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Utilising games to generate awareness regarding gender inequality in parliament

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Abstract

The paper highlights gender inequality within the context of the European parliament using a wicked problems approach. Gender parity in parliament engages with issues of ethics, human rights and democracy, such issues benefit from raising awareness and instigating discussion techniques. Our study proposes the application of games and the use of game mechanics, dynamics and rhetorics as a medium to initiate engagement and understanding towards gender parity in parliament. Specific focus is given to the justification of the game's type, design and development as an appropriate tool for addressing gender inequality issues. This is presented through the empirical analysis of prototypes and engaging with current research (gamification, gameful design, procedural rhetoric). Utilising games as a medium to induce an emotional response within an artificial environment enables the user to engage with feelings of unfairness and frustration. We suggest an indirect method that enables a user-centered physical experience within an artificial environment to address the volatile issue of inequality, informed by multiple perspectives.

Keywords: exertion games, gameful design, gamification, women's representation

Introduction

Our study is based on our conceptual proposal for the Microsoft Imagine Cup 'Games Competition' which is linked to the United Nations Millenium Development Goals. Our proposal focuses on the 'Promote gender equality and empower women' goal and more specifically on gender parity in the European Parliament.

Today, after thirty six years since the first European Union (EU) elections in 1979, women Members of European Parliament (MEPs) are still a minority. Our study examines women's underrepresentation in the EU parliament and proposes ways in which games mechanics and dynamics can be used to promote gender parity in parliament within educational frameworks. How can games help promote women's rights to equality and participation in the conduct of public affairs? Is the medium of games an effective tool to induce engagement with real world systems and contexts? Our aim is to develop a digital game that enables players to experience the unequal state of women's representation in parliament today and that encourages collaboration to overcome inequality as a win condition.

The paper describes the current conditions of women's representation in the European Parliament and the opportunities that have motivated our research. The paper then presents the design processes followed thus far as part of the game development, an analysis and reflection, as well as, plans for future work.

Gender Parity in Parliament

Women make up more than half of the European population. Their input to the socio economic development of societies is also more than half as compared to that of men because of their roles in both the productive and reproductive spheres [UN, Bari 2005][i]. Today, the traditional gap in women voters' turnout has been reduced or even reversed [Lopez, Gratschew, Sullivan 2002][ii] thanks to the youngest generations. In the European elections women's vote is the same as men's [Eurobarometer 2009][iii]. However, women are still a minority when it comes to being voted and elected both at national and regional level. There are many reasons as to why this is happening like gendered patterns of social capital forms, political party mechanisms, lack of gender parity policies and quotas and more [Norris, Inglehart 2003][iv].

In the first European elections in 1979, the percentage of women MEPs was just 16%. In the 2014 European elections the percentage of women MEPs has been 34,5% [IPU, International Parliamentary Union][v]. European Parliament's percentage of women has been historically higher to the average percentage of individual national EU parliaments [figure 1]. For example, today the average percentage of women Members of Parliament (MPs) in the European region is 24,9% compared to the 34,5% of women MEPs. European Union has set women' representation and participation in politics as a priority for the next decades. However the trend towards a higher share of women in the EUP is not equally distributed across EU member states and in some cases the difference is even negative [Fortin-Rittberger, Rittberger 2013][vi]. The European countries diversity in the social, cultural, economic and the political results to a variety in numbers of EU women MPs. Generalising policy-planning to promote gender parity in parliament could be a mistake since what works for one

country might not work for the other [Shvedova 2005][vii]. Investing in campaigning and raising awareness strategies that affect behaviour change, while promoting state-specific gender parity strategies can be proved to be most effective.
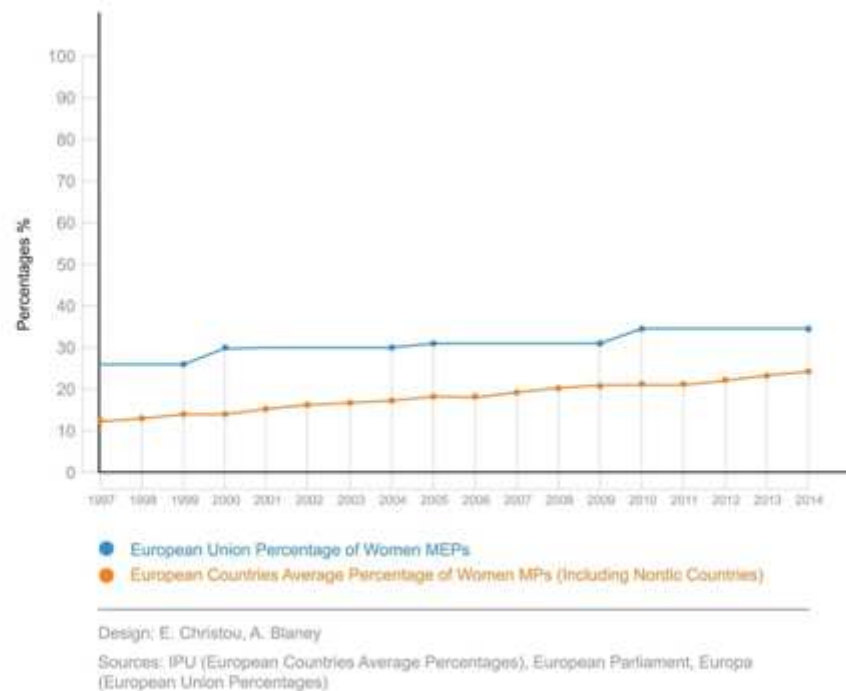

Figure 1 – Quantitative Analysis of women MEPs and EU MPs from 1997 to 2014.

Although numbers can be representative of a situation, gender parity in parliament is an issue of ethics, human rights and democracy, and highlighting this is important when talking about a fair and equal representation system. Scholars Jacquetta Newman and Linda White [Newman, White 2012][viii] talk about Mirror Representation and argue that representation of women should be linked to their proportion in the population. As Sylvia Bashevkin notes in her book 'Women, Power, Politics', "representative democracy seems impaired, partial, and unjust when women, as a majority of citizens, fail to see themselves reflected in the leadership of their polity" [Bashevkin 2009][ix]. Parity in numbers is very important but understanding the significance of women's involvement in politics in terms of democratic values is crucial.

There is no doubt that efforts have been made to increase the share of women in political representation and political decision-making. The promotion of gender quotas has been one of the main tools adopted to promote this change in the European Union and around the world. However, even if quotas and policies can change the rules of the game, they cannot change the mind of the players, empowerment and awareness raising activities are needed as much as gender quotas and policies to achieve parity [Lasky 2014][x].

In IPU's (Inter-Parliamentary Union) 2008 research publication 'Equality in Politics: A Survey of Women and Men in Parliament' [IPU 2008][xi], there is a clear finding about women being the drivers of change in terms of gender equality in parliaments. Although historically it has been the underrepresented, minority and oppressed social groups that stood up for their rights and demanded change, the time may have come to lay some of the responsibility for parity in parliaments as a whole. Men and women working in partnership to promote and implement parity in parliament is a requirement if we want today's change to have a lasting impact. This acceptance comes as a result of changing social attitudes and structures. For example women and men are now a lot more familiarised with collaborating and sharing responsibilities in the work, home and social spheres than they were twenty or even ten years ago.

In IPU's study [IPU 2008][xii] there is also another interesting finding about the training of parliament staff on gender issues. The study is based on the views of 272 parliamentarians from 110 countries from all regions of the world of whom 40% were male. One-third of respondents highlighted the need for inter-parliamentary education and raising awareness programmes. Parliaments rarely acknowledge that people with gender equality expertise have skills that can be used in parliamentary work, thus technical gender teams find it very hard to capture and maintain the professional skills required.

Gender parity in parliament is about women's right to equality and participation in the conduct of public affairs but it is also about using women's resources to benefit societies and the global community. Today, social developments allow and require of men and women to work in partnership to achieve gender parity in parliament while it is clear that although

policies and quotas are vital for promoting women's representation in parliament, educational and awareness raising activities are equally important.

Based on the above, our proposal for a game that promotes gender parity in parliaments focuses mainly in raising awareness through engaging in interactive experiences within an educational framework. We are further analysing our study in interactive experiences and our target audience choice below.

Why Games?

Wicked problems such as gender inequality are informed by multiple facets and varying cultural perspectives. Design strategies need to take into account values based on individual experiences, which vary significantly from culture to culture. Addressing the issue of gender inequality in the context of a wicked problem lends itself to a systems design approach[1] [Checkland. P 2000]. This process although adaptable and scalable comes with inherent problems such as maintaining simplicity so individuals can engage with the system and sustain sensitivity for individual needs if information is based on big data, this informs the type of game to be developed.

"But this move from rationality based on abstract logic to a more empiricist or experiential position merely shifted the problem of defining the rationality and rational criteria to the broader arena of community consensus."[2] [Coyne.R 2005]

In order to generate parity across cultures and individuals, a medium is required which transcends all interpretable cultural and individual perspectives. Human emotional responses are an appropriate intervention point as emotional responses to manipulated scenarios can be compared. Our strategy is to develop an experience for the users, in which people could engage with the emotion of unfairness while collaborating to balance this unfair condition. The emotion would be invoked within an artificial context between participants, regardless of their own physical features. Developing a game allows this environment to be manipulated and creates a platform that induces an emotional response.

Target Audience

Defining a target audience enables us to develop initial strategies that would be appropriate towards developing a game. It also provides more tangible engagement with organisations that look to address these issues in an existing context and infrastructure. Our target audience is the EU Youth Parliament (EYP).

EYP is one of the largest European platforms for political debate, intercultural encounters, European civic education and the exchange of ideas among young people in Europe. It is a non-partisan and independent educational programme for young European citizens. The EYP network is present in 41 European countries, where thousands of young people are active as volunteers. The entire network organises over 350 events every year. EYP volunteers are young people between the age of 16 - 24 years old. They are people who are already interested in politics; most of them are active participants in schools, universities and political organisations in their own country. By participating in the EYP they learn about current problems and issues in the EU and the world, they discuss and debate policies, they elect and get elected in National Committees and they propose ideas for change while engaging in a number of educational and training workshops and activities.

