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(doi: 10.2383/82484)

Sociologica (ISSN 1971-8853)

Fascicolo 3, settembre-dicembre 2015

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# Mobile Devices and the Practice of Re-creating (Play) Spaces

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The increasing mediatization of everyday life has given rise to a new understanding of social practices within media environments [Couldry 2012]. These environments are not only artificial and specific places, such as virtual reality labs, but they have become commonplace and less exceptional in everyday life. The increasing miniaturisation and mobility of media have turned everyday social practice into media practice. Mobile media, in particular, force us to rethink space and place. Already television and its culture radically questioned our understanding of place, as Joshua Meyrowitz [1985] famously argued. With mobile media, the questions concerning our sense of place have become relevant and urgent yet again. Media, as a constant and traceable companion, pose the questions of physical and social, as well as public and private space, anew. Sensing place as a hybrid or multiple space seems to be an everyday experience and not only a fashionable, theoretical metaphor.

We encounter questions concerning other senses of place within a contemporary media environment in an examination of mobile and locative media in a classic social and cultural practice: gaming. Mobile Gaming has become widespread with the rapid technical developments and increasing use of mobile phones which have become smartphones. We will show how recent developments in mobile technologies shape gaming practices, how these practices lead to a recreation of new senses of place, and how these other senses of place are being encountered. To do so, we will first outline the interdependency of technological developments of mobile devices and new forms of gaming practices. Then we will discuss how smartphones pervade

social life and create new socio-spatial formations with regard to casual and location-based games. By drawing on a case study on a location-based, urban casual game, we will conclude with a detailed analysis of the processes involved in creating new (play)spaces and show how physical and ‘on-screen’ space is coordinated in social practices.<sup>1</sup>

## 1. Games Set in Motion

Within the humanities and social sciences, mobile media and mobile phones in particular have received increasing interest [see e.g. Burkart 2007; Castells 2009; Goggin 2006 and 2008; Glotz *et al.* 2005; Höflich *et al.* 2010; Sarwar and Soomro 2013]. With the advent of smartphones at the end of the 2000s, a radical “re-conceptualisation of the mobile phone,” as de Souza e Silva [2006] puts it, has taken place. Mobile phones have become far more than just portable telephones. Internet access, multimedia messages, mobile photos and videos enable new forms of mobile communication and interaction. Location-based applications in particular result in a new sense of place, the emergence of social mobile networks, and the social creation of new meanings for new interfaces [de Souza e Silva 2006, 108-109]. The practice of gaming has become especially popular. Due to the fact that more than 50% of the downloaded applications for mobile devices running the Android operating system are games, Fuchs and Schrape [2013, 69] wonder why smartphones are not actually called “playphones.”<sup>2</sup> Mobile phones seem to be the perfect medium for “the first major global technocultural form native to the computer, and [...] defining technology of the contemporary digital information age” [Crogan 2011, xiii] – namely digital games. Mobile phones are presumed to be the most widespread game platform [Montola *et al.* 2009] and will become the “primary screen for games by 2016” [Hjorth and Richardson 2014a, 256] as media market analysts predict.

Games have been part of telecommunications since the early development of mobile phones. The idea that a game can be played on a device which is not only used for games and is available anytime and anywhere quickly became popular. Gaming has become a popular activity amongst mobile phone users as a typical spare-time activity; something to pass the time while on public transport, waiting at the doctor’s

<sup>1</sup> This work was supported by Lakeside Labs GmbH, Klagenfurt, Austria and funding from the European Regional Development Fund and the Carinthian Economic Promotion Fund (KWF) under grant KWF-20214/25557/37319.

<sup>2</sup> Hjorth and Richardson [2014a, 265] even speak of “Seventy-five percent of all mobile phone downloads are games.”

surgery, or while queuing. Mobile gaming is a typical activity to fill the short gaps in an accelerated mobile modernity [Hjorth and Richardson 2010].

The further “smartification” of mobile phones brought the possibilities of mobile games to a new level. Since smartphones nowadays are more like computers than “just” phones, they now provide a platform that allows complex and high-quality gaming mechanics due to better graphics and sound, more processing power, larger screens, and so on. Furthermore, the “thumb culture” [Glottz *et al.* 2005] of mobile phones has transformed into a “touch” or “swiping culture” with smartphones. The touch-screen of these devices offers controlling tools that are uncommon in digital games played on a computer and allows new game mechanics such as tapping, swiping, shaking, puffing – and, of course, movement in the physical environment. These technocultural developments shape the further development of mobile devices as gaming platforms and the games themselves that implement these possibilities in their gameplay and game mechanics.

