Abstract

Mobile games have a potential to assist in the acculturation of immigrants and refugees. We propose how to design such games collaboratively based on co-design approach. We also review relevant game mechanics and technologies such as multiplaying, interactive storytelling, gamification, and virtual reality.
Abstract
Mobile games have a potential to assist in the acculturation of immigrants and refugees. We propose how to design such games collaboratively based on co-design approach. We also review relevant game mechanics and technologies such as multiplaying, interactive storytelling, gamification, and virtual reality.
1 Introduction

Recent years have seen a growth of games designed to raise awareness of social issues. These “Games for Change” have brought attention to a variety of problems such as climate change, violence against women, homophobia, and clinical depression. There are also games aiming at raising awareness amongst host societies about the plight of refugees seeking asylum. Most of these games put the player in the position of a refugee forced to flee (e.g. My Life as a Refugee, Darfur is Dying) and who travels (e.g. Passages, Cloud Chasers, Against All Odds) to arrive at a border (e.g. Papers Please, The Migrant Trail, Frontiers). However, none are created to help refugees to integrate into their new communities. This shortcoming might be related to a somewhat alienated attitude to the newcomers: they are mostly a target for the host society’s paternalistic care and caretakers. Whatever the reason for omitting refugees as gamers may be, this paper explores ways that bring immigrants as subjective users and co-designers of the games, interacting with players of the host society, rather than sources of inspiration.

Based on a European research consortium’s members’ joint expertise and experiences from diverse encounters with newcomers, our intention is to devise an approach for developing games that help immigrants to adjust to their new surroundings and help people from the host culture to interact with refugees and to learn from them (e.g. their culture and traditions) while they re-discover their own. More precisely, the scheme calls for co-designing games and tools that allow both locals and immigrants to develop their intercultural competence to that brings them together (i.e. facilitate an effective acculturation process). Acquiring intercultural competence includes developing cultural awareness, knowledge about other cultures, intercultural sensitivity, and competence to act and to communicate in a cross-cultural context.

In the context of integration, both the host and refugee populations have much to learn about, from and with, the other. Hence, we want to merge a game design principle with a co-design approach that takes place in the physical environment where newcomers meet with the locals. First, the game mechanics used in the game will be designed to motivate players from both groups to learn and appreciate the other’s culture, both the similarities and differences, and to become able to communicate effectively and to esta-
blish interpersonal relationships. Built upon an equal encounter, our scheme complements the traditional approach that separates between the domestic, intended users’ culture and a foreign, observed culture. Secondly, on a more practical level, refugees who find themselves in an unfamiliar land are confronted with the demand to learn a new language, understand important elements of a new culture, and figure out how to conduct everyday matters and administrative procedures. Our design supports the refugees in developing strategies and skills to navigate and cope with their new reality, often by pulling the willing help of the host population who are well placed to assist. Following the co-design principles, games that our approach will help to create also should allow locals to develop new attitudes, skills and behaviors allowing them to interact in a more meaningful way with various groups of immigrants, with the ultimate goal of sharing life so that no one remains excluded or marginalized. Thus, the co-design principle complements the traditional approach that is based upon the exclusively assumed needs of the observed or cared newcomers.

2 Background

Europe is facing a crisis as the largest group of refugees in decades flees war and insecurity in their home countries and attempt to gain entry into Europe. This influx of refugees comes at a time when Europe is still struggling to escape from economic recession. Eternal fears of immigrants “stealing jobs”, increasing crime, and bankrupting the welfare systems are accentuated by fears of terrorism. Some political groups are calling on the European Union to reject the refugees altogether, or to form new barriers to immigration between EU countries.

Integration is a complex and dynamic process. Figure 1 illustrates Ager’s and Strang’s conceptual framework that defines ten core domains of integration [AS08]. Most refugee support organizations focus on primary needs such as rights, housing, and health. However, two-way integration requires a long-term commitment and major cultural, financial and political investments. Some refugee support organizations do provide services beyond the basic needs (e.g. legal advice regarding various administrative procedures, language tuition and professional mentoring). Too little is done to enhance
the process of building bridges between refugees and locals, maybe because too little is known on pathways and processes facilitating and driving integration [Loso15]. As a result, refugees are rarely considered and valued for the skills and experience they bring from abroad.

