes developed from the ethnographic observations and gain insight from the participants on the findings
- Explore the communication pathways for self-referral
- Explore findings from the workshops to gain insight from the participants on the child's perspective
- Test out conceptual ideas in regards to new technologies for digital engagement
- Validate observations of digital information sharing in real time

Summary

There were some limitations of the study that could have affected the data collection and these are summarised below.

Workshops

As ever, the limitations of claims from the data should be acknowledged. Some of the workshops had only a small number of participants and they were all volunteers. However, the clear evidence of recurring themes across the data set suggests that when aggregated, the size and recruitment of participants were not limiting factors. In wanting to maintain full anonymity, gender was not recorded on the activities for the interviewing and storytelling exercises. In hindsight, it may have been useful to find out whether boys and girls wanted different elements, for example, in the information, advice and guidance section. However, to counter balance this, none of the interviews or stories specifically mentioned wanting to divide sections in the app based upon gender.

Ethnographic Observations

The main issue was being limited by time, the business of the day and the individuals working on the day during the observation period. For example, would the MASH work differently in the summer holiday period when children are not at school and staff take a higher ratio of annual leave. This potential limitation was counterbalanced as much as possible by having two separate periods of observation. Further limitations included collecting and recording data by only writing field notes. I tried to write down as much as

possible and retain the exact wording of comments but this was not always possible, especially when there were a number of activities occurring at the same time.

Focus Groups

The MASH practitioners that attended the focus groups were self-selected and dependent on staff availability. However, the main purpose was to test out findings, not to get a representative view on a specific subject.

Chapter Six – Findings on Child Friendly Design Principles

(I)f we are committed to taking children's rights seriously, then it is vital that we, as powerful adults, facilitate continuous, open dialogue with children and youth about their use of digital technology and seek *their views* [author's emphasis] on how it can best be harnessed to serve their rights, now and into the future (Coppock and Gillet-Swan, 2016 p.374).

The Workshop Framework

In Lewis and Coles–Kemp's (2014a) study of a tactile visual library which supported user experience storytelling using comic strips while eliciting information from an adult cohort was undertaken. This was achieved by providing a series of prompts and blank templates and participants were told what tools they would be given to use. In the workshops for this study the children followed a similar format and the participants were offered minimal guidance as to how they should complete the task. Both the visual and written narrative provides an easy, accessible approach to children that supports free and open exchange of thoughts, opinions and feelings. Due to the nature of the research topic of child safety and safeguarding, this freedom and safety of self-expression was imperative, so that the workshops would be a safe space for the participants. Furthermore, it allowed the participants and the researcher to work together in a classroom environment with equilibrium.

The workshops were delivered using an adapted version of the KidReporter and were located within the field of HCI and UCD techniques which allows the use of narrative to be controlled and shared by the storyteller, in this case the child.[24] The use of narrative, storytelling and visual accounts are part of a participatory design approach and enables an alternative viewpoint to facilitate discussion and understanding in user or product design (Lewis and Coles-Kemp, 2014a; 2014b). As Lewis and Coles–Kemp (2014a) state, in this context narrative allows 'for complex ideas to be represented simply and to a variety of people, which results in a greater communication of meaning' (p.1). The KidReporter activities use both visual narrative and storytelling which allowed the children to express themselves in an abstract, child-friendly way, thus giving them a free space to explore and share their own beliefs, experiences and ideas.

Setting for the workshops

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[24] A research method for working with children and young people as partners in design technology (Bekker et al., 2003). This approach places more responsibility on the role of children and young people including them as design partners.

Prior to every workshop the room was prepared accordingly, ensuring there were enough tables and chairs, coloured marker pens, pencils, and papers for the participants. This included a simple, colourless template for the first visual narrative activity, two pieces of lined paper and a prepared child-friendly pictorial questionnaire. When the participants entered the room, they chose their seat at one of the tables.

Once the participants had been welcomed it was explained that they could use any of the pens or pencils on the table to complete the exercises. During most of the initial work at the tables the participants would mess with the paper and ask if they could complete the questionnaire first. The colourful pictures had attracted their attention. However they were asked to wait and follow the instructions to come. The data was generated completely by the KidReporter adapted model and the researcher's observations and interpretations. This made the process accessible for all the children and ensured that they remained in control of their level of input and engagement in the workshop.

Adapted KidReport Model

The KidReporter model is a child-friendly way of using drawings and storytelling in a light-hearted atmosphere, partnering with children to get them to imagine and share their ideas for the design of a safeguarding app, as well as generating questions, concepts and content for design features (Lewis and Coles–Kemp, 2014a, 2014b). It is divided into four activities. The first activity acted as a prompt and a warm-up to engagement. This visual narrative exercise was used at an early stage to influence the level of engagement throughout the workshop, and it became a novel way to begin to empathise with the participants. The second activity consisted of free narrative in the format of questions and answers, forming part of an informal story about app design and development, which contributes to user talk (Lewis and Coles–Kemp, 2014b). The third activity was experimental, free-expression through storytelling or short scenarios; as Lewis and Coles–Kemp (2014b) confirm 'scenarios that integrate stories, stylised in natural language, allow UCD participants to enhance user attention and engagement, memory and organisation of detailed user research data' (p. 2490). The fourth task was the completion of a questionnaire. Prompt sheets (A4 paper) were made for three of the activities and they were placed in the middle of the tables and, when the allocated time for the activity ended, the researcher placed the next prompt card over the previous one. This gave the participants a visual reminder of the task.

The Workshops

Part One: The researcher asked all the participants to place the template in front of them and they were given the instruction from the prompt card that read, 'Draw a picture about what you worry about most to be able to keep safe - also in the picture include what information is important for you to tell someone if you felt unsafe and why. Then write about the picture underneath'. The participants could choose to use the coloured markers or pencils. Many of the participants found it more enjoyable and engaging to use the coloured pens. I responded to any questions or queries that the participants raised, which were mainly for clarification purposes and to reassure them that it was OK to draw or write about their worry. In one incident in particular, this questioning led to a domino effect around the room, with the majority of participants deciding to share the same worry (for example, concern over killer clowns). A very small minority of participants chose not to share their worry, but were able to draw a representation of not sharing, for example drawing a 'No Entry' sign. Overall, this activity raised a lot of conversation and discussion among the participants. Approximately ten minutes was allocated to this exercise.

In the second part the prompt card read 'in pairs write 5 questions: If you had an app to tell people you were unsafe or felt unsafe what would be in it? And what things would you like to say or share by using this app. Swap and answer your partner's questions'. Participants were asked to use one sheet of lined paper to write their five questions, then to work with the person next to them. Where there was an unequal number on a table, three participants were asked to work together and their questions were just passed round so another participant answered a different set of questions. Again approximately ten minutes was allocated to this exercise (five minutes to write the questions and another five to answer their partners' questions).

In the third part of the workshop participants spent upwards of twenty minutes writing their stories or scenarios. The prompt card stated, 'Your story... How would you design a 'safeguarding' 'keeping safe' app and what would you like it to be able to do? Things to think about:

- What are the most important things in such an app?
- What information would you share on this app?
- Have you used any apps like this before and what did you think of them?'

The verbal prompts, such as, 'if you were techies and you had lots of money how you would design this app?', 'with all your imagination what you would have it do or what would it be like?', 'anything could be possible in your design' were provided. Once the task was understood the level of conversation and noise in the room fell and many participants became engrossed in their writing, with some writing at least half to a full page, whilst others produced just a few lines.

In part four, once participants had finished writing their story, they were asked to complete the questionnaire. The questionnaire aimed to collect demographic data such as age, ethnicity, disability and the frequency of their use of technology; for example, computers and mobile phones. They were mainly pictorial in design, which the participants seemed to find exciting, and they all wanted to look at them and complete them quickly.

 All the participants apart from year eleven were enthusiastic in sharing their ideas for the activities and engaging in the tasks. Most of the workshops finished before the allocated one hour, although this did vary depending on numbers in the group.

Findings

As noted earlier (see Chapter Four) apps currently do not appear child-focused, nor do they map their journey for improving outcomes, thus representing a denial of their agency and promoting only adult-centric discourses (James and Prout, 1997). Therefore the analytic context here is within the paradigm of socially constructed childhoods where children are social agents for change in their own right (James and James, 2001a; James and James, 2004b; James and Prout, 1997). There have been numerous perceptions and constructs of childhood over the last two hundred years; for example, through education, health care and medicine (James and Prout, 1997). The twenty-first century digital world childhood space needs to be co-created to promote children informing and activating their citizenship in a less adult dominated way and for adults to understand their worlds (Coppock and Gillet-Swan, 2016).

Children are now part of a childhood space that combines human and digital technologies. It is this version of childhood that is discussed and presented here. The data is organised into a set of characteristics and practices used to understand the childhood worlds of the participants

and how they begin to construct the design principles for apps in that technical and social childhood space. As James and James (2001a) perfectly summarise 'children are competent social actors who may have a particular perspective on the social world that we, as adults, might find worth listening to' (p. 26). It is from this perspective that the analysis of the workshop data addresses the key issues for the design principles from a social - technical childhood space. This social - technical childhood space is a structural site and the children within the Primary and Secondary schools as participants occupy this collective space. Childhood is marked out in society and viewing this as a constant and recognisable component of all social structures leads to an understanding that every child is a member of this collective space and has their own agency (James and James, 2004b).

How is the space constructed for children through narratives of their experiences, ideas and concepts? Moreover, how does this permit them to be 'designers' or equal partners in the design principles for new safeguarding apps? Analysis will show how this impacts on design of, and relevant content in, apps and also highlight who, and what, the app should be connected to. Furthermore, the findings convey how children act in this space through their stories and narratives (James and Curtis, 2012). This childhood space is also a generational space (James and James, 2001a) and shared attributes and diversities will be made from the children's own perspectives, as well as on the movement through the space from Primary to Secondary school.

Access to devices

A range of devices that children access populates this social and digital technological childhood space. The questionnaire responses find that forty-seven per cent of the children always used a smart phone and nineteen per cent always used an android phone. Years Five and Six were sometimes more likely to use a computer and/or laptop. These findings correlate with the rise of the use of portable devices, as found by Ofcom (2016) who note that;

- Tablet ownership among children is increasing
- Tablets and mobile phones are now the most popular devices for going online, knocking laptops back to third place
- And one in five of all 5-15s only go online using a device other than a desktop or laptop
- 5-15s are more likely to both own and use a mobile phone than in 2015
- The preference for mobile phones over other devices begins at the age 11
(p.6).

Digital World Worries

An analysis of the worries of children as a visual narrative can start to shape and conceptualise their needs within the childhood space. The social concerns that the participants drew and reported suggests what it is like, or could be like, as part of the social - technical culture, which can change through the generations (James and Prout, 1997). Through their individual and collective narratives key themes that could only make sense as part of the social - technical childhood space emerged.

There were only two male participants (aged thirteen and fourteen years old) that did not want to share their worries and both illustrated this by drawing a no entry sign.

Figure 6.1: Drawing by a Year Ten, male participant.
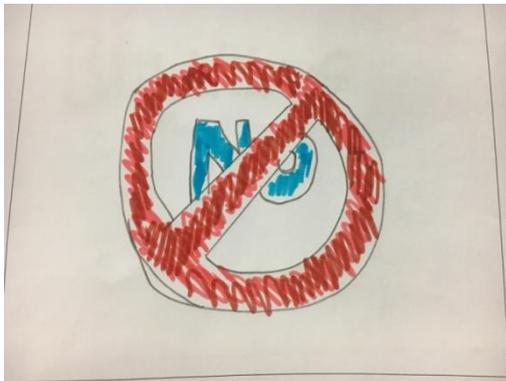
'*Don't want to share*'.

There were no clear differences between boys and girls in relation to their worries, as descriptions were generic across both genders. The only topic that was exclusively written by two females (both aged thirteen) was a concern about terrorist attacks.

Figure 6.2: Drawing by a Year Nine, female participant.
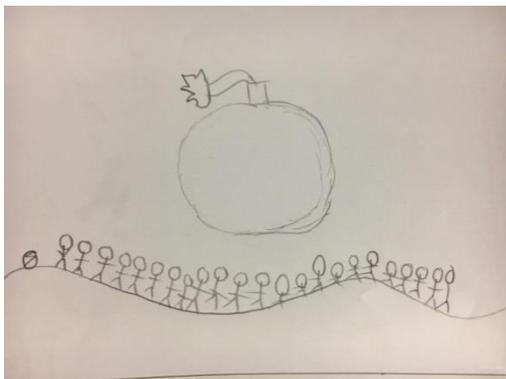
'I am worried about terrorist attacks. I am worried about this because I could lose my family and close friends, which I don't want to happen'.

A key theme across every year group was found in the drawings and reports expressing a concern that related to digital technology. For example, receiving horrible/rude/nasty messages online or in social media, being approached by strangers on their social media accounts (Figures 6.4 – 6.8) or being threatened in online gaming environments (Figure 3).

Figure 6.3: Drawing by a Year Ten male participant.

'So there is a man trying to go to the boy's house and kidnap the boy. They are both playing together on FiFa 16 and the man is trying to ask where the boy lives and how old he is and things'.

Figure 6. 4: Drawing by a Year Ten, male participant.
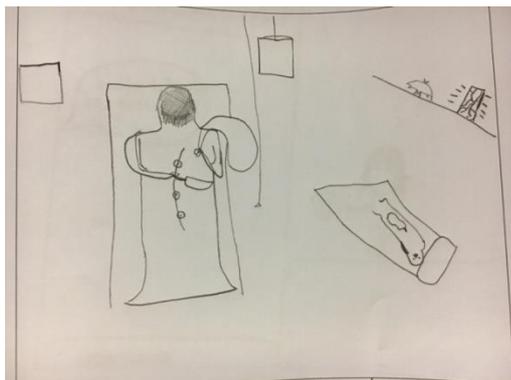
'I meet someone on line and they track me down, rob everything I have, then kill me and my family but still remain anonymous'.

Years Seven, Eight and Nine cyber bullying and killer clowns;

Figure 6.5: Drawing by a Year Seven, female participant.

'*On Facebook and other social media's there are clowns breaking into houses and chasing people with weapons. Some clowns were at McDonalds. If I saw a clown I would ring the police straight away because the person dressed as a clown would be prosecuted / sent to jail or prison'.*

Figure 6.6: Drawing by a Year Eight, female participant.

'*Clowns worry me because they can stalk and groom you on the Internet, arrange to meet you and they could hurt you. I would tell people don't talk to them and don't meet up with them'.*

Figure 6.7: Drawing by a Year Eight, female participant.
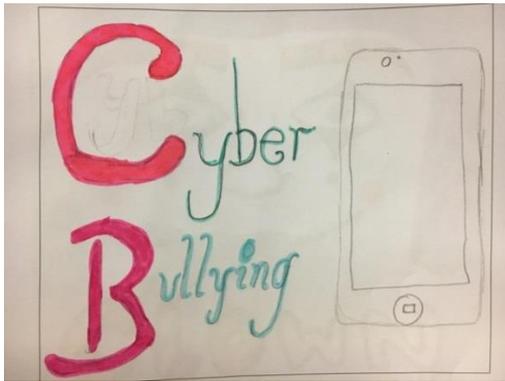
'*I am worried about getting cyber bullied because it could lead to suicide or getting seriously ill, also because no one will want to talk to you'*.

Further examples of worries convey concerns relating to mitigating risks when on or off line; for example, a Year Ten participant would use their to phone for help; Year Eleven expresses concerns in relation to Internet attacks by hackers and a LAC expressed not being safe on social media. This also gave rise to their use of language that has a natural dialogue, sharing their worries about digital technologies.

Figure 6.8: Drawing by a Year Nine, female participant.
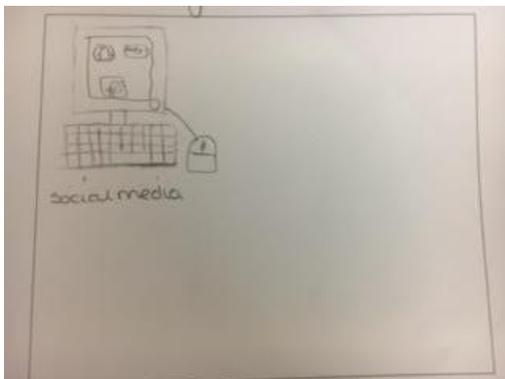
'*On social media I feel safe but not safe as sometimes because you don't know if the person is really them or not so you have got to be careful'*.

These constructs, embedded in this childhood space, show that there is a consciousness of, and concern about, personal digital safety. Equally it is a challenge for children to find rapid solutions to fears spreading via social media, as, for instance, with the killer clowns phenomenon. Individually, dependent on age, their concerns about online safety increase as

they get older; with Year Eleven male and female participants describing Internet attacks and being safe online as their main worries (as depicted in Figure 6.9 below).

Figure 6.9: Drawing by a Year Eleven, male participant.

'*I worry the most about safety online because every day there are new dangers that we may not know and this also has a large impact on what could happen in real life*'.

Thus, there are differences in worries corresponding to the different age groups, but also there are some commonalities, such as the fact that every year group revealed that they were worried about bullying, online or offline.

Figure 6.10: Drawing by a Year Five, female participant.
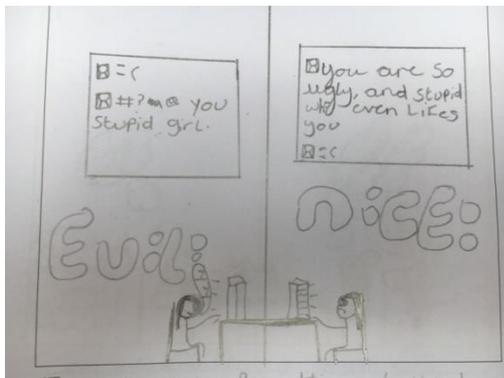
'*I am scared of getting bullied because the amount of people who commit suicide from bullying is unreal*'.

A recurring and shared worry was death, both dying and being killed. Many were worried about 'killer clowns' (see Figures 6.5 and 6.6). [25] In this context it is worth noting that of the

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[25] This workshop was conducted on the 19th October 2016. A week prior to this it was confirmed that some children had been left distraught after being scared by clowns and this message had gone viral via social media. The Guardian reported on the 10th October 2016 that,

apps designed by adults (see Chapter Four), only one app was identified that related to this topic created for children and young adults aged eleven to twenty five years once they have been bereaved. This research clearly suggests that children are worried about death before it takes place, however they are only able to get some support via an app after the event. That this is not being heard suggests there is a disconnection and lack of understanding of current childhoods positioning the child as a passive participant in the design of digital support strategies (James and Prout, 1997).

In addition to cyber-bullying, death and being approached by strangers, differences in individual worries were wide-ranging. Examples include:

Year Five: elder siblings moving to a high school or university and being kidnapped via online gaming;

Year Six: going to the dentist, leaving school and their friends, getting into senior school, family members being ill, stranger messaging and others getting hold of their passwords;

Year Seven: one boy was worried about being scared of heights;

Year Eight: dad in prison, viewing a scary movie;

Year Nine: plane crashes, terrorist attacks, losing close family members;

Year Ten: sexual health;

Year Eleven: Internet attacks by hackers, being safe online, Internet safety.

LAC: worrying about family members, scared of insects.

People around the UK have reported a series of sightings of people dressed as clowns frightening children, with six separate reports of 'clown incidents' reported by Northumbria Police in the past week.

One of the most dramatic occurred on Friday morning when a masked man carrying a knife jumped out in front of a group of 11 and 12 year-olds and followed them to school in County Durham. The pupils were left distressed but unhurt by the clown, who was wearing grey tracksuit bottoms, red shoes and a multi-coloured top. (https://www.theguardian.com/uk-news/2016/oct/07/creepy-clown-sightings-craze-speads-britain)

The Telegraph went on to report on the 17th October 2016 that the killer clowns craze had spread to Britain and was going viral.

As the 'killer clown' craze spreads across Britain, many witnesses have been documenting and sharing their encounters on social media. The unsettling craze, which began in the United Sates before spreading to other countries, has led to a spike in clown-related call to Police forces in the UK.

(http://www.telegraph.co.uk/news/0/killer-clown-craze-the-creepiest-uk-sightings/)

The individual narratives indicate how worries can be time specific (to do with transitions in school and family life) and these move over time as they grow up and their worries change. More generally, however, the childhoods of today's children contain worries about death, dying, family and personal safety are intimately connected to an on-line digital world.

The Social-Technical Childhood Space

What connections and descriptions do children offer in terms of app design and content? What comparisons might be made with the adult-centric apps that are currently available and then what challenges and disruptions could new child-centric apps cause in the context of safeguarding? What images of childhood do their narratives portray and what role do they play? Children are actively involved in everyday decisions about what and how apps should work and these are able to shape some of the content of their childhood. The main activities of the workshop (partnering for questions and answers and article writing) focused on the children having the freedom to create their own ideas for the design, content and overall architecture of a safeguarding app. The aim was to gain an understanding of what children would want from an application to help keep them safe. There were multiple themes and layers written in their stories. The starting point was that they could see this app as an extension of their everyday life and it would be freely available as and when they required. Inputting children's' agency in this design space can then challenge the current ways that apps are designed (James and James, 2004b).

The children collectively (Years Five, Six, Seven, Nine, and Ten) were able to offer names for the app in the question and answer sessions. Some examples are as follows: E-safety and how to keep safe x 4 (Year Five); Worry Gone (Year Five); Badness Free (Year Five); Safety (Year Seven); Help People (Year Nine); The Safeguarding App (Year Nine); Safeguarding Guide (Year Ten) and The Safety App (Year Ten). Firstly, these names offer a sense that children believe that an app could help them and keep them safe. They are able to name it and have a sense of attachment to it and none of the children questioned the utility of the exercise. The names in these examples use the terminology of health and safety and safe-search terms used in the app review (Chapter Four), which only returned a small number of relevant apps, thus letting designers know that terms such as 'safe' and/or 'safeguarding' should be in the name of apps targeted at children. The name also gives a feeling of taking the worries away and as the children above describe their worries, they want the app to make it better for them even at the start - in the name.

These concepts and interpreted representations for the names of apps can also be seen in the experientially based narratives (James and Curtis, 2012).

> *If I had a magic wand I would make a app to keep people safe and they can make good decisions. I[t] would be called Good Decisions so you know what it's about.* (Year Five)

> *My Safety App would have lots of drawings and creative things to do. My app would be able to do story books and writing and it would be able to teach people how to spell words and learn to read. The most important thing my app is supposed to help people be safe and learn safety and being able to teach everyone how to be safe on games without getting bullied. Also the best things about it is that it is for all ages even for grownups that are being bullied on games* (Year Ten).

A common theme across the narratives is how safety is networked into childhood; connected to making 'good' decisions, reading, spelling and writing, teaching, learning and games.

The Design of Apps

'Seeing children as competent means exploring the ways in which children themselves, in and through their own social relationships, actively construct a child's world, distinctive and unique in its form and content' (James and James, 20014 b, p. 959).The design of the app has particular importance, allowing the users to engage with it including being able to advise on how it should look and feel. There were many suggestions that covered these details such as:

Year Five; the writing on the screen should be big; the words will be easy to understand; it should be interactive, linked to social media and it should be challenging!; access to pictures of friendship and access to pictures on the Internet (with one suggestion of 'friendship' as the front cover); I would like it so that colour blind people knew what is going on;

Year Seven; it would have a lockable device.

Year Eight; the app has its own terms and conditions.

Year Nine; I think it will make people feel safe by having sections on different things.

Year Ten; the sort of images I have on my app are friendly, nice images.

These group-endorsed suggestions give further evidence of engagement with the idea of a safety app and recommend that in order to ensure that this is a workable relationship certain

elements must be taken into account in the design (such as 'A colourful background; just a page with colours and writing' (Year Five and Year Ten).) If the app is going to assist or help them then it must 'be child friendly' (LAC). A crucial design factor is that 'It will stand out from other apps' (Year Seven).

A clear design proposal is for real time, interactive ability to allow two-way communication, suggested as, for example, 'Maybe ask something and get advice and they answer back straightway' (Year Eleven); 'It would record your worry and send it to the person you want to know about your worry; the app works by texting someone your worries; the app works by telling someone what your worries are' (Years Five and Year Nine). The purpose of the communication is for children to be able to relieve themselves of their worries or get help via the technology. They have an expectation that technology could assist them in making things better for themselves. A further expectation is that the app would have multiple uses. Being able to teach, for example, 'It teaches you to be safe on line' (Year Five) or 'it keeps you safe and helps you understand how you could be safe' (Year Nine), or to report such as 'Have contact with the police through the app' (Year Nine) or to talk to others when they didn't feel safe, and get advice. As described by Year Seven and Nine participants 'I made it [the app] because it tells other people what to do in case of an emergency, to tell people if I am in danger or feel unsafe'. There is a belief that if the app had a built-in reporting function that this would increase safety; as a Year Nine stated 'It would make you feel safe by having a report button'. These fundamental aspects of the design start to show that the app for children acts a conduit in terms of access to, and maintenance of, different relationships. These relationships could be with the police, or professionals or with the education content of the app. However, as they are children, they also anticipate that technology has the ability to meet requirements for the app to develop and change across the generational space, for example 'I think it would help young children' (Year Seven), 'The app is suitable for fourteen or fifteen plus (Year Ten), 'Age twelve to eighteen year olds' (Year Eleven). The digital world child, believes without question that technology via an app can be produced to meet their needs. As expressed in the workshops, their needs are seen as ways of empowering them to defend against bullying, or as means to overcome their worry of death or dying, as can be seen in the following:

- It would protect you from crying every night or you becoming isolated. (Year Five)
- I want it to keep people safe, protects you, to help people's worries. (Years Five and Eleven)

- It will help because you can write your stress out on line. (Year Five)

- It would help by calming me if I was ever in a situation where I had bad anxiety. (Year Nine)

- It helps people who worry too much and gives them advice and helps them with anything. (Year Nine)

- It will help with life opening up. (LAC)

Children did not name abuse, or share their worries, in the same way that the child abuse terms are defined in the statutory guidance (for example, physical, emotional, sexual or in terms of neglect). The children and their childhood space fundamentally want the app to create a safe space for them that allows the answers to their current problem. This should also be relevant to their age and understanding. Although there are common themes emerging that will be explored further in the next sections, the design of any new technology or app must take account of the generational space within this social-technical childhood. This is not to say that it is not for the very young. It means that it must be sensitive and appropriate to the growth of childhood. Two participants from the 'Looked After' children's workshop summarise in their interview with each other that the app has to have purpose and value.

Question: '*Does it waste your time?*' Answer: '*No it helps with problems anyone may have*'.

A number of stories describe the overall design and content for the app, showing the multi-layered uses that hold value to children. For example;

> *An app with lots of games that we all like and lots of child friendly videos and websites. I would love it if there was different sections for different ages. I would like to have a report for when someone is rude. I would like resources.* (Year Five)

> *My app is called 'Be safe be cool'. This app will be full of helpful information such as telling you how to be safe, telling you if you were in a situation how to deal with it. And here are some more things it can do:*

> - *Police have access so they can help you as well*
> - *You can play games with people you want to*
> - *If you let it, it will access your photos and you can post them on your account*
> - *This app has private settings*
> - *This app is free*
> - *You can access YouTube and Google* (Year Six)

Fun and Enjoyment

Having fun and enjoyment is an essential part to the design and usability of a safeguarding app. This childhood space for fun is part of a creative experiential space that incorporates pictures, videos, social media, games, free access, and easy downloads on any device. A Year Nine participant describes in their story that there should be no cost and that the user should be able to freely enjoy learning:

> *In my app I would give children advice or information about how to keep safe and about their worries. You will be able to learn new things e.g. how to keep safe and enjoy free learning. Also you will be able to have a news feed about what is going on in the world today. This app is free and will help you chase your worries away! It will help you overcome your fears and help you stay away from them.*

The fact that the app is free connects to both keeping safe and the likelihood that the user would use it. As a participant from the LAC group stated, '*if someone feels unsafe they don't want to pay for self-help*'. The recreational focus also stipulates that the app should be aesthetically pleasing, using colourfulness and not a diagrammatic guide or adult script. The colour scheme is essential to attract the end-users (James and Curtis, 2012). A Year Seven participant describes the importance of colour and the fun factor in their story:

> *I think in the app the helpful things would be: For it to be nice and colourful and it to be child friendly and it would have some friendly games and quizzes and the games that would be there would help children on how to keep safe online and how if you are unsafe to deal with it and make is top forever. There would be some you tube clips on how to be safe and it would be just a bit of fun for children to enjoy and like and recommend to others.*

The use of videos and games was another means to add entertainment features and children were open to this being combined with learning. It was all interchangeable, for example the videos could also be part of the games as a standalone function so that the user could record their own video, as well as a series of pre-recorded videos on issues or the subject of staying safe. Two Year Five participants wrote in response to '*Would you put in a video about your game?' 'Yes I would so they would be intrigued*'. A clear example of how videos could be used for educational purposes was written by two Year Seven participants: '*Could there be videos to help understand?' 'Yes there will be pictures how to keep safe and videos of examples*'. A Year Eleven participant asked the question '*How does the app give the advice?*

E.g. Videos'. When one participant from the LAC group was asked the question: '*What does it do?'* they responded with the answer: '*Makes a video chat so that the young person can speak to a professional*'.

The use of video and games is integral to digital world childhoods and this shows in the children's narratives in being able to learn, share and understand the world by the use of video, pictures and gaming. This Year Seven encompasses all these factors in their narrative.

> *I would call my app health and safety. It would be brightly coloured red, green, black and blue. The most important things it would have on it would be information on how to stay safe and games would help you learn how to be safe and you could learn about not going near bad things. The YouTube clips on the app will be about how to be safe. There will also be fun clips so that people will want to use the app. The app will be suitable for different age groups ranging from five to twenty years. There will be phone numbers for help on the app that people can call. Also emergency numbers.*

Many of the stories build upon this, describing how the app could be multi-use, for both games and videos. The idea that videos and social media could be utilised within the context of promoting personal safety was apparent through the narrative. For instance they could be vloggers in their own right in promoting their story of staying safe. Such elements should therefore be utilised within the app's architectural requirements. A Year Six child explains how videos could be a way of accessing advice.

> *If I designed an app it would definitely have videos of advice and all information would stay personal or between you and an advice officer no-one would be pressured into sharing information. The app would be full of bright colours and it would be all about you.*

A Year Ten participant links the app to more than bullying in that they can watch videos to help them feel better.

> *This app isn't just about bullying but it is about how to keep safe and not feeling well about it. If you're sad you can use this app and get advice from it. There are examples and things that you can do if you are worried about getting bullied even at school or home or work. When you are sad on this app you can look at these things that can help you: Videos, images and facts / advice.*

There has been a rise in the number of Primary School aged children with social media profiles and it has doubled for Year Six children from twenty-one per cent to forty-three per cent (Ofcom, 2016). It is, therefore, not surprising that children highlight any new developments for apps should be able to be linked or to be shared with other social media platforms. This is something yet to be seen with this network of safeguarding and apps, yet 'twelve to fifteens are more likely to say they use Snapchat (fifty-one per cent up from forty-three per cent and eight to fifteens are most likely to consider Facebook to be their main social media profile' (Ofcom, 2016, p.64). The three main social media platforms named within the participants' stories were Snapchat, Facebook and Instagram. The following story by a Year Nine participant explains how the app could be linked to help children stay safer before they post online.

> *(If) I had to make / design a safeguarding app I would make it so before people post status on Facebook the app would come up on their screen and tells you the risks of posting and the consequences they would have to face. Also I would make an app that's just a big red button and when you click it would send an email to the safeguarding staff in their school.*

A Year Ten participant lists all the social networks that they think the app should be able to connect to:

> *Why will it help young people: It will help young people preventing STDs, bullying, e-safety and harming. What will make people download it: games that tell you how to stay safe. This app includes: Numbers for example (Child Line, Police,* Excreta*), Facebook, Snapchat, Twitter, Instagram, Games.*

Telling and sharing information about themselves via story telling by means of posting pictures and short narratives has become the norm for these children. Communication has moved away from face-to-face contact or the telephone call, it has moved to a once-removed approach, using the internet as the intermediary for the sharing of personal information that allows a social-technical childhood to be part of a virtual space that captures and stores moments in real time for immediate or future conveyance. Below are some examples of what the app could do to promote its pleasurable, entertaining qualities.

- I have snapchat and FaceTime. It would help if the app connected to social media accounts (Year Five)

- Link to friends and post photos and messages (Year Six)

- Face filters like Snapchat to cheer people up (Year Seven)

- Would it link to any other app? It would link to contacts and maps (Year Seven)

- Do you think this (app) is a good idea? Answer: Yes because you could share information to help you and others in the same situation (Year Nine)

Emergencies

Connection to others and a relationship with those that could help if they felt unsafe was evident throughout the written narratives. This spanned across the age ranges and the schools and the LAC workshops. A recurring theme was that the app should contain the function for a 'Big Red Report Button', perhaps due to their prior knowledge of the CEOP (Child Exploitation and Online Protection Centre) 'report abuse' button. [26] The CEOP report abuse is aimed at dealing with, and responding to, threats from those that seek to groom or gain inappropriate access to children for sexual purposes. The crucial difference here is that several children's stories contained comments about a report button directly connected to the police. For example;

> *In this app to keep you safe it has a red button to contact police and it has pages of information on bullying abuse* excreta'. (Year Seven) and '*In my app I would include a link where whenever you're in trouble you click one button and it automatically connects to the closest police station*. (Year Nine)

However, in contrast to existing report buttons, such as those found in Messenger, Twitter and reporting functions on Facebook, in an emergency this report button, once activated, could link directly to the police for an appropriate response but would also have other activations such as an alert to children's social care, parents or a family member or a trusted person of choice. [27].[28] The participants described this button function as a reporting system that was able to highlight the degree of threat or worry. For example, a Year Nine participant stated '*A red button which you click if you are in danger or a yellow button which you click if you feel unsafe*'. Older participants (Year Nine) were able to describe in more detail and offer ideas on the how the button would work in practice.

> *If I was creating a safeguarding app I would design a red button which if you click it would send a notification out to qualified people who could help you if*

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[26] https://www.ceop.police.uk/Safer-By-Design/safety-centre/
[27] https://support.twitter.com/articles/20169998
[28] https://en-gb.facebook.com/help/263149623790594/

you are in danger. Once the button is clicked it will automatically call for free and the special people will send help or tell you what to do. Also I would create a yellow button which would do the exact same as the red but this sends them a notification saying you feel unsafe. I would also have an information section which would be set with the number of the Police and family members which you could contact if you need. Also there would be information on an information poster which would give you everything you need to know about the app. There would also be a private space which you could unlock with a password stored with all your private information which if you click send it will send to the Police so they can identify who you are. Lastly I would of added an alarm in case something had happened which goes off loudly so if there was any people around they would come to help by getting alerted by the noise.

If I was creating the app I would make a free calling section so that you can speak to someone to talk to. Also I would have a survey so that we could give you information for what you need at the time so you're not looking and looking for something you just have it. In my app I would have an SOS button so that you can send a message to an emergency contact so they know you are not safe. My app would have phone numbers to ring if you need help. If you are ever in danger you will be able to send a message to someone with your location. If there is a problem with something like cyber bullying we will have an area associated with that. Any problems you are having will be a click away.