EYP volunteers are young people who are interested in public affairs, they are likely to have faced or noticed issues of gender inequality in representational systems or to be aware of such issues. The significance of this target audience is that they are intrinsically motivated to engage with equal representation / inequality issues. This is an integral factor that is highly beneficial, highlighted later regarding gameful design, as it is more likely to have real world impact.

In terms of measuring impact, EYP's participants, organisers and facilitators' records and contacts can help us build the right framework for documenting and measuring the impact of our game activity with surveys, post-interviews and follow-ups.

Factors of Gender Inequality

An initial mapping process for some of the main factors of gender inequality in varying contexts is carried out in order to help us understand the complexity of gender inequality in different countries / contexts and help inform the type of game to be developed. The factors below were broken down into sub-factors [Figure 3] in order to define the main factors and mapped via desktop study methods. Comparing countries creates greater resolution and highlights various perspectives. The aim is to define a pattern or common facilitator which generates gender inequality, providing a rational justification of what would be the best 'factor' to address. Data is collected for; Norway, Netherlands, Afghanistan and Yemen. These countries are chosen as they have some of the "highest" and "lowest" statistics regarding gender equality.[3][4]

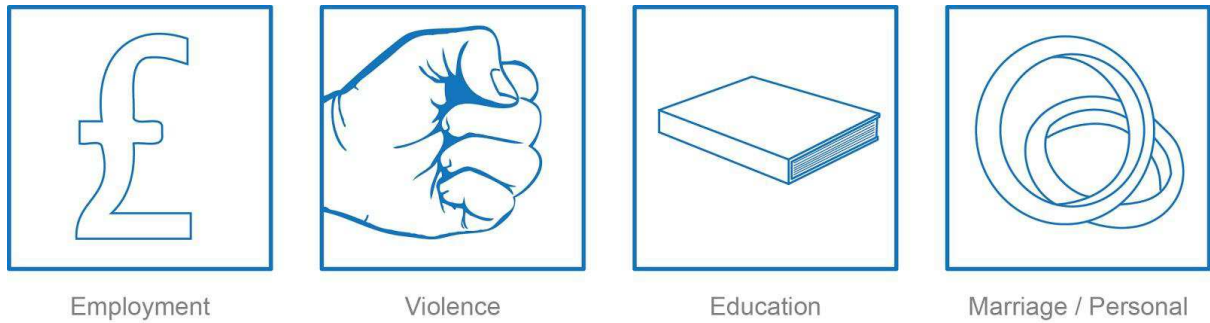| Employment | Violence | Education | Marriage / Personal |

Figure 2 - Key factors mapped that contribute to gender inequality
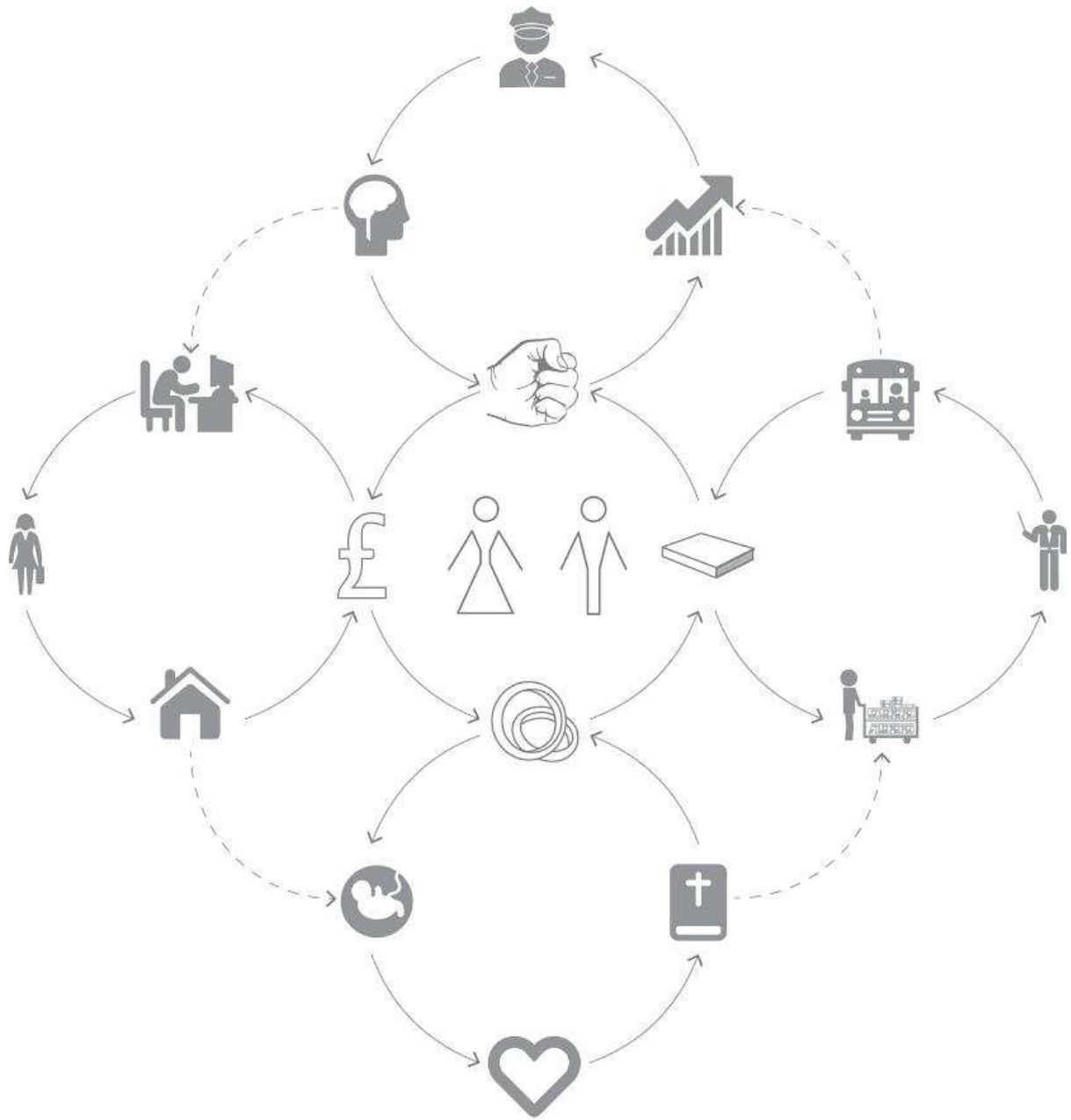Design: Adam Blaney, Elisavet Christou

Figure 3 - Sub factors diagram, we looked at what informed the overall factors and if urban or rural contexts affected these.
Design: Adam Blaney, Elisavet Christou

		Religion %	
Population	26 Million	Christian	> 1
Urban %	32.4 %	Muslim	90
Rural %	67.6 %	Sikhism	> 1
Density (ppl / sq Km.)	46.23	Jewish	> 1
Number of Cities	16	None	5
Average age Men (yrs)	18.5	Other	5
Average age Women (yrs)	18.7		

Employment
Av Salary £563

Violence
Female Genitale Mutation Legal

Education
Minimum age range 6 - 15

Marriage
Minimum Legal age 17
Forced Marriages Legal

		Religion %	
Population	31.8 Million	Christian	> 1
Urban %	23.5 %	Muslim	99
Rural %	76.5 %	Sikhism	> 1
Density (ppl / sq Km.)	na	Jewish	> 1
Number of Cities	33	None	> 1
Average age Men (yrs)	18.1	Other	> 1
Average age Women (yrs)	18.1		

Employment
Av Salary 20

Violence
Female Genitale Mutation Legal

Education
Minimum age range 6 - 9

Marriage
Minimum Legal age 15
Forced Marriages Legal

		Religion %	
Population	5.1 Million	Christian	90
Urban %	77.6 %	Muslim	> 1
Rural %	22.4 %	Sikhism	> 1
Density (ppl / sq Km.)	16.71	Jewish	> 1
Number of Cities	64	None	10
Average age Men (yrs)	38.2	Other	> 1
Average age Women (yrs)	39.9		

Employment
Av Salary £27115

Violence
Female Genitale Mutation Legal

Education
Minimum age range 6 - 16

Marriage
Minimum Legal age 16
Forced Marriages Legal

		Religion %	
Population	26 Million	Christian	50
Urban %	32.4 %	Muslim	5.8
Rural %	67.6 %	Sikhism	> 1
Density (ppl / sq Km.)	46.23	Jewish	> 1
Number of Cities	31	None	42
Average age Men (yrs)	18.5	Other	2.2
Average age Women (yrs)	18.7		

