

Research Journeys: Making the Invisible, Visual

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ABSTRACT

We argue for a new way of using pictorial publications to communicate the social, cultural, and material contexts in which “in the wild” research is carried out. Such research often allows for partial researcher perspectives, as the researchers travel to, encounter, and leave these places. However, in HCI research, the journeys and interactions in and around these places are rarely reported directly in archival papers. We argue that those journeys and interactions directly inform how we make sense of the project, and thus should be recorded and shared appropriately. We argue that pictorials can be a format that breaks the boundary between “supplementary materials” and archival publications, and allows us to do that sharing function. We illustrate this argument through reporting of our Research Journey to a number of islands off the west coast of Ireland as part of a project that is developing technology to support rural community radio.

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Documentary; Sketching; Storytelling; Transparency;

CSS Concepts

•Human-centered computing~Human computer interaction (HCI)~HCI theory, concepts and models

INTRODUCTION

This paper aims to make two contributions. Firstly, we make an argument for using the relatively new “pictorial” format as a way of sharing information that is crucial to understanding the social, cultural and material context of community-focused HCI research projects, but which are difficult to share via other existing archival format. Secondly, we illustrate this argument by reporting on a *Research Journey* undertaken to a number of islands off the west coast of Ireland through a project that is developing technology to support rural community radio.

Over the past 20 years, HCI researchers have moved from studying interaction of one person with one computer in a lab setting, to studying the use of technology by groups of people “in the wild” (i.e., in the context in which those groups would be expected to encounter and use that technology). This move to studying technology use “in the wild,” brings with it new methods of doing research, of knowing, and of reporting findings. Indeed, HCI researchers frequently adopt the positioning and

methods of other social sciences, with ethnographic methods being particularly prevalent. However, the way we present the findings of this research has not changed significantly from the experimental, lab-based days. We argue that the way we do research about technology in collaboration with communities, requires more flexible means for reporting, and further, we look at the ways in which the ubiquitous positioning of communities as “in the wild” can be localised to visually account for the social, cultural and material environments in which HCI projects are accomplished.

Research does not take place in isolation from the real world, yet we only publish a small section of our findings, usually limited to the written word and diagrams, and constrained by page limits. This can also be the case with community and participatory focused research, despite its rich background. Much of our work is rendered invisible by current practices [34], so we seek to make the invisible visual and to bring to life contexts that the term “in the wild” can mask. There are calls for openness and transparency in business and government data, but also in the context of academic or industry based research. In HCI, this is being supported by the opportunity to provide data sets and supplementary material for review, but these are not always published alongside archival work. Such data sets also only provide part of the research story. Given that the current digital publishing model is based

on outmoded forms of charging (e.g. by the “page” [35]), and must support a range of audiences with different accessibility needs, there is the opportunity for change.

PARTIAL PERSPECTIVES

The partial researcher perspectives of the places we visit are what Ingold [18] might call “occupant” knowledge, that is knowledge garnered from visiting a rural location, rather than knowledge derived from dwelling there. Research in HCI has been criticised for taking this perspective [3], yet given funding considerations and competing commitments this type of perspective is often what informs research. In this pictorial, we own the position of partial perspectives as researchers that are not situated in the communities with which we collaborate. Rather, we are regular, or infrequent visitors. While such partial perspectives can privilege researcher knowledge over that of “inhabitant knowledge” [18], this pictorial explores the various different ways that images and sketches from our experiences illustrate how we are positioned and position the community, in an EU funded community radio innovation project on three rural islands in the West of Ireland. In doing so, we argue for the role of images and sketching as a method for engagement as partial perspective researchers by bringing to light our experiences. In this paper, we use imagery to try to understand the inhabitant perspective from outsider eyes, in ways that can help foster collaboration and understanding. We are particularly interested in how visual images can render what is invisible or often tacit to those with a partial perspective, particularly our colleagues who cannot visit but are involved in the design process. We find that sketches can form a means of engagement with those that are comfortable with the medium and provide insights into how radio might be imagined in our project. We also find that visuals enable us to understand tensions between previous partial perspectives in the communities and how this positions us and them, influencing rural design processes.

METHOD

The course of a body of research has been described in literature as a journey, but these are usually written pieces on processes behind research [29] or take the form of essays [8]. These inspire and educate, but lack the magic of alternative viewpoints where we feel we are let into a deeper, personal world. Our primary inspirations come from the photo-visual style of Blevis [6], in original photographs and accompanying text, but also Karana et al. in documenting a designer’s thought process over time [21]. Equally, the annotations of a design process in a highly visual paper to justify and record the actions designers take in practice based research [19] inspire us, alongside hybrid approaches using the drawings overlaid onto photographs to tell research stories [11].