If I was creating the app I would design it so you could ring or text someone about what you are worrying about but if you don't want anyone to know it can be confidential. It would also put a red button on the app, it would be a bit like a panic button, you would press it when you think you need help and one of the people from the call centre would immediately ring you to make sure you're ok, if not they would send someone to help you. It would have a special blocking app inside of it so if you don't want anyone to contact you they can't until you unblock them.

If I was able to design an app about being safe, I would include a big red button so when you click it, emergency numbers that you have saved will pop up when in danger. It would give you the choice whether you would like advice and would let you write questions which will give you an answer in 0-10 minutes. When posting something on social media, the app would pop up and tell you about whether you're posting the right content or not. You would only share problems on the app and there will be a number to ring via the app about any concerns you have or just to speak to someone about what is happening in your life. The app will be free and so will calls. There will always be someone online to ring/chat to and if someone has the same problem then a box will pop up and recent answers will pop up.

If enacted, this information could present a significant challenge to public services in creating a new technological reporting pathway for children. It could change the landscape, giving authority and agency to children to access emergency help immediately. This is a powerful construct in shaping key processes for the evolution of apps.

Information, Advice and Choice

Access to information, advice and guidance (IAG) was prevalent in both the question and answer narrative and in the story telling. The participants wanted choice and control in terms of how they accessed this IAG. The role of this IAG is key to children making self-assessments and managing their own risks, allowing them to do this almost immediately. Furthermore, distinguishing between the different ages and childhood stages (James and James, 2004b) of the generational space is conveyed by children as important to how IAG is arranged within the app. There were some variations on age ranges but the overall majority of participants that chose to ask about age agreed that the app should be for all ages starting at two years up to eighteen years. However, a theme was the suggestion that children should be able to access different sections of the app, which were age dependent. For example, the following extracts from two stories by Year Nine participants describe the age brackets.

> *The app I would have created would have been for any age group from concerns or worries. You would freely be able to download off your app store/play store and it would be amazingly easy to use. Whether your concerns / worries are kidnap, abuse, rape, violence,* excreta *we have it all. It wouldn't separate race, religions, sexuality apart at all. First off would be a menu and it would show all the types of things that scare young people or older. It could be that you want videos, photos, information this app could possibly help you the best they could in any way.*

> *The app that is designed would be full of advice and information to help children of all ages and of all genders, sexuality and races to feel safe, for example if a person was being bullied or is really worried about something then this app would offer advice and information on how to help make it stop.*

Then the app would be divided into the topics. For example, the Years Five and Six requested information and asked to play games to help them to understand e-safety and 'keeping yourself safe on the Internet' and other safety issues. Years Seven and Ten suggested 'It would have pictures of abuse or bullying, so that we know what it looks like and can spot it' and as the subjects moved up the year groups the themes became more centred around issues like, 'Where to go and who to talk to and what to do', 'about anything you worry about or are unsafe about' and 'having the courage to tell an adult'. All years wanted facts on how to keep safe. One interview question asked participants to explain how the app could work to access information, advice and guidance and was simply answered: '*There would be a list of different problems to select*' (Year Eleven).

This tells designers that children understand that an app would need to have a multi-layered functionality that allows different ages to access age appropriate sections. There was more dynamism and variety in the methods they wanted to use to access IAG. As previously explained, they want some of the key facts to be in the format of games, videos and social media but they also indicated a high need to connect with twenty-four hour access to online support by professionals. They identified doing this through a range of functions; by messaging/texting, direct phone calls, video chat, watching videos and live chat.

The scope of their ideas is based on real time– similar to the way in which some other apps currently work (e.g. Snapchat with a sense of immediacy in the here and now). The following two short stories by Year Eight participants show how they want to have someone to talk to for advice.

> *App – info will be on it. Someone to talk to, what to do to keep safe, link to videos, would have games on it, help line, help with bullied.*
>
> *My app includes 24-hour help line, advice for all ages, videos for showing safety, organisations.*

This moves beyond the present safeguarding processes, beyond phone calls, texts and emails to national helplines as children's ownership of smart phones is increasing (Ofcom, 2016). Within the workshops children stated they wanted to seek advice professionals and others in a variety of ways

- Professionals who would give advice included: Online therapist (Year Six), Professional people can help you and you could talk to someone that has experience about the situation (Year Nine), Social Services and/or Supportive professionals (LAC), An advice officer (Year Seven)
- Others who might give advice included: Messaging a grownup who gives advice live (Year Six), other people to help you (Year Seven), people who work with people who are unsafe (Year Nine)
- Ways in which advice could be given included: Text for help (Years Six, Nine), twenty-four/seven help/hotline (Years Eight, Ten, Eleven), Ask people questions and gives you tips for everything (Year Eight), Videos (Years Six, Eleven), You can type any question and receive replies (LAC), The app would have past experiences to base guidance on (Year Eleven), It makes a video chat so that the young person can speak to a professional (LAC)

Choice, control and empowerment are linked to privacy and sharing of personal information. In this social-technical space children are taught from a young age not to share their personal information online as a way to protect themselves. Children in the workshops were aware of this. For example, one participant in Year Five answered the following question '*Would you put in contact details?*' with '*No because people could die from it*'. Equally, they understand at points they may need to share personal information if they were in an unsafe situation. The majority of years Six, Seven Eight, Nine and the LAC group all thought that the app should be private and password protected, meaning it should have a privacy function where the user can store private information and only share information if the user wanted to. A Year Six participant clearly explains this in their story about wanting to keep things private as well as the need to block people.

> *My app would keep people staying safe by having a private button so it cannot be sent to anyone except the people you choose. You would need a password so no one but you could get on also it would have a block and report button. It would have a blocker so you can't swear at anyone.*

A Year Eleven participant also described the importance of keeping things confidential and how information should be shared on a need to know basis. This story also includes all the overarching themes.

> *The most important things in a safety app are, first of all privacy, if we don't feel safe in our environment we must feel safe using the app. Sharing info is very important as info can only be shared if the person is in any danger or in an unsafe situation. A 24-hour phone line set up so we can talk to a specialist and just talk about how we feel and what they can do about. Colour is an important thing as if it was grey and black it would look uninviting, whereas with bright vivid colour we would feel happier and would look more inviting and professional. Past experience may be an option because maybe people in the past have dealt with our situation, so it would help us feel that there is a light under the tunnel. Most important things the app should do is calm the person, guide us when we feel unsafe, past experiences and a helpline.*

Relationships and Control of Information

Keeping in contact with family and/or friends via the app seemed to enable the children to have continuity along the way. It gave them power to map their journey, linking and connecting with their friends, parents, other trusted adults or relatives within the app. It also seemed to allow them to report if they felt unsafe to one of their contacts within the app or a nominated professional. This desire recognises that where a child has social control in relationships with the adults then the child is given agency (James and James, 2004b). As demonstrated above, several children were concerned about retaining control of their information for example, '*so it cannot be sent to anyone except the people you choose', 'It would have a special blocking app inside of it so if you don't want anyone to contact you they can't until you unblock them', 'no-one would be pressured into sharing information'.*

The final question on the questionnaire asked for a list of people who children would contact if they felt unsafe and finally left a space for comments for other family member, tell no one, or other. The result found that eighty-nine per cent of participants would tell their mum but approximately forty-six per cent would tell a teacher and thirty-two per cent would tell a Police Officer- other family members were included in people they trusted. The results show that being able to access a variety of trusted adults is an important factor in the process of sharing that a child does not feel safe. The following two stories by Year Nine participants encapsulate their agency in sharing information with adults.

Story 1

> *If I was to design a 'safeguarding' 'keeping safe' app I would include information and what to do if you are feeling unsafe. The information being to not worry about whatever you are worried about / unsafe and concentrate on something else e.g. fun to keep you occupied. And for what to do if you're feeling unsafe I ring / speak to a family member or friend about it and tell them how you are feeling as they may be able to help. On another part of the app there is a section where you can talk to someone who keeps your identity / personal information secure. This helps, as some people prefer to talk to someone for help.*

Story 2

> *In the app it will have an emergency call app and you can talk to someone from the team, which will be an emergency keep safety team where adults give you advice on how to keep safe if you ever don't feel safe. It will also let other*

people post information about them and give information on how they are getting over the fear which will motivate and help you get over the same fear. As well it will have a messaging ability so you can message an adult or someone that has been in that situation and can help you to know what to do if you ever come to it as well e.g. kidnapped. It will have 0 tolerance to cyber bullying and grooming excreta *as soon as the app detects anything that shouldn't be happening that person will be removed and the Police will be contacted. No fake accounts will be allowed it will have to be fully confirmed that it is who the person says it is.*

Thematic Analysis

The themes indicated in this social-technical space contradict the current way that safeguarding apps are developed. The way in which the children have enacted through their visual and written narratives provides indicators for the design of technological solutions (James and Curtis, 2012). Their enactment shows that there must be diversity with regard to age groups within the space and technology design. Starting from the name, right through to the contact list, the design must be child-focused, meaning their power and agency is central. There is a connected relationship between the five major themes: design; fun and enjoyment; emergencies; information, advice and control and relationships.

YouTube, social media and online gaming are spaces where children can engage in a more social and creative way and access content in a more experiential way. As Ofcom (2016) report, nationally eighty-seven per cent of twelve to fifteen year olds watch YouTube, which is more popular than traditional television. Thirty-seven per cent of three to four year olds watch cartoons and other children's content and migrate to 'music videos or posts by vloggers' as they get older (Ofcom, 2016, p.64). Furthermore, a key issue to acknowledge is that over half of eight to fifteen year olds now play games online and social media profiles amongst the children are seen as a given, with mobile phones the preferred device for accessing social media (Ofcom, 2016). However, a key issue to acknowledge that all children do not play games online, have a social media profile or own a mobile phone, with some of the most vulnerable having no access to any of these outlets. Therefore this may be only way for direct access. It raises the question of how to the app and the technology can be made accessible as part of universal services.

ChildLine provides web-based access to one-to-one counselling services for children (and also, very recently, an app for the same purpose). Contact can be made by email, telephone

call or a chat service where entry is through an online waiting room system. The data suggests that children want what might be described as a 'shell' that allows them to do all the things they do online but with easy to find connections, which would respond at an appropriate level when they needed it to (i.e. advice, information, call the Police, call friends and family). The few games that exist on the ChildLine portal (website or app) are games for keeping calm and are very generic. They are not games aimed at keeping safe or managing risky situations. The ChildLine app for example only allows children to connect with counsellors as a more of a therapeutic feel and ethos. The uniqueness about the design of a safeguarding app is that safeguarding professionals (Police, teachers, social workers, doctors) are part of the safeguarding app network but would virtually connect to others (e.g. family members) as well as the children themselves.

Alongside this, children want to use the app and the technology as a go-between, conduit, education tool, and emergency help twenty-four hours a day, seven days a week. How does this change the way interventions are currently delivered? How are current safeguarding systems going to transform themselves to become child focused? The workshop participants were able to articulate in detail some of the technical elements and functions this app should have and how they blend and work together, in order for children to be empowered to look after themselves, be it in terms of their mental health or their general wellbeing. The app and technology are seen as an active 'passenger' on the journey as the tablet or smart phone co-exists with them in their everyday lives. What it is not is a reactive respondent made up from adult-centric views and ideas similar to those espoused by many of the apps that currently exist.

The challenges that this reconstructed space represent are that children's worries and concerns are mainly about death and dying. Worries and concerns can change over time and space; therefore, apps should be equally emergent and evolving. This way it can ensure that the children are equal to adults as social agents acting within the system. Creating a virtual atmosphere of a safe network is seen as part of children's everyday life and a natural habitat; for example, the way in which they currently use social media, gaming, videos and photos. Hence it has to be part of the app design for engagement as well as to facilitate usability. This also pertains to the need to request emergency help at the press of a button and then to share personal details in a similar manner. Children portray this application as an extension of their current world, where everything happens with a swipe of a screen and with immediate effect. They want to access information, guidance and advice in real time and at any time. However,

it is paramount within this childhood space that the relationships with trusted adults are healthily maintained both with family and professionals. In this context of relationships, devices are given to children by parents for reasons that vary, reasons such as control, protection, communication excreta. Where does such behaviour then lead and what other challenges does this present for this social-technical space if, for example, children want the app to have twenty-four seven access but the parent removes the phone every night at ten pm as a means of control and enforcement?

> Tablet ownership is higher than smart phone ownership up to the age of 10. After the age of 12, smart phone ownership increases as tablet ownership decreases. This preference for mobile phones over tablets can also be seen in the devices children say they would miss the most (Ofcom, 2016, p23).

How are these devices and the social technical childhood repositioned in the child protection systems? In a statement that is still relevant today, James and Prout (1997) described that 'if this picture looks unfamiliar, it is because most of us are unfamiliar with the world as children perceive it' (p. 43). The workshop data provides a clear pathway for the design principles for free safeguarding apps that cover the following characteristics: multi-coloured and interactive (use of pictures for instructions as well as words); accessible for all ages; privacy settings; for sharing personal information; links to contacts of the user's choice; connects to other social media applications; an emergency report button that was directly connected (with notifications) to trusted adults for example, Police, social workers, family members; sections for different age groups that are linking to age appropriate subject topics and information, advice and guidance; the usability of games, videos for learning about staying safe and for sharing personal stories; confidential twenty-four hour access via phone, live chat, text, email or video calling to a range of professionals and access to resources, help lines, phone numbers, websites, other apps on topics they are worried about (age appropriate).

Conclusion

The KidReporter adapted model has given a platform to begin the debate and convey a reconstruction of childhood within the digital world (Coppock and Gillet-Swan, 2016; James and James, 2001a; James and James, 2004b; James and Prout, 1997). The workshop participants acting as social agents have expressed a range of ideas and concepts for app design, highlighting some of the deficiencies in the interface of designs that are not currently

meeting the needs of children. The mixed method approach to using creative techniques for children being equal research partners builds on new methodological developments within HCI and by technology designers. The findings from this chapter lead to new questions; how then do the existing agencies such as the Police and Social Services respond to this version of the digital childhood space? How do the children and the trusted adults connect with the technology?

> Rather than relying on the notions of 'protection' or even 'empowerment' activities engaged in the struggle against child abuse need to consciously grapple with the deconstruction and reconstruction of childhood. This means acknowledging and reinforcing children's strategies and identifying and challenging their powerlessness. It means dealing openly with children about power and thinking in terms of 'oppression' rather than 'vulnerability', 'liberation' rather than ' protection (James and Prout, 1997, p. 184).

Therefore, it is necessary to explore the social and technical processes to find the liberation referred to here, to give children new access to help via the reconstruction of this childhood space for safeguarding systems. Thus allowing their journey to start with them, and be pursued by them in a way that is comfortable for them.

Chapter Seven. Findings from MASH – A Window on the Child Protection System

Introduction

This chapter reports on findings from ethnographic observation as part of a mixed method approach to addressing the aims of this thesis. 'Quick and dirty' ethnography (Viller and Sommerville, 1999a) has been a method that has been employed to allow the ethnographer to focus on key viewpoints for understanding social and technical boundaries in naturally occurring settings. It is not structured and allows the ethnographer a perspective on what emerges within the setting and enables participation in 'vital moment-by-moment mutual checking of 'what was going on' (Viller and Sommerville, 1999b, p13) something that may be missed by cognitive task analytic approaches. This project required an understanding of messy, naturally occurring and complex social practices in the MASH system. Mapping the information network within the MASH, the information flows and connectors between team members, devices, and artefacts across time is essential for a new system design that will welcome the child within it. This method has its roots in HCI and CSCW (Computer-Supported Cooperative Work) and appreciates the relationship between ethnographers and designers (Viller and Sommerville, 1999b). This approach RE (Viller and Sommerville, 1999a, 1999b, 2000) has underpinned system design in similar workplaces such as small office spaces, council planning departments, banking and air traffic control (Viller and Sommerville, 1999a; Martin and Sommerville, 2004). RE brings awareness and consideration to relevant social features of the MASH and this can then inform developments for requirements of an app being developed which takes account of artefacts and object models. Importantly, this process supports the incorporation of user needs and allows the lessons learnt from the MASH ethnographic observation to be useful for practitioners and children within the system moving forward (Viller and Sommerville, 1999b).

Furthermore, within CSCW and HCI fields researchers have been more radical in understanding how the nature of everyday work-in settings. This is in relation to how cooperative workers manage the complexity of coordinated activities when they are in the same room or a shared working space. The focus of the research emulates face to face encounters as the presumed paradigm of human interaction (Schmidt, 2000, 2002). This theoretical framework enriches ethnography data analysis, taking an agnostic view looking at the interactions such as distributed coordination, plans and procedures, awareness of work

and boundary objects (Carlile, 1997; Star, 1989; Schmidt, 2000, 2002, 2011; Suchman, 1987). This analysis helps to expose what is going in within the MASH practices and interactions, thus allowing the researcher to see things in a different way. As well as on how to create and transform the analysis into new knowledge in practice to create a new technical product (Carlile, 1997, 2002). The concept of 'awareness' is central within the work of CSCW for investigating how computer-based technologies may or may not make every day practices easier for those cooperating actors. The term awareness refers to actors and does not refer to one's mental state but to the practices of a joint effort. The term 'awareness' is generic and is often matched with an adjective for clarity and the term awareness is used different ways; for example, 'mutual awareness' or peripheral awareness' (Benford et al., 1994; Schmidt, 1994, 2000, 2002). Nevertheless, Schmidt (2002) takes awareness further by stating it 'is becoming increasingly clear that the term 'awareness' does not denote a set of related practices. In fact, it is hardly a concept any longer' (p. 287). He goes on to establish awareness as belonging to pursing a line of action. Therefore awareness only becomes meaningful if it is attached to the actor is aware of something and must be explored as an integrated aspect of the MASH practices.

Representing these artefacts as organisational and boundaries objects shows how they are situated within the MASH setting. Moreover, how they are represented and characterised by a variety of social features within the everyday practices of the MASH that will promote new ways for the foundation and the design of an app or digital platform.

> For large sections of the CSCW community the aim is to utilize IT to help cooperating actors to *overcome the effect of physical distance* among them, by providing some kind of artificial It-based environment in which the actors can interact as freely, or almost as freely, as if they were in the same room (Schmidt, 2000, p. 19).

A Description of the MASH Site

The MASH is located on the bottom floor of a council building. The room consists of three blocks of desks; two blocks of six desks and one block of eight desks. All the desks on each block face each other. The door to the MASH is secured with a key code lock. The MASH is responsible for providing a multi-agency co-located service to share information between agreed partners in a secure environment. The MASH has three key functions. Firstly, for early identification of children who may be in receipt of early help services whose needs do

not meet the threshold (see Chapter One) for child protection services. Secondly, the MASH focuses on harm identification and reduction by identifying children at risk or experiencing high levels of harm and responding by partners working together to reduce harm and provide support services. The third function is to coordinate the partner agencies working with vulnerable children and adults at risk.

The MASH works by collecting all the information referred in to them and making a decision on such information once collated from the agencies. The MASH manages the contacts received from any referrer and records the concerns for welfare information thus a decision is made on the most appropriate action within one working day, as well as offering advice and consultation to agency referrers about child welfare thresholds.

The MASH Team Managers and Advanced Practitioner make an informed decision using all the information available from the agencies. They will also forward referrals for social work allocation for social care intervention (level three to four of the CoNR see Appendix One) if the referral information indicates high-risk indicators / underlying risk indicators (see Appendices Two and Three). Furthermore, they will refer referrals to other services where the threshold for social care intervention is not met (level two or below on the CoNR see Appendix One) where evidence suggests a child and their families have unmet needs which require additional support.

Essentially, MASH practitioners share information that is already known within separate organisations in a coherent format to inform safeguarding decisions. The intention is that agencies should then be able to act quickly, in a coordinated and consistent way, ensuring that vulnerable children are kept safe from harm. Each of the agencies contributing to the MASH has a responsibility to identify and assess risks to children and, where appropriate, take action according to statutory guidance (see Chapter One).

The MASH team under observation consisted of the following practitioners:

- Two Team Managers from the Local Authority Children's Services
- Advanced Practitioner from the Local Authority Children's Services
- Six Referral Information Coordinators (RICs) from the Local Authority Children's Services (one post is a job share)
- Advice and Consultation Social Worker (A&C) from the Local Authority Children's Services (this post is filled daily by a different social worker from the safeguarding team)

- Child Support Worker from the Local Authority Early Years' service

- Engage Social Worker from Child Sexual Exploitation Team

- Safeguarding Practitioners from the NHS (three members of staff cover this post from various backgrounds, a Paediatric Nurse, a Midwife and a Health Visitor)

- Two Health Administrators from the NHS

- Police Sergeant (this post is covered by two Police Sergeants on a split week rota)

- Two Police Referral Clerks

- Independent Domestic Violence Advocate Coordinator (IDVAC) from a local voluntary agency

- Housing Needs Officer from the Local Authority (this post is in the MASH half a day a fortnight)

- Two MASH PNC (Police National Computer) Administrators from the Probation Service (these staff 'drop in' the MASH as required or depending on their availability)

- Education Safeguarding Officer from the Local Authority (this post is part-time) (this member of staff was new and entered the MASH on the last day of the study)

- Partnership Family and County Manager from the local Substance Misuse Services (this post is a job share and is in the MASH half-a-day a fortnight) (this was the incumbent's first day in the MASH at the time of the study)

Coherence

The coherence method exploits a framework by using viewpoints that in turn become requirements and influence design and system specifications. It is then possible to see these viewpoints from particular perspectives and coherence then allows these social viewpoints to generate social concerns. 'The presentation viewpoints served to demonstrate that viewpoints are a useful concept for structuring ethnographic design processes' (Viller and Sommerville, 1999a, p. 10). The analysis of these social viewpoints and social concerns from the MASH raises questions. How do the themes from the last chapter of the children's workshops merge into these viewpoints? How do pieces of information enter and travel through the MASH processes forming a network that children could join? How does information reach the MASH and then how and where does it lead? How do these pieces of information translate into various representations of children? Can a social-technical childhood become part of the MASH and co-exist within it? What social practices act as constraints for system design and adoption? The coherence framework focuses on three social-technical viewpoints: distributed

coordination, plans and procedures and awareness of work (Viller and Sommerville, 1999a, 1999b, 2000). The model then introduces social concerns and these concerns have an impact on the social-technical viewpoints for analysis. In the studies conducted by Viller and Sommerville (2000) social concerns or questions centred on paperwork and computer work; skill and use of local knowledge; spatial and temporal organisation and organisational memory (Viller and Sommerville, 1999a, 1999b, 2000). Although coherence enables the exploration of the organisation of technology, the ethnographic observation here is also concerned with the construct of the child in the MASH setting.

Social Viewpoints and Concerns

The social viewpoints and concerns of the MASH include how the referral enters the MASH and consequently how that information is shared between partners. Understanding this social-technical framing of information enables a deeper analysis of how a child comes through and travels through the system. This view or PREview (Viller and Sommerville, 1999b, 2000) necessarily allows more than one perspective to emerge. Observations of the three viewpoints (Viller and Sommerville, 1999a, 1999b, 2000) will help to make explicit a collection of workflows and offer different ways of focusing upon what emerges from the setting. It will give insights into how risk is managed and how 'the child' enters the MASH as different pieces of information. This information comes from secondary sources, travelling through the technology and communications, to become integrated into the MASH as a global system. A focus on viewpoints and concerns will generate requirements for new systems from distinct perspectives and allow for an analysis of the digital 'front door', moving to one where a child can directly enter. Viewpoints allows the designers of an app to engineer new technology from many positions. 'The advantage of adopting viewpoints is that the requirements generated from the social analysis are immediately available for consideration along with the requirements emanating from other viewpoints on to the system' (Viller and Sommerville, 1999b, p 23). Some viewpoints may be entwined with social concerns and vice versa.

Distributed Coordination

Distributed coordination refers to the tasks that are carried out by the MASH team members and how they are achieved as steps in part of a process, especially with regard to artefacts. In

this case the only shared database is the Early Help Module (EHM). This is the main database for children's services that had recently changed from the Liquid Logic Children's Social Care (LCS) where tasks and electronic trays can be shared with other agencies for completion. As work tasks are formed, as part of a pattern or sequence by the MASH team members, distribution coordination allows this to occur within a context of a division of labour. Through this process individual MASH staff acquire a sense of what is their responsibility and what is 'someone else's (Viller and Sommerville, 1999a, 1999b, 2000). Although there is a shared database which means different members of the MASH can input to the databases within different fields it is not taken for granted that their actions are one of shared goals and a shared understanding. As there is a division of labour in terms of the amount one member inputs information into the database there is also the need to consider how this 'shared' working is taken for granted for example the practitioners arrive with different understanding due to their professional background not forgetting the hierarchies of professional status within the room. By using the term a shared database it is perceived that all is equal and seamless however in practice there is a joint effort where the balance of data is unequally distributed (Schmidt, 2000). The conceptual implications for this has implications and plays an intricate interplay in the processing of information and how the referral enters the MASH. These components take into account the casual, material, cultural and the intentional ways the technical system design of the EHM and therefore shapes and forms the organisation of the cooperative work of the MASH practitioners (Schmidt, 2000, 2011). The design of the EHM as technical system can shape or predict how job roles are undertaken and impact on cooperative working and the interdependence of a cooperative effort. These relationships between the MASH practitioners where tasks are distributed can poses specific complexities for the cooperating team members (Schmidt, 2000, 2002). There is a social context to the coordinated distribution where informal interactions, alliances and collaborative alliances take place (Kraut et al., 1990).

> An actor engaged in a particular line of action in a cooperative work setting will adjust his or her own line of action accordingly. And conversely, actors make their activities 'publicly visible, that is, available and accessible to colleagues, so that they in turn can adjust *their* activities as appropriate (Schmidt, 2000, p. 20).

The referrals enter the MASH through what is conceptualised as a front door (Thorpe et al., 2007). There are two referral pathways to entering the MASH. The first is via social care by way of a telephone call that is answered by one of the RICs. This is then followed up with an

electronic referral form by email, from the person making the referral to a secure email box (children and young people - CYP) to which the RICs have access. The other way a referral may enter the MASH is through the Police PVP (Protecting Vulnerable People) database which is also an artefact (a form) that is emailed into the same secure email box (CYP). At this point of receiving a referral, either verbally over the phone or via an electronic form, one of the RICs creates a new MASH 'episode' in the EHM database. An 'episode' is an electronic form for re-entering the text in the referral form into the database. A key role of the RIC is to find out what other agencies are involved and to add this to the MASH episode. The RICs check the family address, date of birth, correct spellings of names and when information does not match they move in and out of a number of other databases, for example Revenues and Benefits, Family Support and E-start.[29] This activity indicates the priority given to accurate identification data. Therefore, the main contribution of input and division of labour centres on the RICs, in the first instance before distributing across the team. Therefore the RIC is termed here as the competent member that typically makes sense and ignites the team effort (Schmidt, 2000). The EHM is a key node for the child's information in the MASH network; as a RIC (3) stated '*Everything is recorded on the EHM*'. However, as Schmidt (2008) states 'even when a specific technology is understood and has been adequately characterise, its 'efforts' may differ widely to the socio-economic milieu' (p. 5). In this case the EHM does not allows a child's direct input or to directly receive an electronic referral form as in these two elements are not part of the framework.

Work, the collecting of and completing sections of the database with the child, family or historical information (previous MASH episodes and / or case notes of involvement with practitioners) is dictated by work trays on the EHM. These work trays are allocated after the initial referral information is inputted by the RIC and then the tasks are assigned by the MASH Team Managers by indicating the task on the team member's tray. RICs estimate how busy they are by judging how many allocated tasks they have in their tray. When tasks are allocated in their tray they undertake the allocated task without questioning the reason behind the instructions. As Schmidt (2002) explains how this mutual awareness of a cooperative effort is seen as the typical norm for the RIC as a competent member of the MASH team.

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[29] Database of those in receipt of benefits owned by Captia and licensed to the Council.

When as actor perceives a colleague doing something in the shared setting, he or she observes something that (typically) is immediately meaningful to him or her. To a competent member, making sense is thus (typically) effortless. To competent members relevant occurrences stand out, impose themselves. An event 'leaps to the eye' because it is expected or is a deviation from that which one would expect. It does not require special attention (p. 294).

The tasks in the electronic trays can automatically move to another RIC; for example, if a RIC answered the phone to a query about a child and that task was already in another's RIC's tray they are able to move it into their tray. At times the same referral information can be gathered from more than one RIC over any given period of time. This is explained by a RIC (3) when a telephone call does not come directly through to the MASH but from the social care administration team.

A phone call in about this family. This is the mad thing all these in my tray and yet the admin upstairs who put the calls through to us don't have access to this system and don't know I am working on the case. So what they will see, look at this as an explanation [Clicks and points to screen] *Admin see this, they would do a search, a child, show you what admin would see. There is an amber MASH against it, that's as much as they know who is working on it. So probably rang and* [RIC 1] *answered the phone. As it trips round she has taken some information on it. Picked up the task from my in-tray because we have the option from colleagues, look on hers* [click] *Pickup comes from their tray into your own. She's now working on it, gone. So* [RIC 1] *will add her bit of information and may do the tasks I was going to do.*

A critical challenge for product innovation is the characteristics of knowledge and how knowledge is created across functions and boundaries (Carlile, 2002). In order to understand how knowledge is conceptualised within the EHM one must attend to the defined boundaries and how knowledge can move across these boundaries. Three approaches to knowledge boundaries are syntactic, semantic (Jantsch, 1980) and pragmatic (Carlile, 2002). The boundaries between the information work of individual team members is very clear, as the databases dictate and clarify key responsibilities. This is highlighted by the fact that each individual practitioner accesses their agency's database. Some partners are given access to the EHM but although they have access to read others' trays, they are restricted to input only in their allocated section. This can make challenging these boundaries difficult for the syntax of the information to be interpreted differently thus making communication and collaboration more complex (Carlile, 2002). MASH staff, such as those employed by the Local Authority (the MASH Managers, RICs, Advanced Practitioner, Duty Social Worker, Education Officer)

as well as the Engage Social Worker, the Substance Misuse professional and the Health Safeguarding Practitioners, have access to EHM. A second database relevant to referrals is the PVP and the only other person with permission to access this, apart from the Police, is the voluntary agency IDVAC. Tasks to the RICs are allocated based upon their work rota, availability or who is likely to complete the task in the shortest timeframe. The health tray will be picked up by one of the three Health Safeguarding Practitioners, dependent upon who is in the MASH. The Substance Misuse Worker, Engage Social Worker and Education Safeguarding Officer will also pick up their tasks as and when they are located in the MASH. For example, one health safeguarding practitioner (1) explains how she only carries out health duties that have been assigned to her tray.

> *I might be asked to ring A&E attendance. The social care team, it's just MASH health do the health aspects or I might ring regarding antenatal. Ring up the safeguarding officer and they will give you all the info to see if there have been attendances. Work very closely with the safeguarding hospital team.*

There are many different electronic trays within the EHM database as part of the MASH episode including; RIC trays, duty manager tray, Engage tray, MASH tray (which is the MASH manager tray), health tray, education tray, and child support officer tray. Each practitioner actor has their own tray. Items of information are cut-and-pasted and added to trays continually and this starts to build the story, picture, timeline of the family or child to inform an assessment decision making process (see Chapter One). An example of how or why a task might appear in someone's tray is described by the Child Support Officer;

> *Basically I get tasks in my tray on liquid logic the new system, yep. So if one of the RICs cannot get through to a family over the phone, one of my tasks is to go and visit the family or if a family said to one of the RICs they want help or support.*

Tasks in the tray of the EHM database have to be reassigned once the task is completed or when a task cannot be completed (as stated above by the Child Support Officer, usually by the Team Manager). This process of assigning the task, finalising the task and then re-assigning the task in the tray can happen numerous times for the same MASH episode. The restricted access of the trays as boundary objects and the repetitiveness of the tasks process of these boundary objects conveys the difficulty of these methods of standardisation (Star and Griesemer, 1989). Thus boundary objects can mean different things to the different practitioners and they have to interpret their meaning from their own professional standpoint in order to cooperate. The interpretations and translations of these boundaries that come from different social worlds (MASH professional backgrounds, EHM and individual agency

databases) is causation for different meanings and constraints on each agency being weakly structured and heavily reliant on the authority of standardisation. In some way they adapt to the local need of the MASH but inhibit robustness of the network (Star and Griesemer, 1989). 'Given this, the resource problem shifts from one of processing more information to understanding these novel conditions or new knowledge that lies outside the current syntax used the boundary' (Carlile, 2002, p. 444).

MASH staff are very protective of their own agency database, enforcing a boundary through decisions about who has a right to access it and who can see the information. It is clear through observations of the EHM tray process that there is a hierarchy in the flows of information; the RICs input basic information, the Advanced Practitioner and the Team Manager screen the referral information and then allocate the tasks. Thereafter, the other agency partners contribute their agency information. These coordinated mechanisms and the ordering of systems (electronic trays) (Schmidt and Wagner, 2004) therefore orders the workflow (Schmidt, 2011) pre-established within the EHM. A social-technical disjuncture exists between the Police and other MASH staff, with two separate referral pathways in the network, which temporarily disrupts this hierarchy and information flows.

It appears that the RICs work at a faster pace, as their role is to process all of the initial enquiries and referrals compared to the others in the MASH office. When the RICs down tools and attend a social meeting the A&C Social Worker commented '*Everything appears to stop a little when the RICs and Team Managers are at a meeting'*.

In reference to Community of Practices (Wenger, 1998) knowing and learning within and across boundaries can be plagued with problems within practice. In the context of the MASH there are communities of practice within for example how the RIC's cooperatively work, the Police and health within in their own professional domains. This creates situated and tacit characteristics of knowledge (Suchman, 1987) and impacts on different kinds of knowledge across the MASH as a community of practice. Knowledge in practice is localised, embedded and invested in practices such as boundary objects (Carlile, 1997, 2002). Therefore the ways that the distributed coordination and the more distance the community of practices become the more difficult it is to change and assimilate the other group's knowledge. Knowledge is invested in practice, the methods used and the ways of doings things which in turn increases the value of that knowledge they have group as a community of practice and could be used successfully to solve problems (Carlile, 2002).

Plans and Procedures

Plans and procedures clarify how objects are pieced together to complete a task. In this instance the object is information and the task is an assessment. Information is of key importance here (Dourish, 1997) and it is where this information forms common spaces as part of cooperative working to undertake assessments (Bannon and Schmidt, 1989; Schmidt and Bannon, 1992). Artefacts such as procedures, schedules, charts and diagrams are all part of what makes up this viewpoint. These viewpoints are categorised as coordinated artefacts (Schmidt, 1997). It is at the main viewpoint, the coordinated artefact that acts as the plans for situated action and establishes itself as are objects with a shared context (Star, 1989) and as a common reference point. This begins to examine what supports the distributed coordination activities and what relationships MASH staff have with different activity (Viller and Sommerville, 1999a, 1999b).

