Process of Participatory Game Design as a Catalyst for Reflection on Experience of Immigration

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Abstract

This master thesis studies the process of participatory game design. The context of the study is middle eastern voluntary immigrants with focus on the topic of home, identity and belonging. The aim of the project is twofold: one is applying the participatory approach on game design and exploring the role of user in game design process and other is to observe the effect of this process on designer and participants reflection on their own immigration experience. A three-stage participatory design(PD) process is adapted in this work. A game is designed and insights from several interviews and 3 group sessions is shared in the end.

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Chapter 1

Introduction

This thesis describes a participatory game design project on the topic of home and identity in immigration, that is co-designed with a group of Middle Eastern immigrants in Estonia. I explore the effects of this design process on the reflection of participants (including myself) on their immigration journey.

This topic was a personal interest for me, since as an immigrant I was recently faced with a lot of challenges and questions that I felt compelled to explore. I wanted to design a game about this topic and I was determined that it must reflect experience of more people than just myself and be relatable for bigger audience. Therefore participatory approach came to the picture. Reading more and exploring the topic further I found many instances of using art (for example, Linesch et al. (2012) and Lemzoudi (2007), writing (such as in Walker 1985 and Smyth 1998) and other creative outlets (storytelling and myth (Rousseau et al. 2003) as a form of reflective and therapeutic process in immigration context. Game design by combining several of such creative elements was a perfect candidate to explore as a tool in such use-cases.

One of my greatest inspirations on exploring the design process as a tool for triggering reflection was a paper by Haynes (2006) by the title of " A therapeutic journey? Reflections on the effects of research on researcher and participants". In this paper Haynes writes about her research process and how it affected her and interviewees as a two way exchange. As human beings we come out of each experience a slightly different person. Even an interview can affect interviewee who is often perceived as constant and only research is seen as receiver and subject to possible change. How a more actively participation-oriented research with social aspect in group can affect the parties involved? This was the question that triggered the current endeavor.

As nature of the work implies, it is more appropriate to describe the goal of the research than a research question: "Since participatory design projects by definition involve design as well as research, the object of the research tends to be expressed in a purpose statement rather than a research question." (Spinuzzi, 2005)

The goal of this project is to explore participatory game design; its possible applications as a tool for triggering reflection and at the same time exploring the role of user in game design and participatory game design. The need for this research arises from necessity and importance of more work on the well-being of voluntary immigrants and complicated experience of immigration; as well as overlooked role of user in current game design practice and possible application of game design as tool for reflection.

This thesis describes the process of designing a game about and for voluntary immigrants; people who moved out of their country for work and study purposes. This group of immigrants get the least amount of attention and support from host society since they are not part of official immigra-

tion/asylum seeking pipeline that generally only support forced immigrants from war-torn and conflict zones. In many cases this group is departed and disconnected from their home-country but are not truly settled in one destination and are not decided where to settle. They may have moved around several times already.

This work focuses mostly on the concept of home. Home is intertwined with many closely related concepts such as identity and belonging and is one of the central elements of immigration. It encapsulates many emotional and practical aspect of one's life and takes especially important role in immigration. Home, identity and belonging have

been studied in various ethnographic research. Therefore, this project is informed by relevant literature in ethnography.

The design process of this project follows participatory design method. It is greatly in line with what Spinuzzi (2005) describes as a 3 stage process.

Chapter 2

Theoretical Background

In this section I go through some of the key topics related to this work. I start with elements of the context with an overview of literature of immigration which mostly are from anthropology studies. I often mention data from my interviews within this section when it is relevant to the topic in the hopes that it will illustrate the context better. Then I discuss role of the user in various design arenas. Next come participatory design which is the main method used in this work. Section 2.5 overviews game design as it has been used as an educational tool in fields such as constructionist learning. Finally in section 2.6 I define reflection and introduce the model for reflection that I used in my project.

2.1   voluntary immigration

Through history, voluntary immigration has occurred and been documented on a large scale on several occasions. Older examples can include the migration of Huns from northern and eastern Europe into the territory of the Roman Empire during the fifth century a.d.. Some examples of currently ongoing ones are immigration from Mexico to US and east Europe to west

Europe.

Primary group of people involved in current project is middle eastern immigrants in Estonia. The Middle East consists of 18 countries from western Asia and including Turkey and Egypt[1].

Being an immigrant, even though it may be voluntary, can be a difficult situation with its own challenges. When talking about voluntary immigration, people generally do not recognise that problems related to immigration are relevant to them, or as a valid issue worth spending time studying and reflecting on. Immigrants themselves do not admit it, or maybe do not know it is common and worth a discussion.

Immigration literature divides the process of immigration into three phases of pre-migration, migration and post migration. First one being the stage of decision for leaving and preparation, second the act of relocation, and the third is entering the host society (Bhugra & Becker, 2005).

Each of these phases can have stressful or traumatic effects on the immigrant. Voluntary immigration by definition generally should be lower in trauma caused in first two stages. However, some studies suggest that post-migration stressors can have greater effect on immigrants' mental health than pre-migration issues or even problems faced on early months of immigration. Therefore, post-migration issues deserve equal if not more attention compared to more commonly addressed issues of pre or during migration trauma.

Based on a review by Kirmayer et al. (2011), some issues that can affect immigrants' mental health and well-being can range from uncertainty about their immigration status, loss of community and social support to integration, acculturation and identity problems. These issues in most part

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[1]https://csme.indiana.edu/documents/cirricula/MEPolicyCouncil_What-WhereMiddleEast.pdf

are common among both voluntary and forced immigrants. Acknowledging such issues and help seeking is very low among immigrants in general (Kirmayer et al., 2011). The fact that voluntary immigrants are not involved in state-funded supporting programs hides the issue away and makes them vulnerable to more long term problems.

2.2   Home, Identity and Belonging

Defining home as a singular, stable and secure place even out of the context of immigration seems no longer descriptive of modern experience of the home. Home takes different shapes and forms from one or a set of physical locations to a symbolic concept (Al-Ali & Koser, 2003). For someone who has not experienced as much change in her life, it is easy to find all the aspects and faces of home mapping on each other and to one location. Contemporary home on the other hand is a complex and blurry construct that often relates to more than one place. Home can be seen as a dynamic process involving both the people also the material objects.

In the context of immigration, these material objects take a strong role: "such material objects serve to both buffer individuals from the pressures of outside cultures, but also help to forge a feeling of identity and belonging somewhere, if not necessarily in the particular place they may occupy at a given moment." (Ralph & Staeheli, 2011) In my interviews I have encountered important objects that interviewees brought from their home country. To my surprise many of these objects were very symbolic and much less practical than what I expected. For example multiple people reported they have their home country's flag, traditional clothings and such with them (these clothes are even rarely used in the country of origin). These were the case specially among people with stronger nostalgic idea about their

home country. Ralph & Staeheli (2011) argue that in some instances these objects, strong connections to the past and frequent travels back, function as an adaptive response to their hostile or unreceptive conditions in host country. Of course it should be noted that home and respective identity, specially for immigrants is not a singular one; and incorporating objects from previous homes is an essential part of making new home, and seen to be a necessary part of the transition and acceptance. (Tharmalingam, 2016)

However, perhaps the frequency and distribution of new and old objects in the new space can vary among nostalgic and adaptive immigrants.

There are common and individual elements to home. Cultural and economic background and circumstances in which immigration occurred, all affect the understanding and making of home. For example, Ralph & Staeheli (2011) mention that immigrants with legal status and permission seem to do better in establishing themselves in new place. I have experienced similar phenomena among many immigrants in Estonia, in this case, not the legal status but their intention to stay for a limited time in Estonia hindered their home making process. Even in one case an interviewee that "comfort" was a big part of home for him, admitted that he does not want to "make himself comfortable" here, because he wants to move to another country in near future.

2.2.1 Nostalgic Home vs Reality

Sometimes it is easier to imagine a singular, safe and secure location as home. It may be the case for many recent immigrants to deny the dynamic nature of their home and hang on to the old home as their safe harbour. It can also be the hope of better future that takes shape in the form of home. Al-Ali & Koser (2003) call it nostalgic past or utopian future. One

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interviewee said: "for a long time I was in love with Egypt, without ever actually living there. Then I moved to Egypt for one year and after that I was cured of that for good!". It is rare that people get to return and face the idealized land in its reality. It was interesting to observe in a different interview, that the interviewee idealized the home country, at the same time that they could logically tell me why they don't want to raise his children there.

2.2.2   Identity and Belonging

When revisiting the old home, homeland or home country (physically or metaphorically), people often face the duality and complexity of the identity and belonging. One may inevitably identify themselves as "Iranian","Turk", etc. but they admit that they don't fit in the old sense of that identity anymore. They don't completely belong to the old place and construct of home. I encountered many such comments during interviews. People would say that they don't "understand their people anymore" or "they are a stranger in their homeland". They have outgrown their old shell. For few this reality was a natural part of the life and for many others it was an unfortunate circumstance that they don't acknowledge very often. I have encountered people who decided to deny their new identity as well as people who would prefer to deny their roots. Estonia is an interesting context for middle eastern immigrants. The difference in skin and hair color and general physical characteristics makes it almost impossible for them to ignore their roots. One interviewee said "If I could change my appearance and become a white blonde, I would do it."; for most it is easier to fall back to the roots and admit that "why bother, I will never be a real Estonian, I don't look like them". Ralph and Staeheli (2011) also add that part of feeling included

or belonging is that the individual shares similarity or sameness with other members.

I also used to believe in singular identity and would map it onto where or what I belonged to. This made it difficult to make a home here: "if I am not Estonian, how can I belong here? If I don't belong here, how can I have a home here?". Of course the extent of relationship between home, identity and belonging, varies from person to person and depends on many other external factors as well.

As I mentioned above it may come from the immigrant's perception of being accepted, familiarity and identification. For example one interviewee said "When I travel out of Estonia, and come back; I feel I came back home, I know streets and places." . Other mentioned "I think I am more home here than some other country, here I know how things work, what is where ...". He was saying that he prefers to find a job here in Estonia, even though in other places (like Finland) salaries are higher.

2.2.3   Social Factors

Belonging (at least in my experience in Estonia and also from information obtained during my interviews) has a great social aspect:

> While belonging is a subjective feeling held by individuals, it is also socially defined [..] However, there is an explicitly social element of belonging that conditions home and identity. This social element speaks not so much to the feeling of identification and familiarity as it does to experiences of inclusion and, very often, of exclusion. (Ralph & Staeheli, 2011)

Exclusion is still partially a subjective feeling. Almost all of my interviewees thought that Estonians are cold, quiet or not very welcoming and social. The fact that those Estonians may behave the same with another Estonians, and it is not an act of exclusion does not help their feeling. Per-

haps its main effect was that they would mostly comment that "Estonians are good people" and that is not an act of hostility but "just how they are". They could agree that is a way of being and not an active exclusion. They would comment that "people are different here" or "friendships are different here": "friendships are from heart in my country" one added.

However, this feeling of loneliness pushes them to seek to join other closed communities that makes them feel even more excluded. Russian communities are common example mentioned in interviews; the number of Russian speaking people in Tallinn is quite large. However, this does not make them more inclusive of others. As pointed out by an interviewee, other smaller communities in Islamic center such as Turkish community is not very inclusive of non-turks either. A community for belonging to and feeling accepted does not need to be a big one. Even joining sport teams and local activities give people a more positive feeling of inclusion and belonging. One interviewee said that he started playing badminton because criket, what he used to play before, needs more people and is harder to organize. Now being part of a club, he participates in local competitions and also found local friends in the club. Membership of a given community has two aspect of self-defined and other defined, it is enough to claim a membership but the membership should be accepted and validated by the community.(Ralph & Staeheli, 2011)

2.2.4   Belonging to a Place

"Yet crossing a border as laden with political, legal and cultural ramifications as it might be should not be assumed to mean that feelings of belonging or of being at home is somehow specific to a national-level community or entity."(Ralph & Staeheli, 2011)

For me home is not Iran, not even my hometown but only the the house, yard and the alley that I grow up in. For others a feeling or type of landscape was the spatial aspect of home; one interviewee said they doesn't miss Israel, but they miss and long for warm beaches and bodies of water, common scenes that they are used to in Israel. Different patterns of what is geographical aspect of home emerged from my interviews, for some it was bigger and country wide, for some as small as their hometown street or even their room.