The mobile phone as a (new) gaming platform sets games in motion, and gaming becomes part of places that are not “meant to be” play-spaces such as buses, restaurants, schools, or even offices. Mobile games are disassociated from a specifically defined gaming environment. They can be played wherever the mobile phone works, even in places that lack a connection – many mobile games are independent from technical reception, internet connection or GPS signals. This disconnection of games from specific places allows a saturation of a variety of spaces and places with games: mobile gaming can be observed almost everywhere. Already through the presence of mobile games in everyday life, public spaces are becoming gamified [Fuchs *et al.* 2014].

Furthermore, mobile games cannot only be played in any place, but also at any time. Most mobile games allow a quick start and stop, calculate interruptions, as well as allow short and fast game activities. Digital games played on computers or consoles not only need a specific space and place in the household, internet-café or arcade, they also require specific dedicated “leisure time.” With mobile games, gaming is disconnected from specific spaces devoted to gaming and disconnected from specifically dedicated leisure time. Therefore, mobile games not only inherit a certain spatial independence, but also a temporal flexibility. Due to these specifics, mobile phones can be seen as the perfect platform for a type of gaming that is popular on many game platforms but has become visible in public life through mobile phones, namely casual games.

## 2. Mobile Casual Games

The success of the simple, pre-installed games on early mobile phones, such as Snake, already signalled the potential for a hitherto underestimated type of game and gamer: casual games. With smartphones, the amount of so-called casual gamers has increased dramatically and made gaming a common and popular practice not only amongst young people.<sup>3</sup> It is possible to distinguish between casual games as artefact and casual gaming as practice.

Casual games are made for a wide audience and address, in particular, people who would not usually refer to themselves as gamers: “games for the rest of us” as Scott Kim said on the 1998 Computer Game Developers Conference in Long Beach, California [Juul 2010, 25-26]. These games started what Juul [2010] calls a “casual revolution,” since they opened up a new target group for the games industry. Typical gamers are often thought of as hardcore gamers even though the first casual games on computers and handhelds such as *PacMan* (1980) and *Tetris* (1985) had been very successful. For quite some time, casual games had a bad reputation in game designer and developer communities because of their lack of challenge, easy gameplay and minimalistic standards in terms of graphics and sound. Casual gamers demand a quick dose of fun, easy handling and fast activities to pass the time, which leads to “bland or shallow games” [*Ibidem*, 26] as casual games were often referred to in game designer communities. However, the growing interest in casual games, as well as their growing economic potential led to the emergence of a new kind of game design that consists of the following aspects: positive fiction, simple usability, easy interruptibility, low difficulty and excessive positive feedback [*Ibidem*, 30-50]. Or, in the words of Kuittinen *et al.* [2007, 106-107] casual games consists of an “appealing content, simple controls, easy-to learn gameplay, fast rewards, or support for short play sessions.” Amongst other things, casual play or casual gaming refers to a specific practice or manner of gaming. In this sense, gaming is an occasional practice and not an extensive or serious one. With regard to casual gamers, it is interesting to note that these would not necessarily see themselves as “gamers” [Hjorth and Richardson 2006; Chiapello 2013; Consalvo 2012]. It seems that casual gamers perceive only hardcore and video gamers as “proper” gamers and, vice versa, hardcore gamers tend to exclude casual gamers from their community. Casual gamers are not necessarily gamers with a lesser commitment than hardcore gamers, since the investment of time as well as money can be very high. That is the reason why Kuittinen *et al.* [2007,

<sup>3</sup> According to the Casual Game Association, more than 200 million users play casual games. In 2009, the casual games industry earned more than three billion dollars, which is remarkable because most casual games are free to play (see <http://www.casualgamesassociation.org> [22.12.2014]).

106-107] distinguish between casual gamer and casual game player. The latter is the one who plays casual games – extensively or not. In contrast, a casual gamer plays casually, which does not mean that they only play casual games.

Casual games are games for a wide audience and can be played anywhere, at any time. They dissolve the barrier between players and non-players because they are easy to access, easy to play and, in many cases, even free to play. Furthermore, no special hardware is needed for casual games. Mobile phones seem to be the perfect medium for casual games because they are always at hand. This does not imply that all mobile games are casual games. As Hjorth and Richardson argue:

It is clear that the various modalities of mobile gaming cannot be simplistically captured under the ‘casual’ rubric; rather, they are part of a broader ‘assemblage’ of play that is cross-platform and transmediatic, dedicated and occasional, domestic and peripatetic; situated, contextual, and paratextual, mobile gameplay resides in the interstices of everyday life. [Hjorth and Richardson 2014a, 260].

This pervasion of everyday life is even more prominent in a more recent type of mobile game that is gaining in popularity with the ubiquitous usage of smartphones: location-based games, often called pervasive mobile games.