Working Together to Safeguard Children 2015 (see Chapter One) is the guidance that sets the statutory definition for safeguarding and the statutory principles for an effective safeguarding system. [30].[31] It also provides details of statutory expectations (including timescales) of how children will be assessed to ensure the right help is provided[32]. Therefore this links to the local practices and different processes and the timely completion of tasks in the MASH will impact on all levels (universal services, CIN, CP and LAC). The main artefact is the CoNR framework (see Appendix One) which identifies indicators across six areas, and forms the assessment and risk factors that a variety of partners may hold information and intelligence on. [33] The sharing of information and intelligence of these presenting indicators is key to assessing what services a child may require to be effectively safeguarded. The CoNR framework acts as the planning model and therefore acts as the prerequisite to actions to risk assess (Suchman, 1987). What's at stake here is the completing of timely information acting as knowledge in order to protect and intervene in the protection of children (Carlile, 2002). To fully grasp what is at stake there must be translation of other professional perspectives. Therefore the main artefact acts as a form of problem solving which subsequently informs actions. As Suchman (1987) describes

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[30] Protecting children from maltreatment; preventing impairment to their health and development; ensuring they grow up with safe and effective care; and taking action that enables them to have the best outcomes.

[31] The child's needs are paramount; that safeguarding is everyone's business meaning all services are required to contribute their part; and having a child-centred approach to all aspects of service provision that full y understands the needs and views of children).

[32] Section 17 and Section 47

[33] The six areas are: Health; Education; Emotional & Behavioural Development; Identity, Family & Environmental factors; and Parenting Capacity.

> (1) The planning model itself, which takes the significance of action to be derived from plans, and identifies the problem for interaction as their recognition and coordination, (2) speech act theory, which accounts for the recognisability of plans or intentions by proposing conventional rules for their expression, and (3) the idea of shared background knowledge, as the common resource that stands behind individual action and given it social meaning (p. 28).

Once a practitioner or member of the public identifies symptoms or triggers of abuse and / or neglect they refer this to the MASH either by telephone or a written format. Therefore, the information from the member of the public which is a social interaction becomes an extension of the information for the individual actor being the MASH practitioner (Suchman, 1987). Practitioners whom are not located in the MASH are advised (as outlined in local procedures) to refer to the CoNR. The outside agency should ensure that information that is shared in the referral is consistent with the LSCB's Information Sharing Protocol[34]. Consent to share information has to be obtained in all cases (consent must be specific, informed, unambiguous, freely given and verifiable) unless there is recorded evidence for level four referrals that this can be overruled (by obtaining consent: it places the child at risk of harm; it prejudices the detection of a crime; or it leads to an unjustified delay in making enquiries). It is the legal responsibility of the referring agency to obtain consent, not MASH practitioners. MASH only seek consent where a referral is received through members of the public.

Initial screening of the referral is carried out by the Advanced Practitioner or the MASH Team Manager in order to determine whether the referral is appropriate. They will obtain further information if the referral is not clear, or where consent has not been recorded by the referrer. Then procedurally as part of the initial assessment they determine an initial risk level (Red Amber Green (RAG) rating: red for Section.47; amber for Section.17; green for CAF or Universal) to inform how quickly information needs to be gathered by all partners to enable a decision to be made on next steps. Red level is a four-hour response; Amber level is a twenty-four-hour response; and Green is within three working days. Thus language or in this instance a colour can also been seen as a form of action (Austin, 1962) which can make inferences within the network.

The RICs role is to ensure all information from the referral is recorded for example key information across the six areas in CoNR and about involved partners (current and past) is

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[34] Information sharing: advice for practitioners providing safeguarding services 2015

up-to-date on the EHM database. They then initiate a chronology from social care and early help records and complete checks as directed by the Team Manager / Advanced Practitioner for safeguarding issues. These checks may include contacting the referrer for information or accessing partner databases that are remotely available to the team (revenue / benefits, education tribal database, excreta). Where current or past early help services have been provided (CAF), they will also confirm details of the Lead Professional. Furthermore, contacting the referrer to inform them of the next steps that MASH are undertaking must be completed within one working day. Contact should also be made with the parents and child (where age appropriate) to inform them of the referral and the next steps based on risk level assessed by the A&C Social Worker.

The MASH Team Manager / Advanced Practitioner (with partner discussion) re-assesses the level on the CoNR following any clarifications by the RICs. Whatever the level of initial risk, information collated on unmet needs / risks has to be in line with the CoNR to enable decisions to be made. Information collated by all partners must cover recent service provision, a summary of past service provision and any family history the service provider holds. Where the service provider has made referrals to other services (internal to their agency, within their sector, or externally), details of the service provider / key worker etcetera should be requested and recorded. Information must be collated in the timescales in line with the risk level assessed by the Advanced Practitioner and Team Manager. Each partner's agency within the MASH must have their database to gather information in line with the risk levels within the team. The information collated need to be proportionate and allows for joint decision on the next steps to protect the child and promote the child's welfare.

The Team Manager is to ensure oversight of all decision making by the A&C Social Worker, RIC's, CSO and where relevant other MASH practitioners to maintain managements in line with the statutory expectations. Where all checks have been completed the Team Manager will direct the next steps and allocate task as follows:

Section 47 – allocate to duty Referral and Assessment Team (LA Children's Social Care) within four hours of referral being received.

Section 17 – allocate to duty Referral and Assessment Team (LA Children's Social Care) within twenty-four hours of referral being received.

CAF / Early Help – allocate to the CSO (if appropriate) in three working days of referral to

agree with the referrer on completing.

Universal – allocates to the CSO (if appropriate) in three working days of referral with referrer on sign posting to a universal service.

Referrals and Risk

Situated actions are a purposeful action that is underpinned by a shared understanding. They are neither behaviouristic nor materialistic (Suchman, 1987). Every single referral is dealt with as a new piece of information, hence the need to interrogate the available databases. When a referral is made every child has their own MASH episode on EHM and therefore when there is a large family the process starts with the eldest child and becomes time consuming as every child in the family has to be created on the EHM database. These direct actions are based according to the significance that is place upon the context of the referral and the following tasks (Suchman, 1987). The RIC (3) explains the process.

> *All these people are related to each person. Click on 'suggest others' and link them up. It's ok for four but if you have a family of ten takes ages. Then click on new system, create a MASH episode, unclick the parents. So the two kids, put now for the date and start the MASH, put now in that box, go back to MASH episode and add priority. It's a standard Risk DA, add green, create and then click on the MASH assessment, start, confirm MASH assessment, start blank, now we're in it.*

When a referral has been made the EHM (the new database), the LCS (Liquid Logic Children's Social Care - the old database) and the PVP database are checked to see if a prior referral has been made before holding historic information. This is then cut-and-pasted as a means of saving time to avoid repeatedly typing the same information into the MASH episode. In practice when the referral information about the child enters the MASH and is placed on the EHM as a MASH episode, it is issued with a RAG rating as follows:

- MASH referral form - If agreed, RIC to add as MASH assessment (amber) Domestic Abuse referrals - MASH assessment created by RIC (standard to be green, medium and high to be amber)

- MFH (Missing from home) – MASH assessment created by RIC (standard to be green, medium and high to be amber)

- All other referrals into MASH (including NWAS, NSPCC, anonymous, excreta) MASH assessment created by RIC (record as amber, if considered immediate

safeguarding record as red). [35].[36]

The way in which a referral is categorised and situated within the above framework is based upon a give desired outcome. When the referral information is cut-and-pasted a choice is made rather than an alternative course of action; for example, typing out the information again. These choices are based upon the anticipated consequences of reducing time with respect to that outcome (Suchman, 1987).

Alongside this there are also the 'high risk indicators' and 'underlying risk factors' (see Appendices Two and Three) which are not integrated (are not listed anywhere in the database as a drop down option or as a tick box section) into the EHM and are repeatedly cut-and-pasted into the MASH episode. There is also a risk to children (RTC) notification, which can be shown on the MASH episode. The risk indicators and risk factors are mainly written out on paper that is stuck to the practitioner's computers as a constant reminder. Some keep the information as a Word document on their desktop that allows them to cut-and-paste quickly into the MASH episode. A RIC (2) describes how they do this for the risk indicators as well as for possible outcomes.

> *Just simply to cut-and-paste what I need, then to type them out and delete those saves time and duplication. I am only typing this up now whilst it's fresh in my head, typing up the outcomes now. Majority of times they don't change. I will do it now if it's going through for assessment.*

The information on the EHM and the risk ratings form a chronology which is believed to be critical in enabling a good decision making process for the Team Managers. The Police Referral Clerk (1) states on her Police chronology as part of her PVP

> *On a high risk VC because it's a high risk to a child we do a chronology as notes, as suspect for criminal offence.*

The function of assessing and managing risk can be seen from different perspectives between the Police and social care. The Police through the PVP database focus on assessing risk by grading the incident as it occurred and the potential harm noted in that incident whereas social care assess the risk according to what the potential and actual further risk could be. The Police Sergeant (2) gives a descriptive example of how assessing risk differs:

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[35] North West Ambulance Service

[36] National Society for the Prevention of Cruelty to Children

If we have had a violent domestic abuse incident, even if we successfully prosecute, remanded the suspect and is off to prison, we would probably always grade that as high, whereas social care may look at that the risk has been addressed because he has been remanded, therefore they will grade it slightly lower than we would possibly. Just how we look at things differently.

The PVP database is an internal Police system that is primarily concerned with the protection of vulnerable and at-risk individuals, who have become (or are at risk of becoming) victims of the following crime categories: child abuse; child sexual exploitation; domestic abuse; female genital mutilation; forced marriage; honour-based violence; modern slavery; prostitution; serious sexual offences; stalking and harassment. The information enters the MASH in three formats as a vulnerable adult (VA), which the Police Referral Clerks work on but only stay within the Police's domain, vulnerable child (VC) and domestic abuse (DA). The VC and DA standardised forms are the basis of a referral into the MASH. On both databases the EHM and the PVP there are moments when the information gathering stops. This pause is caused when the information is waiting to be reviewed (in the review tray) by a Team Manager, Advanced Practitioner or Police Sergeant. Also this can result in the same information being shared with children's services, health and the MASH time and time again. Once the PVP form has been emailed out to the relevant agencies, some based in the MASH and others not, for example adult social care, it is a matter of a waiting game for the Police Referral Clerk. The VC or DA are also risk rated (RR). The Police Referral Clerks ask the RICs if the names on the VC or DA are known to social care. They do this by sending the PVP (VC or DA) form from the PVP email mailbox to the CYP (social care email mailbox). The PVP forms are uploaded onto the PVP database all day by Police Officers in real time. The requested PVP information has to be returned by email or a tray as social care do not have access to the PVP database.

If a case is already open, or known to social care, Police Referral Clerks send the information (PVP form with a chronology) straight through to the social work team via the RICs. It may also be emailed to health or probation. If the case is not open or not known then the building of the chronology will begin. Where there are previous PVP forms in the database the chronologies are cut-and-pasted across into the most current PVP form. If previous PVP forms have been not been fully completed then it takes longer to update the latest one. This is an important element to consider for design features of what makes information 'complete' or perhaps 'good enough'?

Other ways that the Police Referral Clerks have found to save time are explained by a Referral Clerk (1)

> *Ok basically when I send over to children's social care* [points]. *I know the* [*Team Manager*] *is going to say what do we know about mother. So rather than fart around I will do it now because that will affect their decision. You know with a high risk DA the result of the Police decision is important for the decision making process for children's social care.*

This quote demonstrates an important connector in the network showing anticipation of others within it. Here the Police Referral Clerk 'knows' that social care will want information on the 'mother' and therefore provides it in advance. This is not prescriptive action but determine action casually (Suchman, 1987). The main elements of the PVP are that the risk rating is 'quality assured' by both the Police Sergeant and Referral Clerks and checking that no children's names have been left off the referral. This is predominately done by checking previous PVPs and if there is a suggestion of a child with no details then the Police Referral Clerks will check with the health staff to see if there is a child at the address. Police Sergeant (2) clarifies the PVP process:

> *So in essence they have quality assured it and made sure their details are right and that everyone is on there that needs to be there. We class this as stage one sharing only if there are children on it. So if there's children a PDF* [Portable Document Format] *copy of that referral goes to social care to check if they are open, closed, unknown and now at the same stage will send a copy of that PDF to probation erm they're also the first the RC* [Referral Clerks] *to QA* [quality assure] *the risk assessment. So then want to see what comes back from social care and probation so if the child is open to social care there will only be a limited amount of information put on that referral. Erm, if they're closed or unknown then start to put a chronology together on the referral. They will also add the probation information once it comes back. Er, and then they will put it through to review for my attention. I will do the final QA and the information on the referral and risk level and then I will share it as a PDF again through the same system. So normally one of several agencies that have already agreed sharing information, sharing agreements with the constabulary...Does that make sense, yeah, it changes it if it has children or not and the mashing process is built around vulnerable children.*

The quality assurance is a node in the network that information about a child must pass through.

Consent

When a referrer has made a referral into social care, unless it is a child protection issue, consent is needed from the parents or carers. As explained in the introduction of this chapter consent to share information has to be obtained for all referrals. There are two types of consent, firstly consent of the parent with parental responsibility and secondly consent for MASH to undertake welfare checks for example to contact other agencies to gain further information on the child or family and to enter this information on to the database. If consent has not been given, then the referral from other agencies is not accepted and the external agency practitioners are told the reasons why and are told to follow it up. Consent is mainly agreed verbally and is then recorded on the referral form and the onto the EHM database, although consent can be overridden by the Team Managers. On the EHM database consent also involves a list of twenty-three questions. The PVP Domestic Violence (DV) does not need consent but the VC does. When the Police refer in via the PVP database it is ad hoc whether consent has been gained appropriately.

> *Consent, we have no consent because the Police have sent this to us. I have asked if Police could ask for consent at the time they go out. I have asked parents if the Police told them and some say yes but doesn't really mean got consent* (RIC, 3).

Storage and access to information

Information is stored across twenty-six different databases (see Appendix Nine), which practitioners are able to access according to their own agency procedures. It is not possible to link these databases, so access to any information contained on them is inevitably task-driven on a case-by-case basis. Thus, staff find themselves creating routes to circumvent the databases, which results in documents circling around through emails. None of the databases have the technological ability to pull information through to one another. Email is onerously used as the preferred method for sharing information and sometimes a piece of information can find itself on an email 'merry go round'. There are many examples of how email is used as the preferred method for accessing or receiving pieces of information. A variety of MASH practitioners explain how email has its different uses. For example, a Police Referral Clerk (1) on why email is used due to the databases being restricted to single agency access and her thoughts of what may be possible if the databases were synergised.

The info comes back by email as it can't come back through the system as they haven't got Police system, can't have access and the systems aren't linked. In an ideal world that would be wonderful. We didn't need each other then, then just wouldn't need social care admin and would just need admin then and anyone could get on the system.

The Police Sergeant (2) explains how the email is used to share the information from the PVP form that only is in the format of a PDF.

So basically from the PVP database which is owned by the Police the mashing process and communication with the other agencies, incidents shared via the system generates a PDF file of the referral [PVP] *which is emailed across to the other agencies.*

Furthermore, a health administrator (1) refers to the use of email to share information beyond the MASH and as well as sharing information with the Police Referral Clerk whom sits directly across from her.

The team read it [health visitor or school nurse team] *let the team know by email its documented then, if I find extra children I will refer it back to Police and let them know by email. They update the PVP by email yeah.*

Another way email is used to circumvent and double up on the same information as the EHM database restricts adding information if the allocated task is in the tray of the Team Manager.

Just been speaking to a mum and had a message but it's because it's [in the tray] *with the* [Team Manager] *we can't pick it up it so have to email* [the Team Manager] *the info. You can't write on it once with a manager so I send* [the Team Manager] *an email and she cuts and pastes it on* (RIC 3).

IDAVC describes part of her daily tasks as '*email the PVP from the PVP very secure email to another secure inbox*'.

Most of the databases are built on a systems management approach; for example, the user can only insert onto, or is restricted to, the allocated box (as RIC, 3 complained, '*I can't put that much info on as it's exceeding the limit of characters in the box*'). This results in the user adopting a cut-and-paste way of working or creating templates to record information and then

again cutting and pasting the information onto their database. '*Made this template myself. Other Sergeants use it around the country. I am really efficient with systems like this. I created this in 5 minutes and my strength is this, to see how to be efficient as possible with systems like this*' (Police Sergeant 1). Although the work policy is that all the information should be recorded centrally on the EHM, RICs find themselves constantly flitting between two databases (the old LCS and the new EHM). The EHM automatically flags some subjects, for example, Children in Need (CIN), Child Protection (CP), Common Assessment Framework (CAF) and Children looked after by another authority (CLAE). However, some categories do not show up in this way. As a RIC (3) explained in relation to a child missing from home (known as MISPA)

> *But MISPA don't show on this system, they go onto the old system and get MISPA against him because MISPA have to be logged on the old system and not the new system. Why? I don't know. [The] Majority go on the new, but certain things go on the old.*

This can make the work of the RICs quite laborious in repeating tasks that become quite lengthy in duration; for example, making the same task last approximately twenty rather than five minutes. When describing the different databases they access, one of the RICs commented '*I think a lot of stuff in here is quite time-consuming and unnecessary. That's just my opinion*'. In these instances the RICs have to email the Team Manager as well as wait for another member of staff to input data, such as allocating the appropriate flag against a name. The impact of this for a child entering the system directly could be costly time delays. For example, this provides an example of the internal workings of the system that present barriers to the child's direct entry to it. This creates another door for them to pass through and raise the question of how it might be streamlined. Raising the question of whether it is inevitable that a system will have to contain some form of screening process and, if so, what do children need to know / convey to get round it?

There are many non-compatible documents across databases which forces users to cut-and-paste information; for example, the PVP and ambulance referral forms comes in a PDF which is unable to be electronically attached to the EHM database. One way to get around this is by using two screens and having a Word document on one screen and the EHM open on the other screen so the user can cut-and-paste the information across. They do not have the ability to drop and drag information, folders or documents. Information is therefore duplicated and

repetitive and as a consequence some of the practitioners show signs of relief and delight when an open case comes through to them and there is little information to transfer. A RIC (2) attests to this as he enters a new referral '*Right fly through this, it's a nice simple copy and paste job'*. Emailing and cutting and pasting text are both used to find ways around the databases.

> *It's an open case. It means we just put it on the case note and we don't have to do anything further with it. For god's sake 'cos I work on the two screens I can't have my protocol on here and my referral. So putting it on a Word document, then yep so copy and paste onto a Word document, then I will put it on as a case note. Then copy and paste the concerns from the ambulance referral (RIC, 1).*

This suggests that the system manages the content of information rather than the child's requirements. There is little attention given to the visibility of the child in the cut-and-pasted text shared between databases. The implications of the systems 'workarounds' (Broadhurst et al., 2009) is that things can get missed, Thus the child's journey into and through the MASH could be classed as a cut-and-paste exercise.

Awareness of Work

Work activities are organised by making them 'visible' (Viller and Sommerville, 1999a, 1999b, 2000) to the other members of the MASH team. There are degrees of awareness of others, work practices such as mutual awareness or peripheral awareness (Schmidt, 2000, 2002) and is an attribute of action. Schmidt (2002) states '... term 'awareness' is being used to denote those practices through which actors tacitly and seamlessly align and integrate their distributed and yet interdependent activities' (p. 290). The layout of the MASH office and the way individuals create their own work space make certain aspects of the work 'visible', indicating how the room should be engaged with. For example, the hive of activity is visible around the hub of the RICs' workstations by them being constantly on the phone and the noise of the keyboards. The RICs as actors perform cooperative work as a form of social bonding in order to effortlessly pick up on what is going on around them and make practical sense of things (Schmidt, 2002). The RICs place reams of lists of reminders such as the high-risk indicators, a list of databases to check, as well as personal objects to define their spaces. The layout of the room, and the three blocks of desks, work to keep activities (and

professional groups) separated, as does the lack of systems able to share information. A small cluster of team members huddled around a desk, in order to read the same computer screen, was often observed. This seating arrangement encouraged teams to form subcultures within the MASH. The three blocks of desks in the room and the desk allocation worked to align group ways of working with professional identities and idiosyncrasies. Symptomatic of this is the observation that RICs have their own hot drinks station at the end of their desks, only used by them. In addition, as if the room organisation is an insufficient marker of professional boundaries, there were three A4 pieces of paper stuck on the wall behind each section of desks clearly marking the territory of health, Police and children's services. Furthermore, this places more boundaries for the child's direct entry to the system.

Two pieces of equipment on everyone's desk are the double computer screens and a set of headphones. However, pen and paper are used frequently and everyone has this in easy reach on their desks; the main purpose is for jotting notes whilst gathering information when they are mainly on the phone or researching their own databases by reading from the screen. The other way to record this information was by creating a personalised Excel spreadsheet saved to the desktop or a shared drive. For example, a Team Manager (2) used a spreadsheet to record allocations that include the date, the name of the family, mother of the children, protocol ID (database) the level in the CoNR and then, to which team the case will be allocated. The databases do not seem to have capability to extract such information and therefore it is a required manual task.

Children's Services, the Police and health all have their own internal phone set up. The RICs who are mainly on the phones use the Council phones, which also allows them to instant message (IM) others on the same phone network. Their phones are linked to both their computers and their laptops. The instant messaging system is sometimes a quicker way to communicate than calling, as a RIC (3) explains;

> *Rev's & Ben's this gives us access to every single address in X who lives there and I will IM his telephone number to them, technology! If I IM, he can call from it and can cut-and-paste it and saves a call later.*

The Engage Social Worker explains how she uses the connected phone as another time saving device;

> *The link phone system and see if the last time they have been on. Saves time,*

than walking around looking for someone. She hasn't been online for six hours so she's obviously not in.

Health and the Police have one desk phone each with their own number. Because only one person can use a phone at once there are often delays in being able to make phone calls. There do appear to be budget constraints on practical artefacts that are essential for carrying out everyday tasks. One RIC (6), for example, did not have a lead for her computer. The RICs have one mobile phone between six of them, a Samsung Android phone, primarily used to send text messages. They mostly send a text message to ask a parent to give them a call back if they are unable to get hold of them. The phone is placed between the computers and is closely guarded; as one RIC (3) told me, *'I lock this in my drawer at night but it should live on its perch'.* The Engage Social Worker's main use of the mobile phone is for text messages or instant messages using the Internet, as well as for making calls to young people. The Child Support Worker has the same phone as the RICs. She sarcastically refers to it as a '*hi-tech one'* when showing the phone. She also describes how she uses the phone for text messages. However, she has repeatedly asked for an upgraded mobile phone to allow her to use instant messaging to communicate with families, especially those on low incomes, which would expand the means of communication with families.

The Police mobile phone is neither a smartphone nor Android phone. In fact, the Police Sergeant (1) (being a self-confessed technophobe) specially requested that the phone be an old style Nokia stating 'A*ctually asked for not a smart phone swipey thing. Asked for one just press button'.* The NHS has provided the Safeguarding Practitioners with the oldest mobile phone, which is inefficient for receiving emails and only has the capacity to make phone calls. The safeguarding practitioner (1) thought having a mobile phone where she can access emails would make her work more productive. She says '*that's the thing we get from the NHS: the worst Nokia ever. Some practitioners have smart phones but we don't'.*

Paperwork and Computer Work Concern

The 'child' or the information about the child and their circumstances are fragmented pieces of various artefacts that are repackaged on to the EHM and chronology. The artefacts are the information taken from individual agency databases and either emailed or cut-and-pasted to

make one electronic story of the child. The technology (i.e. databases) are not flexible and individual partners use their own agency's IT equipment and access their own databases. This stifles the process for sharing information, but due to the electronic task driven tray sharing it makes it very clear where and what stage team members are up to in the risk assessment process. Furthermore, electronic and paper information is doubled up as there is a paper tray for copies of all referral forms and this seems only to encroach on the pressure of work as an administrative task for these to be cross checked and submitted onto the EHM.

The EHM MASH episode makes it explicit who tasks are assigned to and when the task is finalised. As the databases do not have the capability to share information the work processes are constantly recreated. This is explained by one of the team mangers (1) as she finalises a referral for the social work team:

> *Referral record open in tab, open same child in another tab in MASH assessment because I will need to copy and paste some information because it doesn't pull through properly. So I have just had to copy and paste the reason for referral into the MASH record and manually enter the referral details because they don't pull through. So then I just have a quick check, record child not got a disability because it doesn't automatically complete and then I will copy and paste the recommendations and outcome from the referral record. This doesn't pull through to MASH assessment, to there, but then the final page of the referral record has a box 'reason for suggested outcomes' that needs to be completed before you can finalise the referral record. So I will finalise it and then ten more clicks. Click duty manager assign, then pick up from duty manager tray, then go back into the referral record and then finalise it again, then authorise, which then it sends to my line manager work tray and then pick it up out of my manager's work tray and then got to reassign it to Team Manager on the social work team for her to reassign it.*

Figure 7.1 Finalising the Child's Electronic Journey through the MASH.
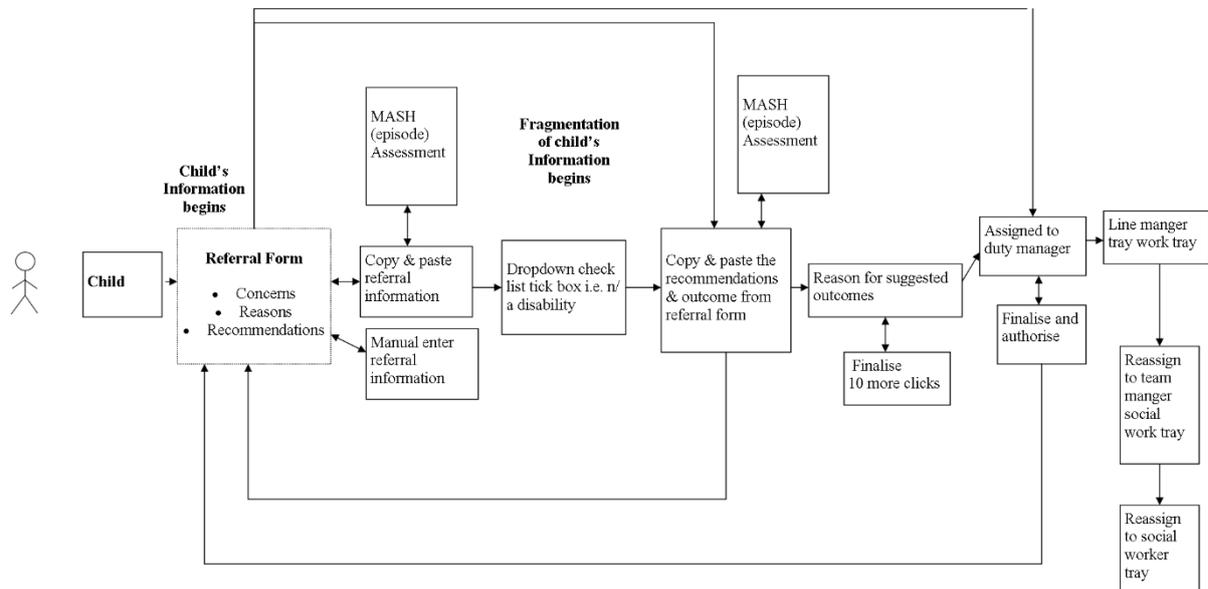
Figure 7.1 shows that the child's final part of the journey through the MASH becomes pieces of information on a referral record, along with recommendations and the reasons for them. The child then gets shifted to the MASH assessment tab (the MASH episode) and fragmented as details are entered in an organisational framework (e.g. disability y / n), they are then passed (in a fragmented form) to the duty manager assign tab; then to the duty manager tray then back to the referral record before passing on the line manager work tray (which is actually the same person the duty manager is the MASH Team Manager); then the Team Manager work tray, then social work team and finally the Social Worker. The journey here is lengthy and this is even before the safeguarding concerns have been addressed by a Social Worker. Additionally, this is only part of the child's journey as the pieces of information would have travelled through many more trays, tasks, and emails before reaching the finalisation process. At every click there is the potential for information to be lost / missed, or for the process to temporarily break or stop. The diagram 7.1 conveys the child as information that fragments as it is being transported from tray to tray, with the Social Worker or the Team Manager trying to piece the child back together at the end. Alternatively maybe they do not as they are so familiar with 'reading', 'cutting and pasting' the fragmented information that they are unable to see how it all fits together again and therefore the child gets lost within the system.

Generally the IT equipment does not meet up-to-date standards, some computers have lost some of their functionality; for example, a health administrator's upgrade meant she was unable to open certain folders. The use of two monitor screens eases the process of transferring information from one database to another or creating a Word document on one monitor and then cutting and pasting the information onto the other screen showing the database. As the RIC (2) stated *'This is the joy of two screens. MASH form on one and my protocol* [database] *on the other where I am putting the referral'*.

When outside agencies entered the MASH for the first time there was an array of complications to enable connection to Wi-Fi. Long delays occurred and there was a lot of communication between MASH team members, managers and various internal and external IT departments. Moreover, there were many times when the internal computer / databases shut down with no warning. When the networked systems were not of sufficient capacity, or the network servers were inadequate, the system shut down regularly. This can cause loss of work, as the databases do not automatically save the data, or it means there is a delay in the information gathering and sharing process. Other IT problems the RICs encounter are screen freezing and documents not opening, being slow to open, or being ejected from the database. When the screen freezes or the systems shut down, the RICs have to first wait for the problem to rectify itself and then spend time waiting for the database to reload. Thereafter they have to re-enter a password for each database they wish to log back into. When the health databases kept failing due to the connection to the Internet this resulted in the health staff falling behind with their daily tasks.

A further issue of the technology impeding progress is, for example, a feature that prevents more than one person is checking a certain field at the same time. This applies to the Police PVP database, the Troubled Families spreadsheet or the health ECR database. Other defaults in the EHM database are that it may create duplicates with no explanation. Checking the databases is the preferred process for getting information, however anything that pre-dates 2008 for children's services is not in an electronic format. In these cases paper files have to be ordered by request from storage.

Skill and the use of Local Knowledge Concern

All of the different organised partners represented use similar methods for checking databases. The assessment skills for risk differ between the social care and the Police, as mentioned within the social viewpoint of plans and procedures. In relation to local knowledge and access to personalised data, an app called Chat Health allows children to text the school nurse if they want to discuss problems, raise a safeguarding issue and make an appointment with them. The Health Safeguarding Practitioners were able to request a copy of the transcript or ask the school nurse to go back through the entries of Chat Health.

Another way to encourage engagement and gain relevant information is the way in which the Engage Social Worker and the Child Support Worker make use of their mobile phone. They both prefer text or instant messaging for communicating with children. The Engage Social Worker also stressed the importance of relationship building as part of the sharing of information by young people and, like the Child Support Worker, emphasised the quick turnaround of interaction or intervention with young people via the MASH.

> *So for some young people it takes weeks and months to get to that point and talk about really difficult topics. I've been a safeguarding Social Worker upstairs, very time limited and move things along quickly. And this is a very different way of working. In my role as Social Worker and being in the MASH have some things to turn around quite quickly can be difficult. The MASH MISPAs I go to the home and in one visit assess if that kid (is) at risk of CSE* [child sexual exploitation]. *Obviously CSE is quite hidden, erm it can be quite difficult.*

A standard term that is normalised by children's service staff is the term 'screening'. This is used and understood to be the task that is undertaken by Team Managers, the Advanced Practitioner and the Police Sergeant when they are first reading a referral and making a judgement on what are the next steps. Practitioners within the MASH have developed their own style of language and meaning behind certain phrases. A few of the practitioners used the term 'mashing' as a description of the process they follow for collecting data and information sharing. This term was frequently observed in general conversations that took place. For example, when probation staff were not able to access their databases, one of them said '*Hopefully we will start mashing again soon'.* Likewise, a safeguarding practitioner from health used the term when questioning the Team Manager on a referral for domestic

abuse. *'Can I just run this past you? These 3 kids, standard DA, should we be mashing them?'.*

There was often reference made to utterances (Suchman, 1987) such as '*upstairs*'; for example, '*send it up for assessment*' or just '*send it up*' or '*goes upstairs*', '*going to go up*'! This is a reference to the case / the MASH assessment being passed to the children's social work team which is located upstairs in the same building as the MASH. The indexicality of language can lead to interpretations of situated actions and circumstances. Normally there would be a MASH assessment and if categorised as high risk then it would be processed over to the other team. If a referral has come in and both database s, the old and the new (LCS and EHM), are checked and it is an open case it will be sent straight upstairs to the social work team;

> *Can you help me, unborn going upstairs for assessment? Says subject to serious attack In January. Can you check on Police system?'*(Team Manager, 2).

Suchman (1987) summarises that,

> the communicative significance of a linguistic expression is always dependent upon the circumstances of its use. A formal statement not of what the language means in relation to some particular context, requires a description of the context or situation of the utterance itself. And every utterance's situation comprises an indefinite range of possibly relevant features (p. 60).

Spatial and Temporal Organisation Concern

Time is of the essence within the MASH as social care is governed by legislation to ensure there is a response to every referral within twenty-four hours and that an assessment is completed in that time frame[37]. Problem solving is not, in the first instance, about the child or the family's problem but rather is a matter of how to represent the child in the database. For example, parents may be separated, meaning there are two addresses. This means one address may show up on the Police systems and the other on the Revenue and Benefits database, so then it may be shared (this may be by email, shouting across the room or by handing on a piece of paper) with health for them to interrogate their database to see if a match can be found, or if the problem of which is the correct address can be solved. The family support database works on postcode, which means if the address is not found on there, other checking

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[37] Section 17 and Section 47

on the other databases takes place. Tribal (the education database that accesses all the school registers) is useful for looking up someone that lives alone, as the search allows the user to input gender for a child and dates between certain periods. It may then produce an array of information such as the street name, if they only had the house number, siblings' or parents' names, phone numbers which would enable the search to be narrowed down. The clock, so to speak, starts ticking when the referral is opened by a RIC and then when it is screened by the team manger the aim is to make sure every referral is screened within twenty-four hours on that day. A Team Manager (2) explains the theory behind the screening process using a traffic light system:

> *Red is four hours, that is like a section 47. Amber twenty-four hours, generally children in need, Section 17. That may need a same day response or proceed with assessment. Green is seventy-two hours. These are generally presenting information that we're going to deescalate to early help. The RICs initially put on as an amber, however standard DA notifications are a green and screened the same day. Standard early help, generally the initial screening should be done the same day.*

This mobilisation and deployment of enacted arrangements based upon time is an essential perspective of the pattern of cooperative work interdependencies and interactions between the team members and the databases. Furthermore these cooperative arrangements in interrogating databases or swapping pieces of paper are inter dependent as contingency arrangements as they play among the RICs as members of the MASH. 'They combine and deploy as the situation unfolds, on the basis of what is to be done, what it requires, who is ready, excreta' (Schmidt, 2002. p. 11).