We explored our environments, relationships, and distance travelled – both physically and intellectually. We collected anecdotes, photographs, sketches, and formed reflections of what it means to be part of this research space. The resulting partial perspectives are shared here. In creating this research journey, we wish to support and encourage those in our field to engage deeply with their surroundings, and tell the rich stories of their research, unencumbered by word counts, convention and expectation, and to make what is often considered “in the wild” concrete through imagery. By providing our research journey, we outline some of the methods by which HCI research can improve its outlook and transparency in this manner – thus bringing the social, cultural and material environment to life [2]. This work calls for researchers in community-based research (and beyond) to record and curate anecdotal, supportive and reflective information that emerges in the course of their work as a form of documentary. The resulting information can then be published as stand-alone work in the context of understanding self and community, and allow others to gain insight about research practices.

We present our research journey as a series of themes, a visual archive to suggest forms of inquiry. We ask: what do these images say about us as researchers and our positions towards the research? What constitutes our work – and what exactly is work in the research context? To whom should it be visible or invisible [35]? As we share data to help reviewers understand results, we now share our visual journey to enable the viewer to draw conclusions. There is something special in what images elicit for us as researchers – what they show and tell that words cannot, how they can assist in immersive reading of the accompanying text. We look to our research environment for rich, visual experiences. In doing this, we work in a similar way to visual ethnography, with our primary focus on peripheral awareness of context and place [31]. We therefore situate our imagery in between spaces in visual methods research in HCI [27].

Photographs form the majority of our visuals: it can be seen as a democratic method of recording imagery, in that it is accessible to the majority. In comparison, sketching can be intimidating, though it is a universal construct [9, 37]. One researcher was confident in sketching, the other preferred photography – but sketched to support engagement activity. Sketching can support the research process within HCI [37, 38], and also maintains a connection with our human abilities [15, 22]. Regardless of medium, by engaging in this documentary, we were afforded further insights into the lives and livelihoods of our participants that we might have missed by hosting simple Q&A sessions or sitting-in passively to watch the radio broadcasts. This work provides support for the use of visual methods for making research journeys in participatory research, and in HCI more generally, falls into line with imagery as “a primary form of visual thinking” [4]. We learn from Blevis and Blevis’ method of curation and inspiration, and apply this way of reading imagery by including notes on curation and implications for the design of our work with rural community radio.