Employment
Av Salary £7821

Violence
Female Genitale Mutation Legal

Education
Minimum age range 5 - 16

Marriage
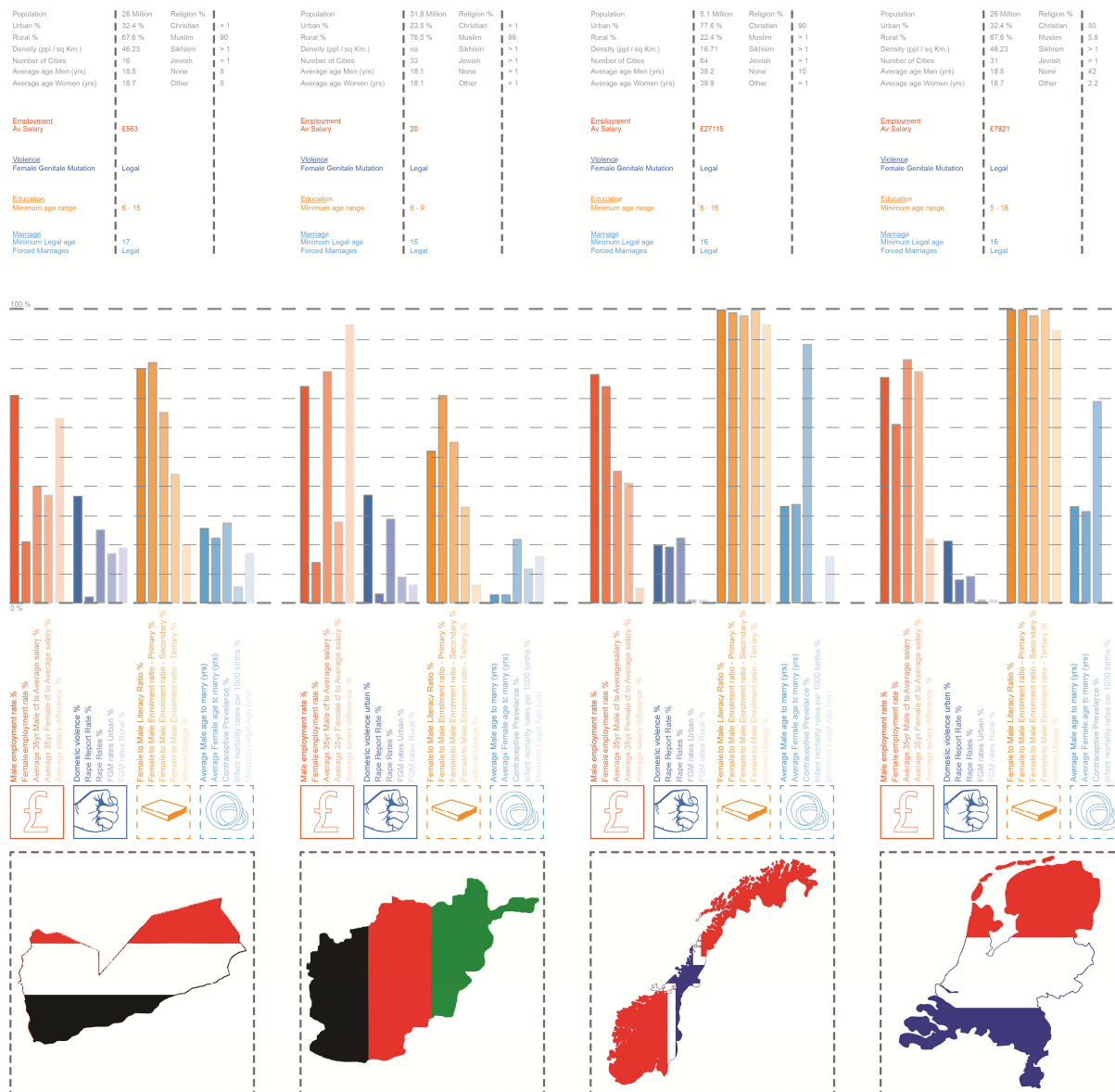Minimum Legal age 16
Forced Marriages Legal

Figure 4 - Information graphic. Design: Adam Blaney, Elisavet Christou This mapping process confirms the countries gender in/equality status from a group perspective as our perception of what is perceived as "bad" is informed by varied western experiences.

"Wicked problems are not objectively given but their formulation already depends on the viewpoint of those presenting them."[5] [Coyne. R 2005]

The problem with this approach is that these factors have different positive or negative connotations in the different cultural contexts. This limits the sensitivity of the system as a value has to be assigned to the factors to allow comparison. As these values are dependent on the interrelationships between factors and have to take into account current cultural perceptions, it becomes difficult to create a value comparison as the value would always be in a state of flux. This has a bearing on the type of game that could be developed.
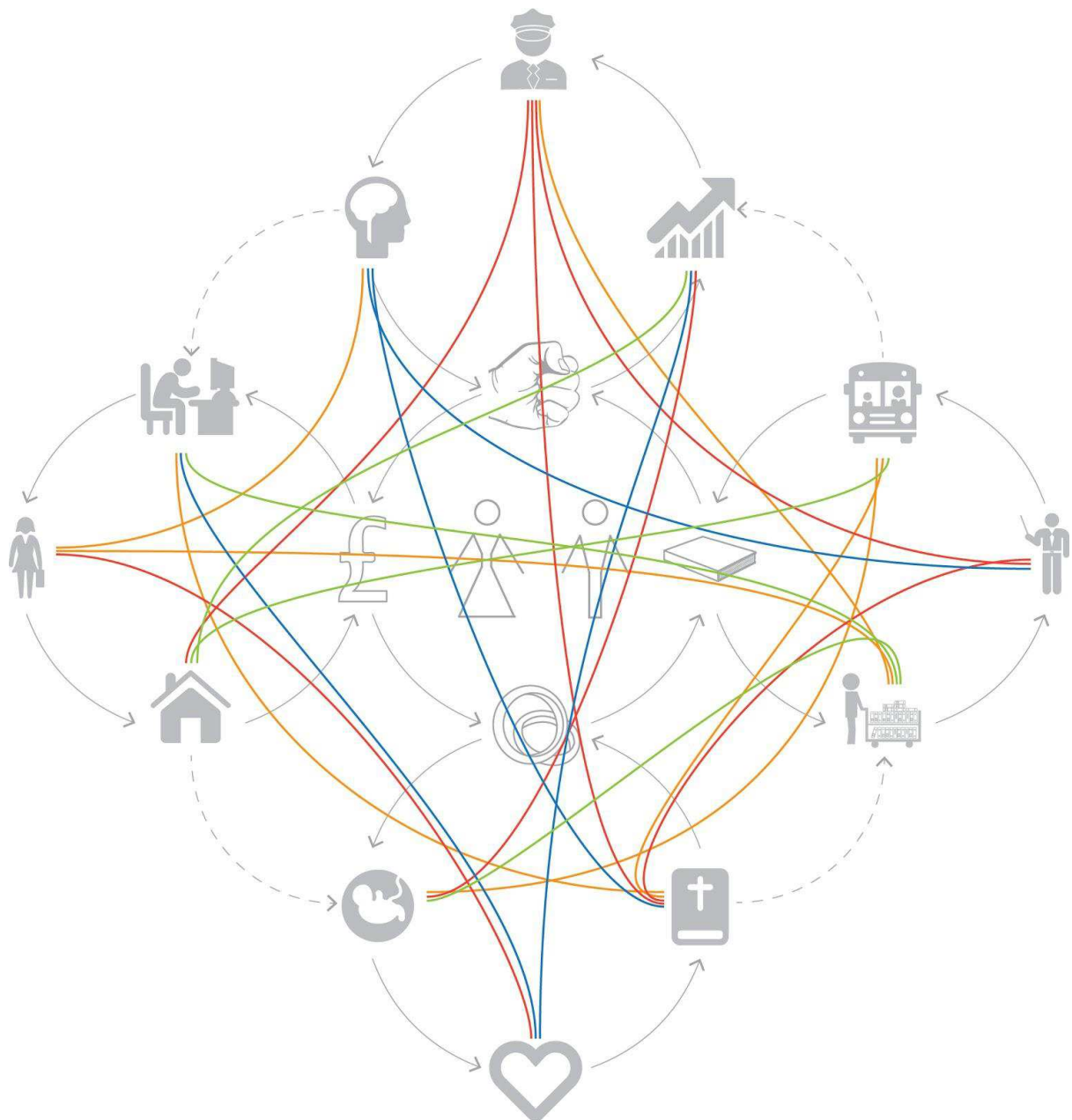
Figure 5, Design: Adam Blaney, Elisavet Christou - Possible temporal hypothetical interactions of sub-factors, this demonstrates further complexity. Norway, Netherlands, Afghanistan, Yemen.

Highlights the complexity of how these issues interface, defines the nature of wicked problems and the volatility of the system, i.e. if you try to improve factor x this could be detrimental to factor y. "Thus, in design thinking, problems and possible solutions are explored and developed and evaluated simultaneously in an iterative process"[6] [Steen. M 2013]: A "design process involves finding as well as solving problems" so that "problem and solution co-evolve."[7] [Lawson.B 2005]

As one component could not define why the target behaviour is prevented, the decision to develop a game that can invoke an emotional response within the participants was taken. This allows the constant to be the participants and facilitates a discourse between all factors.

Justification of Games Development

The medium of games acts as a 'persuasive technology'[8] [Fogg. B 2003] for three main reasons; 1 - Emotional response & Eustress, 2 - Universality and 3 - Fun & Engagement.

1 - The game rules and artificial environment of a game defines how players respond to stimulus. A game's context and mechanics informs what players can and cannot do; a goal or win state can be introduced as a motivator to trigger desired responses such as collaboration, it rewards or deters certain actions performed in the game, this model is based on gamification principles.
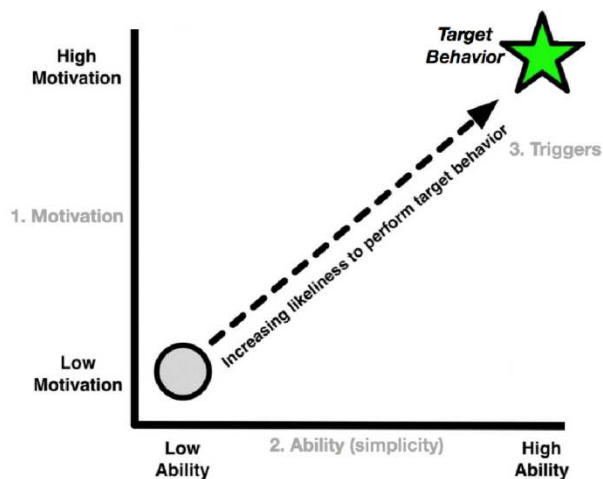

Figure 6 FBM - Foggs Behavioural Model[9] [Fogg.B 2009]

The relative ability of a user (inhibiting available actions) compared to another in the context of a game can be determined by randomly assigning the player to a predefined state, instilling an emotion of unfairness. Mechanisms can be defined to increase both players ability, such as collaborating, as this is the desired response.