Further issues around time relate to the MASH opening hours. The following comment from a Police Referral Clerk (1) conveys her exasperation in the way that children's services agencies work Monday to Fridays and impact on the processes the MASH follow;

> *These guys* [children's services] *they shut the building down which is a pain in the frigging arse. We work flexi all the time. But you see it defeats the object as what's the point in one agency coming in? Cos only one agency mashing, and how can you stop mashing at 5pm on a Friday and start again at 9am on a Monday? It's ridiculous. We're in here, so straightaway on a Monday morning these guys* [points with pen to the desks where Children's Social Care sit] *they are way behind.*

Organisational Memory Concern

Information sharing is mainly an administrative task to search databases to collect and cross reference key pieces of data before they add this to either the MASH episode on the EHM or the VC, DA on the PVP database. Information is a collection of data from various sources - written, electronic and verbal. These different formats then get typed into a chronology that again is on the EHM or PVP. Once information has been collected and checked it is deemed to be in a proper state to inform decision making for the assessment of need. As a health safeguarding practitioner (3) summarised her role:

> *So what I do, I open up the page and basically pursue the electronic information we have on that child and pull out any information that would help the assessment that is relevant, and make sure Social Services or the managers are aware.*

The concept of information in this setting is one where they (the MASH practitioners) refer to a child or family as if they are there in the room. In reality, they are creating an electronic picture of a child and / or family through speaking to them, on occasions visiting them, but mostly by checking database after database to ensure they have the correct basic personal details. It is a race against time to build this electronic picture as a chronology but everything begins with individual names, dates of birth and addresses. This process is repeated over and over again. The practice of checking databases and the cut-and-paste culture is a means to an end, a chronology to inform an assessment that can be found on the EHM and the PVP.

Patterns and Diagrams

Incorporating viewpoints and concerns as part of the RE process is facilitated by drawing out patterns and sequences as well as learning abstract lessons of the social and technical practices (Viller and Sommerville, 1999a). A way to do this is by using various Industry Standard Notions (UML) such as object-oriented (OO) modelling or case models (Viller and Sommerville, 1999a, 1999b, 2000). A vision emerges of how practice is played out in everyday practice between actors and objects. Case models are referred to as 'Stereotypes… used extensively in UML to extend the notation to cover objectory classes' (Viller and Sommerville, 1999b, p 25). Standardising methods is not the same as standardising theory. By looking at the how and not what or why allows the information to be understood in a more

accessible format and 'allows for a longer 'reach' across divergent worlds (Star and Griesemer, 1989, p. 407).

Figure 7. 2 A Sequence Diagram of Stereotyped Referral and Sharing Information.
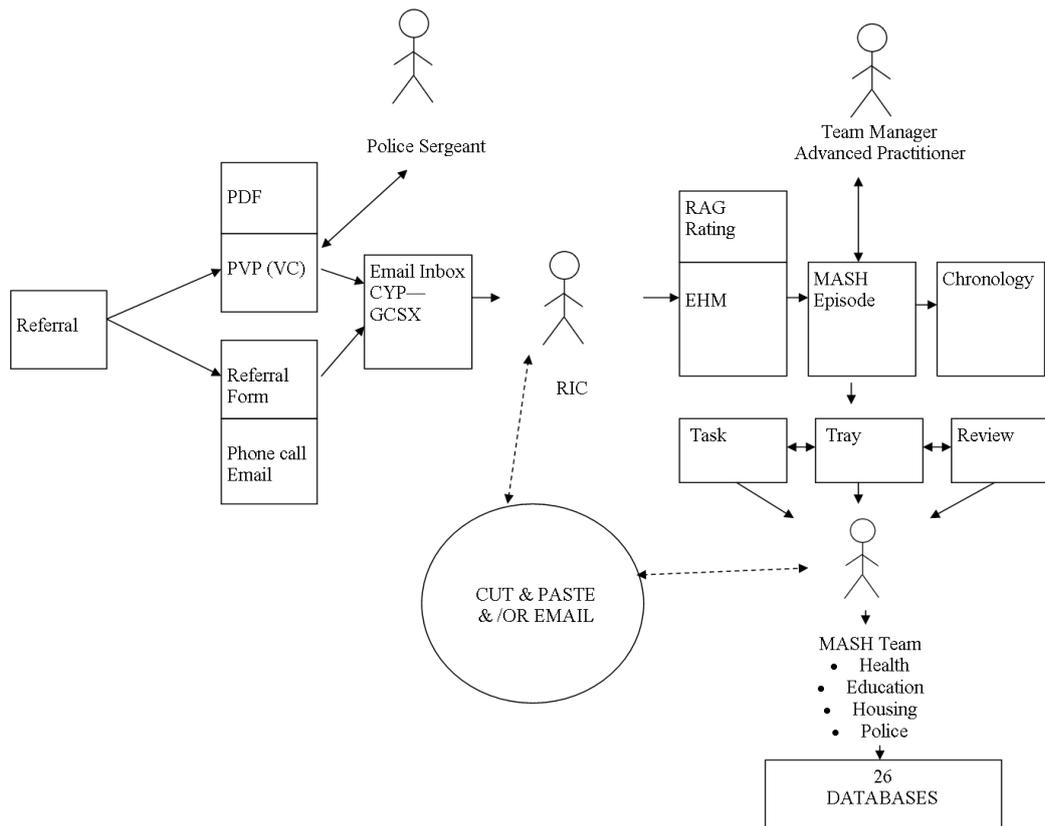
The division of labour initially sits with the RICs. The boundaries and work expectations are very clear and work in a rudimentary fashion, dictated by the technology – primarily the databases. Everyone in the MASH has the same purpose which is to collect the most relevant up-to-date data. However, the co-ordination and key responsibility for inputting data into one chronology lies with the RICs. The EHM tray - task - review is the net for capturing information about the child. The databases allow no room for manoeuvre or flexibility leading to staff creating workarounds and finding ways to circumvent the inability to move data across the system. 'This focus on the activity of people in the workplace in terms of what is routine activity, what exceptions occur and how they differ from the routine, leads naturally to a description of the work' (Viller and Sommerville, 1999b, p 187). As Figure 7.2

illustrates, a 'use case' highlighting the most important features for future requirements for any child sharing their information into the MASH because this is the major concern that the app design will need to address. It captures the initial starting point for discussion on connecting the social-technical childhood space and the way information from that space can enter the MASH setting. As Viller and Sommerville, (1999b) note 'Interaction diagrams in particular, which model interaction between actors and objects in the system, offer possibilities for modelling the other social viewpoints in the framework that are adopted' (p 36). This MASH 'use case' (Figure 7.2) indicates the tension that currently exists both within the descriptions of the viewpoints and concerns as well as the modifications that would be needed. The plans and procedures viewpoint focuses on the workflow and how the referrals are given a RAG rating for risk, which in turns creates a time frame for the information collection and assessment. Moreover, this workflow also demonstrates that a disjointed approach is used by the two main protective agencies. Due to the employment of twenty-six databases (see Appendix Nine) workarounds are created round these objects (databases), through the use of, for example, cut, paste and email to build up the picture of the child. The RIC coordinates these artefacts of the child as words on a screen (in contrast to seeing the body of the child). This artefactual child is comprised of layer upon layer of current and historical information rehashed to inform existing assessments and fragmented into task trays.

The work place is organised, like the databases, into team silos and poor equipment and access to the network impedes the progress of daily work. The EHM and other databases are pervasive in the MASH, they are central from the moment the referral enters the MASH to the allocated tasks and trays notifying that information needs to be followed up and assembled. The most important feature within the EHM is the review task by the Team Manager or Advanced Practitioner that informs the next action to be taken (an assessment) and can then send the referral (as an object) around the cycle of collecting and clarifying information again.

The requirements needed for system change come at various levels, which is where the tension and constraints appear in the current system, for example the need for databases to technically communicate with one another, or for the way in which the child's journey within the MASH comes in different pieces and form. These tensions can be seen in the descriptive detail within the social viewpoints and social concerns and are expressed as a notation in Figure 7.2.

Conclusion

There are implications for the child's journey through the MASH which the coherence model as highlighted by examining the social viewpoints. These are summarised below as RE for the design of an application.

- Adaption or integration of the CoNR as part of the application, which in turn become part of the connected network.

- Understanding what information complete and adequate and who is providing the definitions and guidance for this complete information.

- What would be the implications of the risk rating quality assurance for designing the child's direct entry into the MASH?

- In order to overcome some of the boundaries for direct entry; for example, the silo working and whether children be able to nominate a specific discipline that they would like to engage with first? For example a Police Officer or a health practitioner?

- How does the language used within the MASH for example when referring to a case being transferred to the social work team as 'going upstairs' translate to a child using a safeguarding app?

- Children can only enter the MASH during the current office hours.

Using Coherence as a presentation framework has offered a social analysis of the MASH and highlights the dominant areas for requirements for new system designs. Only by viewing and tracing these viewpoints from a variety of angles can the robustness and the challenges of the network be examined (Star and Griesemer, 1989). It has presented a number of technical challenges that would face the MASH if it were to open its front door to the social-technical childhood of today. It raises further questions over the working practices and disjuncture between the Police and social care, not only in assessing risks, but also in the adoption of a new model for the way a vulnerable child is seen and heard. The Police, Social Workers and the social care practitioners have different roles and this can be interpreted as 'soft' social

work verses 'blue light' policing. This fits with children seeing the Police as first responder to them sharing their information however would the Police and its systems be able to adapt to different forms of embodiment (Jeyasingham, 2017).

It has been possible to structure the social observation of the MASH practices and begin to apply them to possible new technologies. Coherence has given an in-depth understanding of how the MASH functions, with particular reference to how information moves around the MASH as well as noting the constraints the partner agencies deal with whilst undergoing their daily activities. The practitioners were able to define and redefine their cooperative work arrangements by using coordinated artefacts its gives a construct to how to make local and temporal modifications within a constant changing environment (Schmidt, 2011). By locating the boundaries between objects and the characteristics of knowledge boundaries it can drive innovation for new technological development. It gives insight and contributes to how children or children's information could be repackaged to enter through a digital front door. The model explores possible ways of representing such information and begins to convey patterns and sequences. These findings from the ethnographic observation will be pertinent to both system and app designs going forward, as it is clear that the system would need to change quite radically to accommodate children's direct access through its front door.

Chapter Eight. Findings from the Focus Groups – Technological Possibilities

Introduction

This chapter will give an explanation of the key findings, along with excerpts from focus group discussions that reflect and elucidate these findings. The key findings summarise and synthesise data gleaned from the focus groups in three major areas. First, an explanation of the participants' views and experiences of the barriers and technical possibilities for children accessing the MASH. Second, a distillation of the participants' views on changes to the access hours and technical public interface. Third, a detailed explanation of the key features of the app that participants believe would not only strengthen their process for assessment and safeguarding but also allow direct access for children.

Three focus groups were held. The groups were held in a meeting room in the same building as the MASH. There were a total of fourteen participants. Although the sessions were held among small groups of participants (and not all MASH team members) they yielded rich and detailed insight into the attitudes, experience, and views of this social–technical environment with respect to safeguarding children. These relatively intimate settings captured a snapshot of opinions as well as acting as an arena to test new ideas and concepts. As the focus groups sessions did not include every MASH team member, the responses and insights generated from the groups are not a generalisation of the whole team. Instead, the responses given offer a consensus insight into the possibilities and opportunities for adaption of a technology to underpin a child's journey.

Access

Focus group participants were asked to first talk about the differences in the way children and adults communicate; what communication pathways were available to self-refer or share information for children; what barriers there are for children to share information with them in the MASH; and the extent to which a safeguarding app could promote self-referrals. The consensus of all the participants was that children do not self-refer. The majority of participants gave a range of reasons for this that included fear, distrust, embarrassment, shame, feeling scared of authority figures, or being removed from their family. A few individuals expressed the view that children may have preconceived ideas of the role of social workers and social care services; for example, what this intervention would mean for them

and the impact on their lives and the possible repercussions. The A&C Social Worker commented that '*children and young people might not recognise they have a problem and need a service*'.

Communication

Many of the participants acknowledged that children use technology (especially via mobile phones) as a means of communication. One participant summed this up as '*They don't use their phone to speak to people. It's all instant message or apps*' (Safeguarding practitioner: 3). Participants emphasised that children's communication was not like theirs, by giving descriptions such as use of Snapchat, Instagram and social media. Similarly, the groups agreed that children do not telephone people in the same way adults perhaps do and that therefore their first thought would not be to pick up the phone and make a phone call.

Barriers

Participants from all of the groups easily described some of the possible barriers children face when self-referring into the MASH. The main barrier identified is that children do not directly contact the MASH because they are not told about its existence. Furthermore, when they have received a home visit from a member of the MASH team children have been unable to differentiate the service from the rest of the Council Children's Services.

Focus group members also discussed the negative view or stigma that parents may have towards social care. As one member stated;

> *When we speak to people on the phone and they say you're in my phone book as child snatchers so I know when your ringing* […] *so that's the opinion that people have of us* (RIC, 2).

Despite these concerns there was an acceptance by the group that antipathy has to be overcome in continuing their work. The views expressed are about referring into the child protection system in general, rather than the MASH per se.

In many ways the overriding consensus was that if children feel unsafe or are worried about anything they will generally be made aware of, and directed to contact, the NSPCC and ChildLine. Participants agreed that this is the main way that help is advertised within Primary and Secondary schools in the UK. As the RIC (3) emphasised:

> *When they're in school they talk about ChildLine and NSPCC not social service. They don't talk about that and that's where children tend to go rather than us and maybe because we haven't got any type of app like they do with ChildLine that's why they use ChildLine.*

Another group echoed the words of the participant above, explaining:

> *'I think the children need to know about the MASH. I bet there is no children out there that understand what a MASH is and in this day and age you can email from mobile phone…it's easy to send a quick message, we need more information' (RIC, 4).*

The Advanced Practitioner made the connection that on one occasion a young person who was in foster care had hand-delivered a letter anonymously. The letter conveyed how she was concerned about her friend.

In order to undertake system design the micro-practices of the work, and the different viewpoints about these micro-practices, need to be made explicit (Viller and Sommerville, 1999a, 1999b, 2000). Having an awareness of work from only an organisational perspective might be a barrier for children's direct access. This was put forward by the Advanced Practitioner who suggested that; *'They should be able to walk in […] yeah, a drop in centre or something like that, on their phone […] get the same services as if they walked into here'.*

Limitation for direct pathways for children to communicate with the MASH was acknowledged as a major issue for most focus group participants.

Chat Health

Chapter Two references many apps that have been widely used within the health sector. However, a recent development in the geographical area of the NHS where the research was undertaken is the app Chat Health. Chat Health is a text service and is an easy way for young people aged eleven to nineteen years to confidentially ask for help with a range of issues. The service is monitored by designated school nurses who have experience of working with children. Children can ask questions anonymously regarding their physical and / or emotional health, then they receive an automatic text response. The aim is to respond back by text message within twenty-four hours, answering their questions as well as signposting by giving

other relevant contact numbers or making an appointment to meet the school nurse. This app is not an emergency service and is only manned from Monday to Fridays and from nine am to five pm. It is only advertised through schools.

This app was only brought into the discussion in the third focus group by the health practitioner (2). This left some of the other group members frustrated and rapidly enquiring about it as they were unaware of its existence.

The following words by the health practitioner (2) explain how a text from a young girl via Chat Health resulted in a referral into the MASH by the school nurse.

> *Like I had one in here where a young girl had disclosed where her stepdad had hit her. So we looked back at the Chat Health because she had actually gone to Chat Health and what their response was, and they had asked her to go and discuss it at the school with the school nurse, because it's difficult when someone just sends a text in. The actual Chat Health wasn't a referral but it then subsequently came in as a referral because it came via school. I think because she had then gone and disclosed to school. So the follow up from that was I went back and looked at Chat Health and got all the transcribes they have gone through and she did actually use that. She could've seen school nurse face to face. Never had picked that up. School nurses monitor every day. She gave her advice to go into school and speak to the school nurse or whoever is designated in the school, the learning mentor or somebody to share further information, which the child eventually did. She didn't disclose at that point. What she said on Chat Health was there was difficulties at home. She wasn't getting on with her stepdad and then it went on from there.*

Many participants commented that children usually share their concerns with a trusted adult or a third party. For example, teachers, friends or family. As the comments above suggest, a text is not sufficient in its own right to be taken seriously or difficult as trusted communication and sharing of information. Is this information therefore not complete or adequate? Thus the child's voice is still not heard and always requires adult authentication before it can get into the system.

Introducing the App

The idea of introducing an app to increase self-referrals was widely accepted as forward planning for service design. The following quote illustrates this point:

I think they would use it. That's what they do, technology, always on gadgets. I do think it's a good idea. Would need the capacity to deal with that if an app was available that could give them information in an age-appropriate manner. Yes I consider it a good idea and the way we need to be moving. (A&C Social Worker, 2)

Discussions about the introduction of an app and the importance of increasing self-referrals took place throughout all the focus groups. Suggestions included that it would be more child friendly and may mean they (the MASH) could offer more early interventions. For example, a suggestion by the IDVAC noted:

if it was anonymous and a system where anyone could go on and see what type of referrals and messages have been put on by young people, but more importantly you can see what the outcome of that referral is, does that make sense…self-referral then shared that story anonymously gives a better picture for other young people to do it.

This aligns with the findings in Chapter Six where children expressed sharing their stories by video. The Advanced Practitioner also proposed an app could be used with existing service users' children so they were able to give feedback and communicate with their allocated social worker.

However, what became apparent is that some of the suggestions were located within an adult-centric paradigm where the child had no agency to make a self-referral (James and James, 2001a; James and James, 2004b; James and Prout, 1997), as displayed by the IDVAC further suggesting that referrals should be boxed into documents that adults construct.

If you think how professionals struggle with referrals, so if you think about what a child is going through [...] professionals struggle on behalf of a family and for them to have to do that it's difficult but I am just wondering, something like a template tick box trigger self-assessment.

Focus group participants expressed real concerns over direct communication with children with some being suspicious over a child's identity. This led to discussion about ideas for verification features built in to the app, thus giving the team assurances.

Moving on from this topic led to the opinion that the information or queries that came through the app should be channelled and controlled by a particular area of the team rather than all the MASH team members receiving alerts. Mainly to avoid increasing the workload, a suggestion was for the RICs to be tasked with responding to the app on their duty day rota.

This correlates to the distribution of labour seen in the previous chapter. As the Advanced Practitioner stated:

> *I think it needs to be channelled to a particular area of the team rather than everybody having it. It would be too much for some workers; for example, like the RICs on their duty days or certain days they're doing certain tasks, so possibly on a certain day or possibly the duty day, so it's controlled. Yeah could see a place for it, just think if everybody had it, it would be another area to keep your eye on and we're really, really busy anyway.*

Whilst there was a little apprehension, some of which related to accountability and to the recording of information. However, the dominant solution proposed to overcome this was that if information from the app, including conversations, could be synced into the current system (EHM) then this would reduce anxiety. Focus group participants specified that they thought it would be necessary to implement a policy and procedure stating the parameters of practice for the app believing this would ensure accountability. Questions were raised about how contact made through the app was to be recorded if it was seen as an official way to make a referral.

The issue of referrals as pranks, malicious acts, and misuse was raised and the use of verification features was viewed as beneficial. The counter argument raised by some group members was that most of the experienced team members were quickly able to identify malicious referrals.

The MASH: Seven days a week, twenty-four-hour service

The MASH becoming a twenty-four / seven service as an option was identified as a profound benefit by focus group members as being a more effective way of operating that could help manage risk. Many participants discussed how this may affect their current employment. However they also discussed the positive impact it had for managing their work, as the following quote illustrates '*in theory sounds good absolutely, all agencies would be marvellous, practically not sure how it would work'.* It was mentioned that previously discussions had taken place across the agencies and it was something they always thought might happen. The debate focused on the emergency duty team (EDT) and how it currently exists but is firefighting with reduced staffing levels with no extra services available. Many of the group expressed the opinion if members of the general public had an emergency why

should they have to wait until daylight for an appropriate response? The issues of resources, funding and commissioning arrangements were a repeated concern.

Web Based Interface

Providing online support, advice and guidance via web-based interface connected to an app was seen by the participants as a signposting resource for low-level enquiries. They agreed it could be for children to be able to access professional support. The Police Referral Clerk (1) likened the idea to the Police control room and it was expressed that if it was fully resourced it could be very effective. A health safeguarding practitioner was excited about the possibilities of integrating this new technology into everyday working practices illustrated in the quote below.

> *Amazing in a sense that at any time of the day a young person could go on to that and say 'I need help' or 'I am struggling with this' and I think that is brilliant as we currently haven't got anything like that in the country at all. There is nowhere that offers that type of facility for children and young people, and actually you could widen that, not just for social care. You could say a child with mental health, bullying problems or that type of thing and could necessarily lead or could be a safeguarding issue* (Health safeguarding practitioner, 3).

Alternatively, concerns were expressed by a few group members about managing risk and gaining consent. A minority of participants raised the issue of seeking parental consent. Additionally, whilst this provided a resource for children, participants indicated concerns over managing risk, as a RIC (4) explains that,

> *My worry would be that face-to-face thing. We pop up talking to this child and they haven't given us the full picture. They're a child and don't know how to give a full picture as they may not know how to and we give them advice or to go to such a place and their situation is far more serious than we know. If something happened and they say fine and accept that advice and then some things happen and they say don't approach us again.*

If practitioners worked towards developing more effective and sensitive (in terms of picking up more appropriate cases) methods of communicating with children, perhaps the child would return. Often other professionals and parents do not give the 'full picture' as

mentioned above. In this case because of the dominant professional framing of childhood, the child is positioned as an incomplete informant. However, a commonly expressed view was these concerns would be reduced if the children were already known to the MASH for example the practitioner gains validation from previous communication.

Key Features of the App

Participants also strongly voiced the view that to embed a safeguarding app as standard practice, access to improved equipment such as touch screens and more up-to-date mobile phones, were critical. Gender was perceived as a relevant factor. Participants suggested that the child could have a choice of whether they wanted to be connected to a male or female worker. In the same way, that could the technology enable the MASH team members to know whether they were to be connected with a male or female child.

One participant suggested setting up a young person's consultation board in order to ascertain children's wishes and feelings. Another suggestion put forward by a RIC (3) was that they wanted to know the basic details of the child such as name, address and date of birth. This is wholly contradictory to the findings in Chapter Six, where children stated they would like to have a facility that allowed them to retain anonymity. Less invasive features for information sought were knowing how old the child was and if they were on their own, in order to be able to get some information to build on and ascertain why they needed help. Collectively, focus group members wanted to know immediately about the safety of the child.

In relation to children that did not have access to a mobile or tablet or the necessary technology, a very relevant point noted was that the app could be made available in school or libraries, or a drop in 'everybody centre' as a further resource.

Participants stated that if the replies are not instant, then the users will not trust the app and refrain from using it. A design proposal for instant response on the ground was offered by the Police Referral Clerk (1):

> *If a member of the public rings the Police and there is a disturbance in the background and nothing said, they can trace the call to a mobile or land line, so quite easily the Police can be deployed to that address. Possibly the app could include a similar system.*

Furthermore this also contradicts the design features expressed by children that they would

want to remain in control of their information (see Chapter Six). This could include their location.

Red Button as a Reporting Mechanism

The concept of a report button or reporting mechanism seemed to confuse some of the participants and they found it difficult to see it from a child's design perspective, as dialogue between participants indicates:

> *Am I stupid but what is 999 for?* (RIC, 5*).*

> *They are living in a different age everything at their fingertips that's the difference, they grown up surrounded by technology since they have been a toddler that's all they have known* (Health safeguarding practitioner, 3).

> *You know you ring 999 in an emergency so it's getting that same information out and you press this button in an emergency* (Child Support Officer).

Some participants understood that it could be used if a child had no credit on their phone and could grasp the concept that the majority of children wanted direct and easy access. A few participants referenced the fact that 999 emergency services exist and therefore thought a report button should only be used on the app in an emergency and it should have guidelines attached. There were concerns raised about its misuse by teenagers. A suggestion put forward was that receivers of 'red button' contacts should be specialist-trained professionals.

There was a mixed view in relation to linking the report button to the PVP system. Some just dismissed the idea and others thought it would work well and would not take a lot of effort to put in place. The consensus was a report button could act as another access point for vulnerable people to self-refer via the Police system with responses such as '*Yes I think that would work*' (health safeguarding practitioner, 3). Another useful suggestion was if a child or young person pressed the report button the response would be a telephone call by a professional asking further questions such as '*why did you press it*?' and '*what is happening*?'

High Risk Indicators

Integration of a tool to identify high-risk indicators was welcomed if it was linked to their systems, although some participants felt they would need to undertake a second check to ensure nothing was missed out. The majority of group members strongly agreed that the high-risk indicators should already be on their system and simply if they were able to attach the

relevant documents in the EHM they would be satisfied. One participant commented that it could make staff a bit lazy; but that on the other hand it was a good safety net and reduced worry when engaging in conversation.

Conclusion

Although some participants took time to understand some of the questions and concepts put to them they did state there are already self-referral pathways in existence such as the CYP email box or 999 for emergency calls. Participants acknowledged that they do not directly communicate with children at referral and it is rare that they receive information directly from children especially via the CYP email account. The consensus was that introducing a safeguarding app as a communication / self-referral tool and a web-based interface is the way the service developments should be moving. Furthermore, it was acknowledged in part that it would mean encouraging a change in the environment and cultural practices currently employed in the MASH. Although the culture shift was seen as an afterthought by some, this would probably take place in time as the use of the app increased.

Introducing the safeguarding app could lead to promoting self-referrals by children and would need an infrastructure that includes raising awareness and an educational campaign targeted at schools. This campaign would not only promote the app and how to use it, but must incorporate information on what the local MASH is, why it is there, and what it can do. The campaign has to break down some of the stereotyping and fear associated with social workers and children's social care services. The app could be rightly placed alongside Chat Health and other outlets such as NSPCC and ChildLine (see Chapter Three).

There are fundamental resource, funding and commissioning arrangements that would need to be addressed to open the MASH as an around the clock service twenty-four hours, seven days a week (see Chapter Seven). The resource and funding issues relate to suitably qualified staff and up-to-date computer and mobile phone technology. There has to be the capacity to respond to the app's activity instantly in real time and to link into the other emergency services communications. A new set of policies and procedures would need to go alongside the commissioning arrangements to be used for training purposes and everyday practice within the MASH. The app itself needs to be downloaded with a set of guidelines for the report button to be used in emergencies.

Chapter Nine. Analysis – Flattening the Network

Introduction

ANT has been widely used in the fields of social science and technology over the past three decades and as such will be the framework for inquiry in bringing together the findings from the research project (Callon, 1986; Latour, 1987, 1991, 1996, 2005; Law, 1987, 1994; Law and Hassard, 1999). ANT has been applied to research in many settings such as the medical field and adult and general educational teaching (Fenwick and Edwards, 2010; Tummons et al., 2017). ANT has also been linked to understanding of new technologies within the domain of digitalisation, social work education and the practice landscape (Taylor, 2017). Taylor (2017) refers to the context of digitalisation and social work practice as multi-layered or, as I advocate, multi-dimensional, which Jurgenson (2012) describes this as 'digital dualism' (p. 83). Ballantyne (2015) and several others, agree that the use of ANT is a positioning or a lens to view the landscape as inclusive thus taking all people (human), the technology and other artefacts (non-human) as one.

Therefore, ANT is introduced to enable the empirical data to focus upon the connections that bring the child, the technology and non-human elements of the MASH together to see what can be possible in terms of new technologies that enable a different journey for the child; specifically, a safeguarding application. ANT helps to make the connections, predications and implications of new technologies and further allows the investigation to continue beyond pre-defined limits or set borders. It gives a richness to the analysis and does this through an ontology being able to trace relationships that are theoretically infinite. Inevitably, there will be limits to this tracing, bounded by practical purposes (the scope of the project, access permissions, time – see Chapter Five). The starting point for ANT is to unravel the actor (something that makes a difference) or actants (humans and non-humans) and initially treat them as equal entities that are given agency. In deconstructing the empirical data it allows systematic reflection of the whole by pulling all the data together within an actor network. Thus, the reflective and descriptive power of ANT (Halverson, 2002) not only assists in understanding how connections are established or not, but enables a questioning of received truths, such as whether MASH practitioners are child focused and ask what it might take to hear what a child is saying if the new digital media were placed in the network. With reference to my research questions, the boundary-less nature within the actor network enables the researcher to come up with new conclusions, predications, identify challenges and raise

questions on how these challenges may be overcome. Simply unpacking the connections one by one from the different sets of empirical data and conceiving them within one network helps to understand the coordinated actions in terms of CSCW indicators for design and adoption. It is these coordinated actions that link the human and non-human actors within a flat ontology. ANT enables interrogation of the empirical data as a network that is an assembly of human and non-human actors, opening up an alternative way of seeing how information is shared (or not) and how human and non-human actions are coordinated. The approach provides a way of examining and reflecting on how the social and technological culture of the MASH operates as a network of associations in this co-located professional space. The MASH space is highly relevant to CSCW and ANT is a useful tool from which to critique, design and propose system architecture. The network in this social and technological culture includes the MASH staff, devices, forms, paper and text, protocols, work practices, IT artefacts such as databases, desks and objects in the room (Law, 1994). ANT provides a framework within which to examine connections between the human and non-human and to investigate how these 'objects or 'entities' entwine with each other, to learn more about design requirements that would enable children to directly enter the network. ANT draws on ethnographic and mixed methods to identify transactions and relationships within the network across temporal, spatial and geographical boundaries (Tummons et al., 2017).

This positioning enables a strategic view where the taken-for-granted everyday working practices and cultures can be re-envisaged and challenged. It is by challenging and reflecting on these connections that MASH members can begin to realise the complexity of their 'socio-technical space' (Tatnall, 2010, p. 3) and see it anew. The analysis aims to simplify a potentially vast number of human technological interactions allowing both the human and technological aspects (the human and non-human) of the system to be viewed as equivalent actors in the network, and considers both these features as contributors to the MASH system in the same way (Tatnall, 2010). Technology has a critical role to play in the social; as Law (1992) notes, 'society and organization would not exist if they were simply social' (p. 379) and Latour (1991) stretches this thinking when he stresses that 'technology is society made durable' (p. 103). In treating all the components in the network on equal terms, one is able to trace what forces are in play by the actors that may influence the structure of the network (Biker et al., 2012; Latour, 1996). If the professional working space of the MASH is a combined social and technological space arriving at a new actor network then this may enable innovation (Ballantyne, 2015).

Callon (1986) offers three guiding principles of ANT: agnosticism, generalised symmetry and free association. Relationist ontology conveys how networks are composed, how they emerge, are constructed and maintained, whether they are compatible, which entities and relationships are competing for space and how these are made durable over time. It is the relationships that bond them and hold the network together. In this context of the MASH and the wider community there are many diverse relationships between the human and non-human actors, organisations, knowledge, power, language, communication, and information flow, which could all act towards stability or instability in any proposed changes to the system, including allowing the child direct entry. Critical reflective thinking can first frame the play of the actors and then re-frame how these actors might enact and engage with the new technologies and practices in the field.

Furthermore, relevant to using ANT as a conceptual tool for making sense of the research data for the design of a child friendly safeguarding application, Halverson (2002) advocates theories that have four attributes: descriptive power; rhetorical power; inferential power; and application power. Descriptive power is the conceptual framework that helps make sense of and describe the world. Rhetorical power is the naming of important aspects of conceptual structures and mapping them onto the world. Inferential power gives the ability to make predications and inferences. Application power has the capacity to apply theory to real world problems for pragmatic reasons such as the level of analysis needed to go from description to design (Halverson, 2002).

ANT is helpful for its descriptive power as a conceptual framework. It describes how and what information is from an outsider (including the child's) perspective as well as in the MASH procedures and day-to-day practices, such as the interactions with databases. The descriptive power, rather than offering an explanation, gives rise to tracing the actors and their connections. Applied across the whole data set, it allows me to expose different associations and contexts; such as in the data from the children's workshops and connections between colour and language. Within the actor network objects are the temporary results of sets of connections. For as long as these connections stay together, the object is maintained. Therefore, no network is stable without the ongoing interactions between actants and this understanding must be incorporated into design. As Halverson (2002) suggests 'We need to describe and understand the world at the right level of analysis in order to bridge the gap from description to design (p. 245).

ANT is particularly concerned with how social order is established out of a mass of information. It allows an analysis of the ethnographic MASH data by identifying and conveying critical points of order making. Such as the entry point for referrals, the flow of the information for instance where it stops and starts in the real time setting of the MASH. ANT reveals how entangled actor relationships are in the MASH, what is perceived as information and how it is shared. This interrelatedness identifies comparisons and translations of the nodes within the network. ANT does not talk about representations but through a tracing of existing relationships has the potential creating new possibilities.

The inferential power of ANT comes into play once the network has been described and disconnects and nodes are named (Halverson, 2002). Speculations or predications based on this description have then lead to the insights proposed here for the design of a safeguarding app. These predications can lead to new ways of thinking about connectivity, language and technological transactions when the application is placed in the network. It also assists in the predication around how risk could be assessed or raise key questions on how to assess risk in the future. These inferences help those within the network to better understand the challenges and changes needed for the network to maintain stability.

ANT has allowed me to propose a reversibility across the space of the child's world to the MASH; to introduce the notion of the child as the front user and the MASH as the end user. This premise will guide design principles such as how the application can make attachments and connections so this reversed positioning of the child can be accepted as an ontological fact.

Technology's role is changing and altering social and organisational structures (Ulucanlar et al., 2013). This raises challenges; firstly for the individual (the child's story / the professional silos); the organisational (co-location / partnerships); regional (procedures and protocols) and national (government / legislation). Furthermore, the challenges in this instance are how the network and the technology embed within or alongside the four levels (or here as known entities) of the CoRN (see Appendix One). Moreover, within each of these four entities there are the informal, formal, transient and permanent aspects at play. For example, expressions, texts and actions associated with the assessment frameworks of child protection are evident at all four levels and can fluctuate between them with different technological requirements. The field of child protection is rooted in the social and health sciences, with an underlying moral

and ethical foundation of the effects of child abuse on the child and into adulthood (Hacking, 1999). Therefore, there are complicated organisational partnerships with both informal and formal relationships that find their roots through legislation and local practices. Organisational connections in the MASH are formalised through commissioning arrangements and at a local level there are informal and formal communications and social practices enacted by the individuals receiving services as well as those offering services, thus at times one can find competing perspectives. Understanding how all these things come together in the day-to-day workings of the MASH, even temporarily in terms of agency, power, identity and knowledge, will begin to open the black box (Fenwick and Edwards, 2010).

The Problem

In pursuance of the answers, one must firstly define the problem, as well as describe the network in its widest context. Within the present study, the problem is how to improve direct access to professional help for children experiencing or likely to experience significant harm. The problem begins with the way in which referrals enter the MASH, initiated by a practitioner or member of the public. Two main front doors were observed: either by way of a direct phone call / a referral form on email via social care or via the PVP Police system. Children, who are defined as digital natives, do not self-refer by any of the two obvious channels, if they self-refer at all (Chapter Two). Understanding entry to the network from this standpoint, through to the functioning and social and technological practices of the MASH, is indispensable for achieving refinement in terms of a solution. In the present system, the referral in itself plays a role as an actor taking the place of the presence of the child in decision-making; as does the information on the referral form becoming an actor. Fundamental to change, it is first necessary for children to know that what is happening to them is abusive and be aware they can self-refer; and second, if thereafter they make the choice to self-refer, they need to be able to access help and / or protection. This chapter will explore the problem by attempting to think outside the referral box, flattening the system and unpicking each element one-by-one as they were observed.