2.3   User in Design

In many branches of design user has gained important role in the design process. This role may fall somewhere on the continuum of informative, through consultative to participative. Cost-efficiency, better quality and higher acceptance rate are some of the motivators for user involvement in design. User as informant, provides data, artefacts and insight for design. This role is explored using tools such as observation, contextual inquiries and interviews. As consultant, user comments on a predefined design in any stage. Testing the final version or prototype of the design with potential users falls under this category and the main focus of this approach is usability of the system. And finally user has some degree of decision making power in a participative role that affects the design outcome, it can be implemented in the form of workshops and design sessions. (Damodaran, 1996; Kujala, 2003)

2.3.1   User in Game Design

Fullerton et al. (2004) divides game design and development process into three stages of conceptualization, prototyping, and playtesting. User can

enter and affect any of these stages in various levels. Game design is yet to fully embrace the role of user in design. Often the user is reserved for play tests and bug reporting. Even in serious and educational games, which more or less follow the process and pipeline of the commercial game design, user as a central part of design process is not well accepted or practiced. Of course games as an art form and entertainment product, are different from more task based systems. games are more subjective and may address different and specific target group. Interpretation of what is fun, engaging or has beautiful graphics can be widely dependent on personal preferences. While usable, useful and practical, are much easier to measure and design for in case of other information systems. It is not very clear that how game design may benefit from user-centered and participatory practices. since issues such as " training costs" or "user support" is not a big factor in games, game design may need a completely new set of frameworks to involve its users into the design process. However, serious and educational games fall somewhere between pure entertaining games and task-oriented applications and may benefit from user-centered and participatory methods. It is easier to imagine the benefits of user involvement in testing games. Is the game enjoyable and engaging for the user, or for example does difficulty of tasks match the user's ability; is it usable and functional, as in actions like saving, loading or acting in game world? These questions can be answered with user testing.

User-centered design in games is defined as putting the user in central place of importance while designing the game. This does not necessarily require involvement of user and concerns more on tailored and adaptive game play (Charles et al., 2005).

In educational and serious games in addition to points above, perhaps

goal of the game, as its educational or serious outcome can be measured and designed for, by involving users in the process. How do users learn the best and what interests them the most; or what are the main challenge points in this topic for the users? Such questions can be explored better by user centered and participatory methods. Designing something and testing it afterwards to find out that some parts or features need serious redesign, can cause massive time and budget overhead.

Rankin et al. (2008) in a paper with the topic of "Multiplayer On-line Role Playing Games for Second Language Acquisition", adds a new stage called "observational studies" to the three stages of game development (conceptualization, prototyping, and playtesting), to suit it for educational user-centered game development. They reserve this stage to study "social interactions that support acquisition and application of knowledge". In the context of their paper, which is on language learning, and in the context of MMORPGs, this specification makes sense. However, as a more general practice the "observational studies" can entail much more than social inter-actions and can be used in non-social contexts as well. Vanden Abeele et al. (2007) describe similar steps taken by students to design a game for and with the elderly. In the course of the project they started by observing the users in "their natural habitat" to determine their passions and interests before they started with design steps.

To demonstrate the role of pre-design user research (that can take the form of ethnographic fieldwork) imagine a game for teenagers in Estonia. In this case it is wise to do some field research to know the user group. What are teenagers like nowadays, what are their issues and problems, how do they play, how do they learn and what are their favorite platforms. The same goes if we were to design a game about teenagers. Are we as designers

depicting them accurately? Or it is based on our experience and idea of being teenager? It is especially important to consider this when designing about and for that specific demographics.

2.4 Participatory design

Although it is difficult to pinpoint the birth of participatory design to one point in time and place, most sources agree that participatory design (the most similar one to current notion of it) started in Scandinavia during the 70s and 80s in factories to democratise the workplace and empower the workers. Nowadays it is adopted and used in human computer interaction and similar IT fields (Spinuzzi, 2005). During those decades, concepts and ideas of participatory design started being developed and practiced in England and other places as well as Scandinavia, due to new engineering and computational advances. Mines, factories and other production companies began using system engineering to introduce better and more productive workflows. From this redesign of work practices, and its early failure to deliver expected results, participatory approach was born. They soon recognized that no productive workflow can be truly productive if it is not fitting the humans who are in the process as well.

As its name suggests, participation of users, or non-designer stakeholders in any stage of the design process can be called a participatory design. Although participatory design is not a very recent concept, it is not quite widespread. Many factors from economic, cultural and workflow practices to logistical and implementation issues, have prevented this method from being more popular. Also, historically and in most design areas, when participatory approach is used, the user participation has been limited to the ideation part of the process. However, recent changes in all aspects of the

design paradigm and what we design for (experience, emotions, interactions instead of product), makes participatory design more relevant today than before (Sanders & Stappers, 2008).

Participatory design has changed and evolved during the years. Depending on the field of application it may have moved further from its original form and ideology as why we use participatory design and what it can offer. It also has been influenced by and has taken in concepts from other fields of the research and practice such as action research. Participatory practice in today's design is not a fixed method or fully defined step by step process, but a set of theories and methods with the goal of end user participation in the design process as fully as possible. It is a frame of thought and perhaps an ideology that considers ethics, politics, democracy and empowerment (Bannon & Ehn , 2012; Melonio, 2016).

2.4.1   User in participatory design

Participatory approaches can differ in user's role and control, user involvement rationale, timing, process and many other implementation details as well.

Of course even in participatory projects, full participation of everyone involved is not always embraced. In most cases "participation at the moment of idea generation" is practiced. "participation at the moment of decision" is getting more accepted and hopefully practiced more in future. Level of user participation can be determined by user, her willingness to contribute and her abilities. (Sanders & Stappers, 2008)

Sanders & Stappers (2008) define four categories of users based on their creativity level from high creativity to lower creativity, for any given situation: 1. People in "creating" level who are motivated by inspiration and

who want to "express their creativity", 2. People in "making" level whose motivation is using their ability or skill and want to make things, 3. People who adapt and want to make things their own and 4. People interested in getting things done who are motivated by productivity. First group are more interested in involving and co-creating compared to others.

People may engage in an activity in one of these levels depending on their willingness, expertise, passion and confidence, and they may enter another activity in a different level. (In my participants, I found it very hard to get higher than adapting level. I will discuss this point further in discussion section.)

Damodaran (1996) provides extensive guidance on user involvement in IT projects. She enumerates possible pitfalls and emphasizes that a good infrastructure is needed for adequate and beneficial user participation. Although her paper discusses this practice in the context of big organizational information system design, most of its insights are in some extent applicable to any participatory project. In particular, I found her suggestions to make sure that the user is informed about the process and technical issues, but still stays representative of the user group's point of view, very interesting.

Shifting role of user in participatory design, implies the change of the researcher's and designer's role as well.

Researcher who was an interpreter and link between designer and user, may become obsolete in that sense and new tasks emerge for researcher. The role of both researcher and designer become less important with the user taking the central seat (Sanders, 2003). As Sanders and Stappers put it, designer/researcher has to:

> ...lead people who are on the 'doing' level of creativity, guide those who are at the 'adapting' level, provide scaffolds that support and serve people's need for creative expression at the 'making' level, and

offer a clean slate for those at the 'creating' level. (Sanders & Stappers, 2008)

2.4.2   Stages of participatory design

Spinuzzi (2005) recognizes three stages of "initial exploration", "discovery process" and "prototyping" in most participatory design projects. He describes these stages in the context of work, therefore here I will try to reflect core ideas in more general context.

"Initial exploration" entails getting to know users as well as the context, possibly in direct interaction with both. Walkthrough, visit, contextual inquiry, observation and interview are the most common techniques used in this stage. The choice of the technique can depend on availability, possibility and time constraints. For example visiting or spending days in a factory or office can be more acceptable and feasible than spending a day in family homes.

In **"discovery process"** users and designers meet in group settings to clarify goals and outcomes of the project. Designer probes for values, goals and needs of users.

"Prototyping" stage is where the information and agreements gained in previous stages translate into a product that is iteratively redesigned.

Clark et al. (2009) describe using similar three stage process in designing a game for and with school children. They call the second stage "evaluative" and they focused more on educating students on game design aspects in workshops and let them play and evaluate numerous existing games and asked students were observed and asked questions such as what they liked or disliked and why. They later incorporated outcomes of this game testing into their prototype.

Some characteristics of participatory design are accountability to meet

local needs and be beneficiary to the participant and not only produce knowledge used by research peers (Ehn & Bannon, 2012;Spinuzzi, 2005), reflectivity and collaborativity by ensuring the right involvement and mechanisms to mutual agreement (Spinuzzi, 2005).

2.4.3 Participatory design in games

User centered and participatory design are common practices in most design areas. However, in game design the role of user in design process is often overlooked. Users' participation is almost limited to play tests and feedback after the whole game (or prototype) is designed and even developed. The situation with user research is not much better either. Context and user of the games, even serious and educational games, are often poorly researched and understood.

Vast majority of serious game design literature, which reflects the ongoing practices, focuses on educational games with fixed curriculum and educational content, and deal with school children. These works often find it difficult to incorporate children's playful mentality and desires into design process, while keeping the educational content in place. Even in more free domains such as conflict resolution (Khaleda & Vasalou, 2014) that has wider scope to explore and design for, necessity of a carefully curated scaffolding is emphasised. This scaffolding can come in the form of content management, such as ensuring that content stays focused; or the game form and style. However, in most cases a combination of both design requirements are in place. Danielsson & Wiberg (2006) in their game for and with teenagers about gender issues, provided the initial form and frame of the game themselves. Teenage participants could discuss and change the original form but mostly filled the form with the content. students also discussed

each stage of the development with moderation of the designers. In this way participants could affect the game aesthetics as well as content and mechanics. Still this approach, as they also admit it, is a modified participatory design that does not fully follow standard PD.

Gennari & Melonio (2016) suggest a very well planned design process along with probes and enabler tools and techniques to engage elementary students in game design process. For example to ensure every child in team participate they used a "taking-turns-in-speaking cup" that should be handed to the next person to share her/his opinion. They also gamified the whole process and defined levels of task for the design process as well as specific role to each student.

I assume similar difficulty and need for scaffolding, are expectable while designing with adults as well. For example perception of games as an instant of widely available commercial games, makes it harder to come up with alternative and more innovative game concepts with pure participatory approach. Talking with people about my project I received comments and questions exemplifying this issue. The main comment was that "I wonder how the game will look like"; sometimes adding the fact that they can not imagine a game for and about immigrants based on their previous exposure to games. One person said: "ah a game about immigrants! Is it like, how many you can hit or something?"

Considering all of the difficulties above, participatory approach is mainly used partially, in specific and more appropriate stages of the design process, for example in the ideation or in refining the initial idea/prototype that is made based on context requirements. For example Waddington et al. (2015) approach designing a therapeutic game for youth with vision impairment, not with a pure participatory method and clean slate at the beginning but

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with an primary game prototype that was used as a central piece in partic-ipatory design sessions.

2.5 Game design and development as a tool for education

Here I discuss some of the literature on "making games for learning", which in big part base their work on constructionist perspective. Therefore the first section gives an overview of constructionism itself. The most common use of game making in these literature was to improve 21 century skills and mostly problem solving, logic and (simple) programming concepts. Second in popularity was making games about science and math topics.

2.5.1 Constructionism

Constructionism which is an educational theory and practice, is closely re-lated to constructivist theory. Same as constructivism it believes that learn-ing happens by learner making sense of learning material while interacting with it and making it internal. Constructionism adds to this idea by sug-gesting that learners engage in learning and are more likely to construct new idea when they make some artefact that they can interact with. Artefact here can be any sort of external thing that is generated by learner, and not only physical object (Papert & Harel, 1991; Kafai & Resnick, 2012).