### **3. Mobile Location Based Games**

Location-based mobile games use the location-aware technologies of smartphones, such as GPS, and implement physical locations in their gameplay. The main principle of these games is the linkage of digital game environments with physical environments. In contrast to casual games, the actual mobility of the gamer is part and parcel of the gameplay of these games. This means that location-based games cannot be played everywhere, but require movement in the physical environment. It is only possible to play the game in specific places, or the gameplay requires the player to move to a specific location in order to play the game. Popular examples are games like *GeoCaching* and *Botfighters* and, more recently, *Ingress*. Movement in or to pre-existing locations is essential in order to play location-based games, and gaming practices are closely connected to other practices such as informing, communicating and consuming. Location-based mobile games “expand spatial, temporal and social boundaries of traditional games” [Stenros *et al.* 2007, 30]. Crucial to mobile pervasive games, as they are also often called, is their use of physical space as a game board and mobile devices as an interface for game play [de Souza e Silva and Sutko 2009, 3]. This way, new gaming experiences are produced [Montola 2009, 7].

De Souza e Silva and Sutko [2009, 3] propose to differentiate between different types of games using locative media with regard to aspects of game space, interface and time: pervasive games, urban games, location-based games and hybrid reality games. Pervasive games do not have a game time, the world of the game is decoupled from the player's actions. The game never stops and thus may intertwine with the player's ordinary life. Urban games are linked to urban space as a primary game board and do not necessarily need to be pervasive games at the same time. Location-based games are distinct from the aforementioned games in that the game interface is interlinked with location-aware technologies (cellular or global positioning systems). Again, they may – or may not – be pervasive or urban at the same time. The last category proposed by de Souza e Silva and Sutko are hybrid reality games in which a primary playspace is lacking:

[T]hese games are played simultaneously in physical, digital, or represented spaces (such as a game board) [*Ibidem*, 4]

Most popular, mobile, alternate reality games range somewhere in between these categories. One overall principle is the merging of spaces as part of the gameplay, which increasingly attracts users. Concerning space and sensing space, it is most interesting how users synchronise and handle on-screen and off-screen reality in practice.

Our contribution to this emerging research field is an empirical study that pays attention to the practice of playing mobile games, both casual and location-based, and how places are recreated or other senses of place are established in these practices. We conducted a study about the use of a location-based, hybrid reality urban game with casual elements named *CityCachers* that we developed in an interdisciplinary project, where both social and computer scientists collaborated. Before we go into more detail about the preliminary research results, we will briefly describe the research project in which our study is embedded.

#### **4. Studying a Mobile Casual and Location-Based Game: Methods, Methodology, and Research Design**

In the transdisciplinary project CROSMOS social and information scientists developed collaboratively a casual location-based urban game called *CityCachers*.<sup>4</sup> The project was situated in the Lakeside Labs of the Lakeside Science & Technolo-

<sup>4</sup> For further information on the project “Cooperation, Resource Optimization and Self-Organization in Mobile, Mixed-Reality Environments” at the Lakeside Labs Klagenfurt see URL: <http://crosmos.aau.at/> and for the credits footnote 1.

gy Park Klagenfurt (Austria). The aim of the project was to explore the interdependencies between the technical and social dimensions of mobile games through the collaborative development of a game app. With this approach we followed attempts by other interdisciplinary projects, such as Paavilainen *et al.* [2009], where game design and game studies collaborated in order to gain mutual benefits.<sup>5</sup> While the aim of their project was to collectively develop methods for game design and evaluation [*Ibidem*], our focus was on developing a ‘playful research tool’ for gathering data concerning gaming practices.

This means that the game itself was not the only result of our project. Our overall research question was how mobile games influence everyday life and everyday practices and lead to a re-creation and synchronisation of digital and physical spaces. We developed the game in order to have a tool at hand to help us to get a profound insight into these practices. The constant further development of the game is a useful by-product, but not our main goal. This approach deals with the challenge of empirical research in the field of mobile games that arises from the fact that even though mobile devices can be seen everywhere in public, it still remains largely invisible what is actually being displayed on the screen. One can see that a phone is being used, but the purpose of the usage remains invisible: writing emails, writing messages, or playing mobile games have a similar way of handling the mobile device. By creating a mobile game for the purpose of research, we could circumvent this challenge.