Following or tracing a referral (an entity) leads to many associations and the enrolment of the actors or entities and it is these that establish solid networks, thus these actors can then become stable audiences. For example, the information on the referral form and how this information is shared and with whom, verbally, by email or allocated to a tray, cut-and-pasted

(Chapter Seven). The fragmentation of this information has association with power and permits exploration of power dynamics: relationships between practitioners, databases and language barriers. Connected in the space is the MASH as an organisation and the individual roles of the MASH staff within it. It may be that the policy, systems and professionals will need to yield control to enable the network to become more open new actors and actants (Tatnall, 2010). A recommendation proposed by MASH professionals within the focus groups, that there is a need for raising awareness within schools of the purpose of a MASH, is a first and essential step in the wider context, but if children are to become actors in the MASH network in a way that is more than being the object of entities (such as referral forms, text and database entries), the network would need to adjust.

The social and technological spatial context is about understanding and recognising how it is possible to expand the communication capabilities of both the front user (children) and the end user (the MASH practitioners) to develop new kinds of digital content in the format of a self-referral. The MASH is a network with its own culture and language, for example, co-location, partnership working, information gathering, urgency, workarounds and permissions. It contains a plethora of databases (see Appendix Nine) and within these databases sit a magnitude of social and cultural technological practices. Sub-networks can be seen in the silos described in Chapter Seven and the territorial daily working space. Co-existing with people is a technological culture comprised of devices, hardware, software and so forth, as actors or entities within the network, such as the number of databases, lack of up-to-date mobile phones and poor IT equipment. Furthermore, social practices connect the MASH network such as when the RICs gatekeep information at its boundaries, or backlogs of the information stem the flow of emails, electronic forms across trays, sharing of data through collective screen reading and so on.

Analytically, it is important to identify nodes and connections – to conceptualise the social and technological as associations (Latour 1996):

> (T)he notion of network allows us to think of a global entity – a highly connected one – which nevertheless remains continuously local [...] Instead of opposing the individual level to the mass, or agency to structure we simply follow how a given element becomes strategic through the number of connections to commands, and how it loses its importance when losing its connections (Latour, 1996, p. 372).

The 'messiness' of everyday workings in the MASH became apparent early in my observations. The ideal of a referral entering the MASH, being recorded by the RIC and smoothly passing through databases and trays to its final destination outside the MASH was riven with social, technical and practical glitches (see Chapter Seven). Information flowed more easily the more information was available (such as information from previous work with the child or family), but even here connections to final outcomes (responding to the child) were rarely linear. Information connected forwards, backwards, stopped, started and sometimes disappeared altogether. In order to simplify this complex social technological phenomenon there has to be categorisation of the associated relationships such as the nature of the associations for proper functioning of the whole. The relationships between the entities overflow simultaneously, for example, information pathways, trust between child and professional worker, and the entity of assessment and language. As Bijker et al. (2012) argue 'not only are the associations composed of heterogeneous elements but their relationships are also heterogeneous' (p. 89). Taking findings from the workshops with children (Chapter Six) and MASH observations (Chapter Seven) it becomes clear that in order to enable children to become equal partners in the MASH network, associations that convey major disconnects in terms of power, accessibility, language, risk, trust, information, communication and the use of technology need to be reconnected in different ways.

The referral as an entity enters the network through a variety of connections; for example, verbal, written or over the phone, and the information it contains is connected to the next node through an authentication process, checking and double-checking databases that act to verify, confirm, disconfirm and add more information. The information-verifying actors are trusted. What became clear in the focus groups was that direct information from children might not be trusted in the same way (Chapter Eight). Furthermore, children wanted the capacity to withhold the possibility of identification and connect their details at their own pace. Thus the process of building trusting relationships and sharing personal information would be disturbed by direct access (unless other means of achieving a trusted connection could be designed into the app). Key questions that follow are: what is the role of building trusting relationships and what impact do trust and relationships as actants have on the stability of the network? How does the network know that a trusting relationship has been formed and built? How long can it, or will it, last? How might other actors be associated with a change in network practice, for example the RICs who currently accept the referrals, the Health Chat app that children use to text information or perhaps the high volume of calls and

traffic to the NSPCC and ChildLine by children? Alongside this, following entry, is the way information and communication is processed and traced through the MASH in both the social and technological practices as well as the language used to describe what is relevant information and how this moves between entities to bring them together (Tummons et al., 2017). The following questions emerge: what initiates the movement of this information? How does the information move: what are the nodes and connectors that ease things along or stem the flow? As Latour (1996) further explains:

> (T)here is an actor whose definition of the world outlines, traces, delineates, describes, files, lists, records, marks or tags a trajectory that is called a network. No net exists independently of the very act of tracing it, and no tracing is done by an actor exterior to the net. A network is not a thing, but the recorded movement of a thing (p. 378).

It is these movements and their associations that connect or disconnect the various actors and relationships. There are five key areas for discussion from the data and this chapter discusses each in turn. The first is the use of language and how this relates to the concepts and understanding of the role of the enactment of a referral and self-referral, as well as the paradigms that form frames of reference within the network. The second relates to a central role played by risk and assessment of risk as an actor in the establishment and solidity of the network. The third focuses on the way that trust and building relationships and social and technological practices need to adjust to make the MASH accessible as a front door for services for children. The fourth relates to concepts and a major disconnect in what is perceived as information at key points in the network, then when and how this information is shared and subsequently recorded. The information flow is crucial to the mechanics of the network and therefore a key finding is the divide between the children and the MASH for equality in sharing of information. Finally, the fifth area links the technological practices in the way in which the children want to access technologically the network and how the network environment needs to change to accommodate this.

Who are the Actors in the Network

In order to understand the transitions and their associations and how this then assumes the black box effects (Callon, 1986; Latour, 1987, 1991, 1996, 2005; Law, 1987, 1994), not only do the actors need to be identified, they must be followed and turned upside-down and inside-out. In doing so this can present challenges to the role they play as well as providing an interpretation of the human and non-human behaviours.

These simplified entities can only exist in such a context if the other entities are juxtaposed. For example, if children engaged with a technological front door as a communication tool to share information, would this remove stigmas and barriers to self-referrals? All these actors are interrelated and if one of these entities is removed it may change the movement, dynamics and processes of the network. In such an event, the whole process, flow and structure of the network changes or disconnects. As Bijker et al. (2012) summarises 'the simplifications are only possible if elements are juxtaposed in a network of relations, but the juxtaposition of elements conversely requires that they be simplified' (p. 89). How then to simplify and explore the juxtaposition of a new perspective where the power is located with the child to share their information at a time that they choose and not to those around them (see Chapter One).

From a synthesis of the data contained in Chapters Six and Seven, I propose that the following human and non-human actors listed below are the heterogeneous entities that constitute this network.

Table 9.1: List of Human Actors

Human Actors
Children
Professionals located in the MASH
Managers of professionals located in the MASH
Parents, carers, legal guardians
Politicians – MPs
Staff in schools, teachers, support workers, school nurses, head teachers
Designers of the app – technical staff / experts
People going into schools to raise awareness
General public
Police staff in communications room
Other referrers

Table 9.2: List of Non-human Actors

Non-Human Actors
The app (the mediator) (personalisation)
Trust
Language (including body language)
Referrals – decision to refer and in what format (self-referral)
Databases (twenty-six) – software organisations
Relationships
Schools

Government / organisations
Policies, procedures, protocols
Staff training
Printed documents, e.g. forms
Electronic documents, i.e. emails
Resources, i.e. IT equipment, funding
The mobile phone
Legislation
Concepts – perceptions
Information
Security / confidentiality / verification
Social media, i.e. videos
Information, advice and guidance
Risk (assessments, media, public accountability)
Hours of work – office opening times
Real time – the internet
GPS
Conversations, i.e. digital, verbal, excreta.
Child's internal and external worlds – their story as an individual
Control and choice / self-management
Floor space, room layout
Chairs, tables. Excreta. (how used)
Post-its and paper

Language

There are several 'obligatory rites of passage' (Latour, 1987) in the MASH network, which can be described as 'central assemblages through which all relations in the network must flow at some time' (Fenwick and Edwards, 2010, p. 18). Taking this to the MASH, the central assemblages are described as the assessment or judgment made by the referrer (a professional only) against the CoNR (see Appendix One) and the threshold framework to initiate the referral. Following on from this would be the referral information about a child at risk, which then could be a range of assemblages such as the referral form, an email, a phone call, a letter, information from a database, etcetera. Moving onto the RICs who do the assembling of information at the front door and add the RAG rating which in turns sets timescales, applying the risk factors and risk indicators (Appendices Two and Three), then the databases, particularly the EHM and the PVP. From here the information passes through the trays, tasks and emails and then again is assessed against the CoNR.

What derives from this is how these rites of passage affect the actant of the referral, the language associated with a referral, or use of language more generally throughout the network. In everyday practice, professionals and members of the public make referrals to the

MASH. A referral can constitute any of the following: a piece of paper, a phone call, a piece of information; or, for example, a name and address or a description of circumstances, verbal and / or written communication, an email, a submission onto an electronic database, a conversation, a standardised form, what is in the tray, a digital picture of a child and their family and so forth. Understanding the role of referral as an actor in the network is particularly important in order to modify practices to allow the network be able to implement and increase self-referrals from children. The social and technological practices of the referral are normalised within the MASH and the language associated with the referral by MASH professionals could be described as a meta or infra-language (Latour, 1996), using terms such as 'screening', 'mashing', 'secure', 'finalise', 'in the tray', 'going upstairs' that connect them all with the referral process. The language used conveys how the referral ontology moves in and around different nodes of the network. The referral becomes bound within the MASH network by the social and technological actions of the EHM, PVP and databases and email systems. Actors within the network can be incoherent (not understood or misunderstood) or disconnected (such as when databases do not have information) and locally there are disconnects concerning a lack of joined up IT equipment such as phones that do not receive emails, which impacts on the sharing of information and fragmentation of the digital child.

The language and role of self-referral by children can be examined and presented as an entirely different association and context. Findings from the children's workshops illustrated that they did not use the word or term 'referral'. They used language such as 'help', 'worry', 'advice', 'be safe', 'reporting', 'danger', 'confidential' and 'privacy'. This language is enacted within a different network from that of the MASH. Furthermore, the actors within the child network are also different, such that when the children do decide to access support, the findings from the workshops show that they often make contact via websites, phone calls and / or texting a message to national organisations such as ChildLine or NSPCC. Moreover, the language associated with this part of the network offers another representation of a referral as the way in which they may wish to communicate or talk to someone to seek 'help' is via a report button, instant messaging, FaceTime: language that is unfamiliar and not seen nor used within the MASH.

The way in which the basic use of language is disconnected from tracing the referral as a rite of passage does not spatially connect nor does it technologically connect. The language represents barriers and the need for changes in organisations at both a global and local level. The language used by the front user is alien to the language used by the end user. The self-

referral acts as a form of self-management, choice and power, crucial for the stability of the front door of the MASH network.

Risk and Assessment

Organisationally, the role of the referral is to initiate a process of assessing and managing risk of the likelihood of significant harm to a child. Assessment of risk is fundamental to the MASH network's existence and tracing it as a network of communications is, therefore, important. The movement of risk as an actor and the ways in which it is assessed and interpreted is variously located throughout the network. The network's significant harm and risk are defined by the CoNR (see Appendix One) and provides an overarching purpose that could, though in the course of my observations was not, be drawn on to justify the purpose of the network. At this local level, risk moves through all parts of the actor network. For example, 'high risk indicators' (see Appendix Two) were written on paper and then used as an aide-memoire or tool for the MASH practitioner in making their assessment when completing the standardised electronic assessments. Mapping the child network onto the MASH network reveals the potential for misinterpretations of risk as an actor in several places (Tummons et al., 2017). The first of these is where the children describe their risks as worries and things that they tend to be concerned about are death and dying, bullying, the internet and use of mobile phone / social media, issues around health and immediate close relationships. This is far from the global definitions of child abuse and the interpretations of risk contained in the 'high risk indicators' evident in the MASH. The child's 'worries' are also not embedded within the databases and could be described as 'immutably mobile' (Fenwick and Edwards, 2010).[38]

Furthermore, in the MASH, risks connect to colours through the practice of rating in a traffic light system (Chapter Seven). Children also connected their safeguarding app to colour (Chapter Six) but through the interface; here, colour worked to make the app attractive and fun to use. Translating this use of colour into risk colour work is not straightforward, particularly in the context of the need for adult validation of the child's communication. Even if the app were designed with a traffic light feature, would the MASH work with the selected colour in the way that the child intended? This example indicates a central problem

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[38] Fenwick and Edwards (2010) describe, with reference to educational standards, that 'The network(s) of invention, resistance and negotiations that produced these standards are rendered invisible. Lists of standards appear to be immutable, fixed, self-evident. They are treated as a black box, an immutable object that can travel across distances of geographic, cultural and political spaces to regulate activity' (p. 87).

for transforming the child's direct access into the MASH, which the design of a safeguarding app would need to overcome. That is, how it could facilitate translations from childhood to adult-centric framings of risk to allow for a more child-friendly way for self-management of risk. This need for translation continues further and deeper within the MASH network in terms of organisational framing of risk. The Police and Social Services' concept of risk is translated in two different ways (see Chapter Seven). The Police Sergeant (2) explains how assessing risk differs:

> *Majority yeah put them up* [increase the risk rating] *some come down. In some ways we assess risk slightly different to how Social Services assess risk, differently in relation to their training because we erm grade more on the incident as its occurred and the potential for harm in that incident rather than focus on what is the potential and actual further risk.*

Risk assessment is a central assemblage in the MASH, located both in early intervention and the protection of children and everything within the network can be shown to be connected to it in some way. The assemblages of risk, such as traffic lights, received information, database entries, phone calls, texts and are all deployed to risk assess children, parents, extended family members and others. Risk has many roles and there is a diverse understanding of practices on which it touches. As the workshops reveal, children's understanding of risk and danger is different from the organisational concerns of the MASH. Risk does not feature in their language, although a fear of what might happen (often death) is part of their repertoire. But there is something distinctly different between the role that risk plays in the MASH network; it is a central assemblage not just of risk of death (or dying), or even significant harm, but also of missing something, getting information wrong, of breaches in data protocols and so forth. The Police Sergeant (1) describes the possible ramifications of getting things wrong:

> *That's my job is when I press that button I want to make sure what I share is lawful to share. It could be a minefield if you don't manage your role in the MASH properly […] I do actually think responsibility-wise you could do a lot of damage sharing non-relevant info to a partner agency who then shares it with a family. Not on my watch. It's a danger.*

A child is worried about their safety alone; there are no procedures, databases or trays connected to that worry. So, how might these different understandings of risk come together?

This is a design challenge.

A child's interpretation of risk (dependent on their situation) is remote from the high-risk indicators, protocols and practices for assessing risk in the MASH. Thus, in order for children to gain direct access and for the actor network to sustain itself, either the children or the MASH practitioners and processes will have to adapt to one or the other interpretations. Likewise, the technology or other non-human artefacts could be inserted and modified to repair this disjuncture. One way of re-creating this space is for the power of assessing one's own risk to be placed with the children as part of the decision-making process. The findings from the focus groups in particular suggest that much further negotiation would be required.

Trust

Trust circulates through both child and MASH networks and acts as a point of passage (Latour, 1978) for the actors. For example, the children who want to disclose information, repeatedly express how they have to trust the adult. The association here continues with professionals demonstrating trust in each other's capacity to do their work within the MASH and / or being occasionally able to trust the technology to do its job. This is inferred from the analysis of the narrative from the children's workshops (Chapter Six) as shown in the following extracts from the children's stories:

> *The people who you can ring or message are adults, social workers that can help with the situation at hand. It can also prevent you going on website and apps which aren't age appropriate for you. When you are walking or driving and you feel unsafe you can press a button on the app and it will inform you of any danger, like if there has been any incidents in the area* (Year Nine).

> *The people who you can ring or message are adults, social workers that can help with the situation at hand* (Year Nine).

> *It will be people they can trust and we will never tell people we don't trust, we tell their parents and try to sort it out* (Year Eleven).

Tracing trust through these networks finds a set of complex and separated entities – making decisions, how and when to share information, relationships (human and non-human), who to contact and how, knowledge, power and control (Tatnall, 2013). RICs are human actors at the front of the MASH how is trust enacted between them, the technology and the referrer? Whilst they are positioned organisationally as 'Clerks' (people who receive, record and pass

on at a level that is low within the professional hierarchy) the assemblage of trust at the front door manifest as a powerful location. This raises individual and organisational challenges to the current value put on the RICs that act as an engine in the room. Furthermore, trust creates tension at other nodes in the network, for example, in the sharing of information either by email, conversation, or via the database which is constrained by protocols that substitute for trust, but where trust enables workarounds (such as where one or more professionals will look at the same screen).

Knowledge forms part of the tracing of trust, as the more knowledge that is built into the relationship, the more likely the relationship is to remain stable. The relationships are not only human-to-human relationships, but also the relationship between the human and the technology. The child has to trust the professional as well as the information embedded within the IT systems and trust the technology as an object. Trust already exists in the child's network; for example, trust in national charitable brands and their helplines. Therefore, if there is not trust in the human relationships due to a lack of knowledge about the MASH and a lack of trust in the technology, there will be a breakdown in the network. The following quotes from the focus groups illustrates the point:

> *The fear factor and the trust, if the family are known or have been known to services and they have had experiences of that and it's a negative experience to me that is the barrier* (IDVAC).

> *They* [children] *have to trust it, no point sending a message help and no one answered it for 3 hours* (CSO).

Information, Communication and Technology

The ontology of information and communication has many factors of interest that could destabilise the network entirely. In the actor network, information and communication is a set of dynamic complex entities – information could comprise a person's name, a date of birth, an address, a telephone number, a family tree / genogram, a family association, details of circumstances, a chronology, consent, and communication is a text message, an email, data in a database, videos, games, an application, a story, a hand-written document, a letter, a phone call, a piece of paper, and an instant message. All these entities can be duplicated over and over throughout the MASH IT systems and engagement with these different entities can be central to the 'agent of change' (Tatnall, 2013). This is because information and what

communication methods are used for that information between the human or non-human actors are perceived as different and form different social and technological practices. The dynamics of their differences, the problem and its enactments need to be understood as a globalised information process that reduces barriers among an array of associations. These associations are being performed alongside competing knowledge with enacting similarities. For example, a key finding from the data analysis from the workshops for children is that they are taught within school educational programmes and general 'staying safe' literature not to share personal information such as their name, address and date of birth online as this is seen as private. Then, if they wish to be the central decision-maker and suspend their privacy, when do they choose to share this information? In summary, they are taught it is not safe to share this information. Yet the MASH workers rely on this same basic information to allow entry through their front door. Furthermore, the information is brought into being by its enactment. The distance between the information is the disconnect between what is understood in terms of sharing information by the children and the MASH practitioners (Latour, 1996). MASH practitioners use the basic information of name, date of birth and address to begin their creation of the digital child / family; 'partial accounts' of the child (Stanley et al., 2010) to which a child, if able to have direct access, would add further 'partial accounts' (such as how they feel, what they are worried about). Whilst the MASH network can operate on the first partial account, it cannot operate on the second alone; a prerequisite of entry is identification.

Communication moves information from both the child and MASH network. One of the relations of communication is time. In this context, time has many associations such as real time speaking and messaging, MASH practitioners' working hours of nine to five, the emergency services' shifts covering twenty-four hours, seven days a week, timescales for referrals and assessments, and time delays in the trays for inputting information. Findings suggest that children want to communicate in real time, for instant gratification and for immediate information, advice and guidance. They can currently only do this by web chat or telephone to national helplines and by text to a local support, namely Chat Health, which is only concerned with health issues. This is a further site of disconnection between the two networks with the key finding that children want to access support on all safety issues twenty-four hours a day, seven days a week. This presents organisational and global challenges to enable direct entry via the app.

Not only is time a key object within the enquiry but also the methods of communication are

of prime concern. Children want instant communication; for example, their recommendation for a button as a reporting pathway into services, as well as using mobile phones, texting, instant messaging, video calls and web-based chat services, whereas the MASH practitioners' main methods of communication are the telephone, email and occasional text messaging. This is a critical disconnected technological activity, not only for the Police and the other organisations that act as global dominant entities, but also for the commissioning arrangement for the partners co-located within the MASH. From an ANT perspective, the MASH and the technology are part of the same network, containing juxtapositions and cracks. The MASH has so many databases which means that communication through the network can be hampered by, for example, frozen screens, archaic IT equipment, and poor network configurations. Lack of ability to share data electronically enacts repair practices such as email, cut-and-paste, duplicity of electronic and paper trays, pen and paper for note taking and other workarounds (Edwards and Fenwick, 2010). These technology 'constraints result in increasingly confused networks filled with tensions and issues about who has responsibility for what' (Edwards and Fenwick, 2010, p. 27).

The threat to the existing network is the lack of alliances between the objects described above. If an application was placed within the MASH network as it stands, there are barriers and organisational challenges in both the local and global sense. How does the global 'sense' of co-location, non-integrated databases, time difference, stagnant flow of information translate into a child-friendly design for an effective socio-technical safeguarding environment? Would innovative technology validate and enable early intervention and manage risk of child abuse? The introduction of a new device does not necessarily explode the system or network; if the human actors take part in a new set of entities and interactions they become part of an ever-expanding network. The new technology and the actors associated with it have the potential mutually and simultaneously to inaugurate a new metalanguage (Latour, 1996).

Conclusion

ANT offers this research the ability to focus upon the connections that bring the child, the technology and the MASH together and thus create essential design requirements for the application. The child and the technology have equal agency within the network. Thus, I conclude the child's voice is not the problem, neither is the child, the MASH or the technology. It is the connection between these entities that is problematic and these

connections (or lack of) play a significant role in the lack of the child's voice being heard within the system and discourse of self-referral of child abuse.

Describing and making associations found within the data has revealed disconnections that, now they are known, can impact on the design of the application as core architectural requirements to connect disconnects. The theoretical leverage gained through the use of ANT has exposed key areas for the requirements of new technologies for the child's voice to be heard within child protection systems. The analysis has also produced further unanswered questions but simultaneously produced specific results for the design of the application. The strength of ANT's descriptive and rhetorical power is useful for the principles of design as it helps speculate about how to bring the app into the network.

When complexity is simplified, maintaining heterogeneous thinking in terms of ontology, relations and points where the entities meet can provide a different rationale and way of unpicking the story (Tatnall, 2013). This research does not provide all the answers and may leave one with more unanswered questions about how to implement creative technologies or an application to open a digital front door of the child protection system directly for children. It demonstrates the potential for equal power in sharing information as partners, as well as the importance of locality for children accessing support services. Furthermore, the research does offer some possibilities for applications to play a role for the children in order to allow them to be in charge of their own information-sharing processes and to be individually involved in their own protection. Beginning from the assumption that it is not just the government and professionals located in multi-agency safeguarding hubs that have the power and are the only humans to have agency in managing risk begins to open up an array of different lines of enquiry. Examining the MASH as a network by translating and following the associations of a complex series of human and non-human actors offers hope as to how an application can become a technological device to act as a self-referral.

Drawing on the key findings, in order to make a space for new technology and assume the role of the 'connector' and to be credible, there are new associations and entities that need to come into play both in the global and local realms. The application, the self-referral, educational and training programmes, changes in policies and procedures, commissioning arrangements, relationships and more, all become part of the socio-technological system in their own right. Thus, to preserve the integrity of the innovation of an application both the human and non-human actors must trust it, in order for it to hold together with stability. The

research data revealed multiple disconnections, which provide the opportunity for technological innovation for the progression of the self-referral by children for self-management and assessing their own risks. This would mean the network embracing a new social technological paradigm that included a more child-friendly framework. The result is hopefully a design for an innovative app that 'finally adopted is not the innovation in its original form, but a *translation* of it into a form that is suitable for use by the recipient' (Tatnall, 2009, p. 94). Furthermore, the relational aspects of the technology and its shaping characteristics need to be monitored by looking at associations in practice, including user concepts. The requirement of the MASH network to enrol in using a digital application may ignite new behaviours and practices which could destabilise the network by the users not behaving in the expected manner (Prout, 1996).

> A device is, therefore, never simply inserted or diffused into a setting but is always subject to the processes of translation during which humans interact with it, each configuring and reconfiguring the other in unpredictable and often unexpected ways (Prout, 1996, p.2001).

Further investigation of what has been uncovered thus far in the operation of the network has implications for re-opening and tracing the black box of the application, a network in its own right. What are the implications for the safeguarding app design if the app was to become the heterogeneous engineer (Law, 1987) with the potential to encourage network entities to change? This augurs a powerful narrative that contrasts with a conventional child protection viewpoint.

Chapter Ten. Design Specifications for a Safeguarding App

In order to enable the creative technologies to be introduced into safeguarding, a system usability approach must be adopted. This allows the field to be examined using computer theoretical knowledge, introducing innovation and children-as-partners into the design principles and the design process, so authorising their partnership within the processes of safeguarding and the sharing of information. What the field of app development offers is a platform for growth with multi-layered functionality, a feature suggested within the stories of the children's data.

Currently child participation is often deemed to be tokenistic, and the voice of the child is either non-existent in the realms of the MASH, or substituted with a plethora of data within the EHM database. In order to make the child's voice meaningful and real, their participation needs to include a computer-assisted communication tool such as an app. As what are often described as 'digital natives', many children now use their mobile phone as an extension of themselves, and it is this personal device that stores their personal information (see Chapter Two). Moreover, this is the way in which they exert control over how they facilitate their communication. The mobile technology allows them, via social media and social networks, to share their personal stories in pictures, in conversations communicating with content and customising reality. Mobile phones, camera phones, apps, and videos are the new computers and keyboards for the younger generations. In the instant interactive platform in their hands, augmented reality, fast disappearing media and these stories are their memory, experience and reputation in real time.

The safeguarding app then becomes an extension of the child's reality in a way of communicating creatively through stories, IM, text, videos and in ways that are familiar in the child's world, this then makes the entrance an open door that is child friendly. The child's voice, wishes and feelings become part of a connection with a twenty-four-hour, seven days a week web-based interface of multi-agency professionals. They feel empowered and central to their decision-making by being able to choose when they share personal information: by a press of a button, sharing live video or in real-time exchanges. The repositioning of their journey becomes integrated within the extension of themselves in the mobility and accessibility of the app, with their voice and story being embedded within a computer-assisted communication tool. Everything becomes recorded immediately: their memories, their self-assessment, their choices and their understanding of risk. This further stretches their

knowledge and sharing of personal information as equal partners in the safeguarding process by providing new ways to learn, be educated and support their peers. This is achieved, not only by seeking information, advice and guidance immediately, but also by the introduction of staying-safe quizzes, videos and games. As technology is ubiquitous there is the possibility that if the app is introduced at an early age it grows with them, tracing and tracking their story, their voice and their self-management as they grow up.

Figure 10.1 – Design of the Multi-Layered Features of the App
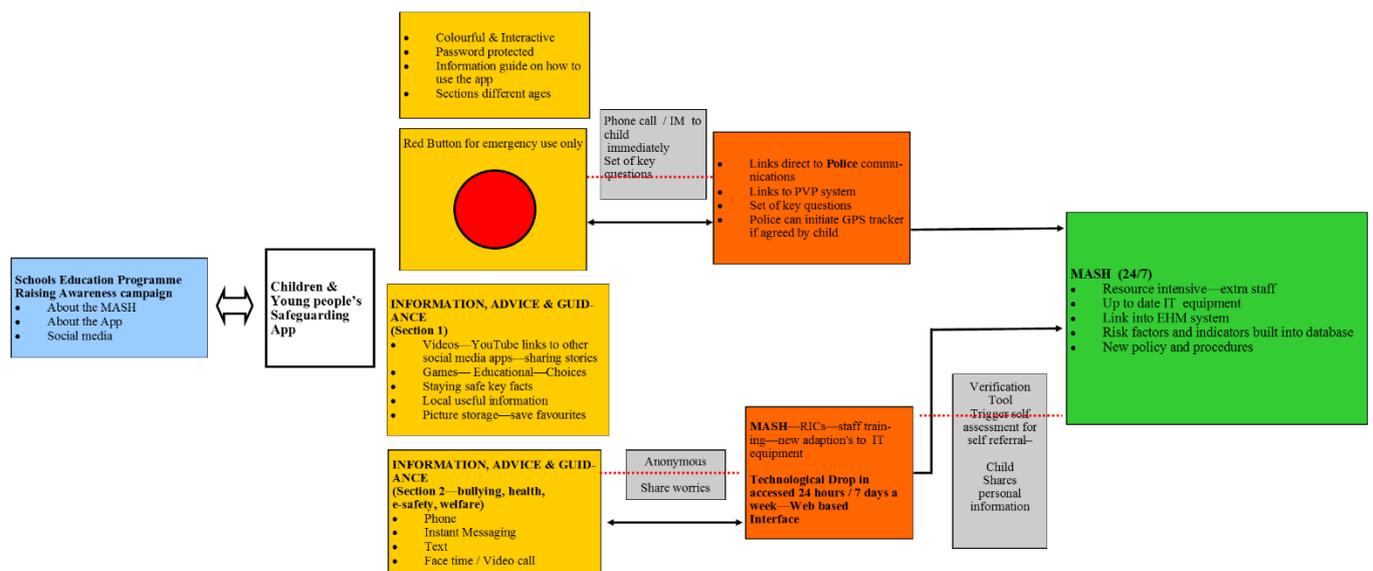
Figure 10.1 shows the multi-layered functionality of the app and how it connects to the MASH. Beginning at the left-hand side, for 'trust' and 'knowledge' to be embedded, there has to be a children's raising awareness programme. The aim of the raising awareness programme would be two-fold, firstly to introduce the app and secondly to share information about the purpose and function of the MASH. Marketing of this programme would be channelled by face-to-face talks from local MASH practitioners alongside school staff, traditional poster campaigns and social media. The app's (Figure 10.1 yellow boxes) architecture would include standard features: colourful and interactive, passwords (security and privacy features), information guides and, crucially, sections for different ages. The different age sections would be directly linked to the IAG section one and two, which enhances the user experience.

The red button for emergency use only would link directly to the local Police communication systems that become an end user. This allows the child to self-manage their own risks and report and ask for help when they felt they were in immediate danger. In agreement with the

child, by pressing the button the Police are able to respond with a set of key questions, either by a phone call or by instant messaging. This report by the red button then becomes a VC as part of the PVP system and follows the same route into the MASH as currently exists. There would also be the facility, if needed, for GPS to be activated by the child.

The IAG sections can be accessed at two levels. The first IAG (which is age specific) is for children to access staying safe videos, educational staying safe games, staying safe key facts, local information and picture storage. The second level of IAG is for direct access on a range of worries via a variety of contact methods (e.g. IM, text, FaceTime) with MASH practitioners either the RIC's or newly appointed practitioners to respond with the IAG. At this point, children have the option of remaining anonymous. The MASH practitioners would need new improvements to be carried out on the IT equipment to allow them to work swiftly and interactively with the app as part of a web-based interface. The app, then, is a technological pathway for IAG from a range of professionals and is accessible twenty-four hours, seven days a week. It is through this two-way real-time interaction and communication that the child and practitioner build a trusting relationship, thus begins a dialogue of a shared language. At this point, it is through relationships that the decision may be taken to share their worry and personal information as a self-referral into the MASH. Prior to this, through the features and components of the app, the child has been able to build and store their own journey, self-assess their own journey at the lower IAG level of sharing and record their own information.

The green box at the far-right side (Figure 10.1) shows how the MASH (the end users) would need to be resource intensive to respond only when the child feels ready to share their personal information. A verification tool is imperative for the children to trust the app and reassure them in terms of who they are sharing their personal information with. There would be design changes to the EHM to allow for the risk factor and indicators to be embedded in the system. This would allow for a more seamless approach to managing risk dependant on the information shared by the child. Moreover a set of new guidelines, as an extension of what currently exists, would need to be put in place (see Figure 10.2).

The development, deployment and evaluation of the safeguarding app are beyond the scope of this research. However, drawing on the empirical data, the development, deployment and evaluation are central to the design principles that would need to be taken forward in the actual building of the safeguarding application.

Personas

The persona method has been used in the context of product development and software design (Nielsen, 2004, 2013) however there is no clear definition of what the method fully includes. In this case, the persona is a description of how a child may use the app, based on the research data. This should increase the focus on the user and their needs for product development. The following persona centres on highlighting the specific context for the design of the app. The goal-directed persona (Cooper, 1999; Cooper et al., 2007; Goodwin, 2009) is used to focus on what a typical user (a child) might want to do with a safeguarding app. It helps to examine the workflow and process that reflect child preferences (Chapter Six) in order to overcome their worries by interacting with the app. By using such personas the child's goals can be examined and their requirements can be conceptualised for product development. Personas are useful to piece together missing knowledge and consolidate thinking as part of the design process and envisioning the concept (Grudin and Pruitt, 2002; Pritt and Tamara, 2006; Nielsen, 2013). This has the potential to give a more comprehensive understanding of how the app would be assimilated into the everyday lives of children and practices of the MASH. In creating the personas, assumptions are based upon the data from the children's workshops. The main goal is to help envision the intended users of the application. Personas and scenarios are similar to storytelling by using narratives to reflect on app development from theory to conceptualisation (Whitney, 2006; Madsen and Nielsen, 2009).

Persona One: Lucy

Lucy lives with her mum and step-dad in social housing on an estate in Manchester. She is nine years old, attends a local primary school and is of white British ethic origin. She likes going to school; however, she is tired from staying up late and helping her mum. She loves to play on her iPad and her toys rather than playing out on the estate with the other children that live locally. She does not care too much about going to parties and girlie stuff. What matters to Lucy is her pet rabbit and her love for animals.

In an average day, Lucy helps her mum before school to get her little brothers (John, two years old and Tom, seven years old) ready for school by waking them up, helping them get dressed and organising their breakfast. She walks to school with her brother Tom. When she is at school she tries to listen and work hard and stays for school lunch. In the playground she tends to have a small group of friends. If she does not have time to do her homework

sometimes she will try and catch up in the break times.

Lucy owns a basic smart mobile phone that she recently received as a birthday present from her mum. At school she has access to a desktop computer in the library and there is a laptop at home that is usually left on the kitchen table. She uses the computer at school to do maths via a web-based tool and at home to search the internet for her homework, mainly searching on Google. She loves her new mobile phone and has a number of social media apps such as YouTube, Crazy Farm Animal App, Palace Pets and Lady Bug. She mostly uses her mobile to play games, as she likes having fun. She also uses the laptop at home to watch YouTube videos all about the latest new toys and, of course, animals. Sometimes her mum and step-dad stream movies for her to watch online on the laptop but this is usually only at weekends. She is then allowed to take the laptop to her bedroom with her brother Tom to watch the movie. Lucy gets frustrated because her mum and step-dad do not always buy her the cool stuff that her friends have.