THE RESEARCH PROJECT – TECHNOLOGY TO SUPPORT COMMUNITY RADIO

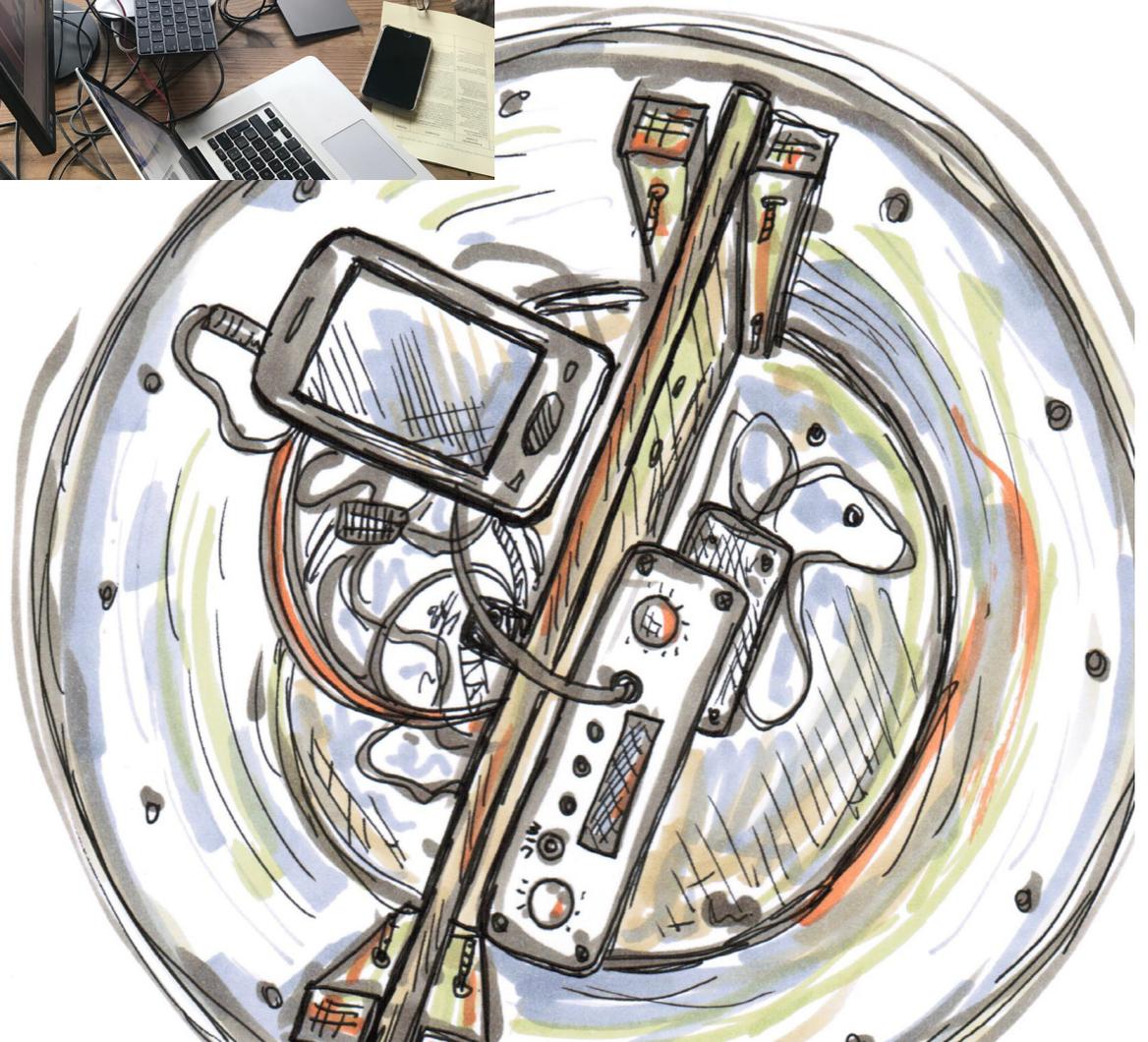
The *Research Journey* reported in the current paper was undertaken as part of a large EU-funded project focused on the evaluation of a novel (hardware and software) technology (RootIO) intended to support communities in setting up and running FM radio stations in a cheap and accessible manner [10, 26]. The project is a collaboration between university researchers, commercial software developers, and community organisations in three remote locations on the periphery of Europe – The Danube Delta in Romania, the island of Madeira in Portugal, and the West Cork Islands off the coast of Ireland. In each location, community radio stations are set up and run by community organisations in collaboration with the local population, and the technology is supplied by the project. As researchers, we are interested in understanding how the communities engage with the technology, with questions such as; whether the technology is useful in supporting the setting up and running of a radio station, the challenges with doing so, how to improve the technology, how to support governance of stations via software, and ultimately whether these activities support the communities in reaching their own self-declared goals. The journey reported in the current paper took place 18 months into the project with a series of design workshops. The intentions were tailored to each island community. On one island that had already established a community radio station, our intention was to learn more about how the radio might support community needs, and to increase participation. On another island, our intention was to explore initial ideas for their radio station that has not yet been established.

Our journey begins with the design workshops; following this, we reflect on the themes of: *Sense of Place, Transportation & Transition, Work & Environment, Artefacts & Equipment, A Supporting Cast, and Outside, Looking In.*



Left: The community opted in the first instance for off the shelf technology rather than RootIO – this is explored further in [33].

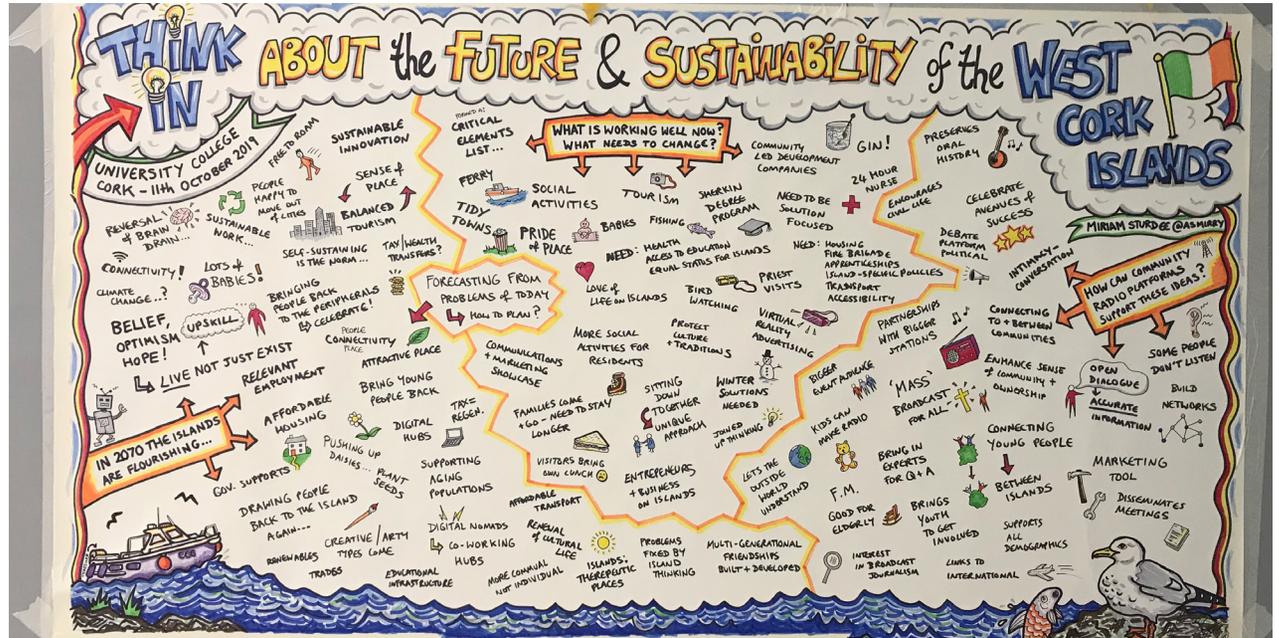
Main: Sketch of the RootIO system installed in a 5 gallon bucket as used by researchers in Uganda [10]