Our project can be divided into different phases. In the first phase we created a location-based game with casual game elements, based on the analysis of a standardised online questionnaire concerning mobile games we conducted. The questionnaire was distributed via email and *Facebook* and had a return of 348 participants. The overview we achieved through this questionnaire mainly confirmed results from other studies [e.g. Chiapello 2013; Consalvo 2012; Juul 2010] and can be summarised as follows: mobile games are quite popular and played by a large community of people of all ages, genders and educational backgrounds, and the most popular games follow the principles of casual games as described above. It is, however, noticeable that there seems to be no preferred genre – the most favourite mobile games ranged from quizzes (like *QuizDuell*) to Jump’n’Run games (*TempleRun*; *Minions*) to tower defence games (*Clash of Clans*) and all sorts of three-in-a-row-games (*Jewels Saga*; *Jelly Splash*). While there is no certain tendency in the preferred game mechanics, there is a similarity in terms of gameplay requirements: a large majority of (mobile) gamers

<sup>5</sup> Interdisciplinary game projects already have quite a tradition in Scandinavia. Concerning locative games, the *IperG* project at the University of Stockholm is a case in point where, for example, a technologically supported, live action role play named *Momentum* has been created [see Waern and Stenros 2007].



value quick gameplay, interruptibility and easy-to-learn, hard-to-master-concepts, as well as a free-to-play-mode without disadvantages. Also, sounds, graphics and handling that pays attention to the specifics of smartphone usage (like tapping and swiping) are very important when it comes to defining “good mobile games.” Additionally, we conducted qualitative interviews with 33 people as well as four group discussions with eight participants each. Most participants deny being seen as ‘gamers’ but still admit to playing several times every day. It seems that the short periods of time a casual game is played leads to a feeling of not playing intensively at all, even though, when we asked for them to calculate the total time they spend on mobile games, a considerable amount of people had to admit that the time range was in excess of two hours a day.

In the second phase we moved from game design to gameplay. While our technical colleagues tested the first versions of the game with students, we shifted our perspective from opinions and attitudes to the actual practices of mobile gaming, i.e. patterns of movement, media usage and the appropriation of media and space in mobile games. This fieldwork took place on the ground of the Lakeside Science & Technology Park Klagenfurt in July 2014 with a group of students playing *CityCachers*. During the test these periods, field notes were taken whilst conducting participant observations, and additionally, one camera was at hand to follow the game players. This ensured a perspective that was independent from the players’ narrated points of view. Additionally, we gathered movement data on the mobile devices. The main purpose of *CityCachers* has been to gain access to data that is usually hard to access for social researchers. We implemented a tracking system that allowed us to retrace the movements and actions of our test players. In order to take privacy issues into consideration, we provided test phones, so no participant had to use their private phone. The clustering of the collected data and mapping in time-space diagrams and heat maps (see Fig. 1 and Fig. 2) adds to the data collected in fieldwork.

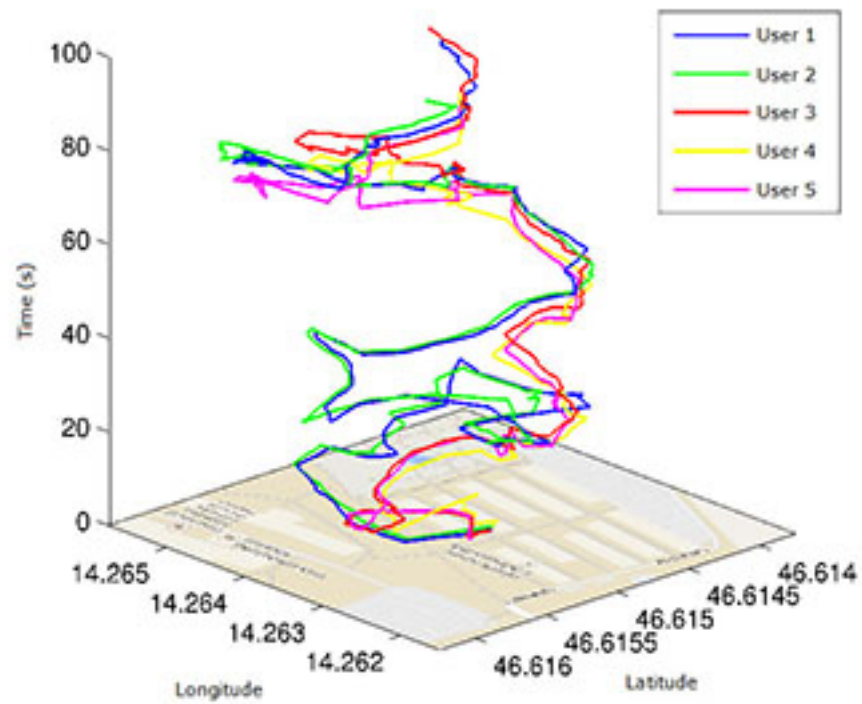


FIG. 1. Space-Time Diagram, Lakeside Science & Technology Park Klagenfurt  
*Source:* Authors' Elaboration