A Typical Day for Lucy:

- She gets up at 7.30am. Then she wakes up John and Tom and helps them get dressed. She then feeds her rabbit and lets the rabbit out to run around the garden.
- She leaves for school with Tom at 8.15am Monday to Friday.
- Depending on when she arrives she may chat to her friends in the cloakroom and she then attends classes. The school day is until 3.30pm.
- She eats her lunch at school so she gets a hot meal.
- Before Lucy leaves school she collects Tom and they walk home together. The walk to and from school is about 15 minutes.
- When Lucy returns home she checks on her rabbit and put her back in the hutch.
- She then goes on the laptop and does her homework and / or plays with her toys.
- After tea she likes to play on her phone sat in her bedroom and has to be in bed by 8pm.

Lucy dreams of becoming a vet and owning a dog. She wants to work with animals in a rescue centre and help all animals. She talks to her toys about getting married and having lots of children. She does not want to get divorced like her mum and dad. When she grows up she wants to have lots of animals including cats, dogs and horses.

Persona Two: Andy

Andy is fifteen years old. He attends the local high school in the South Shields area of North East England. He lives with his mum and has no contact with his dad. His dad left the family home when he was three months old. Andy is in his first year of GCSEs and he plays football on a Sunday for a local league. His mum has been asked to come into school a few times as Andy was truanting and his school work was suffering. There was a CAF initiated to see how Andy and his mum could be supported.

He loves football and when he can, and if he can afford it, he gets a ticket to watch Newcastle United play at home on a Saturday. Andy has a small group of friends that he has known since primary school who he hangs out with after school and at weekends. They talk football, go to parties and drink alcohol, although he is underage. What matters to Andy is football and impressing the girls. He is always asking neighbours for odd jobs to make money. He loves money and this matters to him more than his education. Andy has a new girlfriend who is fourteen years old and he knows her from school. They are always messaging on their iPhones and he FaceTimes her most evenings.

Andy owns an iPhone, iPad and MacBook. He mostly uses his iPhone as he is always on social media with his friends. He usually uses the MacBook for streaming films, boxing fights, football matches and online gaming. He has had a smart phone since he was ten years old and uses it for all his music, videos, movies, taking photos and FaceTime. In fact Andy's phone is always in his pocket and he never turns it off (although he is meant to when he is at school). Andy gets frustrated and angry at being told what to do and if his phone runs out of battery.

A Typical Day for Andy:

- He struggles to get out of bed in the morning, as he has been on his iPhone and / or MacBook until the early hours. He eventually rises at 7.40am. He does not eat breakfast, he gets dressed and runs to the bus stop at the end of his road.
- Andy gets the 8.10am bus to school and the journey takes approximately twelve minutes.
- He meets his mates in the school playground before the school day begins.
- Andy attends his lessons but sometimes finds himself in detention for not handing in his homework on time.
- During lunchtimes he goes with his mates to the local sandwich bar where he buys a

sandwich, crisps and a fizzy drink.

- School finishes at 3.15pm when he hangs around in the town centre for an hour or so (except Thursdays when he goes straight to football practice at the local leisure centre).

- Andy usually arrives home by 5.30pm and sits down with his mum for his tea when she gets in from work.

- He spends most of his evenings on his iPhone or MacBook until the early hours. He tends to go straight to his room after tea.

Andy hopes he will get 5 GCSE's A-C grades. He does not want to go on to further education, as he does not think much of it but wants to get an apprenticeship in a local garage. He likes messing with cars and think he would make a great mechanic. Andy dreams of making loads of money so he can buy his mum a massive house and own a season ticket to Newcastle United.

Use Case Scenarios

The following scenarios bring the above personas as static characters into active characters, describing how they may use the app in everyday life. Scenarios are used to imagine how the safeguarding app will be used in a specific context by Lucy and Andy (Nielsen, 2004, 2013).

Scenario One: Be Safe Be Cool.

Lucy attended an assembly at school where they were having a talk about staying safe and speaking out. The lady that attended the school told Lucy and the rest of the children about an app they can easily download on their phone. Lucy was curious and it made her think about how she gets upset when her step-dad shouts at her mum, especially when he has been drinking beer. She thought about how scared and worried this made her. Later that day when Lucy got home she downloaded the app on her phone. The first thing Lucy did was give the app her own name 'Be Safe Be Cool'. She chose to make the writing blue, her favourite colour, and then add a picture of a bunny, just like her rabbit at home. Lucy has a look at the features of the app and sees there is lots of information about 'staying safe', some she does not know anything about. So she just watches a few videos, plays a game on the subject of staying safe online and takes a quiz. Lucy feels happy with herself as she got ten out of ten on the quiz. She then puts her phone down to go and feed her rabbit.

A few days later late at night she can hear her mum and step-dad arguing and this has woken baby John who was crying. Lying in her bed feeling anxious and upset about the arguing she

played a game on her phone on her Be Safe Be Cool app. She typed in the search bar 'mum and dad fighting' and loads of information came up in the search so Lucy clicked on some of the videos. These videos were really good and were of other children of a similar age talking about what it is like if parents argue and what to do in an emergency such as if she had been hit by an adult or a parent. She also thought it was cool how she knew she could press the red button and the Police would be there to help or rescue her or her mum. Lucy also posted a story on the main page saying thanks for the videos.

Misuse Case: Lucy

Issues that could arise as a misuse case, for example, is that Lucy's step-dad could get hold of her phone and see what she has been doing on the app. This could potentially make him angry or in the worst case, provoke an assault. The solution for this could be a front page of the app that looks like a gaming app (age-appropriate), which has different password options. The gaming page of the app would then open with a different, very easy to remember password. For example, if Lucy's step-dad demanded to know the password she could tell him quickly. The safeguarding app would then open from the same app with a different password that only Lucy knows and show the game and not the safeguarding app.

In another instance that Lucy forgot her password at any point, a two or three-step verification could be installed, where again only she would know the verification security codes. There could also be a hidden voice activation that was set with Lucy's voice or alternatively, if the app had not been used for a certain period of time, then a soft reset would need to be activated.

Scenario Two: Safe

Older boys from the college near Andy's school have been getting on his bus home and causing some trouble by taking money off him, threatening to hurt him and name calling. He hasn't really told anyone about it, not even his mum. These older boys have been bullying him online via Snapchat and Facebook. It has been getting worse with messages every hour. Andy has the safeguarding app (he called it Safe) on his iPhone and has looked up information about sex with his girlfriend. He was told about the app by his teacher at the CAF meeting. He is feeling really low and is angry and seems to be shouting at his mum and girlfriend all the time. He has thought about hurting himself, like cutting to take these bad

feelings away. He is worried that he could die if he did that and that in turn makes him worry about his mum. It is about 2am and Andy has been lying in bed, as he could not get to sleep with thoughts swirling around his head. He feared for his safety from these older boys; he thought they could do bad things to him if they attacked him on his way home. The messages were becoming more threatening. Andy thought he would text the MASH to get some initial advice on how to control his anger and his thoughts about hurting himself. He sent a text as he knew it would stay confidential and he did not have to give his name or any other personal information. After sending the text he watched a few videos of what to do to stay safe on the streets and browsed some relevant websites on feeling suicidal.

Andy received an instant reassuring response to his text message. A pop up asked he if would like to chat. He took up the offer and agreed with the MASH that if he was attacked or was going to really hurt himself he would press the red button – the MASH would know it was him and get help to him immediately. The next day he got a follow-up pop-up asking him how his day was going. He felt better after that and replied he was OK.

Misuse Case: Andy

In the case of Andy, misuse could, for example, be pressing the red button too often or his phone being stolen and hacked. If this was the case then others may steal his identity and keep messaging the MASH pretending to be him. The solution to this may be the encryption of data management or being able to report and deactivate the app if the phone is stolen. There could be limitations placed on the amount of times the red button is pressed per episode and this could also be time limited so it is not too restrictive. Added into this could be other forms of messaging to request a 'need to open' the red button again with the MASH.

Functional and Non-Functional Requirements

The engineering community has defined requirements for software systems for a mobile application into two main categories: functional requirements and non-functional requirements (Chung and Do Prado Leite, 2009). Functional requirements are something the app should do and non-functional requirements are specifications of how the app should behave and constraints upon the app's behaviour. The non-functional requirements in general may cover all the remaining requirements which are not covered by the functional requirements. Characteristics such as reliability, modifiability, performance or usability are non-functional requirements of a software system. Functional and non-functional

requirements have an impact on each other (Chung and Do Prado Leite, 2009; Caprilla et al., 2012; Laplante, 2009). Identifying the non-functional requirements along with functional requirements at the design stage is critical to the success of a prototype for the safeguarding app. The data from the research project has given the following the functional and non-functional requirements.

Functional Requirements

- Navigation: The user should be able to navigate the system easily.

- Multi-Layered System: Sections and subsections for subject areas of the IAG that have been categorised into age groups.

- User Preferences: Personalisation so the user is able to give the app a name, including being multiply password protected and / or have a lockable function. Blocking features to block other users or inappropriate information. Pop-ups tagged to information selected by the user.

- Authorisation and Authentication: There is a requirement for two verification tools. Firstly, an automatic verification tool will need to be built in for users to access age-appropriate IAG sections. For example, once they have verified their age and date of birth, as they grow older they are able to automatically access the older age range IAG sections. Secondly, the verification tool is to be able to decode personal information that they want to be share with a professional. The user will need to have control to authorise the verification tool themselves to trigger a self-assessment / self-referral.

- Reporting Requirements: A reporting requirement for the safeguarding app is that a response time for the email notifications on pressing the red button in emergencies is twenty seconds. The reporting through to the MASH team needs an immediate response in real-time. It also needs to recognise local area team connections.

- Rules of use: Inclusion of terms and conditions and a simple user guide.

Non-functional Requirements

- Performance: High speed twenty-four hour connection to access online support. The requirement for general access to live chat, call, text, email or video calling is immediate in real-time.

- Responsiveness: This requirement ensures that the app responds to the child's input. For example, the app allows the user to switch between functions of the IAG sections when the user may be on a video call but also wants to access a website or staying safe key facts. Response times include being quick and easy to download. The screen refresh times should also be fast and the app would immediately come on screen telling the user about safeguarding, the risks and consequences.

- Scalability: This refers to the app being able to manage and deal with the increasing use and size of the data. For example, with the uploading of videos and children's stories. The throughput of users is intended to be of high volume and therefore the app needs to be able to handle such traffic.

- Usability: The user needs to be able to easily use the app. It is to be child-friendly in terms of the use of viewing and changing of the size of text and use of different colours. Furthermore, the user should be able to understand how to use the app and become familiar with its functions without training or help. The app has to have the ability to record and play videos easily, record and upload videos, test knowledge (quizzes), and to access the information stored on the system.

- Reliability and availability: The app needs to have a high rate of reliability on the scale of 99 or 100 per cent, which means that within a given twenty-four-hour day seven days a week. Thus users should be able to access every part of the multi-layered functions at all times. The app is not to go offline and therefore consideration needs to be given to how the app will manage upgrades. The app requires connection with local geographical locations and potentially connect with local networks (that may imposed restrictions) or secure systems that operate behind firewalls such as the Police communications or the MASH databases.

- Security: The app should have a private personal information section and save all previous searches within the IAG section and log all communication. The files (such as videos, emails, quizzes, etcetera) should be encrypted and stored within the app's private file area so that their content is not easily accessible.

- Modifiability: This requirement governs the ease of being able to connect with other social media sites, contact lists and photos within the mobile device. Therefore, the app can use more than one social media platform without needing further inbuilt modifications.

- Maintainability: The app should be able to detect viruses and fix problems with ease

without having to upgrade to newer versions. For example, if a quiz or information sheet has been updated, the user can simply download the new version without having to update the next version of the app.

- Data Integrity: This requirement is essential so there is no data breach, as the app will hold children's confidential personal information. Storage and backups are required to run simultaneously to when the app is live to keep disruption to a minimum and in the event of technical issues.

Usability and Heuristics

> Usability therefore is more concerned with the form and design of software. On the other hand usability could be approached 'before' accessibility with the aim to at least make the system logically useful before ensuring its use for a more diverse range of users (Gavin and Read, 2016, p. 696).

Usability can have an impact on the extent to which children feel their worries have been removed, their access to information and advice about being safe and when and to whom they share their own personal information. The usability of the app could also have reverberations on other human and non-human actors within the network. For example, for the Police within the communications room or on the rate of self-referrals and the capacity to respond. The key domains for usability for the children as users are easing their worries, that the app is fun and colourful, the accessibility for emergency help by the red button directly connected to the local Police, the age-appropriate catalogue of information and advice, contact with the MASH with a real-time response and the ease of sharing confidential personal information. Usability problems could cause children not to have an experience that is fun as well as not being able to share information or directly report abuse. This is why, as the main user group, they should be given priority for giving feedback and their opinion about the software. Usability and evaluation is imperative from the onset and will go hand-in-hand in the design principles that would need to be taken forward in the actual building of the app (Gavin and Read, 2016).

The pioneer who aimed objectively to evaluate user experiences on digital platforms was Nielsen (Nieeilsen and Molich, 1990; Nielsen and Mack, 1994) with their heuristic evaluation tools. Heuristic evaluation has been a method for evaluating productivity software across different subject areas (Fernandes and Holmes, 2002; Zaharias and Koutsabasis, 2012). It was first introduced to evaluate productivity software (Nielsen and Molich, 1990). Heuristic

evaluation of usability should be a factor in any prototype of the safeguarding app.

Nielsen and Mack (1994) devised four methods for evaluation, which are automatic evaluation software; inspection methods, models and formulas to identify problems; expert evaluation on interfaces based on set guidelines and empirically via user studies, for example user testing. A group of children, for example within a school setting, could act as expert evaluators (Jacobson, 1998; Jensen and Skov, 2005; Gavin and Read, 2016) although it may be argued they are novices in safeguarding but they would be classed as experts in usability. Furthermore, team members of the MASH may act as a secondary elevation team. It has been shown that children can generate different viewpoints and behaviour in ways that could not have been seen or argued for by an expert (Read, 2015). This should be taken into account as it has relevance to the interdisciplinary nature of this work. The evaluation study for the app would need to set clear objectives (Sim et al., 2015) covering areas such as the visibility of system status or the child understanding how to use the app and that it speaks their language, and that MASH processes can adapt sufficiently to respond at appropriate levels. Freedom for users to navigate and perform actions is imperative. Proposed objectives for evaluation purposes would include the following:

- The extent to which the app is child friendly and easy to navigate.
- The child's worry is removed or anxiety has been reduced.
- The child is able quickly to access information and advice on relevant staying safe key facts.
- The child is able to have fun whilst using the app.
- In an emergency, the child is able to receive a quick response from the Police.
- Professionals can be accessed via a variety of features such as email, text or video calling and receive an immediate response.
- Personalisation features are colourful and there is easy access to child-friendly images.
- It is easy to store private information and apply a password or pass code.
- It is easy to upload a video and share it.
- The child is able to have more than one feature open at once.

It is also essential for the process not to become overwhelming for the children (Paddison and Englefield, 2004). The software, in essence, needs to be intuitive for the child, as if this is not the case and there are interaction errors, this would mitigate against safe use. The above

objectives could easily be given to children with attached numerical scores for them to identify problems. Furthermore, any evaluation would need to be undertaken within the child's and professional's real world context (Jenson and Skov, 2005; Read, 2015; Gavin and Read, 2016). These scores would have a severity rating scale to rate any problems, obstacles or malfunctions (Nielsen and Molich, 1990). As in the evaluation of health technologies, the evaluators, in this case children and professionals, could be given an initial allocated time frame to use the app and then an unlimited time framework for feedback and, as with the research project, a financial incentive would be offered (Kientz et al., 2016). I believe the children would successfully identify real-world problems when there is a prototype.

The main outcome is that an app would put the children at the centre of the process. It would allow their voice to be immutably mobile within the network. Their needs may be met more quickly and they may find themselves in less danger, making wiser choices and decisions about their mental and physical wellbeing. It would empower them to take control and manage their own situations, offering a new discourse for assessing and managing risk. Risk could be defined by the front user, the child, and the community and all these levels could have a major impact on how risk is perceived and ultimately managed and responded to by multi-agency professionals. It may offer a transparent network, which connects the child and practitioner, forming new types of relationships, resulting in widening the net, reducing the gaps and closing the number of failures as information sharing may take on a new meaning and shape the field in a way never seen before. The sharing of information by closing the digital divide lessens the amount of searching on databases, reconstructs the digital family and makes a more meaningful process.

Early intervention would be offered freely around the clock and localised to where children live. It would generate self-referrals and allow new conversations between those at risk and those whose aim is to manage and protect. It would allow more relevant information to be accessed more quickly and there would perhaps be fewer cases of 'no further actions'. It may, in the long-term, sideline the disclosing of abuse to a third person and promote direct access. In the same way as found in the healthcare field, there could be a reduction in professionals' response times and, when necessary or appropriate, children could navigate around the system.

The introduction of an app would build new social constructs and behaviours within communities, including peer-to-peer support. Children would have autonomy over their

outcomes and care planning. It would create a direct link from their world to the emergency and protective services, reformed by shared child-friendly usable technology that brings collaboration for them to share information and build relationships. This ties together the disconnects, which would improve outcomes. By having an equal power in the design principles of an app the children become key stakeholders, where knowledge becomes power, and where power becomes empowerment. Vulnerabilities would be picked up sooner by the digital button or via the PVP alike.

Fundamentally, children would feel able to self-refer, be educated at their own pace and in their own space. The app would offer a safe, fun, interactive, real-time learning platform about staying safe. They would have a safe technological environment to explore some of the issues that they stated they were worried about or that they faced in today's society. It would offer a baseline for immediate accessibility across the community for learning, seeking advice and guidance and it would enable children to escalate their own personal journey. Their personal information would be able to be secure but equally, with one click, it could reach the emergency services.

The child protection system operates on the basis of levels of concern. In the MASH area under observation, in common with many others, there were four levels: level one, the universal service provision where this is no unmet needs and negligible risk; level two, where there is evidence of some unmet needs and low risk single agency targeted service provision and child and family plans; level three, where there are higher levels of unmet needs and medium risk (Children in Need, Section 17) and level four, where there is significant unmet need and high risk child protection and looked after children (see Appendix One).

The proposed safeguarding app works to bring the child directly into this framework (the CoNR) (see Fig. 10.2). The main element that connects the child and the MASH within one framework is the extension of sharing information that the app offers. The threshold framework acts as a semi-circle but by opening up the framework for children in a technological way it becomes whole – a full circle of mirroring levels as shown in Table 10.1 and Figure 10.2. In the same way, if significant harm is suspected, one can go straight to level four so can the child through the technological pathway via the app, for example at any time contacting the MASH and sharing their information directly.

Table 10.1 Combined Levels of Child-Friendly Framework: The Children's Technological Front Door and the CoNR Framework

Level 1	Universal Service Provision – No unmet needs & negligible risk	Level 1 Universal Digital Social Media Platform & The App	All children IAG
Level 2	Evidence of some unmet needs & low risk single-agency targeted service provision and child and family plans (CAF) CAF Lead Professional	Level 2 Social Media Platform & The App – Sections for categories based upon Age	All children Targeted and Verified - IAG
Level3	Higher levels of unmet needs and medium risk Children in need Section 17 Social Care Lead (Professional)	Level 3 Big Red Button	Children in need of Emergency help Police Lead (professional)
Level 4	Significant unmet need and high risk child protection and looked after children Social Care Lead Professional	Level 4 Children's Technological front door to the MASH	Children self–refer MASH Digital Platform Social Care Lead Professional

Figure 10.2 A Child-Friendly Framework: The Children's Technological Front Door and the CoNR Framework
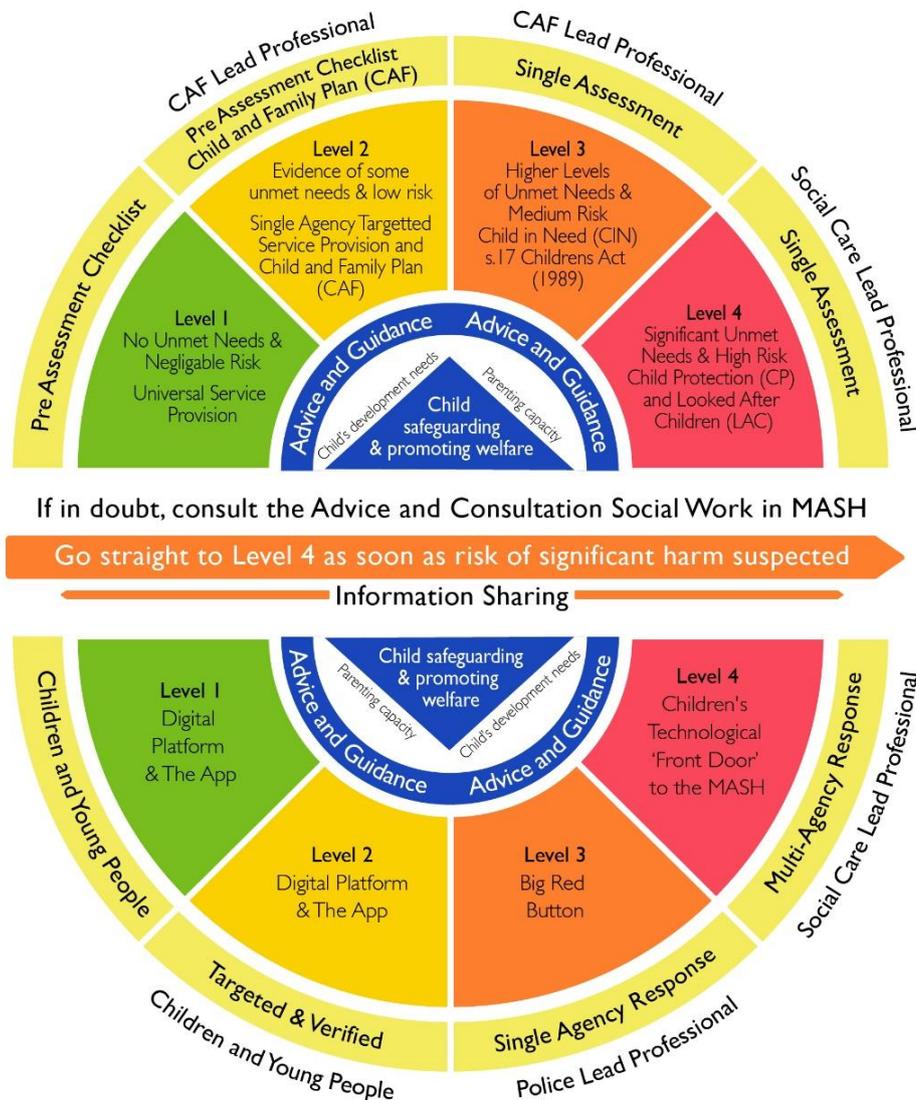
Level 1 – Universal – Social Media Platform	
Links: User's Mobile phone / tablet / iPad	• Multi-coloured interactive Stay Safe app – child-friendly design and usability • Space for sharing worries, stories, videos, pictures, conversations • Has ability to message, call, video call and make own videos to post and share • Can have private conversations (could be linked to Level 4 live chat)

Level 2– Targeted - Age Categories – Verification	
Links: User's Mobile phone / tablet / iPad	• Sections for categorised age groups • Educational tools • Play be safe games – quizzes • Staying safe information – covering a wide range of topics – key facts • Signposting for resources (local)

Level 3 – At Risk – Big Red Button – Emergencies – Police Lead Professional	
Links: PVP System	• Private and secure personal details (including photos and videos) – child sends to Police system when presses button • Child uses in cases of emergency • Lead professional responds by phone call / IM, can initiate GPS tracker • Feeds directly into MASH via PVP system

Level 4 – At Risk – MASH Digital Platform – Social Care Lead Professional	
Links: MASH Databases	• Confidential / anonymous information, advice and guidance • 24 hours / 7 days a week multi-agency panel professionals online advice and guidance accessible by a digital platform • Feeds (self) referrals in to current MASH • Private and secure personal details (including photos and videos) direct to MASH

This child-friendly framework combines the current system with a new technological development. The information-sharing pathway connects and widens as a social network. The child is able to reach out and access help as part of a universal provision. It is via the app, social media platform and the web-based interface that is the connector. This connector (the child-friendly framework Figure 10.2) becomes the child's social-technical journey that honours the childhood space, bringing together the social and professional as one community. The child becomes a digital agent for their own change within the safeguarding process. This child-friendly framework builds new social constructs and habitual behaviours as part of the real-time user experience for both the front and end user. The child, as the front user, creates new identities in the process and the framework offers a variety of new communication pathways. It also creates new relationships a part of a technical reporting pathway for children.

In summary, outcomes for children are: that they would have the choice to share information; there would be a technological space for them to record their journey and enable them not to feel alone; it could enable them to build trusting relationships by communicating differently in a comfortable world for them; and ultimately it could promote a new landscape for the safeguarding of our children.

Conclusion

The research promotes a shift away from single-agency published work in the area of safeguarding social work to multi-agency work for the main public sector bodies that have a statutory responsibility to safeguard children. This advancement is unique and ground-breaking in its own right. It goes on further to support work into the use of databases by social workers (Peckover et al., 2008, 2009; Broadhurst et al., 2010a, 2010b) and technologies in social work on the move (Ferguson, 2016a, 2016b, 2016c, 2016d; Jeyasingham, 2017) with ethnographic data and HCI research methods and the birth of new beginnings for child-focused multi-agency practice. This means the development a new conceptual framework that offers a multi-agency digital front door that embraces mobility, a presence of digitally walking shoulder-to-shoulder with the children of our communities whilst turning everyday multi-agency practice immutably mobile – technologically moving, tracing, adapting to the social-technical childhood space. This new form of mobility is grounded in a new notion of managing risk in everyday digital practices built on a child-centric model. I believe this research to be cutting-edge in understanding the benefits of children using technology in a positive way. If the current front door for children to access a whole range of agencies is closed off and out of reach, then technology enables a fundamental shift to become a new front door. This will make significant differences to the protection of children and the disclosure of abuse and at the lower levels of prevention, stimulate coping and resilience, ultimately resulting in better outcomes in their daily lives.

A major contribution of this research is that it is built on the journeys and narratives of children and explicating the enthusiasm of frontline staff to be engaged with children in a way that speaks the child's language. A significant contribution to new knowledge is the identification and creation of an expanded continuum of need (see Appendix One and Figure 10.2). This undeniably gives an all-encompassing framework to a network that is identified as disconnected and undoubtedly brings the agency of the child into play. It encapsulates the child's journey (Munro, 2011) for a child protection system that is striving to become more effective by shifting the power for children, giving them equality. The outcome is a repositioning of existing professional framings of childhood within a social technical childhood where children would be able to digitally self-refer and self-manage, sharing their personal information. As I have shown, the research provides evidence to support the idea that not only can social workers or other professionals be users within the system but for the

potential for children as users. This research points out that the child can be the referrer to the MASH or to the Police in the case of emergencies rather than having to report to a trusted adult who then passes the information on to another adult practitioner. This research also gives suggestions with regards to the design principles of safeguarding apps and user requirements for any future developments, especially within the public and voluntary sectors, crucially proposing a radical restructure of the current system and IT practices of the MASH, as well as a significant change in how the Police receive emergency information from children.

Empirical Contribution

The findings in Chapter Four suggest there is a void waiting to be opened in the production of safeguarding app development. From there, it might be possible to consider apps that are entirely focused on design principles from a child's perspective; new ideas for reporting pathways; the introduction of multi-agency apps; a range of child-focused subject-specific apps and safeguarding apps in general for the multi-agency workforce that work in early intervention and child protection. I believe there is the need for the app market to catch up with children in a cyborg childhood space (May-Chahal et al., 2014) but also with the adults that operate in that space. There is a fundamental lack of innovative creative forms of technology, especially in the social care sector, specifically in relation to safeguarding, which promote engagement and act as communication tools for children. There are a small number of apps (see Chapter Four) in the social care sector, which are mainly aimed at professionals and again are only guidance based. There are no real-time apps for direct access to the child protection system co-designed with and aimed at children. Comparisons made with the health sector (Chapter Three) find there is a greater range of self-managing apps available. The lessons from telecare in health can be transferred into the social care sector. There is a proven record where apps have been validated for the sharing of personal information which are secure, private, password-protected, integrated with emails and other areas of personalisation, for example self-management of diabetes (Demidowich et al., 2012; Rollo et al., 2011). Moreover, the apps and other technological-based health services have seen real-time monitoring within hospital settings and connection with hard-to-reach groups. There are also web-based applications and services that can be downloaded on multiple operating systems. Apps are widely available and are beginning to be normalised as part of service delivery as well as good practice in engagement of service uses, patients and clinicians alike.

Safeguarding is everyone's responsibility (DfE, 2015) and if there was a movement away from the traditional then a new safeguarding digital footprint for educating and reporting could be formed, as well as for children to manage their own risks in a paradigm that is digital and child friendly.

The key findings from the children's workshops (Chapter Six) suggest that children mainly worry about death and dying. They are not concerned in the same way as adults are over the risk of abuse and harm. The child's worldview is made up of a different, more tangible and malleable set of worries that are truly personal to them. Children want an easy creative digital solution to access and receive emergency help, for example a red button on their mobile phone. They want digital immediacy for access to a range of information, advice and guidance on subjects that correlate with their worries. Simultaneously, this should correlate to the generational social-technical childhood space. The impact of its existence and of the changes for children is yet unknown, however, it would at least be a way for children to map their own journey (Munro, 2011). Following on from this is the significant finding regarding information-sharing that children are strictly taught not to share their personal information such as their name, date of birth and home address. This is the exact information those in the MASH seek as an essential first step in their processes to safeguard a child. Therefore, adaptations in routine practices are needed to allow children choice and agency.

The research in the MASH (Chapter Seven) has demonstrated the ways in which the child's information is fragmented across databases, forms, conversations, artefacts and actors within the system. It also establishes an understanding of the disconnects within the system, namely language, risk and assessment, trust and ICT. It highlights the challenges for adoption of my proposed application and raises questions of how to bring the child more holistically into the system, rather than as pieces of fragmented information, thus, allowing the digital child to travel coherently through the process, including respecting their feelings and wishes (Children Act 1989). The findings highlight the social practices and object boundaries within the MASH cooperative ways of working, revealing different viewpoints in assessing risk by the Police and social care that ultimately create a disjuncture within the system.

The focus groups (Chapter Eight) cemented the view that the MASH practitioners believed and supported the idea that a technological front door for children to self-refer could work in practice. They were open to adapting a new model, however, this came with an

acknowledgement of the need for some restrictions and challenges such as verifications, procedures and commissioning arrangements. By far the most important factor is the lack of up-to-date mobile phones and more generally, poor IT equipment. The consensus for a move to a twenty-four-hour, seven-days-a-week service is seen as imperative for practitioners to build community relationships in the digital child's world. The notion that this is not adopted seems nonsensical. Furthermore, focus group data confirmed that not only do children rarely directly communicate with the MASH but there is also an extreme lack of awareness by children that the MASH exists and for what purpose. This is somewhat strange when they are the main locality team set up to protect and safeguarding children and the direct customer does not know of its existence, let alone its functions. It was demonstrative that the cultural and social practices would need to change to adopt real-time responses.

Conceptual Contribution

My research suggests a real need for new conceptualisations and understandings of managing risk and sharing information, and these concepts form a new child-friendly system. This child-friendly system embraces an open-access technological front door located within early help (Section 17) and child protection (Section 47). For a reason unknown, diagrammatic frameworks for assessing risk within the safeguarding arena omit and / or exclude everyday micro-practices in the child's world. What is conceptualised in Chapter Ten is an extension of an exemplar assessment framework that incorporates the sharing of children's information concurrently. The research has shown that co-production and cooperative communication using technology for safeguarding purposes is possible. Therefore, it bridges the gap between examining the child as an object of concern (Butler-Sloss, 1988) to one of a social-technical childhood inter-generational space where children are not only equal partners within design but within the child protection system. My research offers new concepts and constructs on how these child abuse transactions could be framed using technology such as apps. The concept of a child-focused system in a digital world needs a new language built on a new way to form trusting relationships between children and professionals.

Technological Contribution

Firstly, this research has shown and provided opportunities for methodological developments of mixed-methods approaches by using creative techniques for children being equal research

partners within HCI. It strengthens the argument in established disciplines such as HCI for research with children and especially teenagers (Fitton et al., 2016). Furthermore, it gives strong justification for a UK research and design centre of excellence for safeguarding and CCI. It is a new approach to user-centred design, which certainly needs to be considered. Child-centred, co-operative enquiry is the key to design and usability and in this case, a child-friendly user-led approach to a socio-technical safeguarding application to enact as a means of self-management and self-referrals.

Secondly, the research hopes to challenge what has previously been based on a single agency use of computer-based systems (Broadhurst et al., 2010a, 2010b) to multi-agency settings. Technologically, Chapters Six, Nine and Ten embody five clear principle themes, functions and architecture for the development of a prototype. Ultimately the social and technical childhood become one of the same with both the child *and* practitioners becoming end users.

Summary

Taking an ANT approach allowed for triangulation of the data analysis and enabled the conceptualisation to question the network further. I suggest that if the app is placed in the network, it would represent the child's voice, their story and their language and the practitioners would therefore have to respond in a way that they actually hear and understand the child's journey. The child's journey and the app are part of the same entity and would act as a translation device for a means of communication using persuasive computer engineering. Children become equal partners for engaging in child-friendly design principles via co-operative enquiry located within CCI. Obviously, this would impact on the equal sharing of power and information. It also enables understanding of disconnections and how these are translated into challenges for adoption in a multi-agency setting or, for example, moving to a twenty-four-hour, seven-days-a-week service. It also gives rise to question the black box theory for innovation by providing a new technological-social space, introducing technology to inform social practices that are child friendly and mobile.

As mentioned above, the research is located within early intervention and Section 17 and child protection Section 47, therefore the findings must be viewed within the widest context of community settings and how the implementation and adoption of an app within the network could safeguard and promote the welfare of children. For example, it could be directed towards those at risk of child sexual exploitation, in families where there is domestic

abuse or those that worry about death, terror attacks, bullying or their health. Questions posed relate to how a safeguarding app would impact on outcomes for children in the general population and whether it would be able to engage hard-to-reach groups. SCRs and child deaths continue to occur and this is not the arena for debating policy; however, it must be stated that to implement reach child-focused systems and be able to follow a child's journey, national policies should be reframed by joining together the digital and social care agendas. Flattening the network, in this case the MASH space, finds a technological and social web combining human and non-human actors and their communications. This has the potential to form a user-friendly, child-focused network and provide a new gateway for opening the front door to both emergency and child protection services. Alongside this are the challenges involved in repairing the disconnects that appear in the network. It would create a new meta language, different models for risk and assessment. Furthermore, it would empower children to manage and share the assessment of their risk-taking behaviour or understand a child's concept of risk. Whether the Police would take an initial contact from a child via the app as seriously or in the same way as a social worker might is questionable. The Police are more used to 'hard' end crime rather than a 'soft' and 'malleable' approach (Jeyasingham, 2017).

