

# PLAYING WITH THE CITY

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This paper aims at exploring the nature of the spatial experience that emerges when actively pursuing the goals of a pervasive game. Pervasive games engage the player in intense and rich activities that spill out of the screen of their technological medium into the real world, creating thus hybrid and mixed reality environments that bear similarities with those afforded by other non ludic platforms, such as mobile and locative media. This research expects pervasive games to be an integral facet of future urban condition and considers the study of their spatial characteristics, as offering useful insight into spatial design in the urban context.

Being part of an ongoing research, this paper will not seek to reach concrete categorizations of pervasive games according to their spatial features. Instead, it will proceed by analyzing four materialized pervasive games, in order to investigate how such playful activity transforms and enriches the spatial experience. The examples are chosen with regards to the manners in which they incorporate the urban landscape into their design and the forms of interaction with the built environment that the players engage in. These games are being perceived as a means of urban re-discovery and spatial exploration. Approaching the built environment through such a playful context can lead to revealing appropriations, changing of perception and destabilization of spatial preconceptions. The player can make use of the architecture and the technological infrastructure of the city in original, unforeseen ways. She can play with the city itself.

This paper adopts the definition of pervasive games suggested by Montola, Stenros and Waern, according to which these games blur the 'magic circle' and expand it spatially, temporally and socially. [1] The term 'magic circle' introduced by Salen and Zimmerman, [2] echoes the notion of Huizinga that games are closed systems which unfold within a defined play space – a board for instance. So by challenging the boundaries of the 'magic circle' Montola, Stenros and Waern imply that in a pervasive game the participant can play with anyone, anytime, anywhere, usually in urban settlements.

"BotFighters", launched in 2001, is one of the first commercial attempts of this category of games. In "BotFighters", the player tries to destroy her enemies by shooting them. The mobile platform deploys GSM networks, so when an enemy moves within a certain radius close to the player, the game begins. The communication of the position of the enemy, as well as the shooting, occurs through the dispatch of sms. [3] Also, text messages notify players on the existence of virtual objects, dispersed throughout the city by the developers, which may be helpful in the progress of the game. For instance, while a player is walking down a street, she may be notified and thus discover a weapon or a first aid kit. Efficiency in destroying ones enemies is based on proximity and the amount of imaginary objects a player has collected. Physical positions as well as game actions are described solely through text, yet at the same time the game presents a bodily challenge. The player roams in the city looking for opponents or avoiding ones, largely based on her imagination to enhance the gameplay. Concurrently, she explores an invisible layer,

on top of the built one, that of the GSM network, trying to figure out its coverage and its weaknesses, areas where she can hide, or be seen.

In the case of “PacManhattan” ludic action takes place in a 5x6 block area of Manhattan. This example is based on the concept and the aesthetics of the original computer game. One player assumes the role of Pacman, while three others those of ghosts. All four players circulate in that certain physical game area, with the use of a printed simplified representation, a map. No location tracking technology is available. Every player is in constant communication with a controller through a mobile phone, informing about her position when she reaches a crossroad. Subsequently, the controllers update a networked map, visible only to them. There is an interesting asymmetry in the disposal of information. Pacman is aware of the positions of all the players, while the ghosts are only told their positions, and can only assume where Pacman is based on the presence or absence of virtual dots at their location, that signifies whether Pacman has been there before. “PacManhattan” can be said to create two adjacent worlds, none of which has a complete perception of the gaming situation. Instead, controllers and street players must communicate and work together, so as to combine both perspectives in a coherent whole.

“Can You See Me Now” (CYSMN) is a game of catch, where online players are navigating in a virtual model of a specific city, each time, while being virtually chased by street players, actually running around in the built environment. Both groups of players are represented by avatars and have access to a digital map that reveals their positions. The online players can move within this abstract representation at a fixed speed. They can identify buildings but cannot enter in them, so they are limited to the streets of the model which are bereft of people, vehicles, traffic lights, in general the nuisances and the hazards of everyday city life. On the contrary, street players, while running equipped with portable devices and GPS receivers, have to overcome real obstacles. The players can exchange text messages with each other, and the runners can communicate via a walkie-talkie channel that is available as a real time audio stream to the online players. [4] “CYSMN” creates a hybrid reality, combining the physical world and its virtual representation. These two worlds do not overlap completely. Rather, there are points of connection, of superimposition where the various modes of information and communication devices create a novel experience. The online mode of participation enabled players from different cities, let alone countries, engage in the game. The most challenging and fulfilling aspect for those players, who weren’t familiar with the particular area where the game took place, was to try to understand, to decode the city’s physical characteristics and constraints and manipulate their movements and consequently the game actions of the runners, for their benefit.

“Epidemic Menace” is the last case under analysis here. The plot of the game involves agents that need to track down lethal viruses which have escaped a lab, before they spread and multiply. “Epidemic Menace” is a research prototype aiming to explore how various interfaces and devices contribute to the gameplay. It makes use of desktop computers, mobile and augmented reality technologies. Contrary to multiplatform games, “Epidemic Menace” associates different functionalities and also views and representations, with each interface, so players can alternate between them and obtain a more coherent and complete experience. [5] “Epidemic Menace” took place in a specific site, in a university campus, where virtual viruses were located and had a specific duration. Still, with regards to its spatial characteristics, this game didn’t only augment physical environment, but was also adaptable to the change of its conditions. For instance, environmental factors such as wind strength influenced the way the viruses move, or temperature, the way they multiplied. It can be suggested that “Epidemic Menace” was important because by incorporating degrees of uncertainty in the design, this game revealed the creative and entertaining potential of such practices.

To conclude, pervasive games embed the game play within the pre-existing built environment, as well as within a digital layer of information which is superimposed on top of this physical realm. This ongoing investigation currently explores the implications of this integration, in order to understand the nature of the spatial experience afforded by this category of games. Furthermore, it focuses on the following relevant issues:

- The way people navigate and move in such a hybrid environment.
- How participants in a pervasive game access information while playing.
- How locative technologies influence the way public, urban space is perceived.

Ultimately, this study aims to inform the design of pervasive gaming experiences.

### References and Notes:

1. Markus Montola, Jaakko Stenros and Annika Waern, *Pervasive Games: Theory and Design* (New York: Morgan Kaufmann, 2009), 12.
2. Katie Salen and Eric Zimmerman, *Rules of Play: Game Design Fundamentals* (Cambridge, MA: MIT Press, 2004).
3. Olli Sotamaa, "All the World's a BotFighter Stage: Notes on Location-based Multi-user Gaming," in *Proceedings of Computer Games and Digital Cultures Conference*, ed. Frans Mäyrä (Tampere: Tampere University Press, 2002), 35-44.
4. Steve Benford, et al., "Can You See Me Now?" in *ACM Transactions on Computer-Human Interaction* 13, no. 1, (2006): 100-133.
5. Joel Fischer, Irma Lindt and Jaakko Stenros, "Deliverable D8.8: Epidemic Menace II Evaluation Report," IPerG Web Site, December, 2006, <http://iperg.sics.se/Deliverables/D8.8-Part-II.pdf/> (accessed September 2, 2011).