Extrinsic motivational factors in terms of game mechanics are the rewards gained from the desired actions executed within gameplay. These factors centre on the principles of 'Gamification'[10]. Gamification is the application of game mechanics or elements to non-game contexts, with the intention to increase engagement; its effectiveness is varying[11] (Stacy. P and Aymard. T 2014). BLAPs (Badges, Levels, Achievements, Points) are the currency of Gamification compared to that of PERMA (Positive Emotions, Relationships, Meaning, Accomplishments) associated with 'Gameful Design'[12] [McGonigal. J 2011]

Gamification is a closed loop in which the participant is extrinsically motivated and is only rewarded in the context of the game. Gameful Design is player orientated and looks to intrinsically motivate players to achieve in real life.

"To create platforms and experiences that empower players to have the spirit of a gamer in real life."[13] [McGonigal. J 2011]

Gameful principles have the potential for the experiences to be reflected upon outside of the games environment and question an individual's perspective. As the main principle is to highlight the benefits of equal collaboration by instilling an emotional response, the proposed game looks to utilise Gameful Design principles, to establish real life positive impacts.

Eustress[14] [Selye. H 1974] - is positive stress resulting in physiological alterations (increased heart rate etc). In a games context it is the player's choice (intrinsic motivation) to play the game which results in positive stress. This choice and eustress creates motivation, drive, engagement etc to tackle a problem; this is significant to collaboration as people perform better due to the induced changes (adrenalin release) but also become more engaged with others as they are more optimistic and energised.[15] [McGonigal . J 2011]. This results in a more universal appeal.

Figure 7 - Gamers[16] by Toledano. P 2002 - Portraits of individuals playing video games.

2 - Games have a universal language once the rules are understood that enables international engagement, this is evidenced in such events as the football world. A game can act as a 'boundary object'[17] [Star. S & Griesemer. J 1989]. A boundary object is an entity that facilitates engagement, this is because of its plasticity by nature, it can be adapted / interpreted by local conditions but still remain robust to generate coherent discourse.

"They have different meanings in different social worlds but their structure is common enough to more than one world to make them recognizable, a means of translation. The creation and management of boundary objects is key in developing and maintaining coherence across intersecting social worlds."[18] [Star. S & Griesemer. J 1989]
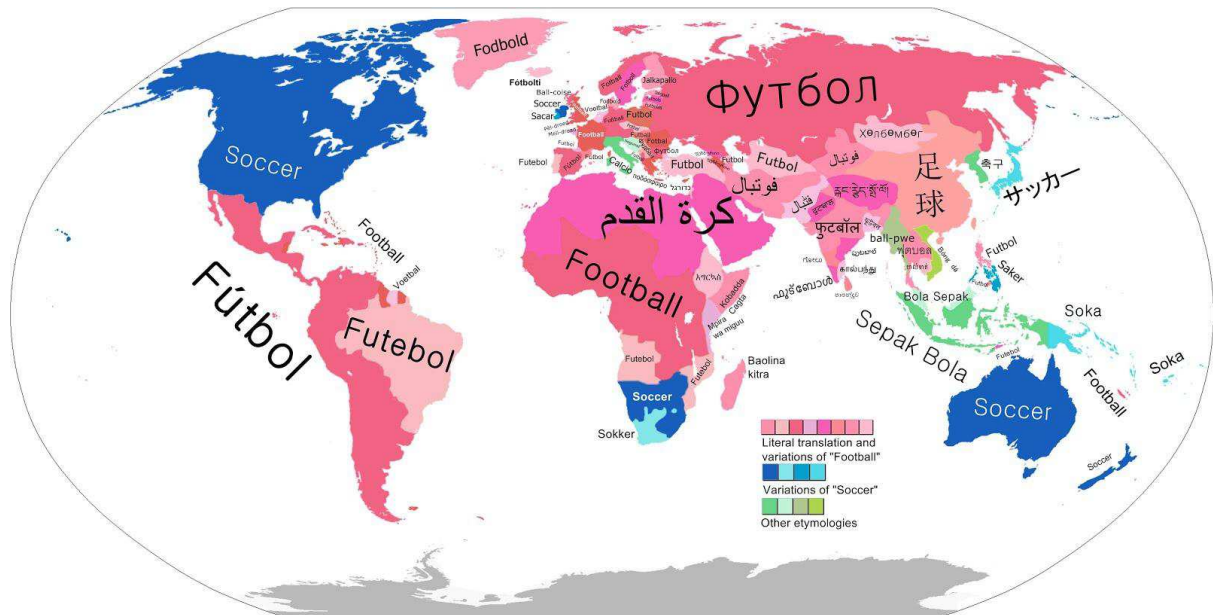

Figure 8 - What every country call the thing we call "soccer"[19]

3 - The successful impact of this proposal is dependent on engagement and uptake. This relates back to the positive emotions associated with Gameful Design. Although games should not just be seen as a fun activity as they can have large scales impact.

"Whilst the wide scale adoption of Monopoly might inspire those seeking to use game design for behavioural change it should also act as a warning that games should not simply be viewed as making things more fun they are powerful interactive systems whose design should be considered very carefully."[20] [Coulton. P 2015]

We discussed that fun is a necessary component as common opinion would associate this emotion with participating in a game as it is the user choice to do so. This would also have a significant impact on eustress and the positive emotions associated with the game.

Physical Exertion Games

Developing the type of game was key in order to transcend and engage with multiple perspectives. Initial ideas looked at developing a scenario and systems games, but a clear win state was not achievable when applying to a universal context. This is because a constant value could not be assigned to certain actions as this value fluctuates depending on various perspectives. This approach is also counter intuitive as it is prescribed and did not facilitate emergent behaviour when playing. Integrating principles of 'persuasive games'[21] [Bogost. I 2007] as "games communicate differently than other media; they not only deliver messages, but also simulate experiences". Our games influence players to take action through gameplay."[22] Generating awareness as game scenarios highlight chosen actions and repercussions.
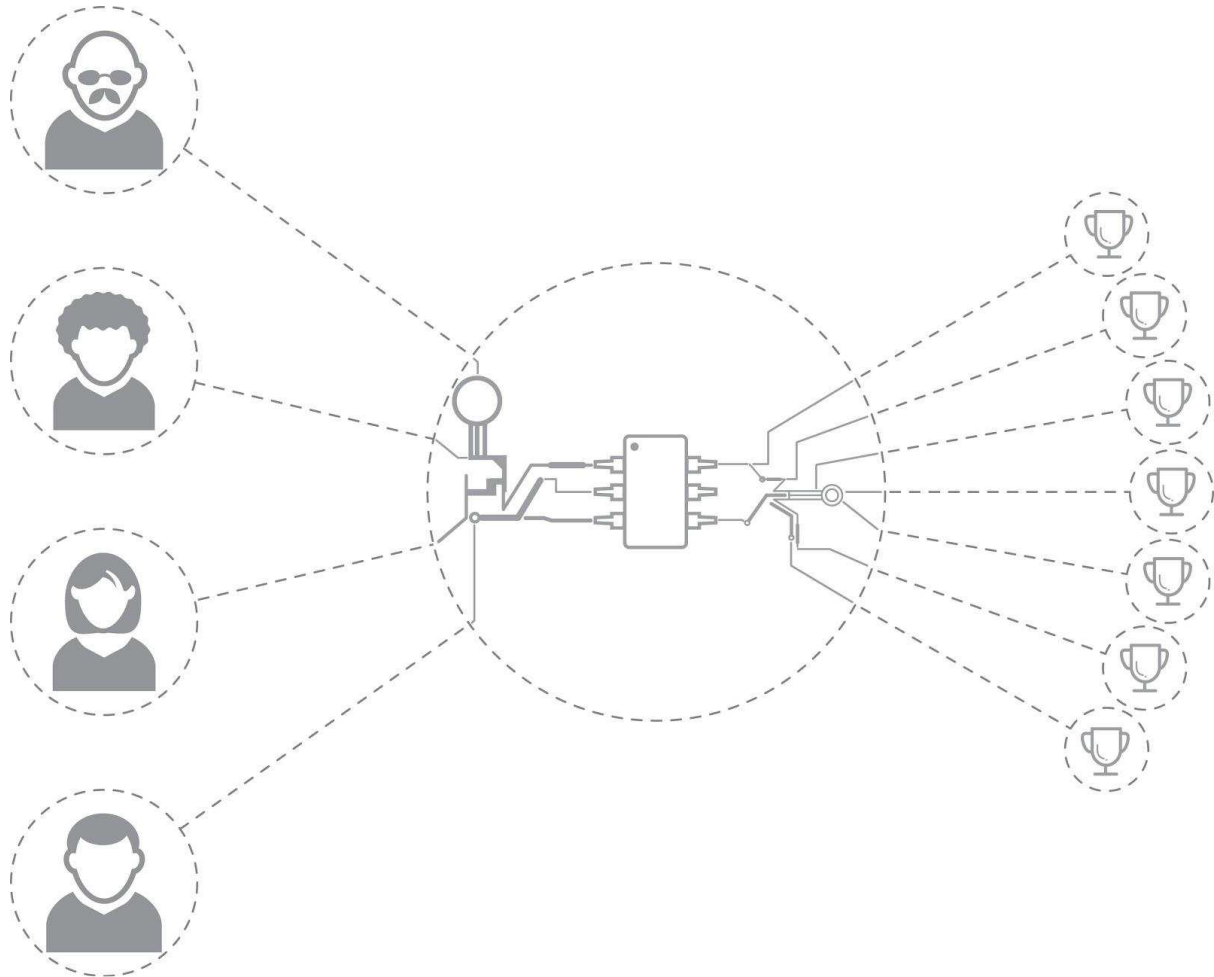

Figure 9, Design: Adam Blaney, Elisavet Christou - Multiple win states possible in system games, making it difficult to highlight the main factor of unfairness

As the medium of games is very intuitive, this is further emphasised in 'physical exertion games' as the player uses their own body to control game actions and is informed through haptic feedback. We looked at creating a hybrid between 'physical exertion games'[23] and persuasive games. Persuasive games generate awareness, whilst physical exertion games have the possibility to further emphasise the experiences when playing the game.