We perceive an opportunity to improve intercultural communication and social connections, two pillars for successful integration. It is important to attempt to facilitate acculturation of the newcomers and host societies through improving the cultural competence of its individual members, which is connected to identity, belonging, recognition and self-respect [CKVV02].

With respect to the Ager’s and Strang’s model, we aim to work on the language and cultural knowledge “facilitator” and the social connections “layer”, within an intercultural competency perspective or put more simply: help people talk to each other and understand each other.
3 Game mechanics and technology

Mobile gaming technology is a natural platform for accomplishing our goal, for several reasons. First, mobile games are an excellent way to reach refugees, who for a large part have smartphones but not necessarily computers or game consoles. Owning a €100 Android smartphone or €30 second-hand iPhone is not a luxury but a matter of survival for refugees, and they are likely to be ready to pay for necessary services. Moreover, smartphones work well in a variety of settings, including within social events and when the player is on the move. Finally, the cameras and microphones embedded in mobile devices can empower games that stress personal communication, such as between players from different communities. Last but not least, to take into consideration for the design of certain games that central locations in particular countries (e.g. down town, touristic points) provide free-wifi allowing the players to diminish costs and enhance different game possibilities.

Given that integration is a relatively unexplored subject in games, there is a need to investigate a number of techniques and technologies that can be useful (see Figure 2). To provide a glimpse of what directions our game projects will likely take, we will discuss a number of promising approaches that we have already identified. Each is supported by one or many technologies that, in our view, are particularly appropriate.
Fig. 2: Gaming technology supports the game topics that in turn target the dimensions of cultural competency and acculturation.

3.1 Basic knowledge and skills
It is only human to fear the unknown. Immigration can easily summon sentiments of “us versus them”, by drawing stark contrasts between the host population and the immigrant group based on anything from religion to diet to wealth. Conversely, learning about the other culture leads to a better understanding of what the differences really are, and how they will affect exchanges between people of different backgrounds.

Perhaps the simplest type of game for education involves quizzes, in which the player must guess about another person’s culture or history. Although quizzes are considered a type of game, and often they are used in learning and lately are an important tool used in gamified applications, they can be also considered as game components to build upon them more elaborated game mechanics. Moreover, they can form the basis for more interesting
dynamics when placed within a group context, such as a *multiplayer games using smartphones*.

Another type of game that is well adapted to education is *interactive storytelling*, in which a player makes choices that will generate dramatically compelling stories based on the input [Smed14]. In our context, the storyscape could reflect the realities of the refugee’s travel from her home to the new host country as well as the realities of the new host country. Here, the player – whether a refugee or a local person – will learn to see a broader picture as the story unfolds during the gameplay. The refugee will encounter the worries of the local people (e.g. fear of losing a job, rising rents and reducing social security) as well as the local people will encounter the traumas and worries of the refugees and maybe their own as well (e.g. anxiety of what has happened to the loved ones, starting a new life and finding an identity in the new society). Storytelling games can also foster collaboration and cooperation among the players of different backgrounds while they immerse into visualizing a brilliant future together.

### 3.2 Empathy, respect, curiosity and openness

If integration is about the fusion of two or more cultures to create a new and richer culture while maintaining their identities, then it stands to reason that interacting with another culture may require a change in various attitudes. A starting point is empathy (i.e. to be able to put oneself in “other’s shoes”). This could be formed through social contact with the other group as mediated by the game technology. Empathy is not foreign to games especially *role-playing games* where the player has to assume the role of a character and stay true to it. Another example would be a smartphone game that allows a refugee and non-refugee to exchange photos of their daily activities, therefore removing language as a barrier for communication. Such a game could also benefit from social networking so that a player spreads their own discoveries to their friends, family, and associates.