Design Workshops

Curation: This particular research journey began with an invitation: to bring together researchers, community workers, local government and the residents of the West Cork Islands for a World Café event. This event was followed by a series of visits to the islands in question, to follow up on ideas and issues that came up during conversation. These images show a range of the activities that took place and a glimpse of the beginning of sensemaking of the experience.

Implication: Recording conversations via sketching and annotation enabled us to reflect our partial perspectives back to our communities, generating new conversations and helping the research team map understanding – giving participants a chance to see explicitly what might be missing in our record.



Top: Final graphic recording from the World Café event

Middle Left: A group at the World Café looks at their sketches and notes

Bottom Left: Further visual recording during a meeting on Bere Island, inspired by the success of the initial event.

Right Middle: Islander engagement in a “drawing table”

Far Right: Post-hoc analysis of collected visuals during the journey.



Sense of Place

Curation: We encounter the landscape in one of the Irish islands we are engaging. Ingold suggests that landscapes both tell and are a story [18], that the materiality that is embodied in them tells of previous lives and worlds. Geographical area and atmosphere can bring perspective to research. The reader can engage further by linking what is written with what is seen, by both the visiting researcher and the people who live there. The spectacular beauty of the landscape moved us to imagine what it might be like to see such imagery on a day to day basis, how that must feel to those who make their home here, then and now.

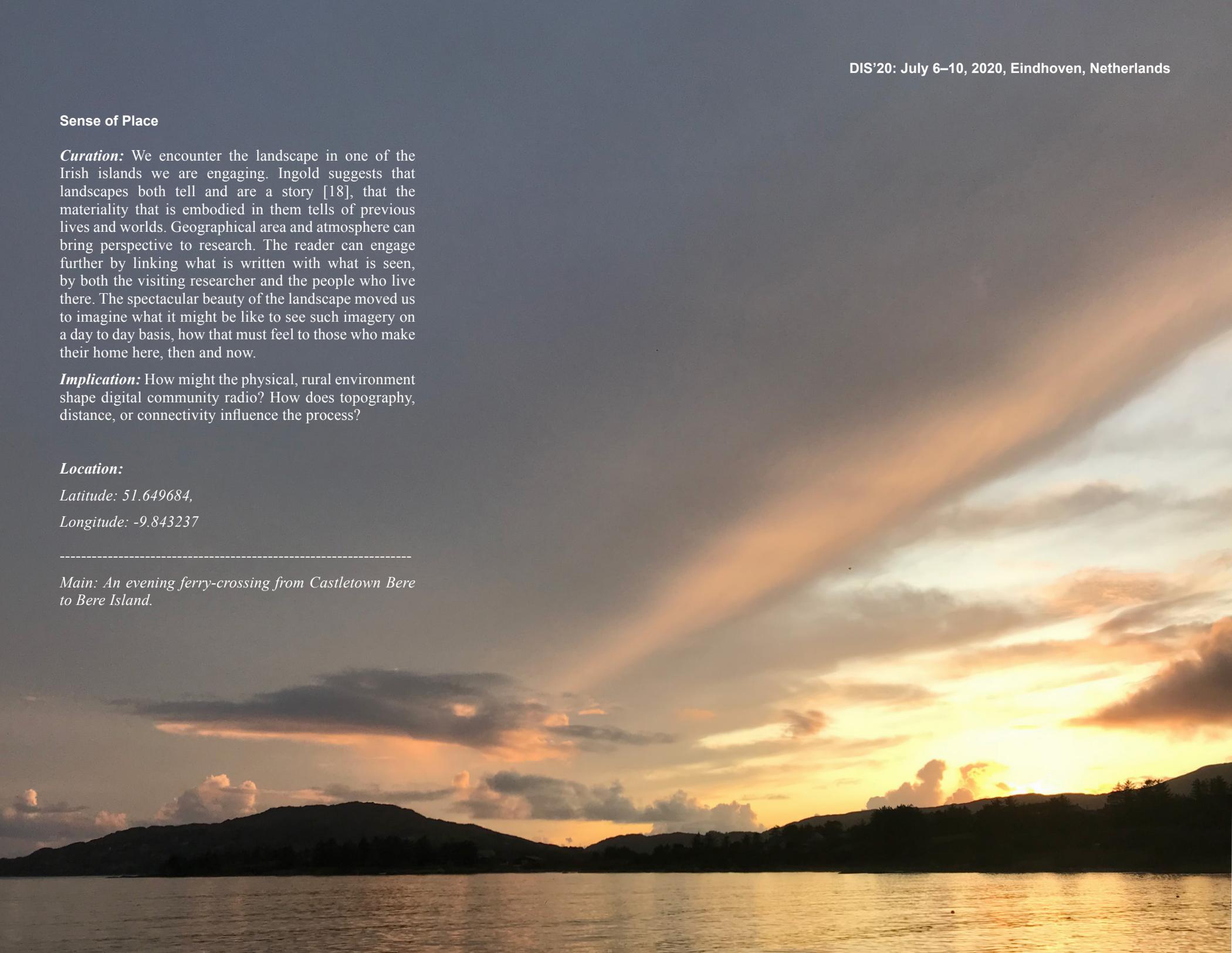
Implication: How might the physical, rural environment shape digital community radio? How does topography, distance, or connectivity influence the process?