Interestingly enough concept of constructionism emerged by playing with computer and Logo language. Since then it is mostly used in the context of computer programming and game making in Scratch[2] platform and similar tools. This concept can translate well into project based learning as well. Constructionism believes in spending longer time on the project as Papert

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[2]`https://scratch.mit.edu/`

& Hare (1991) put it "it was not done and dropped" but continued long enough to give the creator the time to think, gent new ideas and try them. Longer time spent on the project also gives them time to talk to others and see their work, react to others' work and see others' reaction to their creation(Papert & Harel, 1991). Idea of constructionism has a social aspect that part of knowledge and reflection comes from interaction with others, their constructions and vice versa. Distributed and social constructionism practices takes this social aspect even further.

2.5.2 Designing games for learning

Use of game development as a way of learning subjects such as programming is a fairly common practice. My own experience as undergraduate computer science student was paired with numerous games that we developed (sometimes designed as well) for various programming courses. Creating games are also used in schools to teach students programming and software use. Games are a motivating and engaging context for learning logic, programming and technology use. Denner et.al (2012) explore how programming a game can affect the learning in middle school girls. Another study on technology use and 21st century skills is done by Li (2010) showed that game design practice can teach elementary students the game design process, enhance their understanding of the subject matter and improve their problem solving skills. They also observed empowering effect on the student towards active technology use. Robertson (2012) got to the similar conclusions after 6 weeks of game making by primary school children. She concludes that students gained new skills such as storytelling and visual design as well as IT skills.

Baytak & Land (2011) on the other hand, look into game design process

in informal knowledge building and sharing among students on a third subject while making it into a game. In similar attempt Robertson & Howells (2008) explore game design as a way to encourage meta-cognitive skills in students. They observe how making a game can push students towards successful learning as identified as "enthusiasm and motivation for learning, determination to reach high standards of achievement, independent and group learning, and linking and applying learning in new situations".

Effect of game design on cognitive skills such as problem solving have been studied as well. Akcaoglu & Koehler (2014) divided problem solving into "system analysis and design", "Decision-making" and "Troubleshooting" and in a quasi-experimental setting studied game making in this context. They report that experimental group showed a significant increase in their problem-solving skills. However, they admit that like most of the similar experiments it is hard to separate the effects of instructions and other activities in the program from the game making part.

Game making for attitude change and reflection received less attention than making game for teaching technology literacy or school related topics. Most of the projects in this category still stay within the change of attitude towards technology, programming and computers. Van Eck (2006) after a two semester long study concludes that playing and making game in schools can impact attitudes toward technology and also influence career choices in girls. They also argue that making games demystifies the technology and conception of game design and technology in general, being difficult. In this study students play games during first semester to get familiar with games. During the second semester and within their school work, they design games with free topics in groups. Baytak & Land (2011) in their study of game making by students, provide some examples of how teacher prompted

reflection by asking students to come up with new ideas and justify their ideas. They also mention that game design and test process itself, caused discussion and reflection among students and motivated them to go deeper in the topic.

2.6 Reflection

Reflection is a mental process that aries when an ambiguity or dilemma occurs and one can not deal with the situation or make sense of it with previous tools(Dewey, 1997; Khaled, 2018). Naturally reflection does not occur in a normal circumstance that one smoothly advances. It inherently calles for difficult situations and out of ordinary conditions such as what happens in immigration. Learning scholars in both formal learning and situated learning in workplaces have studied and written about the role of reflection in an effective learning. The reflective practice can target the learning material, learning process or events and experiences. (Boud, Keogh & Walker, 1985)

Reflection in fields such as medical practices is more commonly used (or at least researched). For example Aronson et al. (2011) propose a reflection guidelines for medical students and Blatt et al. (2007) examine the effect of reflection on students' clinical performance.

Schön defines two main types of reflection based on when they occur: reflection-in-action and reflection-on-action. Reflection-in-action occurs when reflection is done while in the experience that can affect the current situation and result in knowledge-in-action. It can cover any aspect of the situation such as tactics and behaviours, frame of the problem, role of person in the situation and feelings. Reflection-on-action, on the other hand, is reflection on past events by looking back to perhaps learn from it to use

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in similar situation in the future(Schön, 2017). however, in some contexts it is hard to distinguish between these two types of reflection. Also Schön's work concentrate only on practitioners and workplace reflection.

Dewy adds that each reflection has these characteristics in it "(a) a state of perplexity, hesitation, doubt; and (b) an act of search or investigation directed toward bringing to light further facts which serve to corroborate or to nullify the suggested belief."(Dewey, 1997)

Boud, Keogh & Walker (1985) propose a model for effective reflection after experience. This model has three steps of "returning to experience"', "attending to feelings" and "re-evaluation of the experience".

"Returning to experience" entails recollection of the event in details as what happened and what was the person's reaction to it. They suggest that this stage is written on paper and judgement to be avoided. By recalling the events chronologically some details and aspects of event will emerge that one did not pay enough attention to while happening. This will be a second chance to reconsider those events and feelings. They note that this process may need to be reiterate several times looking from different angles and perspectives such as internal,external and emotional.

"Attending to feelings" sets to deal with emotions that arise from recalling the events as well as recalled emotions from the time of experience. In this stage one must recognize if the emotion acts as helper or barrier to reflection and deal with it accordingly with this knowledge. Positive emotions especially can provide motivation for further action in similarly challenging situations. Emotions as barriers should be dealt with so that their undesirable effect on further learning and reflection is removed. The negative effect of emotions can be discharged by therapy, support groups or just simple one to one talks, meditative techniques, writing etc.

For stage three, which is "re-evaluating the experience", authors suggest the presence of four elements of "association", "integration" and "appropriation"(Boud, Keogh, & Walker, 1985). Most of details they suggest for this stage is more relevant in educational context, therefore here I am not going to explore them further.

2.6.1   Reflection in games

Reflection in games are studied mostly in simulation games and roleplaying games, where one can go through the cycle of action and reflection in a safer test environment. Petersen & Oliveira (2017) propose a model for supporting reflection in games. They also analyse 3 work simulation games based on this model. They suggest that reflection in games can occur in 3 levels of micro, which is while performing a single act; macro, reflection on sequence of action during the action and meta that is done after completing of the whole task.

Kiili, Ketamo & Lainema (2011) in several case studies of educational games found conflict, competition, visualisation of performance, communication with other players and challenging comments of the game character as most important triggers of reflection within games. They also emphasize that player should be given breaks in gameplay in order to have adequate time to reflect.

Khaled (2018) provides a comprehensive overview of the state of educational games in regard with supporting or provoking reflection. She argues that current serious games are not the best in fostering reflection, since reflection needs challenge, and too safe of an environment does not support it. Also she believes serious games by providing solvable problems don't present complex situations that demand reflection. She suggest (critical) reflection

in games can be achieved by having surprise, player unfriendliness, ambiguity and multiple interpretation, building gameplay around broken and recycled mechanics and open systems. Her final conclusion is that games which ask questions and promote questioning ultimately will support reflection.

2.6.2 Designing for reflection and reflective design processes

Reflective design practice, and designing for fostering reflection are indeed two different areas of design. However, they both have reflection as a focal point, but perhaps in different levels for designer and the user. It is very hard if not impossible to design for reflection without having good reflective practice in place as a designer. I believe methods and tools from one may be used in other and vice versa, with some tweak and adaptation.

Reflective design processes

Reflective research and design methodologies, such as action research, participatory action research, participatory and appreciative action and reflection, all use reflection during the design process to advance the design or the design process. Action research and branching methods are focused on research and reflection that enables action. In many cases the sort of reflection used in these practices fall under reflection-in-action and in most cases the subject of the reflection and the process are the same. (Baum, MacDougall & Smith, 2006; Brydon-Miller, Greenwood & Maguire, 2003)

Sengers et al. (2005) provide a general guideline on how to practice reflective design and how to design for reflection. To engage in a more reflective design practice they suggest that designer should use reflection to uncover and alter limitations of her design process. For example some questions worth asking in a reflective design process are: how do we see and approach

the design problem; What are the underlying values and assumptions in the design practice? These questions can be asked in more general design practices of the field, or in personal level of the designer's experience and what she brings to the table. They also argue that designer and designed technology should support reflection in users by offering new ways of seeing the activity and doing it and encourage a questioning and skeptical view of technology and its use. A two ways and open communication between designer and user about the design object facilitates learning and reflection on both sides (Sengers, Boehner, David & Kaye, 2005).

Designing for reflection

Hallnäs & Redström (2001) argue that reflective technology is slow in nature because it should give the user time to think and reflect. The time to reflect may be allocated to learn how it works, understanding why it works this way, applying and using it and finding out the consequences of using it (Hallnäs & Redström, 2001).

Chapter 3

Methodology

This was a design-based research approach utilizing qualitative data collection methods. It was an exploratory project to see the participatory process in game design and its function as a reflective tool. Tools used in this thesis are interviews and group design sessions.

I based my participatory design on Spinuzzi's (2005) three stage process as described in detail in chapter 2. The three stages of his model are "initial exploration", "discovery process" and "prototyping". For initial exploration stage I used semi-structured interview as my method for gathering insight. During discovery process I used group sessions as the main tool. Prototyping was done partially in a group session and partially by myself with inputs from participants. Testing and gathering feedback was done in another group meeting. Evaluating effect of the game design process is done based on the reflection model proposed by Boud, Keogh & Walker (1985).

3.1   Interviews

As mentioned above interviews were used for "Initial exploration" phase. Call for interviewees was published in an expats Facebook group. The profile

of my target group was: Middle Easterners in Estonia with more than 2-3 years of living out of their home country. Within the first day dozens of people showed interest. I had a little chat with the interested people, some contacted me with a message and some had left a comment under my post. During the chat I answered their questions and I also gave them some extra information about myself, my project and what will happen during our meeting. If they fit the profile (for example some were from other countries out of the Middle East) and they were still interested to participate, we negotiated the time and place to meet. Four of the participants were reached by personal connection and suggestions form other acquaintance.

In total 9 people were interviewed. They were from Afghanistan(2), Egypt(2), Iran(1), Israel(1), Pakistan(1), Turkey(1), Yemen(1). Age of the interviewees were between 22-36 years old. Each interviews took 1.5-2 hours and all were conducted in cafes in Tallinn. Interview was minimally structured in order to keep the topic focused.

I would start by telling about myself and why I chose the topic. Then I would answer their questions and then bring on the interview to the focus by asking about history of them and their life as immigrant. The next step generally was either asking more detail about their history to clarify some points or to next question. The main set of questions which were asked from all interviewees are:

- Their immigration history by places and dates, reasons and motivations.

- Their family and friends and where they are located.

- What is their life here like.

- Where or what is home to them.

- Do they feel home here and in their current life.

- If they are not home now what do they miss.

3.2   Group design session

I invited 5 of previously interviewed people to the participatory design sessions and 4 out of those 5 could ultimately make it to the sessions. We were 2 females and 3 males from Egypt, Iran, Israel and Turkey with ages between 26-36. The invitation was based on level of interest they showed to the project during the interview and their openness to engage.

We had three group meetings distributed in a two month period. Meetings were held at Tallinn University and the duration of each was 2 to 3 hours. Meetings are audio recorded. Other materials such as notes, design materials, sketches, forms etc were collected as well (see appendices).

3.2.1   First session

this meeting was planned for "discovery process". The session comprised two parts: a presentation by me to cover some materials for gaining a common ground. The presentation included some summary of what I found interesting and informative in immigration literature and a part on serious and alternative games as inspiration for design. We watched some gameplay videos of those example games and had a small discussion on them. "The cost of life"[1] "Dys4ia"[2], "Depression quest"[3] were some of the games we discussed.

Next we moved to ideation process. The ideation and discussion covered "what kind of game we should make", "how it should look and feel", "what

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[1]https://ayiti.globalkids.org/game/
[2]https://jayisgames.com/games/dys4ia/
[3]https://store.steampowered.com/app/270170/Depression_Quest/

it should contain", and "who the game is(should be) designed for". We had big sheets of paper in the middle of table to write down the ideas.