Alternatively, a game could make teams out of refugees and non-refugees in which they have to work together to accomplish their shared goal, as a way to build community and contacts. By cooperating with someone from a different background, a player learns to accept, and perhaps even value, what that person has to offer.
A more radical way to create empathy is through virtual reality (VR). In the recent project *The Machine to be Another* [BeAn17], two users are given VR headgear that simultaneously films one person’s view and shows them what the other person sees. As the users move in a synchronized fashion, the system provides the powerful illusion of inhabiting another person’s body. This project provides an intriguing jumping-off point for similar projects to create empathy via VR that could be performed between refugees and non-refugees.

Other two powerful motivators in games and learning, are curiosity and fantasy. These motivators engage the players to immerse themselves into the game mechanics and the game theme. While co-design games with the diverse audience will allow us to understand how to stimulate the player’s curiosity and fantasy [ILVSE13].

### 3.3 Cooperation and behavioral change

Networked multiplayer games have brought large groups of players together. However, the usual stance is to put the players opposing and competing against one another or to collaborate in small groups against a common enemy. Competition between groups can widen and deepen the gap that divides the communities. Collaborative game mechanics can naturally highlight the advantages of working together in mixed groups, instead of perceiving other groups as threats. Cooperative gameplay, which allows players to work together, has gained popularity in the recent years. It is present in many games genres and can take forms such as having the human to play against a common AI-controlled opponent, sharing resources or information among allies, or assisting and guiding other human players.

In the development of digital collaborative and cooperative games, it aids us to understand better their and its mechanics, when analyzing cooperative and collaborative board games such as *Pandemic* or *Ghost Stories*. The combination of competition and cooperation found in team sports can also be exploited here, by forming diverse teams that compete against each other. Teams could be formed on criteria that are common to all people, such as birth month, or simply in a random fashion.

In collaborative and cooperative games, the actions of all the players are relevant to achieve jointly the game’s goal. The story of the game might be
changed and at the moment might not be so explicitly related to the reality they are leaving behind, but to the reality they want to achieve, for example, the narrative to develop a new international business. While visualizing the future, players will learn the basic skills, grounded in the present, to reach the game’s goal.

One extraordinary example of cooperation occurs in crisis or disaster situations, when distant strangers can be brought together by the realities of the same dangerous situation can suddenly become communicative and helpful of one another. This phenomenon could be exploited by games that put people into situations that they must work together. Through the process, it becomes evident to players that teamwork is their only way toward success. This concept could take a number of forms, including that of a role-playing game as is done in crisis management trainings.

### 3.4 Value of diversity and immigration

Another approach is to promote the value of diversity and immigration in itself. This could be done in an abstract way such as by creating a simulation game in which the user can control and see the valuable effects of immigration on the economics of a society. It also could be accomplished in a more concrete fashion, by providing stories of successful immigrants, and of relationships between people of diverse backgrounds that lead to valuable life changes.

This approach can be powered through a combination of theory, evidence, and anecdotes. For example, despite the popular belief that immigrants (and thus refugees) hurt the host economy, economists generally agree that both low-skilled and high-skilled workers improve the economy that they are moving to.

Indeed, recent economics research finds that immigration actually improves wages for unskilled workers in the host country [FP15] as well as the country the immigrants are leaving [Clem11]. As the economist and author Philippe Legrain points out:

> “... Many of the arguments that are framed in the economic way actually are xenophobic in origin. ... When migrants are working they’re
accused of stealing our jobs, and when they’re out of work, they’re accused of sponging off welfare. When they’re rich, they’re accused of driving prices up and when they’re poor, they’re accused of driving standards down.” [Frea15]

The relation between crime and immigration is harder to quantify, due to the complicating factors of police practices, judicial discrimination, unemployment, and uneven crime reporting. However a recent study on immigration into Europe during the 2000s found “that an increase in immigration does not affect crime victimization, but it is associated with an increase in the fear of crime, the latter being consistently and positively correlated with the natives’ unfavorable attitude toward immigrants. Our results reveal a misconception of the link between immigration and crime among European natives.” [Nunz15]

A further approach of this type is to use metaphor to discuss immigration and diversity in a fictional context such as animals or space exploration.