Location:

Latitude: 51.649684,

Longitude: -9.843237

Main: An evening ferry-crossing from Castletown Bere to Bere Island.



Transportation & Transition

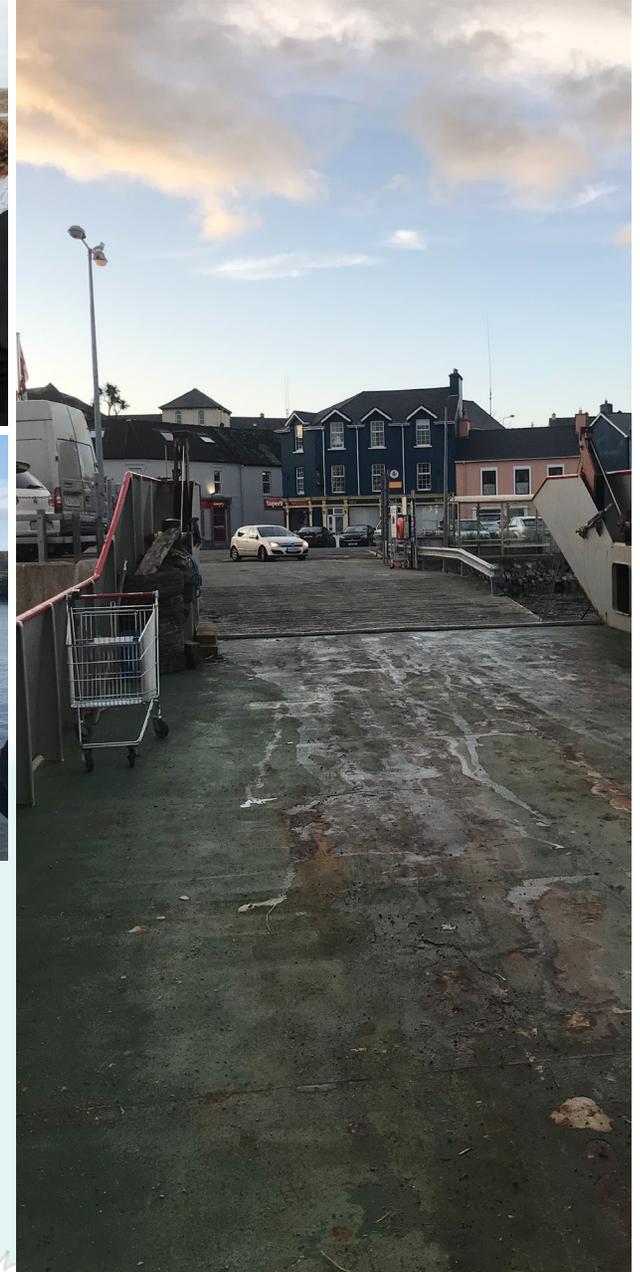
Curation: How we move amongst research venues can vary by project and place. Sometimes the travel time can extend outside of the working day, and involves overnight stays. Community-focused research is full of these microtransitions: these images capture morning to evening on the same day. The empty ferry tells us something about low population density [15] and limited movement to and from the mainland. Seeing these swimmers tells us about the importance of seasonality – it is end of season for these tourists, they are leaving the island immediately after arriving – only there fleetingly to start their swim. For some, the West Cork Islands are a summer playground, with October marking the end of it – when things go back to normal.