3.2.2 Second session

second meeting was held to start on "prototyping" stage of the participatory design. The objective of this meeting was to coming up with characters and their stories, game tasks and assets. A persona-like form was used to fill up the character details. Scenarios for the given character was also put in a form format with fields corresponding the tasks agreed on first meeting (see Appendix 3).

3.2.3 Third session

Testing the digital prototype and evaluating the process and its effect on facilitating reflection was conducted during this meeting. Testing was playing the game and "think aloud" process in which player talks her mind out while playing the game.

Evaluation of presence of reflection was based on reflecting model proposed by Boud, Keogh & Walker (1985) focused around three topics corresponding to the model's three stages. Topics covered were:

- The effect of participatory game design process on "returning to experience", how and what of the recall they experienced.

- Where there any "attending to feelings" triggered or facilitated during the process? How the process helped it and what part of it was useful for it?

- What was the effect of participatory game design process on "re-evaluation" and what were the outcomes?

- Which parts of the process and what activities were the most useful for each stage?

Chapter 4

Design process and outcomes

Since the topic originated from my own personal experience as an immigrant, I started the project with recalling my own experience, thoughts and feelings regarding this journey. After exploring the topic in my own life, I reviewed some of the literature on the topic. Finding my vocabulary and voice in literature, I felt more confident to approach others in similar situation and the first stage of the interviews were conducted. It was important to me to design a game that is more than my personal experience, something that could resonate with more people. I was also curious to see how others experienced seemingly similar circumstances. What were their thoughts, feelings and coping mechanisms. I interviewed people from my target group and it was a very revelationary experience. I had many interesting talks. I found myself in some of my participants and some of my participants made me question my own actions and motives in my immigration. A several week long reading and contemplating passed after the first set of interviews. During this time, I revisited the interview notes, exchanged some messages with participants and coded my notes. I ideated about possible next directions in the actual design process. Finally I decided to keep going with participatory

approach and consult my participants, ones willing to engage further, to see what they think about my ideas and what are their ideas.

In this section I describe the events and steps of the design as they occurred during the project.

4.1 Interviews

After a call for interviews in a Facebook page for expats, I received numerous messages and comments form interested people. Although many of them did not match the profile that I was looking for, I managed to find several people through Facebook. I was looking for Middle Eastern immigrants in Estonia who have been out of their home country for 2-3 years and more. This profile proved to be hard to match since most of the interest came from recent immigrants. Also many Middle Easterners did not consider their country within the Middle East, which in turn caused interesting discussions in comments section. I talked with the volunteers over Facebook Messenger and exchanged information with them about the project. Strangely enough none of the people who contacted me via Facebook were female. I later used a Facebook page for women in Tallinn, most of whose members are foreigners. Still I had no luck. One girl contacted me after that post and after several tries to find a time to meet, due to her health problems we gave up. I had to ask around and rely on friends of friends to find female participants. Perhaps female migrants are less in numbers compared to males in real life as well. Especially coming from Middle East in which many of its cultures don't support the idea of females travelling alone. I interviewed 9 people in total. Each interview took between 1.5-2 hours and was held in various cafes. I voice recorded only one interview and the rest were recorded as notes. Reason for this decision was that most people felt

uncomfortable with voice recording.

Comments and insights from interviews are mentioned within section 2 when it is relevant to the topic of the text. However here are some of the interesting common threads among the interviews:

Distance and re-discovery of connection: I could see two approaches to old home among my interviewees. One was the group that before immigration for education or work, felt at home in their home country. But after immigration and passing of years, they don't associate with that home as fully as before. They feel the distance growing between them and people, ideas, traditions and values from home country. Second group were people who felt they are not at home when they were living in their home country, but are now discovering their connections to their homeland. They are finding themselves more similar to the people from home country when encountering their differences with other nations. One participant said that he is discovering himself in interaction with others and is showing more interest to explore his roots.

Children who are not yet born: None of my questions were about children, despite this, I found the topic of children and what people would do if they had kids, or when they have kids, come up again and again. In general the role of unborn children in the thoughts and feelings about the current place and their status as immigrant was interesting. Three of the male interviewees mentioned their children as a reason for choosing a different path. For example they would take the kid to home country to learn the culture and values and their choice of residency country would be different. Menard-Warwick (2004) described the role of children in the desire to learn English among Spanish speaking immigrant women. Perhaps children and their effect on reflection and planning is not limited to women

(or a particular geographical context) after all.

Friends and friendships: Friendship was a common thread among most interviews. In relation to friends at home country challenges were keeping in touch and keeping the friendship alive. Almost everyone suffered from their lack of enough friends in Estonia, their friends leaving the country and the unstable nature of international friendships. An interesting point that I noticed was that people distinguished between home country friendships and friendships here. They did not expect the same level of closeness from their new friends. In new country they would call much more distant people their friends, and they did not mind if these friends are not spending as much time with them as they need.

Belonging as owning things: Owning a flat, car or even job was important for most people to feel belonging to their host country. "I don't own anything here" was a very common response when asking people if they feel they belong here.

Parents and family left behind: Among the people with older parents a common concern was their parents who they left behind. Some interviewees blamed themselves for not visiting or calling often enough. Even though parents were self sufficient and independent, they were worried that one day they will be old, sick or in need of their assistance and they are responsible for taking care of them.

4.2   First session: Ideation

We started the session later than the agreed time due to delayed arrival of some participants. Session took around 2 hours with a short break in the middle. I started the session with showing them several examples of the games with different styles and dynamics.

While looking at the games participants also suggested some other games to look into, so we also watched some videos of the games they suggested. Board game Russia The Land of Opportunity[1] which is about work immigrants in Russia and the difficulties they face and a video game called Jones in the Fast Lane[2] a game that its objective is to obtain certain amount of money, happiness etc. , both dealing with existential themes, are two of the examples provided with participants.

We discussed how the game should look and feel and who is its player. Participants were interested in showing their experience to others who didn't live it. These others could be someone who is thinking to immigrate or someone from host country. A chronologically ordered story based game was the dominant idea. It would have 3 levels and a story that starts from home country, to stage of new arrival in a foreign country and end in a "now what" stage which was the place when one is settled in the new country. The start of the brainstorming got very messy and chaotic fast. We agreed on the general concept of the game early on but experiences and points that should be in the game were numerous and everybody had his/her own story to tell and experience to share which promoted others to comment and share too. At this stage I decided to intervene and keep the discussion more focused with adding a summary of what we discussed so far every 10-15 mins and tried to fill the gaps and close the previous discussion. (For example) we talked about the initial state and character's background. Everyone started adding some point to the mix: what is the country of origin, how much money you have, gender etc. and how these affect person's choices, options and later advancements. Here I suggested that we define a category as initial

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[1] https://chtodelat.org/b8-newspapers/12-39/board-game-qrussia-the-land-of-opportunityq/
[2] https://en.wikipedia.org/wiki/Jones_in_the_Fast_Lane

state/background and added already mentioned items to the list and asked for more. Then for each item we discussed how it may work in the game. An example of background is the country of origin. It can affect how many countries you can travel as a tourist and how long the visa process takes. The details of game concept that was outcome of this meeting can be seen in **appendix 2**.

Figure 4.1: During a design session

4.3 After First Session

At the end of the first session I told participants that I will share a document with them summarising what we talked about, and asked them if it is ok that I ask them to fill in some more details online in the meantime. They agreed and we left the session. During the week that we had between first

and second meeting, I shared the summary document with them and send them a questionnaire to fill. The questionnaire was designed to guide them come up with a game character and some situations based on the levels we discussed during the past session. The questionnaire was around these topics: 1. What is the character for such game is like, and what is his/her background. 2. Based on the levels we discussed, what the character should do and what situations she/he will be in each level. Questionnaire had 4 parts of "character" and levels 1 to 3. For each level I asked them to come up with 3 challenges and 3 emotionally impactful incidents. See **appendix 3** for details of the questionnaire. Unfortunately I received only one response before the next session.

4.4 Second Session: characters, scenarios and game assets

Second meeting had 3 major goals: to finish the character and scenarios, to discuss them and decide on a level to focus and develop the game for that level first; and finally some game assets like music, graphics etc. I printed out the content of the questionnaire about character and scenarios to be filled during the session, since only one member had filled it previously. See the hand-out version of character and scenario form in the **appendix 3**. First task of the session was to fill the details of the imagined character and coming up with three task and event for each level. After the first task and to change the conversation to a lighter subject and promote discussions, I proposed that we talk about game assets. I started with graphics, and asked them how they see their character. I also raised the question if all characters and corresponding game world should be illustrated in the same visual style

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or it should be different. One participant was more worried about production time and cost of having diverse visuals. Others thought that having visual styles representative of the character would be cool but they did not have specific preference. Discussion about the visual style ended relatively fast, since the participants felt they don't have expertise to discuss it, as well as not having any favourite style. We talked about music as well, and started sharing and listening to different music that the character would listen to or something that people from that given country and situation could relate to. We all came up with songs for happy or active and sad situations. We listened to part of each track and participant from other countries guessed what situation the song is suggested for. Next we discussed some of the tasks and challenges (written by them previously) from different levels and discussed how it should work as a playable game interactions. Around two third of the meeting, participants were very excited and ideas were flowing. However, first hour of the meeting was sort of awkward and I felt that I am forcing the character and scenario agenda to the group. One of the members who was not eagerly participating before, finally voiced his opinion in last third of the meeting. He showed disagreement with the process and shared his experience of software development. He was worried about technical and implementation issues. Issues such as audio file size and development time. He also asked about my thesis deadline several times during our meetings. Although I assured him that this is an educational game and we don't need to opt for customers, and I don't need to fully develop the game for my thesis, he insisted that he is not very comfortable with this free form of design that we are following. At the end of this session we had 5 characters with distinct background stories. 3 (or 2) challenges for each 3 levels and 3 (or 2) emotionally charged incidents for each 3 levels. Visuals did not develop

as much as I was hoping for, I showed them some of my sample characters to promote more ideas, but they said that they like it as is. On the other hand the background music selection went well and we collected 2-3 tracks per character. We also got to an agreement that how the interactions will look, two participants had strong interest in 2D graphics with bird eye view maps for the game part.

Figure 4.2: A sample of character and scenario form filled by a participant

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4.4.1 After second session

After second meeting I was busy writing and prototyping the game concept. Therefore my interaction with participants was minimal except one participant that I was working closely to implement his character and some of the tasks in his scenario. I asked him, based on his very clear vision on how that part of the game should look like, to sketch the game environment for that task. He later sent me a link to a Google drawing he had spent hours making. I was very excited to see this level of involvement. See image2.
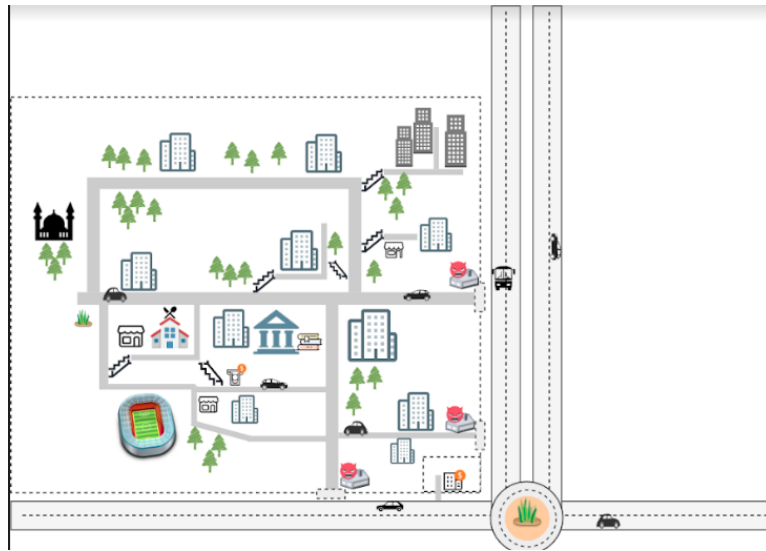
Figure 4.3: Participant's sketch on game environment (his university where he studied during bachelor's) for a task

Later when I redrew the image to match the game aesthetics, he was annoyed that i changed his picture. He commented "you ruined my university!".