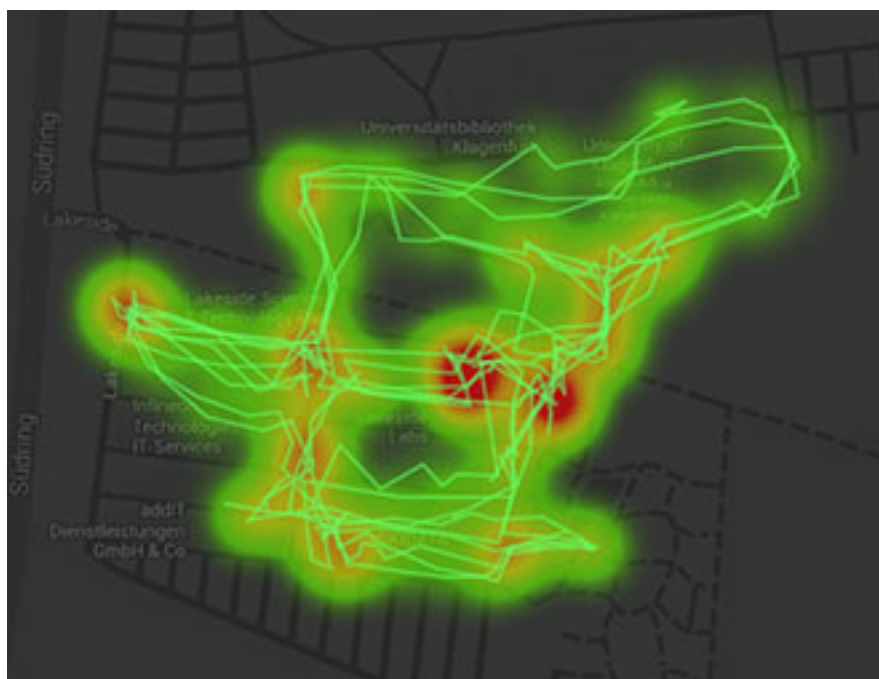


FIG. 2. Heat Map, Lakeside Science & Technology Park Klagenfurt  
*Source:* Authors' Elaboration

Thus, a complex data set is at our disposal, consisting of different types of both qualitative and quantitative information regarding the practice of mobile gaming. This set of data has been analysed both parallel and combined in order to get a more holistic view of mobile gaming. We have located what we call “hot spots” – places where the players remained for an unusually long period of time – by using the heat map (see Fig. 2). By analysing video recordings as well as field notes that could be assigned to these hot spots, we could work out what happened during this period of time. Thus we could efficiently see where the hot spots were and, at the same time, could retrace what social actions were responsible for them. Most hot spots occurred when physical and digital places collaborated in an irritating way: for example, when cars passed by and gamers did not recognise that they blocked the way since they were immersed in the gameplay; when bystanders started to observe the gaming situations and asked questions; when the prototype of the game did not work properly; and in many cases, when the gamers compared the ranking list and took part in some humorous banter with each other on who was the better player.

Additionally, we have conducted interviews and group discussions with the participants of the test runs. With this framework, we have been able to compare individual use, group interaction and movement patterns based on empirical data. Of course, some annotations on the game mentioned in the group discussions were fed back to the game designers and have helped to further enhance the game. The research so far has its constraints being in a lab-like, controlled setting with only a small yet heterogeneous group of people. The third phase will take place with a larger group in a “natural” environment. Nevertheless, some interesting patterns concerning space and gaming are already visible in our data. Before we go into more detail about these patterns, we will briefly describe the game that evolved from the interdisciplinary collaboration.

## **5. CityCachers**

The story of the game can be explained quickly. The Earth is in danger. Pollution overwhelms the planet, and the constant exhaust fumes pumped into the air are poisoning the atmosphere – nothing can stop this process. There is only one hope left and that involves a myth of ancient and highly developed humans that lived on earth thousands of years ago. These humans left behind a machine that cleans the atmosphere. They hid the parts of the machine in different places, and only the ones who prove themselves worthy in competitions can excavate the parts, build the ma-

chine and save the world (see Fig. 3 and Fig. 4). The competitions require teamwork to prove that our civilisation has finally learned to work together.



FIG. 3. CityCachers introduction.