Implication: How do we design for seasonality? How do we not privilege one construction of the rural over another? The fact that only other people on the ferry's evening crossing were two other researchers is telling. Does this suggest over-research of rural populations? How do we engage with people if they feel over-researched?

Left: Arrival – We arrive on the island on foot via the local ferry.

Middle: Departure – We arrive late for the scheduled departure, and discover hundreds of suited swimmers ready to take to the water for an annual event. We help collect and store their belongings for collection on the other side.

Right: Car Ferry – The car ferry runs a limited winter schedule, and the trolley tells us that the primary use for locals is shopping for essentials.



Work & Environment

Curation: We show how the rural space is imagined differently depending on who you are. For us, escaping busy urban university lives it offers peace and tranquility (right) – getting away from it all. For those that live there, we might imagine the contrast between rural beauty and work practices in our partial perspective: primary production activities are evident in farming, fishing and transport (left) [23]. The swimmers are not just locals but also visitors: suggesting that tourism is now a consideration alongside traditional employment. Whilst spectacular, the environment can be unforgiving during winter and its darker, shorter days.

Implication: There are few people in our photos – suggesting the low population density. For design we often think about high population densities or big numbers, but Hardy et al. [15], for example, suggests that we need to design for two or three people when we consider rural areas. Is design in this environment therefore about quality rather than quantity? It is important to be mindful that technology is not neutral – whose constructions of these rural places does the technology for community radio support?

Left, from top to bottom: Bales of hay are wrapped and stored for winter animal feed and bedding; Lobster pots are stored at the side of the harbour wall; Fishing boats lie dormant on a Sunday evening; A well stocked bar in one of few establishments on the first island we visit.

Right, from top to bottom: A ruined church overlooks the ferry arrival; Lenticular clouds gather in perfect conditions around a hilltop; A rainbow breaks the sky during the radio broadcast / Researchers immerse themselves in freezing seawater.



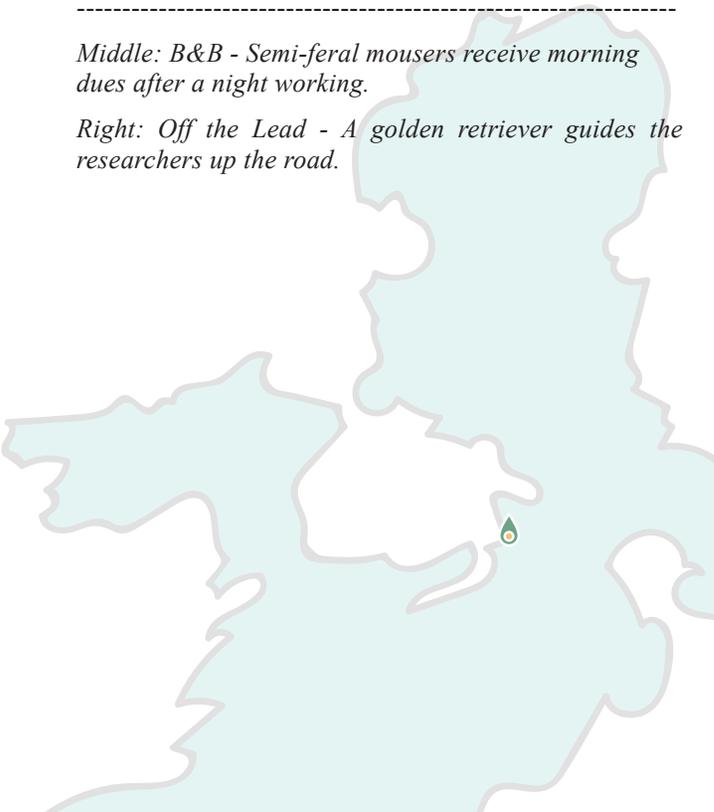
A Supporting Cast

Curation: Animals link to temporalities of place and the multi-species nature of rural places – where animals and humans co-exist in different ways. Animals here have a freedom not often seen in those kept in urban areas, they are carrying out transactions or collaboration. We share these photographs because of the contrast between urban and rural areas: the cats (numerous) have a value outside of comfort, the dog has a freedom not seen in urban communities. What does this tell us about belonging and usefulness in these communities?

Implication: A potential design consideration for the radio is how to include these animals in the process [41], multi-species collaboration [17] – it might be sound diaries that include their calls or voices, or it could be stories about the animals of the islands such as the dog who wandered onto a succession of passenger ferries and ended up on the outermost island.

Middle: B&B - Semi-feral mousers receive morning dues after a night working.

Right: Off the Lead - A golden retriever guides the researchers up the road.