4.5 Third session

Aim of the third meeting was to test the prototype, and get feedback on it; to discuss the project, its effects on their reflection on their immigration experience; and to reflect on the process and how it could improve. Part of one character's ("Arash") tasks in form of a mini-game was tested (see the picture below). For more details on the game see appendix 5 and the github folder[3] of the game. The mini-game is a platformer where the character needs several stamps from different buildings in the university campus to get his paperwork done.

4.5.1 Testing the game

The game testing went well as everyone found the game funny because of its 2D looks and the little character. Also one of the buildings was hard to reach and caused some competition. Suggestions for the game itself was to change the text to more clear hint, have a mini-map of the game world. One bug was revealed, character would get stuck in the left walls if player pressed left key and drove the character constantly into the wall. It was also suggested that background music to be added to the game.

4.5.2 Discussion on effects of the game design project on reflection

We followed the model of reflection proposed by Boud, Keogh & Walker (1985) for our evaluatory discussion. We started with the question of "is immigration a reflection triggering and reflection demanding experience? Was it difficult, challenging, confusing etc? (based on the definitions of reflective conditions above)". This step was inserted to confirm that for all

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[3]`https://github.com/mariesayadchi/JourneyToHome`

Figure 4.4: Testing the game by a participant during third session

participants the experience of immigration was fitting for reflection. Then we talked about details of challenging aspects of this experience. What was difficult, confusing and different about it. Each of us named one or two most challenging aspect of their immigration journey.

Everyone agreed that indeed immigration is a challenging life event that is worthy of reflection. Some of the challenging aspects mentioned were: taking care of yourself, everything being a little different, managing relations in a small community in new place, lack of social support and loneliness. Each point led to a story and details of the incident or experience.

Then we moved to steps of the reflection based on the same model (see the description of stages in section 2.6):

- **Returning to experience:** we talked about the details of the events and emotions that the project brought back. This recall could occur either in steps of the project and meetings or while at home and was only triggered by the project. We went into the details of what trig-

gered this revisiting and how it happened. There were a lot of details of events and emotions recalled while participating in the project. I tried to go into details of when and how the recalling occurred in order to pinpoint it to concrete stages such as interview, discussions, character and scenario. Answers were ambiguous and pointing to all steps and a general whole of the project. One of the participants mentioned that the frame and objective of game design made the recall more directed and systematic. In contrast if you are just chatting with a group about your experience, you may only access the most prominent events and emotions, while here we had to think about whole of immigration journey in chronological order. Another instance of recalling forgotten details was when one of the participants mentioned re-visiting the early stage of immigration and that this time she could see and recall events surrounding her family as well and not only herself. This later helped her to feel more empathy towards her parents.

- **Attending to feelings:** topic of this section was destructive emotions and re-experienced emotions based on previous discussions. Did any of the steps of the project help with reconciliation with the emotions they had about the events? This stage was a bit tricky to talk about. Only one participant could recall new emotions arising in reaction to recalling the experience: "at the time I felt hopeless and confused, but when I thought about it later when I was talking to you about it, I felt angry." The anger was in realising that situation was unfair. Others mostly had recalled experiences emotions from the time of event but did not feel anything new when recalling them.

- **Re-evaluation of the experience:** this topic was touched upon

while talking about previous points, however, we discussed it further in this part of meeting as well. We covered questions regarding re-evaluation phase such as did the process help them see events in a different light, discovere new things about themselves, find out changes in their belief system or identity etc. Based on our discussion, process has helped all participants in different levels to realise or learn something new from their experience. One participant said that since taking care of himself and daily chores were most challenging, he developed appreciation to his family who did all that for years for him. He also added that although he is not in a happy place right now, this project made him see things in perspective and realise that he has achieved a lot and perhaps reached his goals that he had set when he started the journey of immigration. Second participant said he is generally a reflective person, so he had thought about his experience already. Still he reported positive effects as well. He said that meeting and talking with us normalised the experience for him, and gave him external validation that others experience immigration as a disorienting event as well. He added that puting the experience in the frame of the game, and asking what should happen next for character, made him realize how complicated was; something that he didn't think about it before. He also felt a sense of accomplishment of the long way he had come. Another participant said that looking back she found out she has become a confident woman: "I realised I have changed a lot". She also mentioned that the project made her realize what she is looking for in a country that she may one day call home. She also added that she learned how to adapt faster if she moves to a new country in the future. Finally one participant said that looking back he has realised

that immigration has made him lower his standards because of limited choices he had (for example for jobs) and after our project he has realised that he have gone off the path he had planned to take. He did not know how to act upon this insight yet.

4.5.3   Feedback on the process

As a closing question I asked the group to share their opinion about improving the process so that it would support the reflection on experience better.

They suggested that a longer process with additional meetings would be more beneficial since this project was concluded with only three meetings. One participant suggested to have more people, they all agreed that having people who have been immigrants for 20-30 years may bring interesting insight for them. They also showed interest in hands on work with prototyping tools.

Chapter 5

Discussion and Conclusion

In this section I first discuss the process of participatory approach and how
it benefits game design. The I reflect on the effects of the project on myself
and my participants. I also have a section discussing the game design as a
good medium for reflection. Finally I conclude this chapter by thoughts on
limitations of current project, what could be done better and suggestions
for similar future projects.

5.1   Comments on participatory design approach

Here I share some nuggets from my experience trying to implement partici-
patory approach in current game design project.

5.1.1   Contribution of participatory approach to the game
design process and the resulting game

Going through PD, as it is commonly believed, this hard and time con-
suming process makes the need for justification of using such method more
pronounced. Participatory design has a strong political and philosophical
ideology behind it that their effects can not be easily measured. Despite

this a, partially participatory approach can offer practical benefits with less implementation challenges. Inviting users as participants during ideation, refinement and testing with proper scaffolding brings new perspectives to the project. I believe designing and tuning the right scaffolding is the most challenging part of this approach.

In current project, engagement of participants resulted in original and heartfelt characters and stories. Although the game is not tested with people outside of the core team, I believe that the game has also become more relatable to wider audiences due to group effort and multiple sources of inspiration.

I should also admit that PD may have stopped me from making a more artistic (in my opinion) and abstract game that does not communicate the message as clearly. Perhaps current project is more straightforward and less of metaphoric game. And looking back to my original game ideas for this project, it may be changed for the better. In general participation of users can guarantee a more accurate depiction of the subject matter, with a greater focus on topics that interest that specific group rather than what designer thinks they may like or want.

5.1.2   Challenges of PD

Mental challenge

Literature emphasizes that participatory approach is time consuming and difficult therefore less popular than other methods. I think other than those mentioned above, PD faces the designer with a mental dilemma. Here designer actively shares her control over the process and outcome with others, who she may think have less at stake than her.

> Co-designing threatens the existing power structures by requiring that

> control be relinquished and given to potential customers, consumers or end-users. It is very difficult for those who have been successful while being in control to give it up now or to imagine a new way of doing business that can also be successful. (Sanders & Stappers, 2008)

In PD uncertainty is higher than common design processes and a good response in one stage does not guarantee the same for later stages. Before I started interviews, I feared people won't be interested to talk, they won't share much or I won't be able to get anything useful out of it. When it came the time for the ideation and design sessions I faced other doubts. I also constantly fought the urge to go through design myself and do things as I see fit. I could make a game about my experience as immigrant, after all I was one myself! I could take the interview data and design a game based on those too. However, going on my current route, I learned so much and I changed so much as a person and as a designer.

Working with diverse people

Participatory design often occurs in the context of an already existing organization or collective group that brought people together. For example schools, hospitals and other bodies of people gathered for one reason or another are a perfect context for PD. Having participants from diverse backgrounds without much of communality other than being Middle Eastern, made it very challenging for me to arrange meetings with them. We attempted several times to set a meeting time but it didn't work out because one of the participants could not make it.

Creativity and willingness to act, draw, create and enter a new domain and role as designer was another issue. Although in their feedback they showed interest in more hands on experiments, they were very hesitant to sketch or write down their ideas.

When we acknowledge that different levels of creativity exist, it becomes evident that we need to learn how to offer relevant experiences to facilitate people's expressions of creativity at all levels. (Sanders, & Stappers, 2008)

Perhaps I should accept that not all participants are willing to go to the creating level of involvement. Specially in such a small group of people, the chance of finding someone with high creative and confidence levels is slim.

Commitment, involvement and ownership

For the most part of the project I felt I was failing to motivate my participants to become more engaged and driven to make decisions and provide autonomous input to the project. As in user profiles defined by Sanders & Stappers (2008) each person may show different creativity level for any given situation. In the case of my participants I felt this level never got to "creative" level to be inspired to self-express. And that was a weakness I saw in the process. However, after working more closely with one of the participants to make his character and gameplay come to life, I found him very involved and this involvement was as hard to manage as it was to getting them involved in the first place. Specially when with more involvement, his vision got more clear and we had to manage our expectations and visions simultaneously as partners. There is no one single moment that participant passes the border to being co-author, it is a process going back and forth in the amount of work and commitment they are willing to put into it. It is sometimes difficult to recognise this point and react to it accordingly.

It all started with the promise of co-design but it did not always go forward as co-design. I was the person pushing the process, making decision and gathering everyone.

How one can cultivate commitment and ownership among group mem-

bers? It sounds like a question for a manager or leader not a designer/researcher. It is a dilemma common in most team works as well. In the case of current project, these people did not actively volunteer for this work but were invited to it, perhaps not knowing the exact extent and implications of agreeing to it. This made it even harder for me to form expectations and communicate it clearly. After all I did not want to lose them in the middle of the project, when it would be impossible to recruit new participants from an already small pool.

If there are no limitations, it is not serious!

Getting adults to free their minds from common constraints of a project is difficult. They constantly think about time, memory, budget... And if you ask them to set theses limitation aside and think of what they want to see as a game, and how they envision this game, they feel like it is not going to be built and therefore it is not serious enough.

5.2 How the process affected me

In this section I reflect on this project and how it affected me in the process. I will start from the early stages of coming up with the topic and the context and later go into the design process.

5.2.1 Finding a vocabulary to express myself

When I chose this topic I didn't have a vocabulary to talk about it. Although I was living it everyday, It was not imaginable to me that I would ever find a way to communicate it clearly, even to myself. It was like a vague pain and discomfort from a disease yet to be known to me. When you get sick by something for the first time; sometimes you can't even pinpoint where

it is hurting or what is the source of this uneasy feeling. If the disease is not as disabling and intense as apandisis or a broken leg; you may question yourself: am I imagining this?

I was sure I am not imagining it, mainly because I could see traces of it in my husband who shared very much the same history with me. But still it was hard to talk about it, as a thing without a name or a face.

My supervisor is a witness to this struggle to vocalize my ideas in a clear way. Our first few sessions together would be spent with me talking for 15 to 20 minutes, trying to explain and clarify my ideas, with broken and self-interrupted sentences.

Only when I started reading the literature of the topic, I started finding words to speak about it.

5.2.2 Finding myself in other research

Reading papers on immigration studies, proved to me that I am not alone in this journey and I am not alone in my contradictory thoughts and feelings about my journey. Two occasions were especially memorable for me, when I saw myself in a highschool girl migrated to Canada, and an old Tamil man; stories were from two different papers. In a paper about homeland-based cultural practices and home making, Tharmalingam (2016) interviews a Tamil man in his 60's: "I have been living in Norway for more than 15 years. All of my children live here. I am relatively comfortable here. But my dreams during my sleep are full of images from my homeland. No single image is from Norway". I was observing the same trend in my dreams for the longest time I could remember while away from my childhood home. All of my dreams would picture the same house and area, no matter where I was physically located. Reading this paper, I had a very strange feeling: how

could we have experienced the same thing being so different and distant? In another occasion, while researching the therapy works with immigrants, I found a paper by Lemzoudi (2007). She wrote about a case with a highschool girl who attended these art therapy sessions. On one occasion girl draws a picture of earth with both her home and host countries. Researcher then asks her to place herself as part of the image:

> She responded that she would be suspended in the air, between the two continents, above the earth. The image of this world where she feels like she is hanging in the air seems to be a way to express the internal lack of grounding she experiences. (Lemzoudi, 2007)

I was also feeling in the air, like what she was feeling. In my early sketches for a game about immigration, I had this idea of a conceptual game with bubbles in the air floating and never reaching a ground.