*Source:* CityCachers

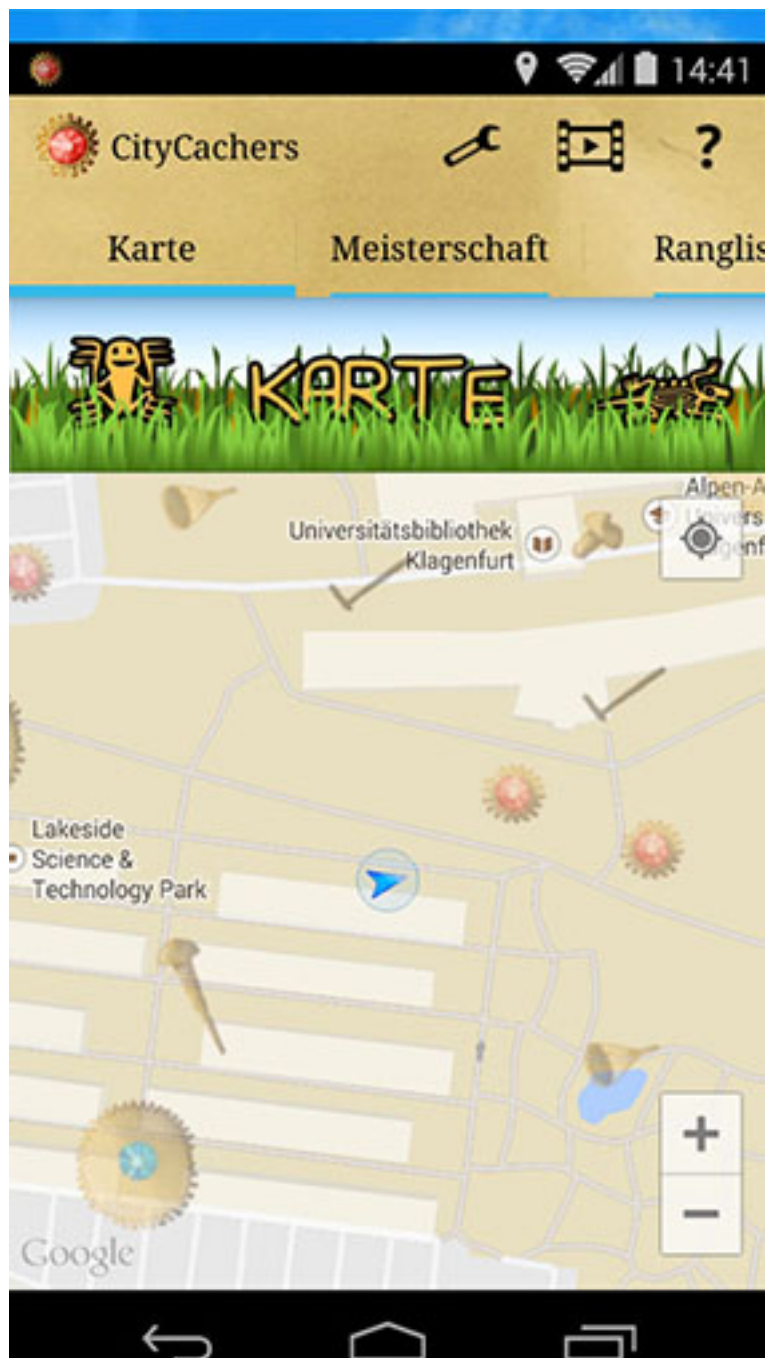


FIG. 4. Map used in CityCachers

Source: CityCachers

In this brief storyline, the gameplay is easy to follow. Players have to physically move to a certain place by using a map (see Fig. 4) that leads them to the virtual treasures. The ‘parts of the machine’ are displayed on the map, as well as the information regarding the required number of players. Since the game is a multiplayer game, the

players have to coordinate themselves and interact with each other in order to make up the exact number of participants and start the challenges. In collaborative work, they have to answer questions in a quiz,<sup>6</sup> or follow a voice that instructs them to shake the phone, shout into the phone, select a certain colour,<sup>7</sup> or navigate their way through a labyrinth.<sup>8</sup> As yet, we have only implemented these three mini-games but, in the course of the project, we plan to increase the number of mini-games to keep the game interesting. Every successfully completed challenge allows the collection of certain parts of the machine. Once all parts are retrieved, the machine is built in an animated video and the world is saved. A ranking list indicates which player put the most effort into saving the world.

The game combines location-based game mechanics with elements from casual games. It is easy to play, but requires physical movement and teamwork. These two elements are crucial, since the overall research question tackles questions of orientation in physical and digital spaces as well as the collaboration and self-organisation of mobile gamers.

By referring to a theoretical framework that introduces a differentiation between playful and ordinary contexts and mindsets, we will analyse the online/offline coordination of our test players and draw conclusions regarding the practice of mobile gaming.

## 6. Coordinating Environments, Synchronising Places

Stenros *et al.* [2007] claim that pervasive games are best understood in their cultural contexts by considering how play is brought into ordinary spaces, times and social situations. They distinguish between playful and ordinary contexts, as well as playful and ordinary mindsets. Playful contexts are

socially, physically and temporally constraint environments in where one could expect to encounter play [*Ibidem*, 33].