Issues of trust for information sharing is critical; at one end of the spectrum children want to control their privacy and have choice about when and how to share personal information and at the other end, MASH practitioners need what children might not be willing to give. Then, if it is shared, this information needs careful management to firstly, protect and secondly, to promote positive outcomes. When these challenges are overcome and adopted within the system there are possibilities to increase opportunities for children to self-refer or reach out for help at an earlier stage, hopefully resulting in interventions being timelier and more appropriate.

As the rapid pace of mobility and increase in social media use increases in today's youth sub-culture, the agencies tasked to protect youngsters remain in the Dark Ages. Alongside this youthful world, their parents offer the mobile phone to give independence, freedom, connectedness and mostly for protection. It is therefore 'protection' that should place the children as the lead protagonist in user-led design principles for the architecture of a safeguarding app. This would lead to change in social constructs and behaviours extending their social and technological networks for a new front door into protective services.

The network has to change in such a way that both human and non-human behaviours will

need to adopt new ways to connect the disconnected. MASH professionals need to synchronise their behaviours and social technological practices to form a new technological language of the child's voice. There are some similarities with other technologies such as national charity helplines (such as ChildLine) or the CEOP report button, but these are singular outlets for communication by children, not a multi-functional, multi-layered specific safeguarding application that can be trusted in real time. The idea of the red button shared by the majority of the children in the research project tells us it is time to understand their technological world and adopt it (Chapter Six).

There are many challenges to adoption and implementation of a formal and informal nature, and these are present at the global and local levels. The network as a whole needs to shift now that the principles of design are known, also the possible effects and unintended consequences of a prototype being placed in the network need to be explored. Investigations should be conducted as to whether it would maintain a momentum without losing sight of the child's talk and whether these challenges would be overcome or whether a prototype would lead to more questions or further lines of enquiry emerging. Furthermore, assessment is required regarding whether the practitioners in the multi-agency teams would be able to reverse the dynamics of power and control, and whether they should balance this with the need to act, when needed, to take control for the protection of children from the likelihood or risk of significant harm. The main challenges focus on the fact that there still remains a host of digital divides in working practices such as poor functionality, access to up-to-date IT equipment, lack of mobility and workarounds within the MASH, notwithstanding the five key disconnects: language, risk and assessment, trust and ICT. These challenges require a political debate on bringing the social and digital agendas together in a more collaborative sense.

The challenges of the enactment of a new human and digital meta or infra language (Latour, 1996) generate many complexities, but this already exists in the world of the end user. However, within the MASH, professional group values need to adjust along with the group's professional autonomy. This may lead to a resistance to change, as cited within the health sector literature for telecare (Plaza et al., 2011). This is compounded by the MASH being multi-agential and by the findings that suggest a central change in the role of the Police to respond organisationally to vulnerable children as their preferred responder. This would also need to be translated into the PVP system and the definitions of risk currently in operation in Children's Services. It challenges the decision-making process at both ends of the network.

There may be further questions raised as the black box is opened and its contents dissected, creating more challenges and negotiations in the network.

Trust comes in many forms. Trust, in the fact that the IT equipment can be shifted from a performance management system and adequately funded to perform optimally, is key to the success of its adoption. There is a cross-section of what children wanted the app to be able to do, for example creative content and multi-functionality and this may provoke issues for quality and validity in the architectural design. The app and connecting IT systems should ensure that the flow of information forms part of persuasive computing meeting the digital world of today, rather than a cut-and-paste task-driven culture. For example, organisationally, a new tier could be created below or working concurrently with the MASH. This new digital team, hosted by digital practitioners would have databases that integrate with the app and therefore act as the child's front door. This step is worthy of consideration. Whilst the app and the MASH should synergistically be seen as one entity, the roles and responsibilities of the professionals would have to adopt new organisational types. For example, would the RICs, the engineers in the room, populate the twenty-four / seven children's technological front door? If so, there are practicalities such as employment contacts, retraining and a paradigm shift, notwithstanding a whole new set of policies, procedures, protocols for accountability and verifications for all collective users.

A fundamental gap in the area of trust is that of children's parents and carers, particularly where they are responsible for maltreatment. Are they really going to allow their children to blow the whistle, share that information from their bedroom? Such knowledge may not be discernible until the technology is brought into existence. Moreover, there are the issues that some parents fear of social workers taking their kids off them. This acts as a barrier to technology-enabled early help within child protection. This is a key issue which technology cannot simply solve. However enabling engagement at the child's pace and on the terms agreed by the child (like ChildLine) could only but help. However, the question remains: would the same be made available for parents and carers? Furthermore, the same applies to a child caught in the trap of being groomed, subjected to the exertions of power and control within child sexual exploitation or merely their socio-economic background does not allow them to purchase a smart phone, or parenting style forbids them access, or controls access to a mobile phone. This could be overcome by making the app accessible within the public domain, as suggested by the MASH professionals in a focus group, when they pointed out it could be located on a computer in a public library or within the school setting.

The introduction of the app as a technological front door for children means a radical restructuring of the ontology of relationships within the network. Again the comparison with the health sector indicates that the individual, professional and organisational factors all have relations to system adoption. There would be organisational variables with the individual agencies, mainly the Police, and new forms of communities of practice need to develop. The children and the MASH practitioners come together to form a new socio-technical community of practice, forming a new ideology, set of behaviours and practices. The keys to adoption are resources, the thematic trends, superiority of the technology, ease of use and the child user friendliness. Alongside sits new guidance driven from a collaborative political agenda. Children as partners in the system, design multi-functionality and a logging tool system for regulation and surveillance are all attributes to overcome some of the aforementioned challenges.

The reconfiguration of the digital footprint of the MASH and the creation of a new front door act as a real opening for a layer of early intervention for the general public and it leads to a multi-agency digital IAG response to the current needs of children's stories. It becomes a user-centred multi-functional process in a social and technological community-wide setting. There is a paradigm shift where personal information (the child's voice) becomes a co-design product. It then gives the community the ability to draw on IAG twenty-four hours a day, seven days a week, moving from responding to vulnerability and risk to working in partnership with it. This surely can only contribute to safer communities and reduce long-term drain on resources of professional workarounds, where children can manage their own levels of risk and meaning that high-risk cases are then responded to quickly, i.e. via the button. If children are more comfortable in accessing services through their digital world then just maybe they will feel safer and reach out more quickly. The assumptions from the ethnographic observation of the MASH are that a wider cultural framework needs to be conceptualised with the social, organisational and technical space. Bravery is needed to raise awareness, change the landscape and begin to include the same community that is currently excluded.

This research suggests that there is another way to communicate with children through a digital footprint. By combining the social and technological, possibilities can be created to allow the child's voice to be heard truly and the child's personal story to be told in order to stay safe. There is a transitional nature to the whole network and a technical period of change.

The principal limitation of the research is, fundamentally, that there is not yet a prototype; therefore, the app cannot be enacted in the network and this is an issue that needs to be explored next. A further limitation is the absence of parental input in how the parents would view a communication tool, such as an app, for their children. Equally whether they would want to be part of a similar innovation and whether they have a role to play. If there was a prototype placed in the network, there would be further learning surrounding the issue of risk and how it is assessed, trusting the technology and possible overall impact on outcomes. Co-operative enquiry is essential in a prototype design but a wider cohort of experience from children could prove beneficial, perhaps employing a group of children who are survivors of different forms of abuse.

The app would undoubtedly expand the spatial and digital context of safeguarding through forming new social and technical practices, creating a new socio-technical safeguarding environment. It would lead to child-friendly, direct access that does not involve adult authorisation, which is the critical difference. It would be one where children are design partners and it would understand their worlds and hear their voices.

Reflections

This research project has been a long journey of personal growth. It has most definitely been worth the hard work and I am amazed at what has been achieved. I am grateful for the ease of access to the schools and research site and the overwhelming support given by all the participants. The support by multi-agency management, head teachers and the children themselves tells me that, in general, the ideas and concepts of this research are welcomed. However, the experience of seeking and gaining ethical approval I found to be extremely difficult and time-consuming. I fully understand and appreciate the need for the ethics process and gaining approval for what appeared to the ethics committee as an ambitious and complex study.

The aim of the research was to make way for the design principles and plans to be put in place first before the development of the app, consequently identifying what needs to change in the context in which a child-focused safeguarding app would successfully operate in the safeguarding network. Foregoing this, the challenges ahead are great and the research focuses upon a clear pathway for moving forward with a prototype. The focus was necessarily on what currently counts as relevant about the child as information in a multi-agency space containing a multitude of different technologies. These aims have been achieved with many

personal scarifies along the way. Although beyond the scope of this research, I am committed to the work that will be needed for the development of a prototype and a pilot project. The actual technology is not the central issue as we have technologies and these can be coded and produced and we know this is possible and is advancing all the time. What was not known was how people will use the technology and what its impact will be on the network and system. This is now clearer although there will be an inevitable process of iterative change and unintended consequences as the evaluation of the prototype progresses. The children's contributions and enthusiasm for such an app will make the continuation of this work not only an honour, but a pleasure. Fundamentally, being able to challenge and change the position for children within a safeguarding context is my life's path. Given my professional background, this research project gives me a platform to go on to pioneer safeguarding technologies and continue to build upon changing the landscape of safeguarding both nationally and internationally. The interdisciplinary nature of this project has drawn upon a vast range of literature from the fields of child protection, health and technology research. I began as a safeguarding expert who now has acquired new knowledge in the field of HCI and CSCW. This can only enhance my aspirations and vision to change practice in many areas such as safeguarding apps, databases, technological audit tools and the delivery of digital services. Adumbrating this interdisciplinary work forms a new agenda to reform if access for children can be via a digital front door of multi-agency protection services centrally holding a technical child protection perspective. Moreover, as an expert, I hope to share knowledge and wisdom and break new ground by overcoming the challenges and barriers within pre-existing institutions and organisations and changing the world to a better place for those generations of children to come. The research may have raised more questions than answers for future research directions for safeguarding children, however, this leaves me more passionate and excited about future opportunities.

Appendix One: Continuum of Need and Response Framework
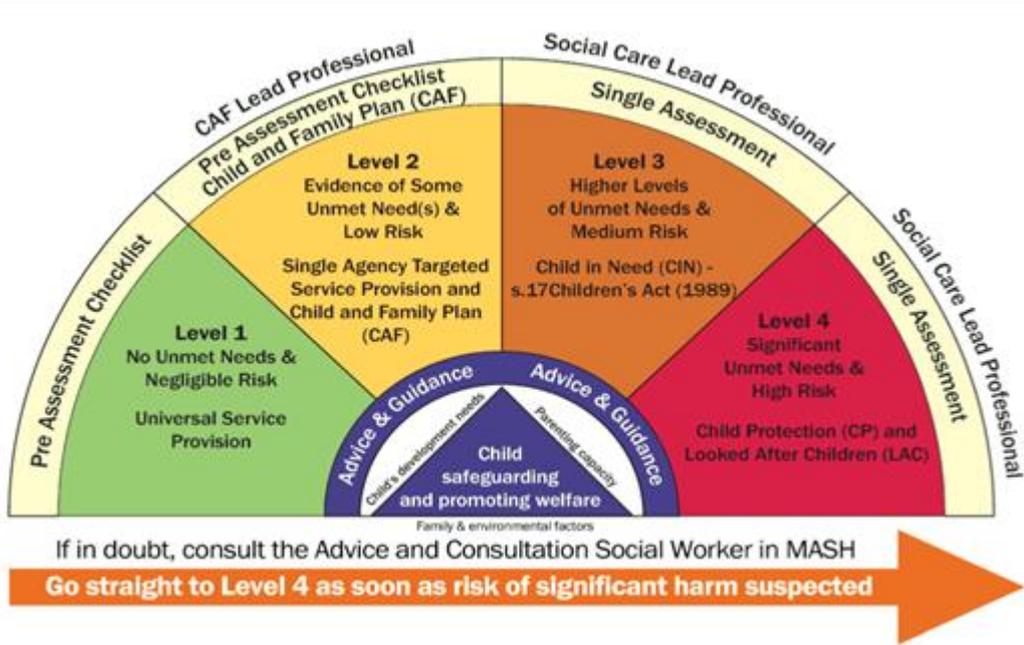
Appendix Two: High Risk Indicators

Those elements which, by their presence, do constitute a risk

- Previous involvement in child physical and sexual abuse / neglect

- History of being significantly harmed through neglect as a child

- Seriousness of abuse (and impact on the child)

- Age of the child (particularly if less than three years old)

- Incidence of abuse (how much abuse over how long a period of time)

- Record of previous violent / sexual offending (against both children and adults)

- Evidence of disorganised attachment in the adult

- Older child removed or relinquished

- Unexplained bruising (particularly in pre mobile children)

- Uncontrolled mental health difficulties (including periods of hospitalisation)

- Personality disorders

- Chaotic drug / alcohol misuse

- Denial / failure to accept responsibility for abuse / neglect

- Unwillingness / inability to put child's needs first and take protective action

- Cognitive distortions about the use of violence and appropriate sexual behaviour

- Inability to keep self safe

- Unrealistic, age inappropriate expectations of the child

This list is extensive but not exhaustive. From the work of Dalgleish and Drew.

Appendix Three: Underlying Risk Factors

Those elements that are often present in risk situations but which do not, of themselves, constitute a risk:

- Poverty

- Poor housing

- Lack of support network / isolation

- Experiences of poor parenting

- Low educational attainment

- Physical / learning disability (adult / child)

- Mental health difficulties (adult / child)

- Drug and alcohol use / misuse

- Victimisation from abuse / neglect

- Disordered / discordant relationships

- Previous history of offending

- Rejecting / antagonistic to professional support

- Behavioural/emotional difficulties in parent

- Behaviour / emotional difficulties in child

- Young, inexperienced parent

- Physical ill health (adult / child)

- Unresolved loss or grief

Appendix Four: Examples of Screenshots 2014 - 2017

Screen shots 2014 ITunes Store Search Term Stay Safe
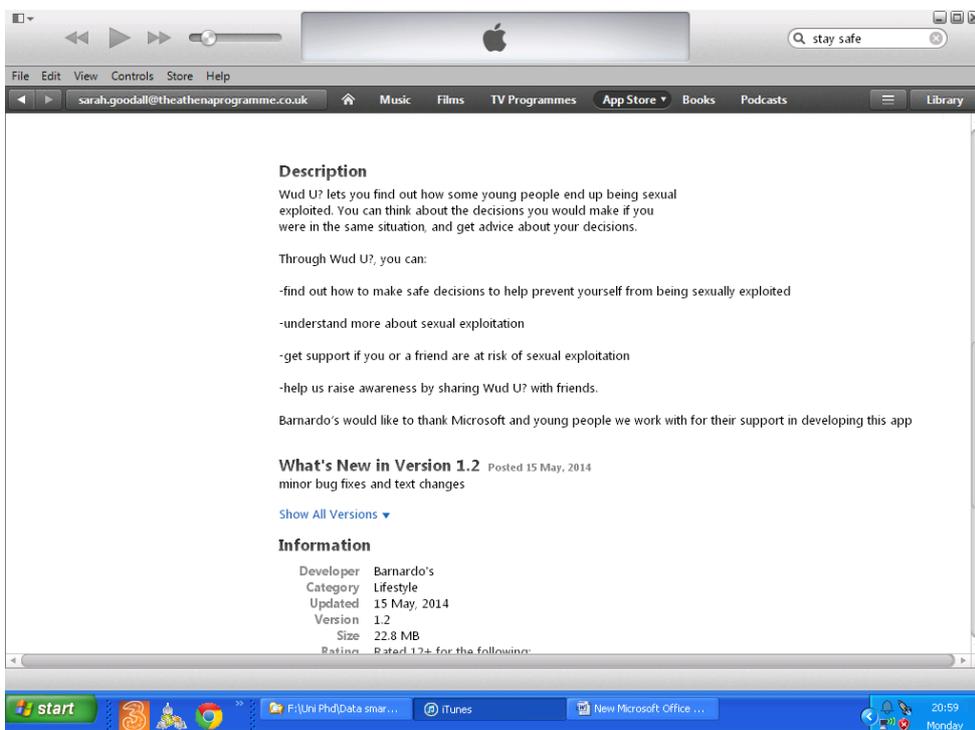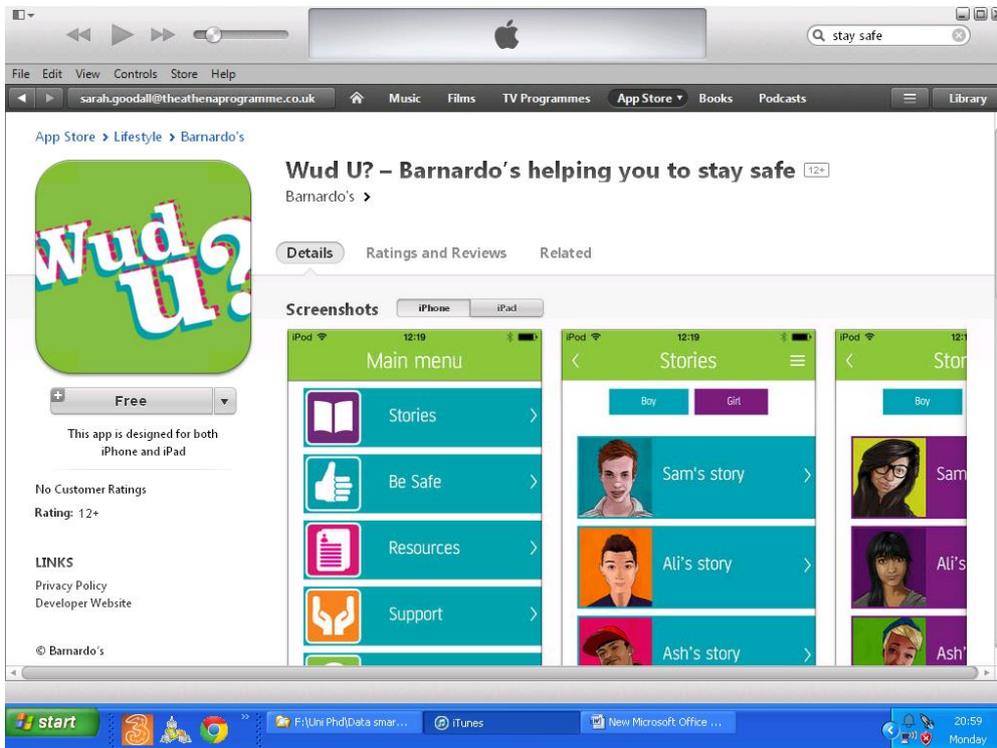
Screen shots 2014 Android Market Search Term Young People
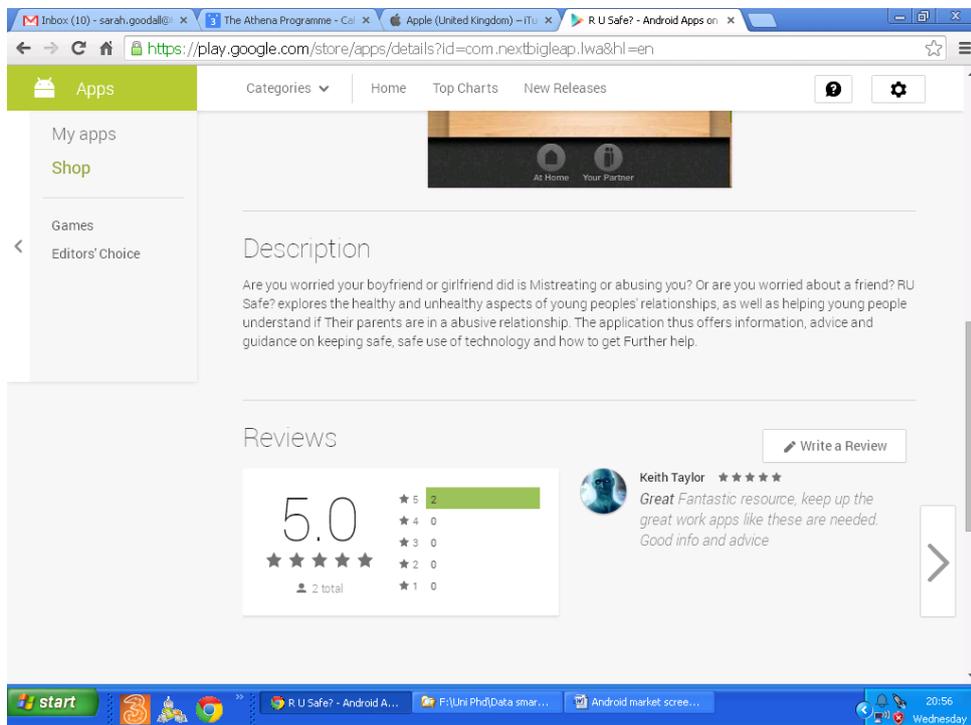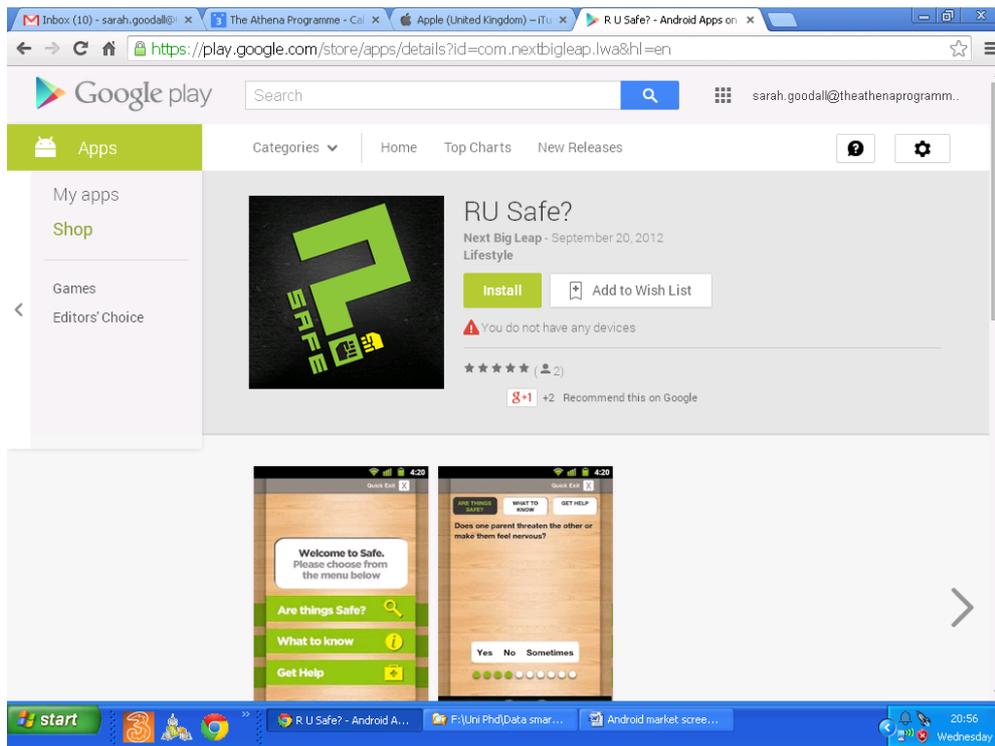
Screen shots 2017 ITunes Store Search Term Safeguarding
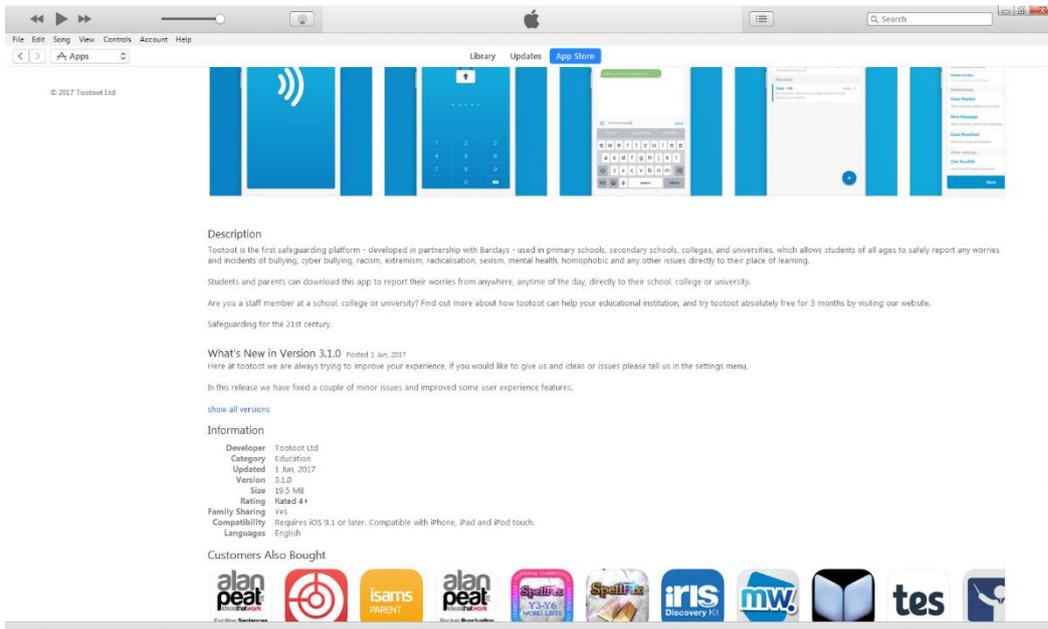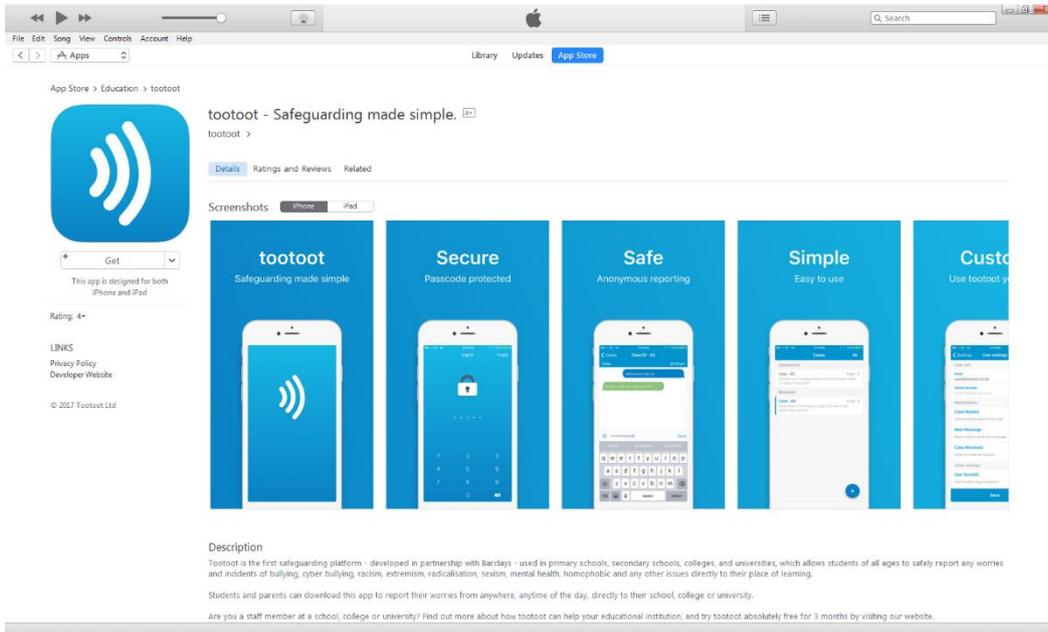
Screen shots 2017 Android Market Search Term NHS Young People

Appendix Five: Ethical Approval

Lancaster University

From: Ethics (RSO) Enquiries
Sent: 12 April 2016 17:19
To: Goodall, Sarah
Cc: May-Chahal, Corinne
Subject: Stage 1 self assessment approval UREC reference RS2015-158

Dear Sarah

Thank you for submitting your completed stage 1 self-assessment form and additional information for **Creative arts based technologies for interagency working together in safeguarding children and young people.** The Part B information has been reviewed by members of the University Research Ethics Committee and I can confirm that approval has been granted for this project.

Also, thank you for confirming on your project questionnaire that you are seeking R&D approval. If Lancaster will be named as the sponsor on the R&D application form please submit it to me (attached to an email) & quote your UREC ref no: RS2015-158 in all correspondence.

As principal investigator your responsibilities include:

- ensuring that (where applicable) all the necessary legal and regulatory requirements in order to conduct the research are met, and the necessary licenses and approvals have been obtained;

- reporting any ethics-related issues that occur during the course of the research or arising from the research (e.g. unforeseen ethical issues, complaints about the conduct of the research, adverse reactions such as extreme distress) to the Research Ethics Officer;

- submitting details of proposed substantive amendments to the protocol to the Research Ethics Officer for approval.

Please contact the Research Ethics Officer, Debbie Knight (ethics@lancaster.ac.uk 01542 592605 if you have any queries or require further information.

Kind regards,

Debbie

Debbie Knight | Research Ethics Officer | Email: ethics@lancaster.ac.uk | Phone (01524) 592605 | Research Support Office, B58 Bowland Main, Lancaster University, LA1 4YT

Web: Ethical Research at Lancaster: http://www.lancaster.ac.uk/depts/research/ethics.html

Health Research Authority Approval

Appendix Six: Ethics Forms (Invitation and Consent Letters)

Children Service Letter – Head of Service – Social Work & Early Help

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child-centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. I would need permission to approach social workers to ask them if they would like to participate in this piece of research. Their participation would include helping me to identify suitable young people to take part in the study and assisting me to send out letters and consent forms to parents or guardians of young people who wish to take part. This would also include allowing young people for whom consent is given, and also who give consent themselves, to complete the workshops during the day. This should take between one and three hours of a young person's time.
3. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked draw in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observation notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone, unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Education - Head of Service - Consent Letter

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research, I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child-centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to recruit participants from among the students currently enrolled in schools in your Local Authority area. The project will involve student workshops as part of the PHSE curriculum under the heading of the use of technology and keeping safe. The workshops will involve students drawing, interviewing their peers, article writing and completing a questionnaire.

I would need permission to approach the Head Teachers' Forums for both primary and secondary schools to ask them if they would like to participate in this piece of research. Their participation would include helping me to identify suitable classes of students to take part in the study and assisting me to send out letters and consent forms to parents or guardians of students who wish to take part. This would also include allowing students for whom consent is given, and also who give consent themselves, to complete the workshops during school hours. This should take between one and three hours of a pupil's time.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments, questions or complaints about this research, please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission, I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Health Letter - Designated Safeguarding Lead

IRAS ID: 208169. Study Title: Creative arts based technologies for safeguarding

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications for example mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observation notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, I will report this information to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Health Consent Form – Designated Safeguarding Lead

IRAS ID: 208169. Creative arts based technologies for safeguarding

I, (insert name)……………………………….……, confirm that (insert name of NHS Trust) will

(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours.	

I understand that (name of NHS Trust) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I ………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Designated Safeguarding Lead :……………………………………………………….

Date: …………………………………………………..

Local Authority Letter – Director of Children Services

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications for example mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. A workshop with a small number of young people that have experience or are involved with the child protection system under the heading of the use of technology and keeping safe. The workshop will involve young people drawing, interviewing their peers, article writing and completing a questionnaire.
3. I would need permission to approach social workers to ask them if they would like to participate in this piece of research. Their participation would include helping me to identify suitable young people to take part in the study and assisting me to send out letters and consent forms to parents or guardians of young people who wish to take part. This would also include allowing young people for whom consent is given, and also who give consent themselves, to complete the workshops during the day. This should take between one and three hours of a young person's time.
4. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team managers and team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete

questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Local Authority Letter – Head of Education

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications for example mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child-centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team manager and team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password protected laptop and the recording device will be stored in a locked draw in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Police Letter – Detective Inspector

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research, I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Social Workers and Responsible others consent letter

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department at Lancaster University. As part of my research, I am carrying out a project looking at new ways that technology can be incorporated in child protection systems so that children and young people's voices can be heard. I hope that the information I gather will help suggest ways for children and young people that feel unsafe to use new technology to let us know, for example mobile phone applications.

I am writing to ask if you would be willing to seek permission for me to ask a child or children that you are responsible for, if they would like to take part in the research.

This will involve the children or young people taking part in a workshop as part of the PHSE curriculum about the use of technology and keeping safe. The workshop will comprise of four activities:

1. Drawing pictures and writing about the pictures around 'being safe' and 'who would be a safe person to tell if you felt unsafe'.
2. Interviewing in pairs to create a list of questions on how to share information if they had an application to do so.
3. Writing an article or a story about how they would design an application.
4. Completing a questionnaire.

This project will be supervised by Professor Corrine May-Chahal of Lancaster University. The workshops will take place at (insert school name) during normal school hours and will take between one and, at most, three hours of the child's or children's time. If the children or young people do not attend the same school, a neutral external venue will be used, for example a local community centre. The children or young people who participate in this research will be treated confidentially and all information will be kept anonymously, meaning that no one will be able to work out what it is the child or young person has said or written.

Please also see the attached information sheet which provides additional project information.

If you have any comments, questions or complaints about this research, please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

Many thanks in advance for your consideration of this project. Please let me know if you need more information. I would appreciate it if you could complete the attached permission slip and return it by post in the enclosed stamped addressed envelope.

Kind regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Voluntary Sector Organisation Letter – CEO

Address

Date

Dear (insert name)

I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications for example mobile phone applications for safeguarding children and young people. I will be focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am writing to enquire whether you would give me permission to observe the Multi-agency Safeguarding Hub (MASH).

The project will involve:

1. Observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.
2. A focus group with the team members of the MASH. This focus group would take no longer than 2 hours.

I would need permission to approach the MASH team members to ask them if they would like to participate in this piece of research.

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

If you have any comments or questions and complaints about this research please could you contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: c.may-chahal@lancaster.ac.uk **Tel:** 01524 594104

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

If you would be willing to give me permission I would appreciate it if you could sign the enclosed form and return it in the envelope provided. Many thanks in advance for your consideration of this project. Please let me know if you require any further information.

Regards

Sarah Carlick

Researcher

B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW

E-mail: s.carlick@lancaster.ac.uk **Tel:** 0776 176 2498

Parental Letter

Who I am and where I am from:

My name is Sarah Carlick I am a PhD student in the Sociology Department of Lancaster University. As part of my research, I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people.

I am a qualified social worker and I understand that staff and children taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

Invitation

The children were invited to take part in this research study.

Why have you been invited?

The school and or social care teams in the study have been selected randomly within the Local Authority area.

Methodology includes:
- An observation the Multi-Agency Safeguarding Hub (MASH)
- Workshops with children and young people
- A focus group with the professionals located in the MASH that was subject to the observation

What is involved in the study?

This involved the children or young people taking part in a workshop as part of the PHSE curriculum about the use of technology and keeping safe. The workshop will involved the following:

1. Drawing pictures and writing about the pictures and writing about the apps
2. Interviewing in pairs to create a list of questions on how to share information if they had an application to do so.
3. Writing an article or a story about how they would design an application.
4. Completing a questionnaire.