5.2.3   Seeing myself in others

When talking to a person in group, sometimes I would find myself very close to the participant. It was not in our backgrounds, but the way we dealt with being immigrant. And other times when facing with a very different approach, I would think why I chose a different way. All in all hearing similar but different stories made my story more clear to myself.

One interviewee told me that he is not making himself comfortable because he wants to leave and it will be easier to leave if he is not comfortable. At first this sounded strange to me, but then I found such tendencies in myself when reflecting on our interview afterwards. I was unconsciously planning my life with the vision of moving somewhere else one day. Starting new studies instead of finding a job was one of decisions that I made under the influence of temporary nature of my stay in Estonia. For me living, as establishing a home closely relates to working. There were other instances

of my interaction with people bringing something about myself out to the light for me.

5.2.4 Design process and reflection

Design process had many of the same effects on me as it had on my participants. I had to look back more carefully and revisit events, see new details that I missed the first time and take care of many unresolved issues which were forgotten in my busy life after immigration. My original ideas for this game, before committing to participatory design, were mostly focused on later stages of my journey. However, when the team came up with the 3 level game idea starting from home country and before immigration, I had to recall many events that I didn't first intend to, or recognize their importance. Specially the character and scenario design made me think quite hard and I remembered my first days of moving out of Iran. The events I recalled were nothing that I would tell to someone if they asked me for a memory from that time. But they bought out so many un-attended emotions.

For me the benefits of the project was not only from my own reflection but also from others'. I learned a great deal from seeing how other people interpret and frame things and what they took out of it. For example I have not thought about how much of detour I took and if I am where I planned or aspire to be when I sent out for this adventure. I started thinking about this when one of participants mentioned it as the major outcome of his reflection.

5.3 How process affected participants

I have reported the effect of this project on reflection of the participants in section 4.5.2 in more depth. Here I will mention some of interesting points again and also share my own observations.

5.3.1 Shift in their view of game

At first meeting when we talked about who this game should target and what should its message be, participants passionately agreed that they want to show their point of view to others (mostly members of the host country) and put them in their shoes. However in the second meeting when this discussion came up again, the focus had shifted from only or mostly "others" to the immigrants like themselves in different stages. Other immigrants could play this game and see that they are not alone and the challenges are not their challenges only. And for earlier stage immigrants to see that it will probably end up being ok. At first they could not see any benefit from such games for immigrants like themselves, but after benefiting from their discussions themselve, they started seeing more potential in the game.

5.3.2 shared experience and being part of something

Participants also voiced in different meetings that these meetups are really good for not feeling alone and awkward about their thoughts: "When I find something strange in Estonia, everyone around me thinks it is normal, I mostly interact with Estonians, then you start feeling you are strange. It is good that know others also thought the same thing."

Other participant said that now he knows that having difficult time in different stages of the immigration journey, is not because he is a "loser" but it is just what happens to everyone.

5.3.3 Character as a mask

During character design and scenarios, I didn't force participants to base the character on themselves because I thought that sharing will be much easier if they have the option of having a fictional character. I told them

that they may base it on themselves or friends and acquaintances but also suggested that they keep it real and based on first hand experiences as much as possible. Only one person openly based the character on himself and called the character with his own name as well. Others told me that their character is fictional. Reading the character/scenario forms I discovered that although other characters were named different from their author, the details of the character and events were mostly (as far as I knew about their lives based on the interviews and discussions) from the author's life.

I felt that here a fictional character worked as a mask that people could stand behind and be more open about details of their experience. Similar phenomena was used in a technique called "AsSeenOnTV" which helped defeat shyness and hesitation for participation. People would take turns to voice their opinion behind a television-shaped frame (Van Rijn & Stappers, 2007).

5.3.4 Scenario as a frame for remembering

Early on it was decided that the game will start from before immigration and cover immigration and after immigration or settling phase as well. Also having tasks and emotional events were part of the original design document. Scenario forms were planned to reflect these decisions. This forced everyone to think about the whole experience and not to be selective about it. It directed the "revisiting the experience" stage and framed it. It is suggested in reflection literature to do the re-visiting stage with a good structure in place (Aronson, 2011).

5.4 Games as a medium for learning and reflection

"Why game design is good for learning and reflection?" and "how does it compare to other mediums?" are two questions that I try to answer in this section.

5.4.1 Why game design is a good tool for learning

It is possible to have fun while making games. It is also easier to put your story or message in a game without being too serious, in a fantasy world with a fictional character that does not really exist. It makes heavy matters lighter and easier to communicate. Game design is an indirect context for learning and reflection. When one designs a game about their experience it is not as direct and intrusive as sitting and reflecting, therefore more engaging. It can also be used with people who don't acknowledge that there is a need for reflection in the first place. Maybe children and teenagers are the main category that may benefit from this feature. But adults also are not always open to reflection either.

Game design combines a lot of different mediums, one can find something that s/he is comfortable with in order to self express. Art therapy, writing as a mean for gaining perspective and storytelling as therapeutic mediums are already explored and used (for example see study by Pizarro (2004)) and they all in some extent are present in game design.

Game design inevitably raises designer's "need to know". Baytak & Land (2011) describe naturally emerging of "need to know" among students. In my own experience, idea of simply designing "a game about my immigration journey", turned into current thesis with aspects much bigger than my personal experience.

> Compared with other multimodal texts, computer games offer added complexity for both player and designer, including the challenge that the player (anticipated by the designer) can move around inside the world of the text and experience it from more than one visual, spatial and textual perspective.(Robertson, 2012)

Perhaps this complexity offers reflection points as well.

5.4.2 Is game design better than other mediums?

I think one needs extensive experience with all the mediums to answer this question. However, form analytical point of view, games by nature have great potential. As mentioned above games contain aspects of many of other previously explored mediums.

Study of games as educational tools is in its early years and it is mainly focused on whether games have an educational output (Egenfeldt-Nielsen, 2006). There is little known on how educational outcome of games may differ from other methods of learning. Making games as educational mean is even less explored in this sense. Difference between learning while making games compared to playing games can be interesting too.

Games can offer greater degree of freedom for the learner to explore the topic and game world. Different games and game genres fall in various places in this spectrum. In terms of freedom and control making games offer the ultimate freedom and control (Egenfeldt-Nielsen, 2006). Depending on the objective of learning this can be a positive or negative point. Offering more freedom to the learner makes it harder to keep them focused on the relevant aspects but at the same time opens up new learning opportunities. Then again it is not the question of better or worse, but the capacity and possibility. We are not trying to deliver the same content through different methods but to deliver different content all together. Reflection is not a concept but a process and it is unique and personal. Perhaps the best question to ask is

can game design offer opportunities for reflection and change of perspective on the past experiences? In that case, based on outcomes of current project the answer is yes.

5.5   What could be done better? Reflection on the project

In this section I reflect on current project. As discussed before a well rounded reflection needs time and some distance from the experience itself. However, I try my best to objectively look at the process.

Time: As Kafai & Resnick (2012) emphasise, a deep and transformative learning needs personal connection to the material and time to internalize, set and take shape in interaction with other experiences. In current project, although participants had a personal connection to the topic, they did not spend a very long time involved in the project. Their role in the project as participant rather than an owner also contributes to lack of personal involvement. In the feedback discussion participants mentioned the short duration of the time as a negative aspect of the project as well.

Planning: "For user involvement to be successful from the users' perspective requires the users to be identified closely with both the process and the outcomes."(Damodaran, 1996) Perhaps in case of current project "process" was not familiar and clear for participants therefore it was hard for them to identify with. My exploratory approach to the project could have contributed to the ambiguity of the process. Indeed in many cases process was not defined from the beginning.

Younger target group: Would it be more productive, meaningful and context appropriate to make such a game with immigrant children or

teenagers? This question comes to mind, considering that adults are proved to be a difficult group to inspire, assemble and in general work with. At the same time it could be the effect of literature review in which seemingly better conducted projects were done with children. It is easy to project the challenges that I faced to the target group rather than my own lack of experience and better planning and conducting.

Using a game prototyping tool, collective game making vs a game per each person

Perhaps using an easy to learn tool like Scratch that gives the participants some more freedom of expression, could be beneficial. For participants to personally try making games, could add a new dimension to this project or at least to their excitement and engagement levels. As a feedback they showed interest in trying such tools as well. Still it is worth wondering, what will be the added value of each direction? Is it more thought and reflection provoking to design a single game as a group or to design a game individually and follow a personal narrative towards it? Perhaps it all boils down to the scaffolding that the researcher/designer can provide and the dynamics of the people involved as much as limitations of time and resources. In my case it would be somewhat more difficult to get access to university rooms with computers to do a prototyping session. Also one or two more meetings would be necessary to go through basics of tool in use. At the same time, designer/researcher hybrid role will be replaced by a researcher/instructor, something that I was not ready to commit to.

Summary

This thesis describes a participatory game design project on the topic of home and identity in immigration. The game is co-designed with a group of Middle Eastern immigrants in Estonia. The aim of the project was twofold: one is applying the participatory approach on game design and exploring the role of user in game design process; and other was to observe the effect of participatory game design process on designer and participants' reflection on their own immigration experience. A three-stage participatory design process is adapted in this work. A game is co-designed that is available here: `https://github.com/mariesayadchi/JourneyToHome`.

Participatory approach in designing current game, made it cover experiences of more diverse group and also made it more appealing to the wider audiences by bringing in different points of view to the project. PD was not without its operational and mental challenges but at the end I believe that better planning and scaffolding can make the process of involving users in game design smoother and more fruitful.

Game design process had positive effect on triggering and helping participants' reflection. Game design encapsulates many of creative activities that their effects have already been studied in therapy and reflection. Therefore it has great potential to be used as tool in such use cases. In current project for example details of the levels and challenge design for the game worked

as a frame for "returning to experience" step in reflection. Participants reported gaining more insight about their experience, developing appreciation to others, seeing events from others point of view, feeling of accomplishment and growth and many other positive effects from their reflections.

References

Abeele, V. V., De Schutter, B., Geurts, L., Desmet, S., Wauters, J., Husson, J., ... Geerts, D. (2012). P-iii: A player-centered, iterative, interdisciplinary and integrated framework for serious game design and development. In *Serious games: The challenge* (pp. 82–86). Springer.

Akcaoglu, M., & Koehler, M. J. (2014). Cognitive outcomes from the game-design and learning (gdl) after-school program. *Computers & Education*, *75*, 72–81.

Al-Ali, N., & Koser, K. (2003). *New approaches to migration?: transnational communities and the transformation of home.* Routledge.

Aronson, L., Niehaus, B., Lindow, J., Robertson, P. A., & O'sullivan, P. S. (2011). Development and pilot testing of a reflective learning guide for medical education. *Medical teacher*, *33*(10), e515–e521.

Bannon, L. J., & Ehn, P. (2012). Design matters in participatory design. *Routledge handbook of participatory design*, 37–63.

Baum, F., MacDougall, C., & Smith, D. (2006). Participatory action research. *Journal of Epidemiology & Community Health*, *60*(10), 854–857.

Baytak, A., & Land, S. M. (2011). An investigation of the artifacts and process of constructing computers games about environmental science in a fifth grade classroom. *Educational Technology Research and Development*, *59*(6), 765–782.

Bhugra, D., & Becker, M. A. (2005). Migration, cultural bereavement and

cultural identity. *World psychiatry*, *4*(1), 18.