"Exertion games lend themselves to facilitating social and physical interactions, in particular when compared to button-press games."[24] [Mueller. F, Gibbs. M & Vetere. F 2014]

Aiming to also increase collaboration and human connection a physical exertion game addressed these aspects as there is the potential for more human contact elements, evidenced by the game 'MagnetizeMe'.[25]
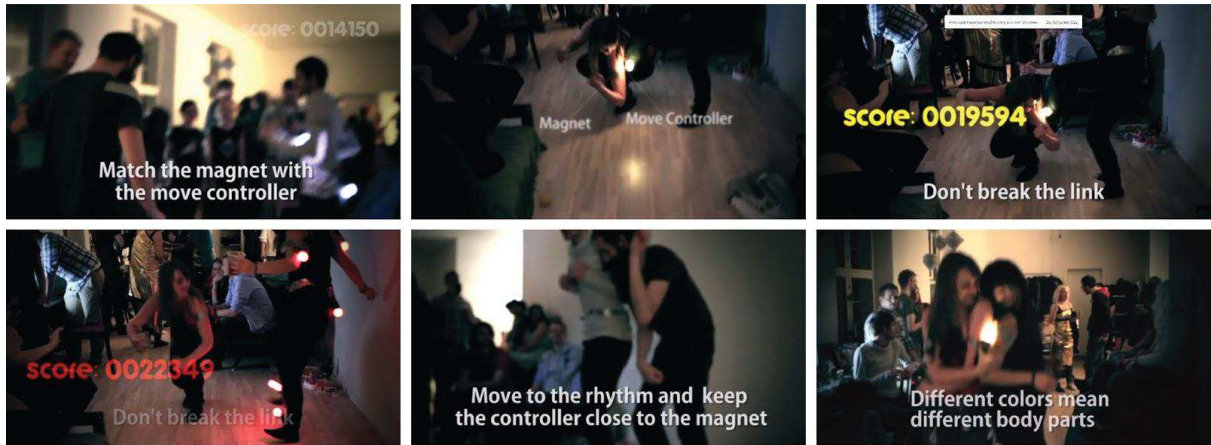
Figure 10 - Magnetize Me by Copenhagen game collective highlights the dependant relationship and interaction between the players.

The diagrams highlight the proposed game mechanics, rules, narratives, metaphors and rhetoric. A framework outlined by 'Movement-based games guidelines'[26] [Mueller. F & Isbister. K 2014] informed the development of these game components.
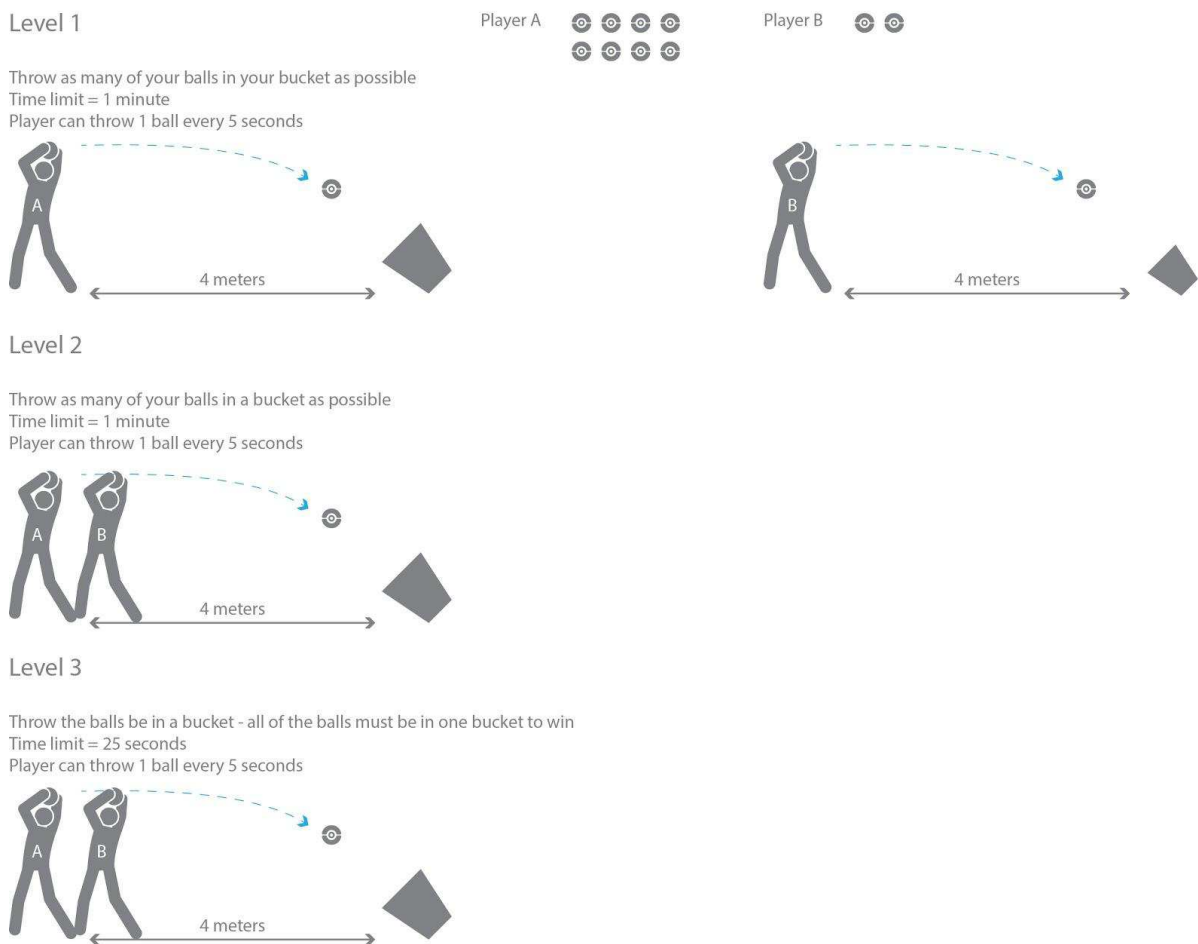

Figure 11, Design: Adam Blaney, Elisavet Christou - Initial development, mechanism to instil unfairness was to limit the number of balls (resources) available to one player. The mechanism to encourage collaboration was adding a time limit and how many balls can be thrown per unit of time.
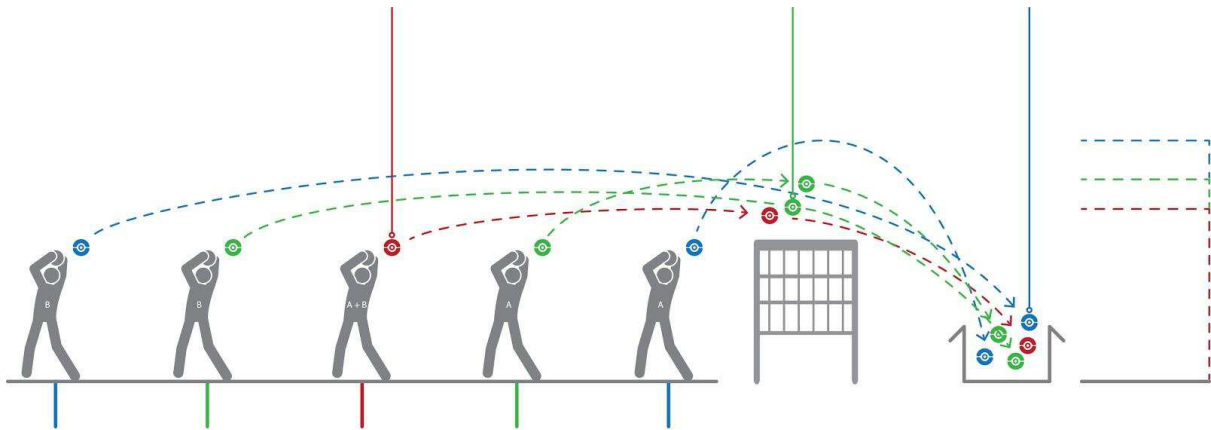
Figure 12, Design: Adam Blaney, Elisavet Christou - Synchronicity, Players start at different positions enabling different points at which it would be possible to synchronise. The physical trajectory of the balls parabolic curve emphasises this.

Prototype Testing - Synchronicity

Syncronicity was developed as a lowfi prototype and was presented to test the use of games as a medium to address inequality issues. Synchronicity, uses synchronisation as a metaphor for collaboration and balance. We use position and ammunition as a metaphor for the unfair state based on actual conditions (statistics about women MEPs), mechanisms in the game-play lead towards an ideal condition (50/50) through collaboration between the players. The critique of this iteration helped us further develop the idea of an exertion game, (questions raised from this presentation (see appendix) informed the development of the current iteration). The game is aimed to be played by EU Youth Parliament volunteers as part of a gender equality workshop, in order to generate discussion about gender parity in parliament.

Analysis and Reflections

Our study highlights the complexity of addressing wicked problems informed by multiple facets and varying cultural perspectives. We present new insights of how games mechanics and dynamics can be applied into experiences that generate discussion and understanding in social problems like gender inequality in parliament.