3.5 Current events

Newsgames are a type of game that focuses on current events. Often they involve casting the player in the role of a journalist in order to discover the gritty reality of a situation in the form of personal narratives. Since the refugee crisis regularly makes the headlines, and is tied to a number of ongoing conflicts, it makes an ideal context for this kind of game.

For example, one could imagine a game in which the player investigates (perhaps using virtual reality to heighten perceptions) the shocking and scary realities that Syrian refugees are fleeing. By putting the player in the active role of investigating these events, they are more likely to take them to heart then they would in a more passive role by watching TV news or reading newspaper headlines.

Another approach often used by newsgames is that of interactive data visualization. Players are provided with an interactive environment that empowers them to explore and comprehend publicly available data through which they come to their own conclusions on what the data reveals. Taking data visualization an additional step forward, augmented reality could be used to effectively insert an additional viewpoint (that of the other culture) into current
events, in order to glimpse how another group perceives the same news. For example, UNITAR works already in this direction.

3.6 Motivation
A central premise of gamification and game design alike is that players can be motivated by game mechanics to adopt certain behaviors in order to win a game. Such motivators may be extrinsic, such as point and leaderboard systems that play on a player’s desire to outcompete their peers or simply overcome the challenge held before them. Or they can be intrinsic, when playing the game in itself provides enough pleasure or satisfaction to motivate the player to continue.

We can use gamification techniques based on analyzing and utilizing the eight core drives behind the games and players [Chou15]:

1. “Epic meaning and calling” taps into the players’ believe that they are some greater than they are or that they are chosen to do something.
2. “Development and accomplishment” uses the internal drive to make progress, develop skills and overcome challenges (e.g. points, badges and leaderboards).
3. “Empowerment of creativity and feedback” keeps the players engaged in a creative process where they continuously have to figure out things and try different combinations (e.g. Lego bricks and Minecraft).
4. “Ownership and possession” recognizes that when players feel ownership, they want to make what they own better and own even more.
5. “Social influence and relatedness” focuses on the social elements driving people (e.g. social acceptance, companionship and competition).
6. “Scarcity and impatience” uses the players’ fear of losing an opportunity or missing a chance (i.e. so-called “appointment dynamics”)
7. “Unpredictability and curiosity” taps into finding out what happens next (e.g. stories and gambling).
8. “Loss and avoidance” recognizes the players’ wish to avoid something negative to happen.

These core drives can be combined in gamification. For example, a recent refugee could be motivated to navigate the local administration by making it
a mission (Accomplishment, Meaning), learn the local language and culture together with locals (Social influence, Empowerment), or attend trainings that will allow them to advance their position in society (Ownership, Avoidance). Similarly, a local could be motivated to reach out to refugees, provide them with useful guidance (Social Influence, Accomplishment), or learn about skills and training that refugees could contribute to the local community (Meaning, Empowerment).

Finally, gamification techniques could speed data gathering efforts that in turn empower data mining to better track the fate of refugees and the effect of social programs meant to encourage their integration.

4 Conclusion

There are possibilities to develop games using co-design to include refugees and local people to work together in the same project that will benefit both of them. The ideas that we presented in this paper use different game mechanics. These mechanics are not the only ones available but they seem to be the best candidates for creating such applications. The implementation of these ideas is still underway and the first prototypes are currently under development. Although the results of their usability and effects still need to be evaluated, the co-design process alone has turned out to be a fruitful one and it has allowed us to see its potential.

The Co-design approach has a potential to address difficult topics in game design. Games are normally designed by specialized game designers. Even in projects dealing with gamification or serious games, the end-users are often seen as a customer that is kept out from the actual design process; they can give initial input on the design and possibly feedback during the development phase but they are not seen as designers themselves. We want to challenge this view, not only for the current setup, but also more broadly. We envision a new type of a game designer who can share their work, share their knowledge and also learn from their co-designers.
Literature