Blatt, B., Plack, M., Maring, J., Mintz, M., & Simmens, S. J. (2007). Acting on reflection: the effect of reflection on students clinical performance on a standardized patient examination. *Journal of general internal medicine*, *22*(1), 49–54.

Boud, D., Keogh, R., & Walker, D. (1985). Promoting reflection in learning: A model. *Reflection: Turning experience into learning*, 18–40.

Brydon-Miller, M., Greenwood, D., & Maguire, P. (2003). *Why action research?* Sage Publications.

Charles, D., Kerr, A., McNeill, M., McAlister, M., Black, M., Kcklich, J., . . . Stringer, K. (2005). Player-centred game design: Player modelling and adaptive digital games. In *Proceedings of the digital games research conference* (Vol. 285, p. 00100).

Clark, K., Brandt, J., Hopkins, R., & Wilhelm, J. (2009). Making games after school: Participatory game design in non-formal learning environments. *Educational Technology*, *49*(6), 40.

Damodaran, L. (1996). User involvement in the systems design process-a practical guide for users. *Behaviour & information technology*, *15*(6), 363–377.

Danielsson, K., & Wiberg, C. (2006). Participatory design of learning media: Designing educational computer games with and for teenagers. *Interactive Technology and Smart Education*, *3*(4), 275–291.

Denner, J., Werner, L., & Ortiz, E. (2012). Computer games created by middle school girls: Can they be used to measure understanding of computer science concepts? *Computers & Education*, *58*(1), 240–249.

Dewey, J. (1997). *How we think.* Courier Corporation.

Egenfeldt-Nielsen, S. (2006). Overview of research on the educational use of video games. *Nordic Journal of Digital Literacy*, *1*(03), 184–214.

Fullerton, T., Swain, C., & Hoffman, S. (2004). *Game design workshop:*

Designing, prototyping, & playtesting games. CRC Press.

Gennari, R., & Melonio, A. (2016). A three-year long journey across the fields of participatory game design. In (pp. 35–41).

Hallnäs, L., & Redström, J. (2001). Slow technology–designing for reflection. *Personal and ubiquitous computing*, *5*(3), 201–212.

Haynes, K. (2006). A therapeutic journey? reflections on the effects of research on researcher and participants. *Qualitative Research in Organizations and Management: An International Journal*, *1*(3), 204–221.

Kafai, Y. B., & Resnick, M. (2012). Introduction. In *Constructionism in practice* (pp. 13–20). Routledge.

Khaled, R. (2018). Questions over answers: Reflective game design. In *Playful disruption of digital media* (pp. 3–27). Springer.

Khaled, R., & Vasalou, A. (2014). Bridging serious games and participatory design. *International Journal of Child-Computer Interaction*, *2*(2), 93–100.

Kiili, K., Ketamo, H., & Lainema, T. (2011). Reflective thinking in games: triggers and constraints. *Leading Issues in Games-Based Learning Research. Ridgeway Press, UK*, 178–192.

Kirmayer, L. J., Narasiah, L., Munoz, M., Rashid, M., Ryder, A. G., Guzder, J., . . . Pottie, K. (2011). Common mental health problems in immigrants and refugees: general approach in primary care. *Canadian Medical Association Journal*, *183*(12), E959–E967.

Kolb, D. A. (2014). *Experiential learning: Experience as the source of learning and development.* FT press.

Kujala, S. (2003). User involvement: a review of the benefits and challenges. *Behaviour & information technology*, *22*(1), 1–16.

Lemzoudi, Y.-M. (2007). Migration: Acculturation process, cultural identity development, and art therapy imagery of adolescent migrants. *Canadian Art Therapy Association Journal*, *20*(2), 2–21.

Lewin, K. (1948). *Resolving social conflicts; selected papers on group dynamics. gertrude w. lewin.* New York: Harper & Row.

Li, Q. (2010). Digital game building: Learning in a participatory culture. *Educational Research*, *52*(4), 427–443.

Linesch, D., Aceves, H. C., Quezada, P., Trochez, M., & Zuniga, E. (2012). An art therapy exploration of immigration with latino families. *Art Therapy*, *29*(3), 120–126.

Melonio, A. (2016). *Participatory game design and children* (Unpublished doctoral dissertation). Ph. D. thesis, Free University of Bozen-Bolzano, Bolzano.

Menard-Warwick, J. (2004). " i always had the desire to progress a little": Gendered narratives of immigrant language learners. *Journal of Language, Identity, and Education*, *3*(4), 295–311.

Petersen, S. A., & Oliveira, M. (2017). Reflection continuum model for supporting reflection and game-based learning at the workplace. In *Joint international conference on serious games* (pp. 224–234).

Pizarro, J. (2004). The efficacy of art and writing therapy: Increasing positive mental health outcomes and participant retention after exposure to traumatic experience. *Art Therapy*, *21*(1), 5–12.

Ralph, D., & Staeheli, L. A. (2011). Home and migration: Mobilities, belongings and identities. *Geography Compass*, *5*(7), 517–530.

Rankin, Y. A., McNeal, M., Shute, M. W., & Gooch, B. (2008). User centered game design: evaluating massive multiplayer online role playing games for second language acquisition. In *Proceedings of the 2008 acm siggraph symposium on video games* (pp. 43–49).

Robertson, J. (2012). Making games in the classroom: Benefits and gender concerns. *Computers & Education*, *59*(2), 385–398.

Robertson, J., & Howells, C. (2008). Computer game design: Opportunities for successful learning. *Computers & Education*, *50*(2), 559–578.

Rousseau, C., Lacroix, L., Bagilishya, D., & Heusch, N. (2003). Working with myths: Creative expression workshops for immigrant and refugee children in a school setting. *Art Therapy*, *20*(1), 3–10.

Sanders, E. B.-N. (2003). From user-centered to participatory design approaches. In *Design and the social sciences* (pp. 18–25). CRC Press.

Sanders, E. B.-N., & Stappers, P. J. (2008). Co-creation and the new landscapes of design. *Co-design*, *4*(1), 5–18.

Sengers, P., Boehner, K., David, S., & Kaye, J. (2005). Reflective design. In *Proceedings of the 4th decennial conference on critical computing: between sense and sensibility* (pp. 49–58).

Smyth, J. M. (1998). Written emotional expression: effect sizes, outcome types, and moderating variables. *Journal of consulting and clinical psychology*, *66*(1), 174.

Spinuzzi, C. (2005). The methodology of participatory design. *Technical communication*, *52*(2), 163–174.

Tharmalingam, S. (2016). Making a space a home: Role of homeland-based cultural practices in homemaking of tamils and somalis in norway. *Int'l J. Soc. Sci. Stud.*, *4*, 84.

Vanden Abeele, V., Husson, J., Vandeurzen, L., & Desmet, S. (2007). A soft approach to computer science: Designing & developing computer games for and with senior citizens. *Journal of Game Development*, *2*, 41–62.

Van Eck, R. (2006). Using games to promote girls' positive attitudes toward technology. *Innovate: Journal of Online Education*, *2*(3), 6.

Waddington, J., Linehan, C., Gerling, K., Hicks, K., & Hodgson, T. L. (2015). Participatory design of therapeutic video games for young people with neurological vision impairment. In *Proceedings of the 33rd annual acm conference on human factors in computing systems* (pp. 3533–3542).

Walker, D. (1985). Writing and reflection. *Reflection: Turning experience into learning*, 52–68.

Wang, F., & Hannafin, M. J. (2005). Design-based research and technology-enhanced learning environments. *Educational technology research and development*, *53*(4), 5–23.

Appendix 1:

Eestikeelne kokkuvte (Summary in Estonian)

Käesolev magistritöö uurib osalusdisaini meetodit mängude kavandamises protsessis. Uuring sihtgrupiks on kesk-Aasia vabatahtlikud immigrandid ning uuringu fookuseks on koduga, identiteediga ning kuuluvustundega seotud küsimused. Uuringul on kaks eesmrki: 1) rakendada osalusdisaini metoodikat mngu kavandamisel ning uurida kasutajate rolli mängu kavandamisel, 2) uurida disainiprotsessi mõju mängu kavandajatele ning osalejatele nende immigratsioonikogemuse väljendamises.

Appendix 2:

Game concept, summary of discussions from first meeting

We decided that there is for example 5 characters that you can enter the game(perhaps randomly) as one of them. Each character has a unique background or initial state that affects his/her options and choices. Variation of initial state for each character can come from these items:

- Why you want to leave- reason and goal(study, work ...)

- How much money you have, how rich or poor your family is

- Gender

- Connection to country

- Family status

- The country of origin

- Who you know in the destination country

Effects of the initial state can be something like:

- Options as countries to go

- How much time you have

- Money you can take out of the country with you

First level starts in home country and ends with getting acceptance and visa to the destination country. Milestones of the first level:

- Search for information

- Get a position(work or study): Make a resume, Apply, Interview, Get accepted,

- Apply for and Get the visa

- Get ticket

- Say goodbye

- Pack your things

- go

second level starts from arrival to the destination country and ends with settling to the country Milestones of the second level:

- Find a permanent/long term rent flat

- Find N number of friends

- Do your official work: get bank account, apply for and get Id card, get a family doctor

- Extras: gym, classes, social activities

Emotional factors : we decided that emotional factors run through the whole game and are present in each level in some form. Instances of emotional factors and tasks that increase or decrease the happiness, can be:

- Call home N number of times (like once a week)

- Keep connected to your friends back home

- Save money to go back home visit (and buy presents)

- Racist or ignorant comments from strangers or colleagues

- Political news (some news from your home country comes out and now you should represent their politics)

- Comments of family and relatives and others

- Family crisis (old parents, sickness or death of someone..)

- Relationships(romantic and other)

- Professional dilemmas

- Not fitting in

"What now" (3rd) level: is when the character has passed previous levels and has to decide what to do next. Milestones: - Choose what to do next from these three options : go back, stay or leave to new place

Appendix 3:

Character and scenario questionnaire

Game

Please imagine your game character for the game we talked about last week. You can base her/him totally or partially on yourself or someone you know. you can also add elements of imagination to it, but please try to keep it real and close to what you know first hand! please feel free to go back and edit or fill this form as you find time and inspiration.

Game character

1. **Where is s/he is from?**

   _____

2. **How old is s/he?**

   _____

3. **What is her/his economic background?**
   Mark only one oval.

   ◯ low income

   ◯ middle income

   ◯ high income

4. **what is his/her social background? (education, class ...)**

   _____

5. **Is the character female or male?**
   Mark only one oval.

   ◯ Male

   ◯ Female

6. **Family background of the character such as siblings, old or ill family member ... any thing that is significant on her/his performance in game.**

   _____
   _____
   _____
   _____
   _____

7. **How connected the character is to home country? does s/he feel at home there?**

   _____

8. **Character's reason for leaving the home country**

_____
_____
_____
_____
_____

LEVEL 1 - leaving the home

A) Please come up with 3 tasks and challenges that character should overcome in order to finish the level.
 (my example: I had to get a visa. Embassy was always crowded. I used to go there early morning to be ahead in line. Becasue of waiting long hours in the street of the embassy, I also found some friends there!
so maybe this can translate to----> character needs to get a visa, the line is long and the character makes some conversations with people in the line)

B) Please come up with 3 incidents that has emotional (positive or negative) charge for the character that occurs in this stage.
(my example: my friends gave me little gifts and tokens to take with me. there were some practical stuff in them ,and some memorable items. for example I received a little pocket dictionary that I still have.
---> character gets gifts from her friends and the task is to fit them all in the suitcase and keep the weight under 30 kg)

p.s. if you have some tasks and events but you dont know how to translate them to the game, just write it down as it is. we can discuss them later!

9. **First task or challenge for level1(in home country)**

_____
_____
_____
_____
_____

10. **Second task or challenge for level1(in home country)**

_____

11. **Third task or challenge for level1(in home country)**

_____

12. **First emotionally charged incident for level1(in home country)**

_____
_____
_____
_____
_____

13. **Second emotionally charged incident for level1(in home country)**

_____

14. **Third emotionally charged incident for level1(in home country)**

_____

LEVEL 2 - New in the destination country
Think of this phase as transitioning your home, how that worked and how is character's relationship with old home and how s/he tries to make a new home.