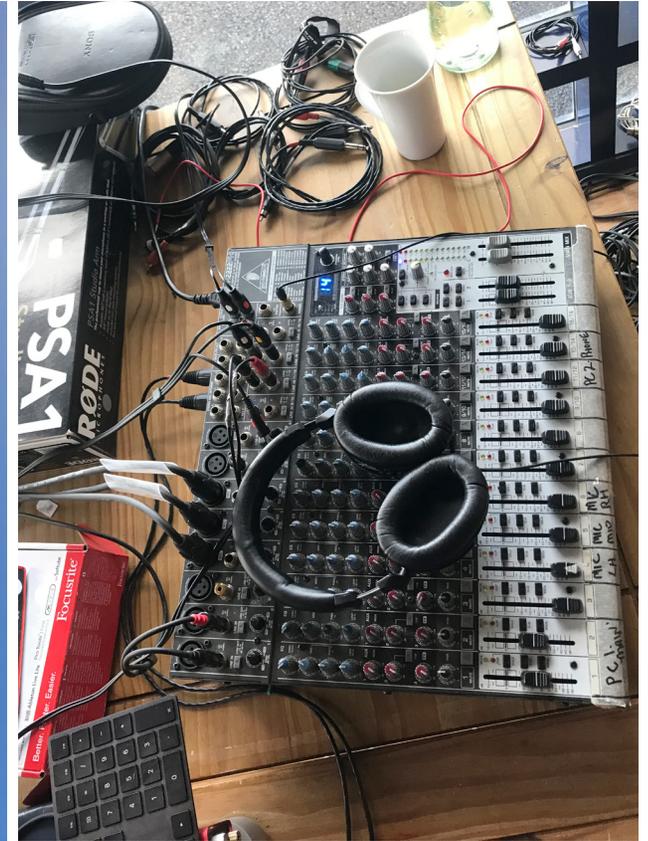
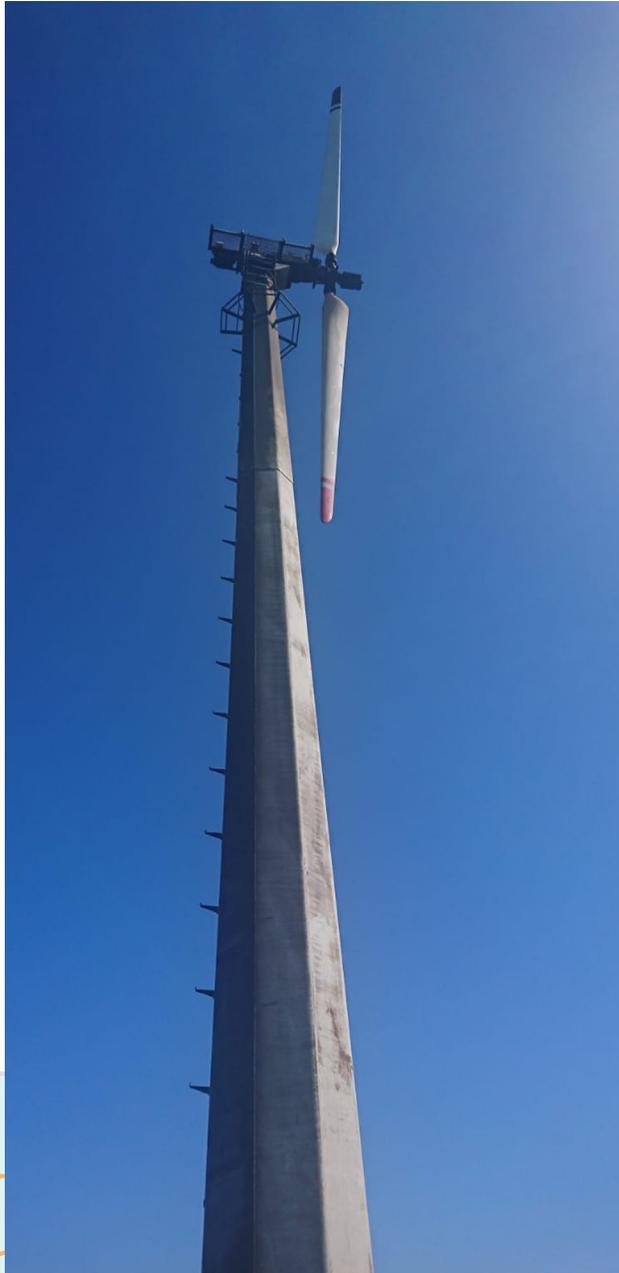
Artefacts & Equipment

Curation: There exists a hidden dialogicality [1] – the materiality of objects tells us about what came before us and that we are building on previous engagement with technology. In these images, radio technology is presented – showing the strong heritage of radio in this area – which could prove difficult to innovate around. In the image to the right, we see a redundant wind turbine, which was part of an EU project on the island in the 1980s. It now lies derelict on one of the highest points of the island and is close to where the antenna for the radio as part of our project will be housed. It is a ghostly artefact now in that it is no longer working, but it haunts the landscape. What this image tells us is that the rural community in which we work has had many technology projects before us – this one was described as innovative and ahead of its time - but some are not sustainable, as when the project and the funding related with them wanes, the technology can lie unused.