I wanted to collect children and young people's ideas about what new ways that technology or apps can be put into the child protection system. I needed to collect information from children to understand ways of designing applications that could help other children young people.

Benefits to taking part in the study

Children and young people are not likely to directly benefit from being in the research study. This study is designed to learn about 'applications' for smart phones/iPad/tablets for safeguarding and sharing information. The study results may be used to help other professionals and children and young people in the future.

Confidentiality and Anonymity

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete

questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

All reference to children and families that are mentioned, discussed or referred to will be made anonymous. Agreement of the most suitable forms of anonymity will be made with the MASH team before the findings are shared or published.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

What happens to the data storage and reporting?

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

How you will be informed of the results

The information / data from the workshops will be fed back in the format of an online newspaper. This will be sent out by the school staff.

Any potential for harm (safeguarding disclosures)

To the best of my knowledge, the things children and young people would be doing in this workshop do not involve any physical or emotional risk to them beyond that of everyday life.

In case they wish to discuss anything, there will be a professional known to them, for example teacher/ key worker, in the room when the workshop is taking place. If, for example, they felt emotional or upset when participating, they can tell the researcher at any time they want to take a break, stop or leave the group.

I will treat anything that children and young people say or write in the workshop in confidence unless:

a. they agree it can be shared

b. It leads me to believe that they are at risk of being unsafe. In this case, I will inform them that I will have to share the information with their teacher or key worker ʻbecause of my concern for your welfare.

Incentives

Children and young people received a gift voucher to say thanks for their time and effort.

Financial Information

Participation in this study will involve no cost to you or the children and young people. Children and young people will not be paid for participating in this study.

Appendix Seven: Ethics Forms (Participant Information Sheets)

IRAS ID: 208169. Creative arts based technologies for safeguarding

Information sheet for participants (team members) of the MASH observation.

Who I am and where I am from:

My name is Sarah Carlick I am a PhD student in the Sociology Department of Lancaster University. As part of my research, I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people. Focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

Invitation

I would like to invite you to take part in an observational study of the MASH. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information.

Why have you been invited?

The study will focus upon the professional relationship with the child / young person exploring how are they positioned in information-sharing relationships and whether new technologies can improve these relationships. It will explore the use of technology such as applications and whether they can and cannot contribute to information-sharing and managing risk. The 'child's journey' and safety planning issues are a key focus. My aim is to observe the space between the interactions of the staff in the MASH and not scrutinise the data that is shared.

Methodology includes:

- An observation the Multi-Agency Safeguarding Hub (MASH)
- Workshops with children and young people
- A focus group with the professionals located in the MASH that was subject to the observation

What is involved in the study?

You will be asked to take part in an observational study. I would be observing the professionals located in the MASH for two five-day periods. My position would be as a research observer and it would require me to take field notes.

Benefits to taking part in the study

You are not likely to directly benefit from being in the research study. This study is designed to learn about 'applications' for smart phones/iPad/tablets for safeguarding and sharing information. The study results may be used to help other professionals and children and young people in the future.

Confidentiality and Anonymity

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

All reference to children and families that are mentioned, discussed or referred to will be made anonymous. Agreement of the most suitable forms of anonymity will be made with the MASH team before the findings are shared or published.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will be impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

What happens to the data storage and reporting?

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

How will you be informed of the results?

I will feed back a separate summary of the findings of the observation with the participants.

Financial information

Participation in this study should not involve any financial cost to you.

Incentives

Although you may find participating interesting, there are no direct incentives for taking part.

Your rights as a research participants and rights to withdraw

Participation in this study is voluntary. You have the right not to participate at all or leave the focus group at any time. If you decide to withdraw from the focus group you will have the option of

withdrawing your data up to two weeks after the research has taken place, but after this time your data will remain within the study.

Are there any risks?

There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform the researcher and she will contact the relevant person to provide support.

Who can I contact if I have questions or concerns about this research?

If you have any comments or questions and complaints about this research please could you, in the first instance contact Sarah Carlick Researcher B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW E-mail: s.carlick@lancaster.ac.uk Tel: 0776 176 2498.

Thereafter, if necessary please contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. E-mail: c.may-chahal@lancaster.ac.uk Tel: 01524 594104

An independent contact Professor Karen Broadhurst, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. Email: k.broadhurst@lancaster.ac.uk Tel: (01524) 594126

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee and the Health Research Authority GM East REC.

IRAS ID: 208169. Creative arts based technologies for safeguarding

Information sheet for participants of the focus group

Who I am and where I am from:

My name is Sarah Carlick and I am a PhD student in the Sociology Department of Lancaster University. As part of my research I am carrying out a study looking at the design of technology applications for example mobile phone applications for safeguarding children and young people. I will be focusing on self-management and managing risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child-centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

Invitation

I would like to invite you to take part in a focus group. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information.

Why have you been invited?

The study will focus upon the professional relationship with the child / young person exploring how are they positioned in information-sharing relationships and whether new technologies can improve these relationships. It will explore the use of technology such as applications and whether they can and cannot contribute to information sharing and managing risk. The 'child's journey' and safety planning issues are a key focus.

Methodology includes:

- An observation the Multi-Agency Safeguarding Hub (MASH)
- Workshops with children and young people
- A focus group with the professionals that are located in the MASH that was subject of the observation

What is involved in the study?

If you decide to participate, you will be asked to meet with me and other members of the MASH team in a focus group in which we will discuss the findings from the observation and workshops.

The focus group will take place at a mutually agreed time and place, and should take no longer than two hours. With your permission, I would like to audio record the focus group, to make sure that I remember accurately all the information.

Benefits to taking part in the study

You are not likely to directly benefit from being in the research study. This study is designed to learn about 'applications' for smart phones/iPad/tablets for safeguarding and sharing information. The study results may be used to help other professionals, children and young people in the future.

Confidentiality

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the workshop activities and the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

What happens to the data, storage and reporting

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

I will feed back a separate summary of the findings of the focus group with the participants.

Financial Information

Participation in this study should not involve any financial cost to you.

Your rights as a research participant

Participation in this study is voluntary. You have the right not to participate at all or leave the focus group at any time. If you decide to withdraw from the focus group, the researcher will ask if the information already collected from you can be used.

Who can I contact if I have questions or concerns about this research?

If you have any comments or questions and complaints about this research please could you, in the first instance contact Sarah Carlick Researcher B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW E-mail: s.carlick@lancaster.ac.uk Tel: 0776 176 2498.

Thereafter, if necessary please contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. E-mail: c.may-chahal@lancaster.ac.uk Tel: 01524 594104

An independent contact Professor Karen Broadhurst, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. Email: k.broadhurst@lancaster.ac.uk Tel: (01524) 594126

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee and the Health Research Authority GM East REC.

Parental Information Sheet

Who I am and where I am from:

My name is Sarah Carlick I am a PhD student in the Sociology Department of Lancaster University. As part of my research, I am carrying out a study looking at the design of technology applications, for example, mobile phone applications for safeguarding children and young people. Focusing on self-management and manging risk wherein children and young people are positioned as partners in sharing information in real time with professionals located within the Multi-agency Safeguarding Hub (MASH). The aim is to enhance the child's journey, within a child-centred approach, in line with current policy development and legislation following the Munro Review of Child Protection (DfE, 2011).

I am a qualified social worker and I understand that staff or young people taking part in this study will do so confidentially. I am bound to maintaining confidentiality as I am bound by the Social Work Code of Ethics under the British Association of Social Work. I currently hold an enhanced DBS check.

Invitation

Young people and children have been invited to take part in a research study as outlined in the attached letter. Please take whatever time you need to discuss the study with your family and friends, or anyone else you wish to.

Why have you been invited?
The schools and or social care teams in the study have been selected randomly within the Local Authority area.

Methodology includes:
- An observation the Multi-Agency Safeguarding Hub (MASH)
- Workshops with children and young people
- A focus group with the professionals located in the MASH that was subject to the observation

What is involved in the study?
This will involve the children or young people taking part in a workshop as part of the PHSE curriculum about the use of technology and keeping safe. The workshop will involve the following:

5. Drawing pictures and writing about the pictures and writing about the apps
6. Interviewing in pairs to create a list of questions on how to share information if they had an application to do so.
7. Writing an article or a story about how they would design an application.
8. Completing a questionnaire.

I want to collect children and young people's ideas about what new ways that technology or apps can be put into the child protection system. I need to collect information from children and young people to understand ways of designing applications that could help other children young people.

Benefits to taking part in the study

Children and young people are not likely to directly benefit from being in the research study. This study is designed to learn about 'applications' for smart phones/iPad/tablets for safeguarding and sharing information. The study results may be used to help other professionals and children and young people in the future.

Confidentiality and Anonymity

All data collection and contributions will be anonymised. Anonymising means that the information cannot be related back to its subjects through other data held. For example, participants will complete questionnaires anonymously without an individual identity code that could then be used by the research to identify the individual.

All reference to children and families that are mentioned, discussed or referred to will be made anonymous. Agreement of the most suitable forms of anonymity will be made with the MASH team before the findings are shared or published.

My laptop and audio recorder will be encrypted. Contact details will be held separately from any observations notes, workshop data and audio recordings and it will impossible to associate them together. I intend to keep anonymised research records for future research purposes. No personal or private information shared with me by any participant will be shared with anyone unless I learn about historic, current or ongoing child abuse or neglect, which I will report to the appropriate authorities.

The findings of this project will be written up as part of my PhD thesis. The findings will be published, and they may also be used for teaching and training. The data will be stored securely, for a minimum of 10 years. The written work may include direct quotations from the focus group, but individuals will never be named. Please feel free to ask my any further questions you may have about the project. My contact details are below.

What happens to the data storage and reporting?

Audio recording files, transcribed text files, written notes and workshop data and the audio recording device will be stored securely: audio files and transcribed text files will be stored in a password-protected laptop and the recording device will be stored in a locked drawer in a university office at the Department of Sociology.

How you will be informed of the results

The information / data from the workshops will be fed back in the format of an online newspaper. This will be sent out by the school staff.

Any potential for harm (safeguarding disclosures)

To the best of my knowledge, the things children and young people would be doing in this workshop do not involve any physical or emotional risk to them beyond that of everyday life.

In case they wish to discuss anything, there will be a professional known to them, for example teacher/ key worker, in the room when the workshop is taking place. If, for example, they felt emotional or upset when participating, they can tell the researcher at any time they want to take a break, stop or leave the group.

I will treat anything that children and young people say or write in the workshop in confidence unless:

c. they agree it can be shared

d.   It leads me to believe that they are at risk of being unsafe. In this case, I will inform them that I will have to share the information with their teacher or key worker 'because of my concern for your welfare.

Incentives

Children and young people will receive a gift voucher to say thanks for their time and effort.

Financial Information

Participation in this study will involve no cost to you or the children and young people. Children and young people will not be paid for participating in this study.

Your rights as a research participants and rights to withdraw

Participation in this study is voluntary. Children and young people have the right not to participate at all or leave the workshop at any time. If they decide to withdraw from the workshop they will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study. If a child or young person decides not to be in this study, this will not affect their relationship with their school, or other services they are receiving in any way.

Are there any risks?

There are no risks anticipated with participating in this study. However, if you experience any distress following participation you are encouraged to inform the researcher and she will contact the relevant person to provide support.

Who can I contact if I have questions or concerns about this research?

If you have any comments or questions and complaints about this research please could you, in the first instance contact Sarah Carlick Researcher B109 Department of Sociology, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW E-mail: s.carlick@lancaster.ac.uk Tel: 0776 176 2498.

Thereafter, if necessary please contact my supervisor, using the following contact details: Professor Corinne May-Chahal, Head of Department, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. E-mail: c.may-chahal@lancaster.ac.uk Tel: 01524 594104

An independent contact Professor Karen Broadhurst, Lancaster University, Sociology, Bailrigg, Lancaster LA1 4YW. Email: k.broadhurst@lancaster.ac.uk Tel: (01524) 594126

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee and the Health Research Authority GM East REC.

Young Person Information Sheet

Who I am and where I am from?

My name Sarah Carlick and I am a research student at Lancaster University.

Tell us what you think!

I am inviting you to take part in a research project. Before you take part I would like to tell you about why the project is being done and what it will happen. If you do not understand anything just ask.

What I am doing?

I am looking at the design of 'apps' for young people to keep them safe. The app is to help children and young people share information with professionals.

I would like to know how young people

- think the app could work
- what the app should look like
- what sort of things could be in an app

I am also going to be talking to professional people such as social workers, teachers, police officers and health workers.

Why do this study?

I want to collect young people's ideas about what new ways that technology or apps can be put into the child protection system. I need to collect information from young people to understand ways of designing applications that could help other young people.

What will you have to do?

I am asking you to be part of a workshop in school time about the use of apps and keeping safe. The workshop will have four activities:

1. Drawing pictures and writing about the apps

2. In pairs, creating a list of questions on how to share information on an app.

3. Writing a story about how you would design an app.

4. Completing a questionnaire.

What will the workshop will be about?

I am interested in:

- Talking about different 'apps'
- How you would share information with your friends and with professional people if you felt unsafe
- What you think of the design of an 'app'
- Being safe
- How you would get help if you needed to

Will you get anything for helping?

Yes. I will give you a gift voucher to say thank you for your time and effort.

How long will participation take?

The workshop will take between one and three hours of your time.

What will happen to the information I collect from you?

All the information from the workshops will be put together into an online newspaper which will be shared with you.

What if I want to say something about being unsafe?

I am confident that the things we are going to do in the workshops will not cause you any harm.

In case you wish to talk about anything, there will be a professional you know, for example a teacher or key worker, in the room when the workshop is taking place. If you feel upset in the workshop you can tell me at any time and take a break, stop or leave the group.

What you say or write in the workshop will be in confidence unless you agree I can tell other people. If I believe you are at risk of being unsafe I will tell you and will have to share the information with my teacher or key worker because I am worried about you.

Confidentiality and making things anonymous

All the activities in the workshop will be made anonymous. This means there will be nothing that will let other people work out what you have said. For example the questionnaire you fill out with have a code rather than your name.

My laptop will have a special code to get into it. All your personal details will be kept will be kept in a locked cupboard at the University so nobody can identify you. No

personal or private information about you will be shared, unless I believe you are at risk of harm.

Your identity will be treated as confidential in any information from the workshop.

What happens to the information from the workshops?

All the pictures, writing and questionnaires from the workshop activities will be kept in a locked cupboard at the University.

Who can I contact if I have any questions or complaints?

If you have any comments or questions and complaints about this reseaerch you can speak to me first, Sarah Carlick Researcher, E-mail s.carlick@lancaster.ac.uk Tel: 07761762498. You can also speak to my teacher, Professor Corinne May-Chahal, E-mail: c.may-chahal@lancaster.ac.uk Tel: 01524 594104

There is also another person at the university you can speak to. Her name is Professor Karen Broadhurst, Email: k.broadhurst@lancaster.ac.uk Tel: (01524) 594126

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee and the Health Research Authority GM East REC.

Children Information Sheet

Who I am?

My name Sarah Carlick and I am a student at Lancaster University.

Tell us what you think!

I would like you to take part in a project. Before you take part, I would like to tell you about why the project is being done and what will happen. It is ok to ask.

What I am doing?

I am looking at the design of 'apps' for kids to keep them safe.

The app is to help kids tell teachers or police officers when they do not feel safe.

I would like to know how children:

- think the app could work
- what the app looks like
- what sort of things could be in an app

I am also going to be talking to people such as social workers, teachers, police officers and health workers.

Why do this project?

I want to collect children's ideas about what new ways apps can help keep kids safer. I need to collect information from children to find ways of making apps that could help other children.

What will you have to do?

I am asking you to be part of a workshop in school time about apps and keeping safe. The workshop will have four activities:

1. Drawing pictures and writing about them

2. In pairs, creating a list of questions on how to share information on an app.

3. Writing a story about how you would design an app.

4. Filling in a questionnaire.

What will the workshop will be about?

- To talk about apps
- How you would tell your friends and other people if you feel unsafe
- Your ideas for an app
- Being safe
- How you would get help

Will you get anything for helping?

Yes. I will give you a gift voucher to say thank you for coming to the workshop.

How long will participation take?

The workshop will take 1 to 3 hours.

What will happen to the information I collect from you?

All the things from the workshop will be made into a newspaper you can see on an iPad or computer.

What if I want to say something about being unsafe?

I think that the things we are going to do in the workshops will not make you feel unsafe or unhappy.

If you want to talk about anything, there will be a professional you

know in the room, which will be your teacher or key worker. If you feel upset in the workshop, you can tell me at any time and take a break, stop or leave the group.

What you say or write in the workshop will be in confidence unless you agree I can tell other people. If I believe you are at risk of being unsafe I will tell you and will have to share the information with my teacher or key worker because I am worried about you.

Confidentiality and making things anonymous

All the activities in the workshop will be made anonymous. This means there will be nothing that will let other people work out what you have said. For example, the questionnaire you fill out will have a code rather than your name.

My laptop will have a special code to get into it. All information, like your name and age, will be kept a secret, unless I believe you are at risk of harm.

Your identity will be treated as confidential in any information from the workshop.

What happens to the information from the workshops?

All the pictures, writing and questionnaires from the workshop activities will be kept in a locked cupboard at the University.

Who can I contact if I have any questions?

If you have any questions, you can speak to me first, Sarah Carlick Researcher, E-mail s.carlick@lancaster.ac.uk Tel: 07761762498. You can also speak to my teacher, Professor Corinne May-Chahal, E-mail: c.may-chahal@lancaster.ac.uk Tel: 01524 594104

There is also another person at the university you can speak to. Her name is Professor Karen Broadhurst,
Email: k.broadhurst@lancaster.ac.uk

Tel: (01524) 594126

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee and the Health Research Authority GM East REC.

Appendix Eight: Ethics Forms (Consent Forms)

LA Consent Letter – Director of Children's Services

Consent form

I, (insert name)……………………………….……, confirm that (insert name of LA) will
(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick permission to approach social workers to ask them if they would like to participate in this piece of research and to help her to identify suitable young people to take part in the study and to assist her to send out letters and consent forms to parents or guardians of young people who wish to take part.	
5.	Allow Sarah Carlick to facilitate a workshop with young people during the day. This workshop should take up to one hour and at the most three hours.	
6.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours.	

I understand that (name of Local Authority) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff or young people taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I ………………………………………….(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Children Services – Head of Service Social Work & Early Help
:……………………………………………………………

Date: ……………………………………………………………..

Consent Form Education - Head of Service

<div align="center">Consent form</div>

I, (insert name)………………………….……, confirm that (insert name of Education Service) will
(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours.	

I understand that (name of Education Service) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff or young people taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I …………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Head of Education :………………………………………………………….

Date: …………………………………………………………..

Police Consent Letter – Detective Inspector

Consent form

I, (insert name)……………………………….……, confirm that (insert name of Police Constabulary) will
(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours	

I understand that (name of Police Constabulary) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous.

All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I …………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Detective Inspector:…………………………………………………………

Date: ……………………………………………………..

Consent Form for Voluntary Sector Organisation – CEO

Consent form

I, (insert name)…………………………….……, confirm that (insert name of Organisation) will
(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours.	

I understand that (name of Organisation) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I ………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of CEO :………………………………………………………….

Date: …………………………………………………………..

Health Consent Form – Designated Safeguarding Lead

IRAS ID 208169

Consent form

I, (insert name)……………………………….……, confirm that (insert name of NHS Trust) will

(Please tick box as appropriate)

1.	Allow Sarah Carlick to send a consent letter to members of the Multi-agency Safeguarding Hub (MASH) for the observation of the MASH as part of the research project.	
2.	Allow Sarah Carlick to meet with individual team members in order to gain their consent to take part in her research project.	
3.	Allow Sarah Carlick to access the MASH office in which to conduct the observation.	
4.	Allow Sarah Carlick to facilitate a focus group with the team members of the MASH. This focus group would take no longer than 2 hours.	

I understand that (name of NHS Trust) participation in this study is entirely voluntary. I understand that the staff and young people in Sarah Carlick's research will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that staff taking part in this study will do so confidentially and that all information will be stored anonymously and securely. All information appearing in the any reports will be anonymous. All staff and young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I ………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Designated Safeguarding Lead :…………………………………………………….

Date: …………………………………………………..

Consent Form for Team Members

IRAS ID: 208169. Creative arts based technologies for safeguarding

Title of Project:

What new technologies can be incorporated into current interagency child protection systems to enable the child's voice to be heard?

Researcher: Sarah Carlick. Lancaster University

I, (insert name)………………………….……, confirm that (please tick box as appropriate)

1.	I have read and understand the information about the project, as provided in the Information Sheet dated…………………………….	
2.	I have been given the opportunity to ask questions about the project and my participation.	
3.	I voluntarily agree to participate in the observation of the MASH.	
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, anonymised data).	
6.	I consent to my involvement in an observational study and for the researcher to take field notes.	
7.	The use of data in research, publications, sharing and archiving has been explained to me.	
8.	I consent to take part in the observational study.	
9.	I, along with the researcher, agree to sign and date this informed consent form.	

Name of participant   Date   Signature

Name of Researcher   Date   Signature

Focus Group Consent Form for Participants
IRAS ID: 208169. Creative arts based technologies for safeguarding

Title of Project:

What new technologies can be incorporated into current interagency child protection systems to enable the child's voice to be heard?

Researcher: Sarah Carlick Lancaster University

I, (insert name)…………………………….……, confirm that (please tick box as appropriate)

1.	I have read and understand the information about the project, as provided in the Information Sheet dated……………………………….	
2.	I have been given the opportunity to ask questions about the project and my participation.	
3.	I voluntarily agree to participate in the project.	
4.	I understand I can withdraw at any time without giving reasons and that I will not be penalised for withdrawing nor will I be questioned on why I have withdrawn.	
5.	The procedures regarding confidentiality have been clearly explained (e.g. use of names, anonymised data) to me.	
6.	I consent to my involvement in a focus group and for it to be audio recorded.	
7.	The use of data in research, publications, sharing and archiving has been explained to me.	
8.	I consent to take part in the focus group	
9.	I agree to keep information discussed in the focus group confidential.	
10.	I, along with the researcher, agree to sign and date this informed consent form.	

This project has been reviewed and approved by members of Lancaster University Research Ethics Committee.

Name of participant   Date   Signature

Name of Researcher   Date   Signature

Head Teacher Consent Form – (Primary)

Insert name of school

Consent form

I, (insert name)…………………………….……, confirm that my school's participation on this project will
(Please tick box as appropriate)

1.	Assist Sarah Carlick to identify two groups of children aged 7-9 years to take part in her research project workshops.	
2.	Assist Sarah Carlick by sending a consent letter to the parent or guardian of the children selected in order to obtain parental consent for their child to take part in the research project workshops.	
3.	Allow Sarah Carlick to meet with children in order to gain their consent to take part in her research project.	
4.	Allow Sarah Carlick to facilitate workshops with children during school hours. These workshops should take one to three hours.	

I understand that my school's participation in this study is entirely voluntary. I understand that the children in Sarah Carlick's workshops will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that I must keep the identity of all children who participate confidential.

I understand that the identity of children will be treated confidentially by Sarah Carlick and that all information will be stored anonymously and securely until the end of the study. All information appearing in the final on-line newspaper and reports will be anonymous. All children will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I …………………………………………(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Head teacher:……………………………………………………….

Date: …………………………………………………..

Head Teacher Consent Form – (secondary)

Insert name of school

Consent form

I, (insert name)……………………………….……, confirm that my school's participation on this project will
(Please tick box as appropriate)

1.	Assist Sarah Carlick to identify two groups of students aged 11+ years to take part in her research project workshops.		
2.	Assist Sarah Carlick by sending a consent letter to the parent or guardian of the students selected in order to obtain parental consent for their child to take part in the research project workshops.		
3.	Allow Sarah Carlick to meet with students in order to gain their consent to take part in her research project.		
4.	Allow Sarah Carlick to facilitate workshops with students during school hours. These workshops should take one to three hours.		

I understand that my school's participation in this study is entirely voluntary. I understand that the students in Sarah Carlick's workshops will also be free to withdraw themselves from the study at any time and without giving reason.

I understand that I must keep the identity of all students who participate confidential.

I understand that the identity of students will be treated confidentially by Sarah Carlick and that all information will be stored anonymously and securely until the end of the study. All information appearing in the final online newspaper and reports will be anonymous. All young people will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided with feedback about the findings of the study.

I ………………………………………….(NAME) consent to Sarah Carlick proceeding with this study with the supervision of Professor Corrine May-Chahal.

Signature of Head teacher:………………………………………………………….

Date: …………………………………………………………..

Social worker and responsible other Consent Form

I, (insert name)…………………………………… understand that children and young people's participation in this project will involve:

Taking part in a workshop with Sarah Carlick, as part of the PHSE curriculum about the use of technology and keeping safe. The workshop will comprise of four activities:

(Please tick box as appropriate)

1.	Drawing pictures and writing about the pictures around 'being safe' and 'who would be a safe person to tell if you felt unsafe'.	
2.	Interviewing in pairs to create a list of questions on how to share information if they had an application to do so.	
3.	Writing an article or a story about how they would design an application.	
4.	Completing a questionnaire.	

The workshop data will be fully anonymised when it is collated and put together as an online newspaper.

I understand my child's participation in this study is entirely voluntary and they can withdraw from the study at any time without giving a reason.

I understand that their participation will be treated confidentially and all information will be stored anonymously and securely. All information appearing in the online newspaper or the final report will be anonymous. My child will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.

I have had all my questions in relation to this project answered to my satisfaction.

I also understand that at the end of the study I will be provided feedback about the study.

I,_____(NAME) consent to (Sarah Carlick) proceeding with this study with the supervision of Professor Corinne May-Chahal.

Signature of Social Worker:…………………………………………………….

Date: …………………………………………………….

Name of Child: ………………………………………………….

Parental Consent Form

Title of Project:

What new technologies can be incorporated into current interagency child protection systems to enable the child's voice to be heard?

Researcher: Sarah Carlick. Lancaster University

I, (insert name)……………………………….……, confirm that (please tick box as appropriate)

 (Please tick box as appropriate)

1.	I agree to my child's participation in the workshop.	
2.	All pictures, writing and questionnaires (data) will be kept anonymously once it has been collected.	
3.	All information appearing in the online newspaper or the final report will be anonymous.	
4.	I understand my child's participation in this study is entirely voluntary and they can withdraw from the study at any time without giving a reason.	
5.	I understand that their participation will be treated confidentially and all information will be stored anonymously and securely.	
6.	My child will have the option of withdrawing their data up to two weeks after the research has taken place, but after this time their data will remain within the study.	
7.	I have had all my questions in relation to this project answered to my satisfaction	
8.	I also understand that at the end of the study I will be provided with feedback about the study.	

I,_____(NAME) consent to (Sarah Carlick) proceeding with this study with the supervision of Professor Corinne May-Chahal.

Signature of Parent or Guardian:………………………………………………….

Date: ………………………………………………….

Name of Child: …………………………………………………

Young Person Information Sheet and consent form

As an informed participant of this research study I understand that:

(Please tick box as appropriate)

1.	My participation is voluntary and I may stop taking part in this workshop at any time and without giving a reason.	
2.	All pictures, writing and questionnaires (data) will be kept anonymously once it has been collected. This means that it will be not be possible to link information back to me.	
3.	All information appearing in the online newspaper will be anonymous. This means there will be nothing that will let other people to work out what I said.	
4.	The research has been reviewed and approved by the members of Lancaster University Ethics Committee. This means it has been approved by a panel of professionals to make sure it meets high standards.	
5.	All my questions about the study have been answered and I am aware of what I am being asked to do.	
6.	Sarah Carlick will treat my participation in this study confidentially and that anything I say or write in the workshop will be treated confidentially, unless it leads Sarah Carlick to believe that I am at risk of being unsafe. In this case, she will be unable to keep this information confidential. If this happens she will inform me that she will have to share the information with my teacher or key worker because of her concern for my welfare.	

I have read and understood the above, and agree to take part:

Young Person's signature:…………………………………………………………………

Date:……………………………………………………………………………………….

I have explained the above and answered all questions asked by the participant:

Researcher's signature:………………………………………………………………

Date:………………………………………………………………………………..

Children assent form

As an informed participant of this research study I understand that:

(Please tick box as appropriate)

1.	I am taking part because I want to and I may stop taking part in this workshop at any time and without saying why.	
2.	All pictures, writing and questionnaires (data) will be kept anonymously once it has been collected. This means that it will be not be possible for anyone to know they are from me.	
3.	All information in the online newspaper will be anonymous. This means other people will be able to work out what I said but will not know it is me who said it.	
4.	The research has been reviewed and approved by members of the Lancaster University Ethics Committee. This means a panel of professionals have agreed it is safe and it is worth doing.	
5.	I have been able to ask questions about the study and these questions have been answered.	
6.	I understand what I am being asked to do.	
7.	Sarah Carlick will treat anything I say or write in the workshop in confidence unless: a. I agree it can be shared b. It leads Sarah Carlick to believe that I am at risk of being unsafe. In this case, she will inform me that she will have to share the information with my teacher or key worker because of her concern for my welfare.	

I have read and understood the above, and agree to take part:

Child's signature:…………………………………………………………………

Date:………………………………………………………………………………..

I have explained the above and answered all questions asked by the participant:

Researcher's signature:………………………………………………………………

Date:…………………………………………………………………………………..

Appendix Nine: MASH Databases

Name of Data Base	Brief Description	Data Fields	Hosting Agency	Access	National or Local
Early Help Module (EHM) / Protocol (new system)	The EHM is a complete solution designed to act as a general case management tool for children outside of Social Care. The EHM is part of the overall Multi Agency Children's System and can be made available to any number of users in any number of agencies.	MASH Episode and associated Trays	LA Children's Services	Team Manager (Children's Services) Referral Information Coordinators Advice & Consultation Social Worker Advanced Practitioner Social Worker Engage Social Worker Child Support Worker Safeguarding Practitioner (NHS) Education Safeguarding Officer Partnership Family & County Manager (Substance Misues)	Local
Liquid Logic Children's Social Care (LCS) (old system)	A software solution to support integrated care, particularly across social care and health, and in children's services.	Case management and record keeping for children in need, looked after children, adoption and child protection cases.	LA Children's Services	Team Manager (Children's Services) Referral Information Coordinators Advice & Consultation Social Worker Advanced Practitioner Social Worker Engage Social Worker	Local

Police National Computer (PNC)	The PNC is a computer system used extensively by law enforcement organisations across the United Kingdom.	Names File - This contains a large amount of information about people who have been convicted, cautioned or recently arrested . This includes links to fingerprints and DNA. Vehicle file, Property file, Driver's file.	Police Constabulary	Police Sergeant Police Referral Clerks	National
PVP System	Police referral for Domestic Abuse, Vulnerable Adult and/or Vulnerable Child	All circumstances relating to the protection of vulnerable people.	Police Constabulary	Police Sergeant Police Referral Clerks IDVAC	Local
Sleuth	Intelligence System	Arrests of all offenders in the area, PVPs, intelligence stop checks.	Police Constabulary	Police Sergeant Police Referral Clerks IDVAC	Local
Connect System (police	Custody information.	Arrest and custody history. Previous addresses of	Police Constabulary	Police Sergeant	National

		offenders. .			
custody processing)					
Revenues & Benefits	Database of those in receipt of benefits.

Address and Date of birth. | Access to every single address in LA area and who lives there.

If you claim benefits who is living in the household and who's claiming benefits and previous addresses. | Capita (allow only 3 licences) | Referral information co-ordinators | Local |
| Swift (MOSAIC) | Adult referral system. | Demographics including name, GP, DOB, address, case notes, social worker involvement. | LA Adults Services | Team manager (Children's Services)

Referral information co-ordinators | Local |
| Tribal | School database | Finds schools registers i.e. schools, siblings, parents, phone numbers. | Education | Referral information co-ordinators | Local |
| E-Start | Early years register for attendance at children's centre. | Attendance registers and activities undertaken. Sibling information. | LA Early Years | Referral information co-ordinators

Education Safeguarding Officer | Local |
| Troubled | Spreadsheet (sent monthly) | List of names of professionals | LA Early Years | Referral information co-ordinators | Local |

Families	linked to supporting families	involved with the family..			
Family Support	Spreadsheet (sent monthly)	List of names of professionals involved with the family.	LA	Referral information co-ordinators	Local
ASSET	Assessment for young offenders	Demographics Core profile Risk assessment Key worker information	YOT	Referral information co-ordinators	National
National Offender Management Information System (NOMIS)	A single offender management IT system for the prison and probation services	Operational database used in prisons for the management of offenders. It contains offenders' personal details, age group, type of offence(s), type of custody excreta.	Prisons	MASH PNC Administrators	National
NDelius	Universal case recording system & database of all offenders known to probation	Cases that are known to national probation service – offender history, risk levels, alerts for	Probation	MASH PNC Administrators	National

		safeguarding, MAPPA, victim liaison.			
OAYas	Offender Assessment System	Assessment of reconviction rates identify and classify offending related needs Assessment of risk of harm (to self and others) Management of risk of harm links assessments, supervision and sentence plans indicates any need for further specialist assessments Measures how an offender changes during the period of supervision/ Sentence.	Probation / Prison Service	MASH PNC Administrators	National

Libra	Case management system (restricted access)	Magistrates' courts records	Magistrates' courts	MASH PNC Administrators	National
IAPs	Operational database for the management of accredited programme requirements in all probation trusts.	Codes for contact enties for the programmes team case management	Probation	MASH PNC Administrators	National
ERISS	Login for referral purposes to verify all incidents where an ambulance has been called to an address. .	Read receipts Name of person, reason for referral.	Northwest Ambulance Service NHS Trust	Referral Information Coordinators	Local
IAPTUS (Adults Mental Health)	Created to help therapists to work more efficiently. It's rich with features designed to speed up admin processes and improve patient flow.	The system includes standard built-in tools such as data collection and automatic uploads of the minimum dataset for government reporting, the ability to attach documents to patient records and to auto-create patient correspondence, along with the special features.	NHS	Safeguarding practitioner (NHS) Health Administrators (NHS)	National

ECR	Front screen to EDMS	Hospital information such as letters, appointments, home visits	NHS	Safeguarding Practitioner (NHS) Health Administrators (NHS)	Regional – Local
EDMS	Hospital	Hospital information such as letters, appointments, home visits.	NHS	Safeguarding Practitioner (NHS) Health Administrators (NHS)	Regional – Local
Spine Portal	GPs	GP address, previous names and addresses.	NHS	Health Administrators (NHS)	National
Chat Health	Chat health text service for children young people	Transcript of chat / conversation	NHS via school nurse	Safeguarding Practitioner (NHS)	National
CRIIS	Case management system for substance misuse	Demographics, treatment and intervention and key workers	Substance Misuse Service	Partnership Family & County Manager	National
Peter Lalley Microsoft Access Database	Homelessness and housing data system	Demographics, Homelessness presentations and needs, accommodations / outcomes, assessment details	Housing (LA)	Housing Needs Officer	Local

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