The development of game type was key to distill a clear understanding and instill a comparable emotional response. Further empirical analysis of Synchronicity has led us to re-evaluate re-adress the game rhetoric's, the experience structure, human interaction, game play, physical ability etc. Re-thinking the game's approach, we decided to explore an indirect approach, because the purpose of the game is no longer to represent and guide but to experience and motivate. We address the rhetoric's to keep only what is necessary to support the argument, as follows;

Narrative

Using narrative to emphasise the games' rhetoric based on accurate data generates awareness regarding the current system. Testing prototypes highlighted the need for an introductory narrative that helps players enter the game with some knowledge about the story and the rules but not the win conditions. Feedback from presenting Syncronicity revealed players felt more comfortable when they were less afraid of doing something 'the wrong way', also, in addition some players were unclear why they were starting in a less or more advantageous position than their co-player/s. However, the 'collaborative' win condition of the game is designed to be discovered by the players through the game's mechanics of how to achieve the win state. This iterative process of play testing is based on the 'Boomerang model'[27] [Stacy. P 2008], this process allows for a human centred approach, facilitating the emergence of mechanisms that players are more likely to engage with as it is generated by multiple points of view.

Real World Data

Using real world data as a basis to game conditions informs the game mechanisms and accurately reflects the current conditions of women's representation in the EU parliament. This data can then generate a discussion within an educational framework that reflects current situation, this transcends the games avatars from being abstract to actual, and enabling contextualised engagement.

Highlight Emotions

Highlighting emotions of unfairness and frustration, allows for a commonality to be reflected upon by users, this indirect approach then enables discussion without preconceived biases. Both emotions of unfairness (starting in the less advantageous level) and frustration (not being able to achieve your goal) aim to trigger empathic reactions and encourage players to reflect on similar experiences thus helping them identify with current issues of women's representation in an EU parliament context.

Highlight Consequences

The win state of the game is achieved by players collaborating and sharing resources equally. Frustration will be induced if the goal cannot be achieved because the player is acting in isolation, this is may be further emphasised by the nature of physical exertion games, due to no reward being attained by increased physical and mental effort. Careful consideration of how much frustration to induce as this can lead to aggression[28] [Mahood. C 2006], and the type of frustration[29] [Amsel. A 1990; Rosenzweig. S 1944] in order to act as an intrinsic motivational factor to bring about collaboration.

Design for Unplanned

Narrative helps players enter the game with some information about the game conditions and the game rules. However, interacting with the game reveals how they can use the game mechanics to collaborate and win. Since this is an exertion game, players are physically interacting with both the game and their co-player/s. Physical movement and position of the players allows for the players to discover how their actions affect their co-player/s and change the game conditions [figure 12].

Design for Reflection

The goal is to generate discussion through reflection, having a target audience provides a framework [EYP members] and the interactive activity promotes the discussion of the narrative instilled in the game, in this case gender parity in parliament. This post game discussion is key to develop awareness and engagement with the issue. Emotional reactions and physical activity is intended to encourage players to reflect on their own understanding and experiences of gender inequality within representational systems, see appendix for indicative questions.

The above highlight the medium of games as an effective tool in which to induce engagement. Embedding rhetoric within the game induces awareness as evidenced by 'procedural rhetoric' [Bogost. I 2007], combining this with physical exertion games further emphasises collaboration through interaction. Maintaining clear narratives provides clear issues of with real world systems and context to engage with.

Conclusions and Future Work

Having examined the issue of gender parity in parliament in terms of promoting women's representation in the European parliament, and propose games as a medium to help promote women's rights to equality and participation in the conduct of public affairs. In order to better understand the current conditions of gender parity in parliament we followed the journey of women's representation in the EU parliament from the first European election in 1979 to the most recent one in 2014. Today's developments in the social, cultural and the economic spheres suggest that the time may have come to address the issue of gender inequality in parliament as a whole, calling for changes in attitudes and behaviours. With that in mind we focus our research in developing a game that enables players to experience the unequal state of women's representation in parliament today and that encourages collaboration to overcome inequality as a win condition.

The study examined gamification, gameful design and persuasive game approaches. Presenting results from empirical analysis in movement-based games, testing and prototyping to support our hypothesis that games are a successful tool that facilitates collaboration as a result of game conditions. The tests suggested that an indirect approach where the purpose of the game would no longer be to represent and guide but to experience and motivate is more effective in terms of enabling engagement with and reveal the complexities of a system for a user.

The digital medium of the exertion game provides us with more parameters to emphasise unfairness and benefits of collaboration. Defining the technology available [Xbox Kinect, Sony Move, Wii Remotes] provides a more tangible framework to operate within and refines the games structure. The conclusion of the game is also the working process of the games development and its success in instilling an emotional response of unfairness and encouraging collaboration, measured by play testing. The latest development of the game is diagrammed below, see appendix for brief overview.
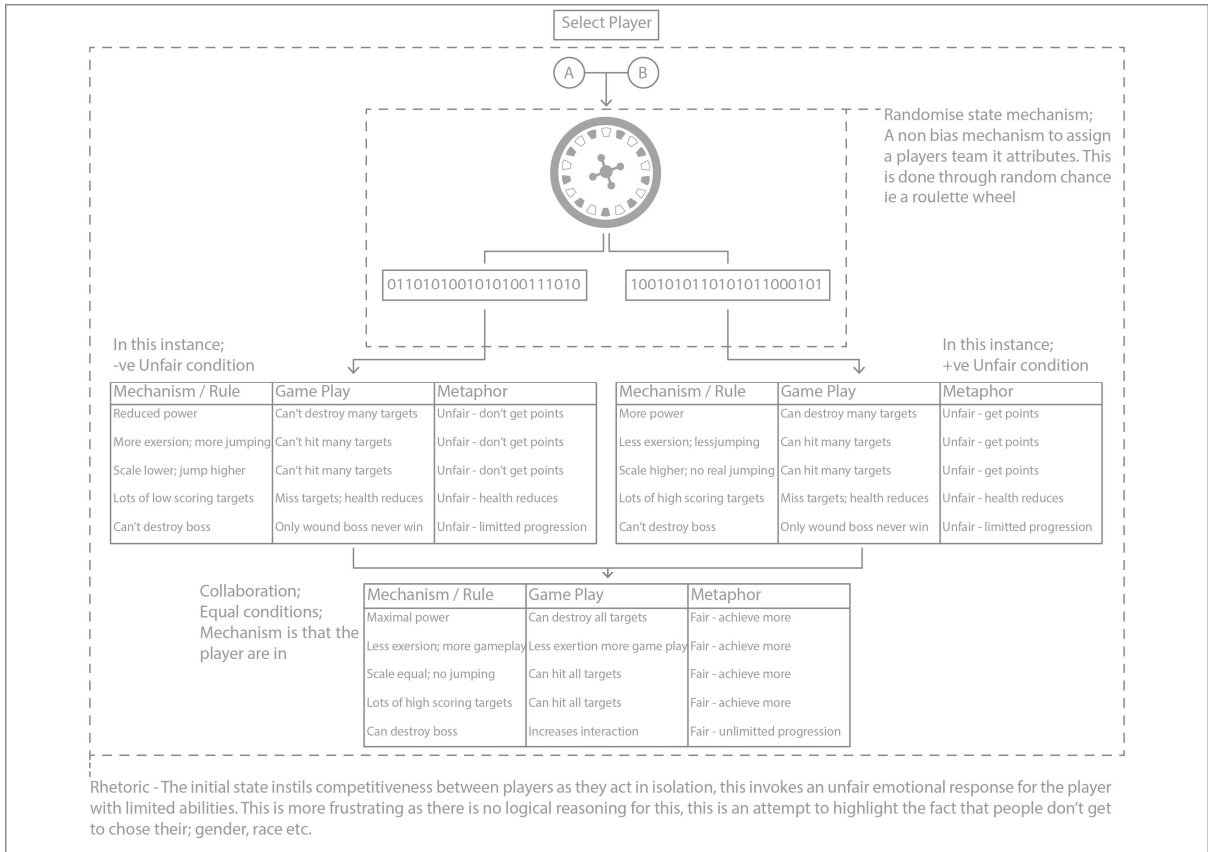
Select Player

A — B

Randomise state mechanism;
A non bias mechanism to assign
a players team it attributes. This
is done through random chance
ie a roulette wheel

0110101001010100111010   1001010110101011000101

In this instance;
-ve Unfair condition

Mechanism / Rule	Game Play	Metaphor
Reduced power	Can't destroy many targets	Unfair - don't get points
More exersion; more jumping	Can't hit many targets	Unfair - don't get points
Scale lower; jump higher	Can't hit many targets	Unfair - don't get points
Lots of low scoring targets	Miss targets; health reduces	Unfair - health reduces
Can't destroy boss	Only wound boss never win	Unfair - limitted progression

In this instance;
+ve Unfair condition

Mechanism / Rule	Game Play	Metaphor
More power	Can destroy many targets	Unfair - get points
Less exersion; lessjumping	Can hit many targets	Unfair - get points
Scale higher; no real jumping	Can hit many targets	Unfair - get points
Lots of high scoring targets	Miss targets; health reduces	Unfair - health reduces
Can't destroy boss	Only wound boss never win	Unfair - limitted progression

Collaboration;
Equal conditions;
Mechanism is that the
player are in

Mechanism / Rule	Game Play	Metaphor
Maximal power	Can destroy all targets	Fair - achieve more
Less exersion; more gameplay	Less exertion more game play	Fair - achieve more
Scale equal; no jumping	Can hit all targets	Fair - achieve more
Lots of high scoring targets	Can hit all targets	Fair - achieve more
Can destroy boss	Increases interaction	Fair - unlimitted progression

Rhetoric - The initial state instils competitiveness between players as they act in isolation, this invokes an unfair emotional response for the player
with limited abilities. This is more frustrating as there is no logical reasoning for this, this is an attempt to highlight the fact that people don't get
to chose their; gender, race etc.