Playful contexts differ from ordinary contexts through their socially constructed playfulness. Ordinary contexts are social and physical environments in which everyday activities occur. The difference between playful and ordinary mindsets is

<sup>6</sup> The multiplayer mode displays questions and answers on different smartphones. The collaboration is therefore crucial, and requires interaction between the players.

<sup>7</sup> Especially the shaking and shouting into the phone are visible/audible actions that are necessary to ensure that our game is actually being played. With this action we meet the challenge that even though smartphones pervade public spaces, the content shown on the screens remains “private.”

<sup>8</sup> Again, collaboration is necessary, since the labyrinth is displayed on diverse smartphones, the single phones just display one cutout, and the players have to negotiate their way through the labyrinth.

similar but refers to the mental mapping involved. Playful mindsets are those present during practices like playing games, watching entertaining movies or singing songs. Serious mindsets can be found in everyday activities like eating, working, or washing the dishes. Additionally to these four categories, two grey areas are discussed: the so-called “fabricated contexts,” a term which describes contexts that are playful to some and serious to others, and “pretending mindsets” that are both serious and playful at the same time and are often framed in performances [*Ibidem*, 34]. According to Stenros *et al.*,

[p]ervasive games have a tendency to play wildly with the different contexts and mindsets, leading into various different activities [*Ibidem*, 35].

This “wild ambiguity” while playing becomes visible in our data in two main practices: the practice of participating in a playful activity by renegotiating social affiliations to the game, and the practice of renegotiating playspaces.

Mobile gamers have to constantly switch between what Stenros *et al.* [*Ibidem*] have called “playful and ordinary contexts and mindsets.” We realised that this constant switch is one of the main reasons that causes the so-called hot spots and irregularities in our diagrams. When players stop to coordinate themselves in physical and digital environments they need time, and this time becomes visible in our diagrams.

In location-based games, it is difficult to define the participants of the game since the players create the playful context in an ordinary context in a public space. It is easy to assume at first glance that participants are the ones who actively play the game, and they clearly are in a playful mindset and create a playful context for themselves. When you look again, this assumption has to be questioned since the playful mindset and the playful context of location-based games are constantly hindered when it comes to ordinary irritations that can occur in an open and public space. In our data, these irritations happen when non-players pass by, sometimes interrupt the players by asking what they are doing, exchanging looks, or observing the situation. These non-participants become participants of the gaming situation for a short period of time and often disturb the playful mindset as well as the playful context by asking what is going on, or observing the situation in a way that distracts the players. In other cases, the non-participants enter playful mindsets as well and become co-participants even though they are not actively playing. They engage in the game as bystanders, looking at the smartphones of the participants, helping to solve riddles or giving clues. The participants and bystanders constantly synchronise ordinary and playful contexts and switch between ordinary and playful mindsets. It can be argued that the switch is not necessarily between either playful or serious,

but both “grey areas” as described above; the “pretending mindset” as well as the “fabricated context” come into existence [*Ibidem*, 94-95].

Being both serious and playful at the same time is only possible through the constant synchronisation of the physical and digital, playful and ordinary environments. This synchronisation is what constitutes the level of enjoyment of the game. In digital games played on the computer, a decision has to be made beforehand regarding if and when to immerse in playful activities, and if and when to return to everyday activities. In mobile location-based games, this decision is obsolete because of the ongoing need for synchronisation. There are practices to synchronise not only playful and ordinary mindsets and contexts, but also the presence in both physical and digital places. Hjorth and Richardson [2014b, 19] state on a more general level that

[t]he domestic, private, and personal become quite literally mobilised and micro-mediatised via the mobile phone – an intimate “home-in-the-hand” – effecting at the same time the transformation of experiences of presence, telepresence, and co-presence in public spaces.

These transformations of experiences of different forms of “presence” strongly apply to mobile gaming. Our test players coordinate a physical embodied presence, a telepresence on their smartphone, and co-presence both physically and virtually in our multiplayer game. The need to constantly synchronise these different levels of presence is evident in situations where the gamers have to simultaneously coordinate themselves on the level of telepresence, having to physically look at each other’s phones and having to deal with interferences outside of the game such as a car driving by or other people interrupting. The synchronisation of the different levels of presence lead to the emergence of hybrid spaces.