Implication: The residents of this island had difficulty setting up the technology they were offered, and substituted a more traditional method of radio production without the intervention of the project [33]. These images show the importance of grounding research in what has gone before – looking for clues in the surroundings. The image of the wind turbine is a reminder to us of the importance of designing for sustainability from the beginning of our project.

Middle: Abandoned wind turbine

Right, from top to bottom – Radio mixing desk; A vintage radio sits alongside the current technology.



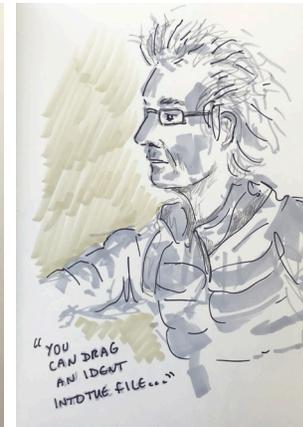
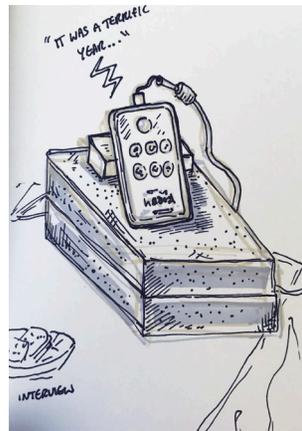
Outside, Looking In

Curation: Sketching is a subjective lens of the artist [12, 32] but can also “reduce distance between researcher and participant” [20]. The sketches here show what the artist found interesting, or inspiring. We finish with these images to reinforce our partial perspectives, both in subjectivity but also in preserving anonymity for participants whilst allowing a glimpse of the activities. By looking in we confirm our sense of being the ‘other’ but gather stories and experiences which connect us as people, without the framing of technology.

Implication: Can sketching or inviting others to sketch offer a way of accessing populations who feel observed in that they do not want to be researched in the traditional sense? It is not always appropriate or welcome to take a photograph. Sketching can enable active listening, forming a dialogue between researcher and participant and creating shared artefacts [22].

Right: Around the Table – Members of a local art group approach ideation surrounding the proposed adoption of community radio.

Middle, from top left to bottom right – An iPhone is used to connect a live caller to the radio host, it leans against a small tin atop of foam bricks; Terry, an artist; “Nobody’s going to bite anyone, it’s good fun really” one of two co-hosts expresses their feelings about being part of the radio project; The technician explains how the ident system works.



CONCLUSIONS

We describe a research journey as part of the rural community radio project, through which we bring the social, cultural and material to life through visual methods in this pictorial. We illustrate how images can both elicit interesting insights, as well as provide sources of design inspiration and knowing. As those with a partial perspective visual ethnography can bring to life what is often ubiquitously called “in the wild” without nuancing the particularities of place and landscape that provide important insight for design. Through these images, we learn about the landscapes and temporalities of the rural locations we engage with – how the seasons impact place, the different meanings of place depending on positions: seasonal swimmer, visiting researcher, art student or resident farmer. We consider: How to include those that have migrated from rural areas to contribute to the radio process [25]? What specific materiality might influence project outcomes? How can technology support their needs?

We also notice active engagement when people are working on issues that matter to them together visually – like the workshops we illustrate that bring people together to examine the future of their rural islands. Finding issues that matter to local people and delivering on hyperlocal needs is important in building community ownership and buy-in. We frame this as part of a research journey. We learn through the process that there is a tension between our desire to use images to increase research transparency and the level of comfort that rural residents have with research and being the subjects of research itself. When we conduct research “in the wild” there are many ethical dimensions that must be considered.

NOTE FROM THE AUTHORS

We are lucky to be able to share our images through the medium of the pictorial, which already supports these visual journeys, and this curated collection of images is intended as an addition to this family of visually

rich narratives. Although our focus was primarily the visual, alongside this we see written commentary as part of the research journey: reflective pieces, descriptive pieces. There is also the opportunity to view this work as supporting research transparency, by calling for researchers to curate and publish their own research journeys within the pictorial format. A research journey provides context, background and storytelling to our investigations that is beyond the scope of current writing and publishing practices. By taking you on our research journey in rural Ireland, we hope that those that inspire and host this work are exemplified and celebrated. Although our perspective is not whole, this curated collection of photographs and sketches reveals the often hidden side of our collaborative research.

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