Figure 13, Design: Adam Blaney, Elisavet Christou - random assignment

X box Kinect used to mointor players interaction and physical movements

Green player has to jump in-frequently and not as high to hit game targets in order
to get points

Red player has to jump very frequent and very high to potentialy hit game targets
in order to get points

Grid represents female politician percentages over time, the grid also controls
players possible interactions. Can only collaborate in the game when at 50/50
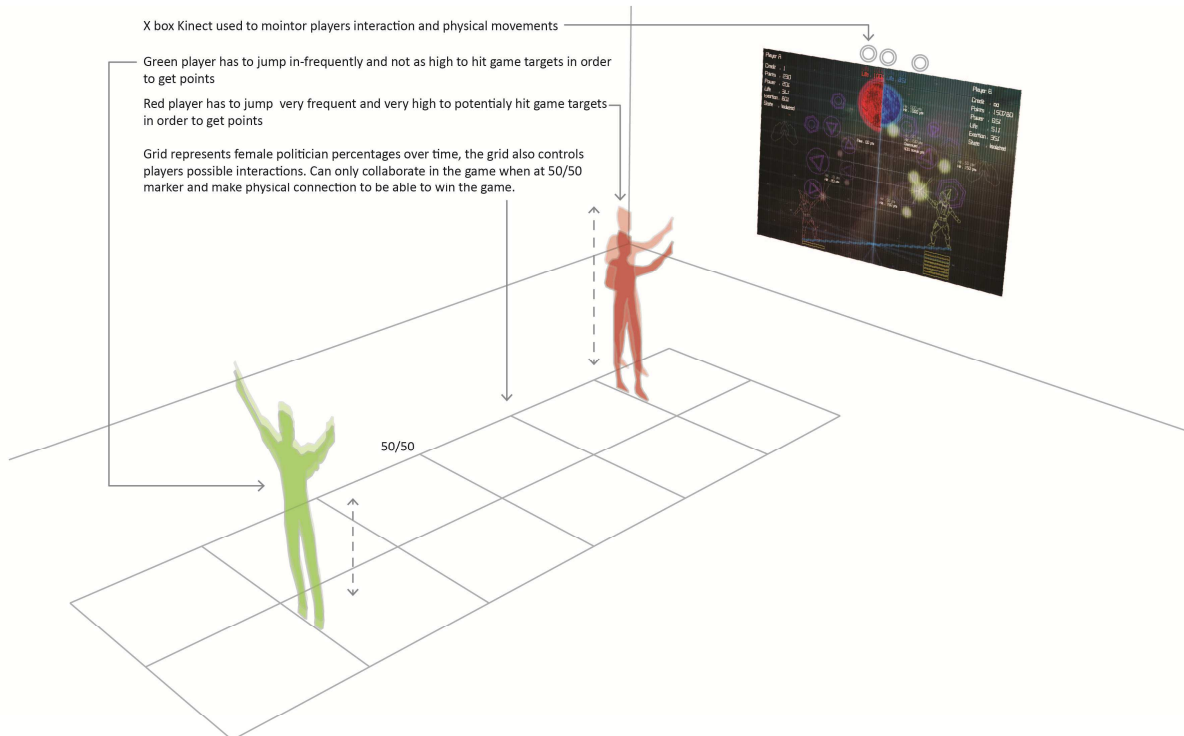marker and make physical connection to be able to win the game.

50/50

Figure 14, Design: Adam Blaney, Elisavet Christou - physical space
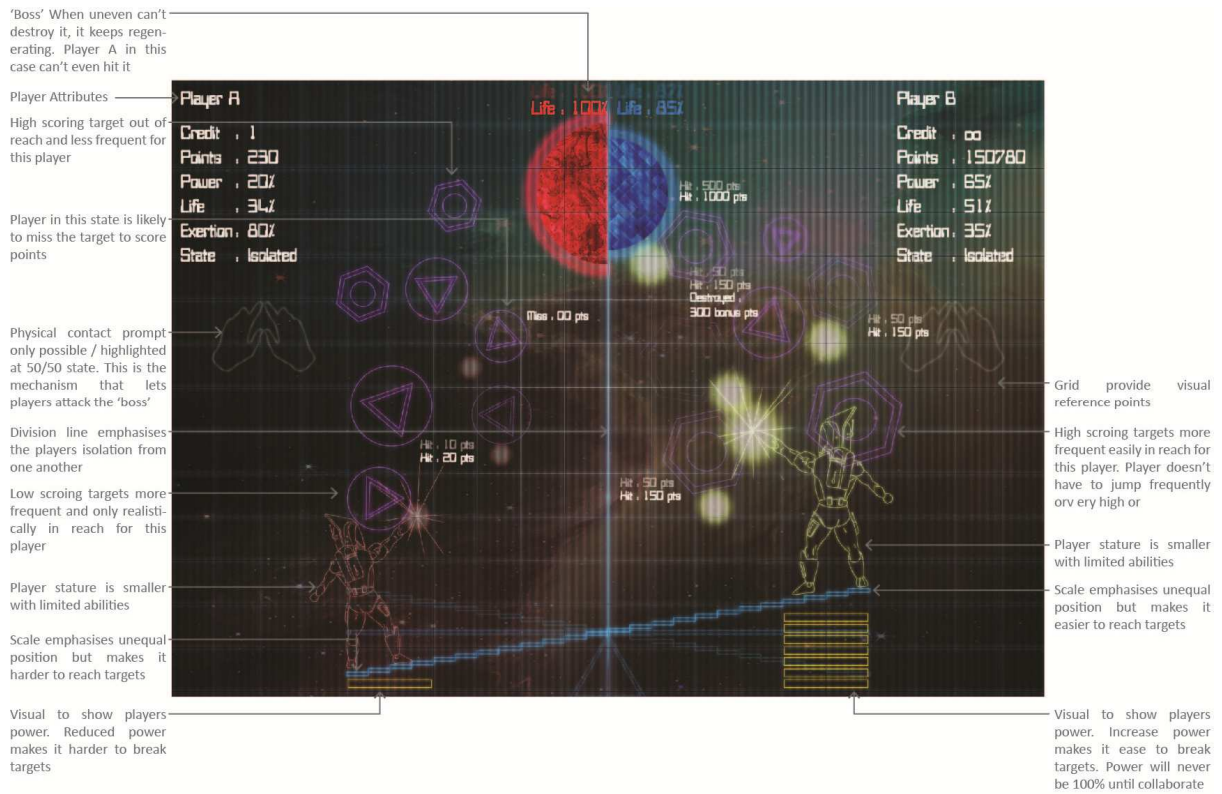
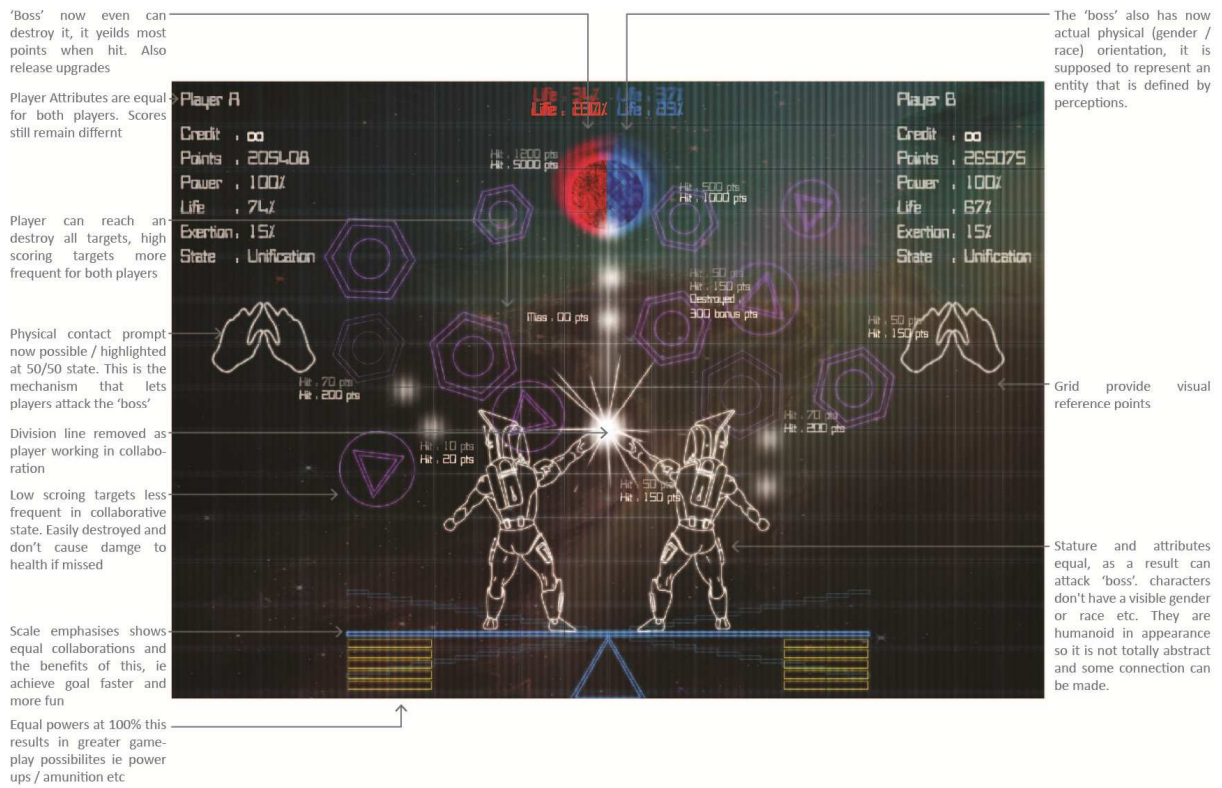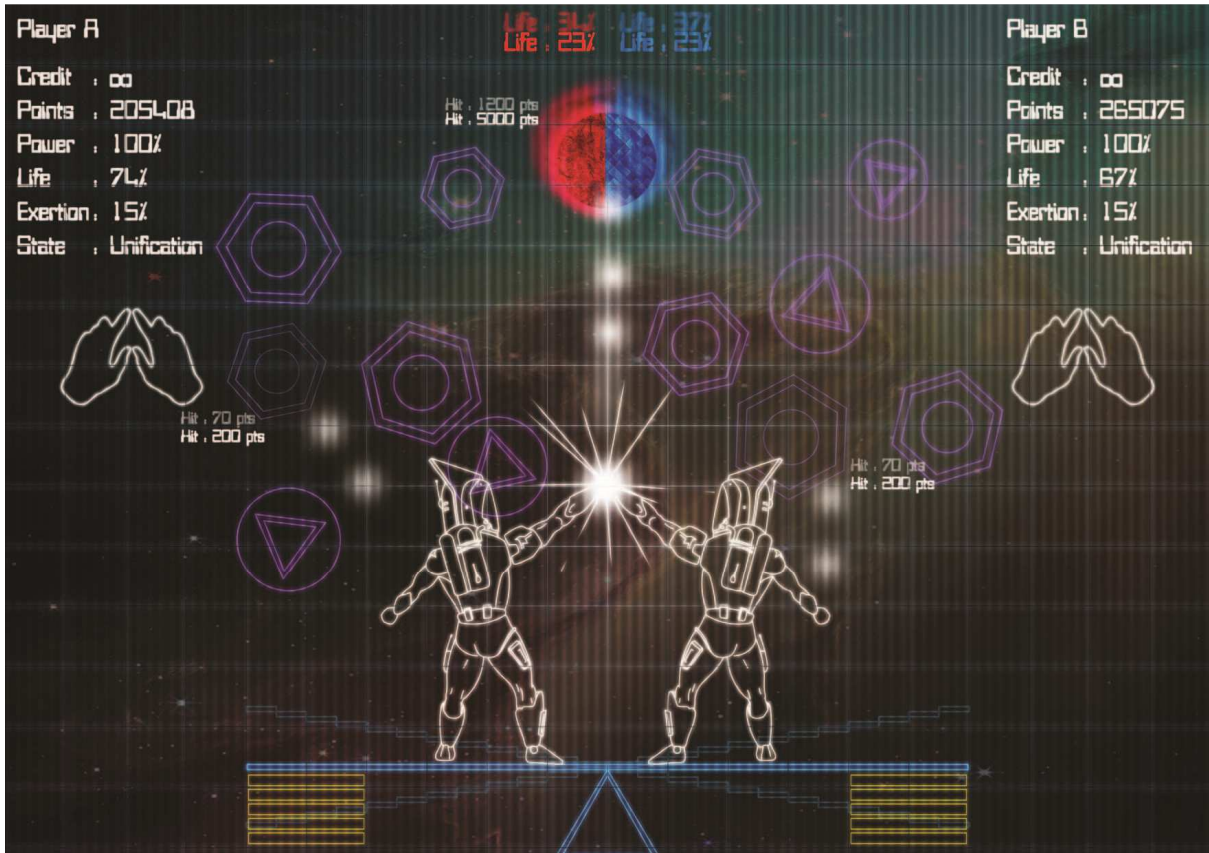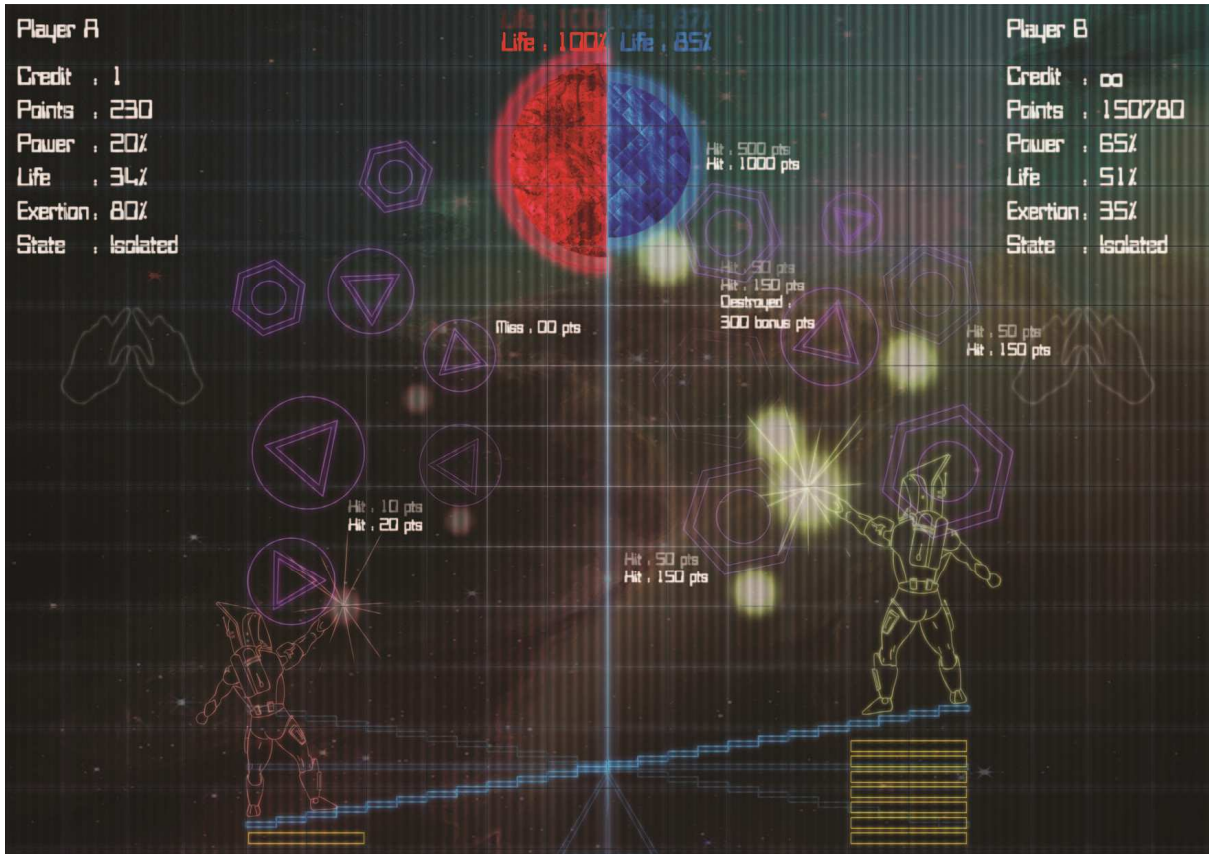Figure 15, Design: Adam Blaney, Elisavet Christou - Initial interface play