A) Please come up with 3 tasks and challenges that character should overcome in order to finish this level.

B) Please come up with 3 incidents that has emotional (positive or negative) charge for the character that occurs in this stage.

15. **First task or challenge for level2(new in destination country)**

_____
_____
_____
_____
_____

16. **Second task or challenge for level2(new in destination country)**

_____

17. **Third task or challenge for level2(new in destination country)**

_____

18. **First emotionally charged incident for level2(new in destination country)**

_____
_____
_____
_____
_____

19. **Second emotionally charged incident for level2(new in destination country)**

_____

20. **Third emotionally charged incident for level2(new in destination country)**

_____

LEVEL 3 - "Now What?"

Please think of this level in the context of home making. at this stage character is trying to establish a new home in this country, grow roots ,own things and belong to groups, people and places.
consider:
- relation of character with home-country and home-culture
- character as a part of new society
- character and how s/he does or does not make this place home
- character and his/her relationship with people here, communities, groups and friends
- his/her feeling accepted/rejected, familiar/foreign ...

A) Please come up with 3 tasks and challenges that character should overcome in order to finish this level. since this level is when the person is more settled, tasks can focus on more mental emotional wellbeing and connection to roots etc.

B) Please come up with 3 incidents that has emotional (positive or negative) charge for the character that occurs in this stage.

21. **First task or challenge for level3("Now What?")**

22. **Second task or challenge for level3("Now What?")**

23. **Third task or challenge for level3("Now What?")**

24. **First emotionally charged incident for level3("Now What?")**

25. **Second emotionally charged incident for level3("Now What?")**

26. **Third emotionally charged incident for level3("Now What?")**

Appendix 4:

Printed hand-out character and scenario form

GAME CHARACTER

WRITE ABOUT YOUR GAME CHARACTER WHO IS S/HE, WHAT IS HER/HIS BACK STORY

Name:

Age:

Gender:

Family status:

Why s/he wants to leave:

Other important points about her/him that that player should know:

LEVEL 1

THIS LEVEL IS ABOUT LEAVING HOME
&
PLEASE TRY TO CONSIDER HOW CHARACTER SEES HOME AND HOW SAYS GOODBYE

Task or challenge #1 :

Task or challenge #2 :

Task or challenge #3 :

· ·

Emotional incident or turning point #1

Emotional incident or turning point #2

LEVEL 2

THINK OF THIS PHASE AS TRANSITIONING HOME.
&
HOW IS CHARACTER'S RELATIONSHIP WITH OLD HOME AND HOW S/HE TRIES TO MAKE A NEW HOME.

Task or challenge #1 :

Task or challenge #2 :

Task or challenge #3 :

· · · · · · · · · · · ● ● ● ● ● ● ● · · · · · ·

Emotional incident or turning point #1

Emotional incident or turning point #2

LEVEL 3

PLEASE THINK OF THIS LEVEL IN THE CONTEXT OF HOME MAKING. AT THIS STAGE CHARACTER IS TRYING TO ESTABLISH A NEW HOME IN THIS COUNTRY, GROW ROOTS ,OWN THINGS AND BELONG TO GROUPS, PEOPLE AND PLACES.
- RELATION OF CHARACTER WITH HOME-COUNTRY AND HOME-CULTURE
- CHARACTER AS A PART OF NEW SOCIETY
- CHARACTER AND HOW S/HE DOES OR DOES NOT MAKE THIS PLACE HOME
- CHARACTER AND HIS/HER RELATIONSHIP WITH PEOPLE HERE, COMMUNITIES, GROUPS AND FRIENDS
- HIS/HER FEELING ACCEPTED/REJECTED, FAMILIAR/FOREIGN ...

Task or challenge #1 :

Task or challenge #2 :

Task or challenge #3 :

Emotional incident or turning point #1

Emotional incident or turning point #2

Appendix 5:

Game design document

"JOURNEY to HOME"

Game Design Document

by
Marieh Sayadchi

Content

1. Game Overview

"Journey to home" is a game that player starts the game as one of the 5 game characters and follows their storyline. Characters are immigrants from middle east to europe. Game follows their journey from their home-country. Each storyline is separate from others, however, some of the locations are shared among storylines. There are three levels for each character that correspond to their journey of immigration.

1.1.   Summary

The game concept, story and characters are based on real experiences of five people from middle east who ended up in Estonia. Five characters are from Egypt, Iran, Israel, and Turkey. There are 2 female and 3 male character. Player follows them throughout their journey which is divided in three levels of "leaving home", "New in a foreign land" and "Making a new home"; based on their experience and how they saw their story. Therefore the story and game progress in the narrative is linear and chronological. The aim of the game is to experience immigration form the eyes of an immigrant. Each playable character has her own unique backstory, limitations and resources and like being born in a certain family, country, etc. player can not control some of the circumstances such as unexpected events and challenges and initial resource level.

1.2.   Similar games

The general concept of the game is similar to "jones in the fast lane". This old game is also concerns daily activities in a 2D simulation game. Similar simple graphics can be seen in games such as "don't starve".

1.3.   Gameplay

Goal of the game is to immigrate successfully from a given country to a destination country. There are three general resource of money, time and happiness that player should manage in each level. There is a to do list for each character to be accomplished within a given time, with limited money and initial happiness level. Initial status of these three resources depends on each character. Based on their background some of them are richer, happier or have less time constraint.

1.4.   Genre

This game combines several genres of games under a general "life simulation" game. In every level there are several sub-tasks in todo list that translates to puzzle and platform mini games. These mini games are mapped to well-known games like pacman, tetris, etc.

1.5.   Target group

Target group is female and male players between 20-40 years old with interest in political and social issues. Immigrants and people who are involved or interested in immigration and related topics.

1.6. Game flow summary

Player advances in the game by finishing todo list of each level within the given resources limitations. Every item in todo list, when selected, takes player to a puzzle or platformer. Actions of the player in these mini-games, changes the status of the resources. Animations are used to connect parts of stories introduced in different levels. There are events in the game that cannot be controlled by the player and may affect the resources for example character gets a phone call from her mother and receives a bad news, this makes the happiness level go down.

1.6.1 Actions

Player moves the character or controls the mini-game with keys related to the mini game. For example for platformer:

- Going up, down, left and right
- Shooting
- jumping

2. Story

All characters start from their home-country and they all want to immigrate to europe. Each of them have a different storyline. Below are five playable characters and their backstory.

Ahmed: He is 27 and single guy from egypt. He has a big family and extended relatives. He is bored in his current life and wants to explore the world, achieve his big dreams and have adventure. He is not very social but he loves to go out with small group of friends for a chat and drink. He wants to apply for continuing his studies as a way to move out of egypt.

Arash: He is 24 years old Iranian who wants to experience political freedom and more liberal society. He wants to find decent job and have better life as well. He has older parents and one younger brother. He never felt at home in Iran, so he wants to explore his chances elsewhere.

Dror: 30 years old Israeli gay man called Dror does not feel that he belongs in Israel. He is tired of living in tense and stressful society. He wishes to earn more and live a better life as an artist as well. He has one sister and one brother. His brother is in Israel and his sister lives in Belgium.

Gul: She is 26 and from turkey. She is single and she wishes to leave Turkey because she politically disagrees with the government and wants to live in a place with better social and economical conditions. She had one younger sister and her parents are middle aged.

Sara: She is 24 years old girl from Iran. Her family lives in a small town in north of Iran and they are lower middle class family. She has 3 sisters and 3 brothers. All her siblings except one is married and her parents are retired. She has a boyfriend in Iran as well. She is finishing her bachelor's degree and wants to continue her studies abroad. She want to see the world and travel.

3. Levels

Starting with any character, player has 3 levels ahead. Three levels are called "leaving home", "new in foreign land" and "Making a new home". Each level has a todo list that should be completed without burning out the resources. Todo list is different for each character. The storyline is also different when started with different character. Here is the levels related to "Arash".

3.1. "leaving home"

First level leaving home happens in home-country and the goal of this level is to leave the home-country. There is a todo list for this level to be completed to achieve this goal. At the end of this level character gets on the plane.

> **Task 1:** Doing the paperwork in university's different offices to graduate. It is a very time consuming and nerve wracking task to do paperwork in Iran. This task is translated into a mini-game of platformer to move around a map and collect documents.

> **Task 2:** Getting a visa. Lines in front of embassies are mind blowing. Often you need to show up around 5-6 am to make sure you are going to get in on that day. This task is a mini-game of reverse snake. Player starts with a long snake composed of people in the line. By touching the bate snake gets smaller. The aim is to make the snake disappear within a given time. If player does not succeed in it, snake restarts and one unit is reduced from time bar.
> Every now and then a portal opens player should direct snake to the portal. Head of the snake goes in, portal disappears and snake gets shorter rather than longer. Our character is at the end of the line, when he gets in task is completed.

> **Task 3:** Packing the bags. This task is to pack all the belonging, items of sentimental value, gifts and other necessary things in a suitcase. It is a game of tetris and candy crush mixed in which the more match you make the level of happiness bar increases.

3.2. "New in a foreign land"

This level starts with the plane landing and character entering the new world. Like the previous level player starts with a todo list.

3.3. "Making a new home"

In this level character enters a stable life stage in the new country. He has a job, flat and knows his way around. Now it is time for making the place home with tackling challenges such as making friends and joining communities.

4. User Interface

4.1. Flowchart of pages

Splash: the title and logo page.

Main menu: includes first actions of the starting the game. One can load and continue previous game, start a new one or see where s/he is in the game or use help.

New game: leads to starting a new game by choosing a character.

Load/continue: loads the previous game to be continued.

Status/roadmap: player can see a holistic view of the game, where s/he is and how s/he is doing in terms of status of resources.

Help/Tutorial: Contains controls, actions and howtos. Character selection leads to the gameplay

Action menu: is the menu accessible from gameplay for immediate functions such as pause, save and play.
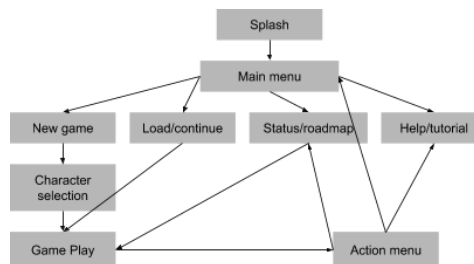
4.2. Interface elements

Player sees these elements during the gameplay:
- Status bar for money
- Status bar for health
- Status bar for happiness
- Icon for action menu

During mini-games s/he also sees the action options in the corner.

5. Visuals & Animation

5.1. General look and feel

The game is 2D and images are sketch/hand drawn looking style. The colour pallet is earthy/neutral. Graphics are simplistic and abstract. See the example below:

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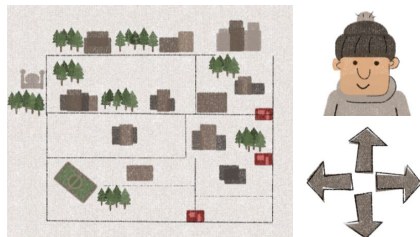
5.2. Animation

Animations are made in 2D and in the same style. They are used to narrate the story throught the game. In the beginning an animation introduces the character and her/his backstory. Then it is used for connecting the mini-games and tasks.

6. Audio

6.1. Voices

Human voices are used as voiceover on animations. Voices are representative of characters and speak in first person.

6.2. Ambient sounds and background music

Background music is used for animations and tasks. Each character has her/his set of music for happy and sad occasions. Audio track are from the character's culture and has relevance to his/her background.

Sara: Track 1 Sad & Track 2 Happy

Gul: Track 1 Sad & Track 2 Happy

Dror: Track 1 Sad & Track 2 Happy

Arash: Track 1 Sad & Track_2 Happy

Ahmed: Track 1 Sad & Track 2 Happy

6.3. Action sounds

Standard action sounds from relevant platform and puzzle game will be used here.

Appendix 6:

Link to the Game

To access the game go to: https://github.com/mariesayadchi/JourneyToHome