Parikka and Souminen [2006, 3] discuss the emergence of third places in mobile games, places that range between public and private spaces.<sup>9</sup> In these discussions, it is obvious that spatial boundaries are becoming blurred and are being recreated on a different level at the same time. Hjorth and Richardson offer a similar argument when they say that the ludic experience in mobile location-based, and alternative or mixed-reality games “leaks into the spatial, temporal, social and corporeal affordances of everyday life” [Hjorth and Richardson 2014b, 25]. Game-spaces become dynamic instead of dedicated. Physical environments are becoming gaming environments. They inherit multiple layers. For example, in *CityCachers*, when players are playing one of the mini-games to retrieve a part of the machine and at that moment a

<sup>9</sup> Larissa Hjorth [2006] even locates four spaces in location-based games, with regard to the Asia-Pacific Region, in which so-called *PC-Bangs* are popular – physical places in which adolescents are physically co-present (in the third place) and digitally co-present (in the fourth place).



car passes by, the players have to move away from the spot. Synchronising cars in the physical world and parts of machines in the game leads to the creation of a new sense of place. A street can be just a (physical) street or it can become something else, like a place where a (digital) treasure lies. In fact, it is both at the same time.

The synchronisation between different environments is what Brendan Keogh [2014] identifies as simultaneous attention in his study on *Angry Birds*.

Instead of a dichotomy of attention/distraction contrasted between mobile and sedentary platforms, the player's co-presence of explicit hybrid worlds demands an explicit hybrid attention – a co-attentiveness – where the player is paying full attention to two worlds at one time [*Ibidem*, 270-271].

For him, making actual and virtual worlds hybrid requires simultaneous virtual and actual engagement. In our observations of playing *CityCachers*, this simultaneous engagement becomes highly visible and is very skilfully handled. Only in very few situations do the players seem to be unable to cope with their engagement in different environments. In fact, after a short period of time, “being here and there” at the same time has a fluid passage. This becomes clear especially when the test players walk from one virtual treasure to the next. Coordinating the group, talking to each other, walking on the street, looking at the virtual map on their smartphone as well as passing and overcoming obstacles on the road seems to merge into one routine practice. This fluid transition between different forms of presence and environments can be described with the concise term “mobile seamlessness,” coined by Cumiskey and Hjorth [2013].

## 7. Conclusion

We have shown that from the beginning of the digitalisation of gaming, virtual and physical (play)spaces are no longer clearly separable. The ‘smartification’ of mobile devices, which has led to the emergence of mobile phones as a central gaming platform, brings the synchronisation of spaces to a new level. The merging of, as well as the passing over into different spaces, mindsets, and contexts is a key element of mobile games. We have discussed the social practice of synchronising places on the basis of an empirical study. In the first step, we summarised the development of mobile games in general and distinguished between mobile games as casual games and mobile games as location-based games. These theoretical frameworks were important to lead over to a mobile casual location based game named *CityCachers* that was created in an interdisciplinary project. This game serves as a research tool for empirical studies to deal with the challenge that, even though the usage of mobile

devices is obvious in public, the actual content displayed on the phone remains largely invisible. Thus we implemented a system to gather data in our game that cannot be influenced by the gamers personal opinion. This approach proved useful and led to interesting insights of the actual practice of synchronising spaces. Additionally, patterns of movement that were recorded on the phone and especially the possibility to identify irregularities that indicate ongoing practices of synchronising spaces were valuable findings. However, in our test environment, privacy issues concerning data mining and tracking were bypassed by providing test phones. These issues have to be considered in field studies with more participants and the need to use private phones. The insights on the practice of mobile gaming and the re-creation of playspaces will greatly benefit from the mixed-methods approach if these issue can be considered and solved.

The synchronisation of digital and physical spaces is not only a challenge when it comes to mobile games, but can be located on a more general level in mediatized environments. The ongoing pervasion of technological devices in everyday life might fundamentally change our understanding of space, and boundaries between the digital and the physical will continue to blur. The practical ability to synchronise different spaces and places will continue to become more important. Mediatization already has an influence on everyday practices, as we could show in our case study, and this influence already does and will continue to go beyond the practice of gaming.

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## Mobile Devices and the Practice of Re-creating (Play) Spaces

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**Abstract:** We encounter questions concerning other senses of place within contemporary media environments through an examination of mobile and locative media in a classic social practice: gaming. Mobile Gaming has become widespread with the rapid technical developments and increasing use of mobile phones which have become smartphones. We will show how recent developments in mobile technologies shape gaming practices, how these practices lead to a recreation of new senses of place, and how these other senses of place are being encountered. To do so, we will first outline the interdependency of technological developments of mobile devices and new forms of gaming practices. Then we will discuss how smartphones pervade social life and create new sociospatial formations with regard to casual and location-based games. Finally we will draw on a case study on a location-based, urban casual game that we developed in a transdisciplinary project together with game designers and computer scientists. We will conclude with a detailed analysis of the processes involved in creating new (play)spaces and show how physical and “on-screen” space is coordinated in social practices.

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*Keywords:* *Game Studies; Locative Media; Hybrid Spaces; Social Inquiry; Interdisciplinary Research.*

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