Figure 16, Design: Adam Blaney, Elisavet Christou - Collaborative interface play

Figures 17, 18 - Visualisations of the games interface.

Acknowledgments

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Appendix

Indicative questions

- Fairness of random state assigned? Should gender impact on participation in politics?
- Is the progression of women's representation in EU Parliament between 1979 and today expected?
- Should women's MEP percentage be higher compared to other issues of gender equality? Like pay gap, education access etc? Should parliament lead the way?
- Should there be a quota in the EU electoral regulation to support this goal?
- How gender parity in parliament benefited our representation system? What about other areas of society and culture?
- Would this make our parliament a more democratic one?

Game play overview

The users are randomly assigned a state. This initial state instils competitiveness between players as they act in isolation and limits the available options, invoking an emotion of unfairness, this engages with the fact people don't choose their; gender, race etc. [figure 13]. The players are prescribed a position in physical space to represent female politician percentages and provide a limitation that does not allow collaboration and emphasises isolation [figure 14]. The interface shows humanoid characters and an amorphous 'boss' to avoid preconceived affiliations / notions. It represents female inequality through reduced abilities and scoring opportunities for one player compared to the other, no matter the amount of physical exertion [figure 15]. The players can still score points but cannot achieve the win state when acting in isolation, only when the collaborate can the defeat the 'boss' [figure 16], this achieved by standing next to one another in physical space and joining hands, representing an equal system.

Website resources

http://education.stateuniversity.com/pages/1687/Yemen-EDUCATIONAL-SYSTEM-OVERVIEW.html

http://hdr.undp.org/en/content/table-4-gender-inequality-index

https://www.european-agency.org/sites/default/files/Gen_Education_in_Norway.pdf

http://www.oecd.org/edu/Norway_EAG2013%20Country%20Note.pdf

http://www.brac.net/content/afghanistan-education#.VIbUmjGsWT9

http://www.ungei.org/infobycountry/afghanistan.html

http://www.tradingeconomics.com/afghanistan/public-spending-on-education-total-percent-of-government-expenditure-wb-data.html

http://data.worldbank.org/indicator/SE.PRM.TCHR.FE.ZS

http://www.oecdbetterlifeindex.org/topics/education/

http://www.euroeducation.net/prof/norco.htm

http://www.indexmundi.com/norway/demographics_profile.html

http://www.tradingeconomics.com/norway/population-density-people-per-sq-km-wb-data.html

http://www.nationmaster.com/country-info/profiles/Norway/Crime

http://www.citylab.com/politics/2013/10/these-countries-have-oldest-and-youngest-first-marriages/7313/

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http://www.citypopulation.de/Norway-Mun.html

http://www.infoplease.com/country/yemen.html?pageno=11

http://www.eui.eu/ProgrammesAndFellowships/AcademicCareersObservatory/CareerComparisons/SalaryComparisons.aspx

http://www.tradingeconomics.com/afghanistan/employment-to-population-ratio-ages-15-24-female-percent-wb-data.html

http://www.wave-network.org/sites/default/files/05%20NORWAY%20END%20VERSION.pdf

http://www.nationmaster.com/country-info/profiles/Yemen/Crime

http://www.fgmnetwork.org/gonews.php?subaction=showfull&id=1171338119&ucat=1&

http://www.mapsofworld.com/yemen/cities/

http://www.mapsofworld.com/norway/

http://www.rawa.org/temp/runews/2008/12/25/about-25-women-in-the-country-face-sexual-violence.html

http://www.nationmaster.com/country-info/profiles/Norway/Crime/All-stats

http://apps.who.int/iris/bitstream/10665/85239/1/9789241564625_eng.pdf

http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/employment_statistics

http://www.unicef.org/gender/files/Yemen-Gender-Eqaulity-Profile-2011.pdf

Note one web address has been shown when it was used for the other countries data also ie

http://www.ungei.org/infobycountry/afghanistan.html
or norway or yemen or netherlands