The ubiquitous palace.
Analyzing urban pervasive games as an interface for a new Public Realm

学籍番号 37-126419 名前 ARIS KAFANTARIS

INTRODUCTION

In today's cities, the question of the relation between media and architecture has turned from a mainly philosophical into a rather practical one. Cities are getting increasingly complicated; to manage them, we need to control the constantly shifting data streams that underlie most urban functions: from traffic control to energy distribution and garbage collection. Cities lead a dual life as physical spaces and as information spaces; almost the same can be said of city dwellers, whose social life is increasingly migrating out of urban space and into the cloud of mobile social networks. Anthropologist Mizuko Ito, studied Japanese teenagers and showed that mobile media radically change our perception of presence in physical space. Mobile phones act as *territory devices*; "*as long as people participated in the shared communications of the group, they seemed to be considered by others to be present*"[1].

Therefore, finding a way to reconcile the media sphere with physical urban space is a necessity for anyone aspiring to design socially relevant public space. If one looks back to the roots of media applications in architecture –in the 1960s– there is one particular component missing from today's urban interfaces: *fun*. Not meaning the safe, sanitized fun of mall shopping, but rather the disruptive fun of urban play that can generate social interaction and –most importantly– locate that interaction back into physical space. This thesis examines the use of *pervasive*[2] *games* as a social catalyst in physical urban space. Pervasive games are a very new form of urban media: games that break the spatial, temporal and social barriers of traditional play as defined by anthropologist Johan Huizinga. Pervasive games use the city as a playground, have no specific time limits and blur separations between players and observers. But how can we study them in a way relevant to urban design, given that they have no material components or build structure?

STATEMENT OF THE PROBLEM

Game theorist Montola underlines that "*As with all game design, pervasive game design is second-order design: The designer does not design play but the structures, rules, and artifacts that help bring it about*"[3]. Therefore we need a way to analyze pervasive games as a system; before that though, we need a way to understand games in terms of production of space. To respond to these requirements, this thesis employs urban anthropology and media theories; as well as comparison with a relevant architectural precedent.

BACKGROUND AND METHODOLOGY

Firstly, this thesis examines Lyn Lofland's concept of 'realms', which are territories defined by social relations –not by physical boundaries. This will give us a common framework to understand the social content of both: physical public space and media space. After we understand *content*, we need a framework in order to understand *interaction*. That framework is Martijn de Waal's theory of '*City as Interface*'. By viewing urban environments as interfaces, we can analyze the structure of information exchange and their social dynamics. More importantly, we can directly compare physical architecture and media systems, as urban interfaces. Finally, after *content* and *interaction* we want to address *purpose*. How can one deal with he ethical and political implications of modifying social territories? In order to do that, we need a valid architectural precedent to measure our results against. That precedent is offered by Cedric Price's Fun Palace: a game like environment inside a mobile building, which would change in response to visitors' patterns of use. The main part of this thesis is the analysis of six case studies of pervasive games, according to de Waal's interface theory. Through the analysis, we see how these games can alter social realms in physical public space. After the analysis, we compare them to the Fun Palace in terms of function, scope and ideology. Through the comparison, we draw conclusions as to how we can use pervasive games to design new urban spaces and a new public realm. The following diagram can conceptually summarize the methodology of this thesis:

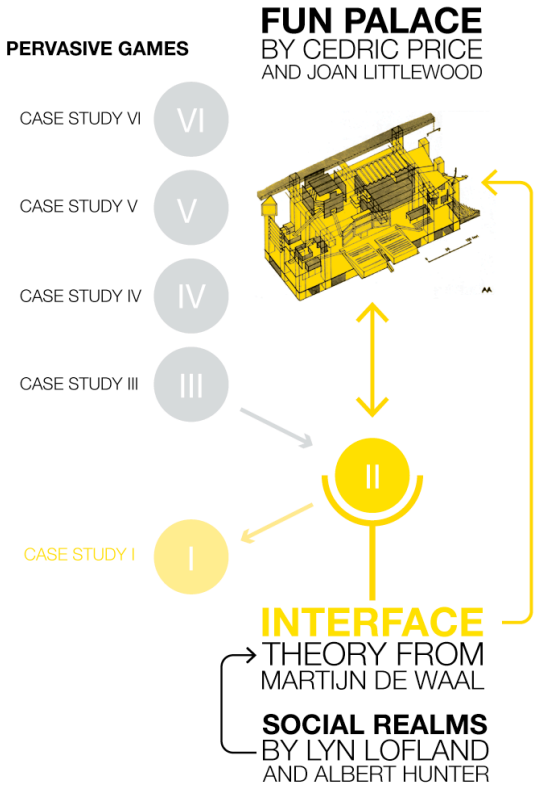

Figure 1 Concept diagram of research methodology

[1] Howard Rheingold, Smart Mobs, 6.
[2] Definition of pervasive: pervading, spread throughout
[3] Pervasive Games, Theory and Design, xx.

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CONTENT: LYN LOFLAND'S SOCIAL REALMS

Like architecture, urban anthropology deals with space but it focuses on the more fluid and vague area of social space; Lyn Lofland refers to the constituents of social space as *realms* and her classifications form the backbone of the discourse in this thesis. Realms are social territories; they are defined by behavior and by the protocols of information exchange that dominate said behavior. A space is not necessarily a realm; without human presence and information exchange we cannot speak of social territories. By looking at both urban space and urban media as social territories, their shared content becomes clear. There are three types of social realm: the *private realm*, the *parochial realm* and the *public realm*. The private realm is the world of the household and friend and kin networks and according to Lofland it "*exists when the dominating relational form found in some physical space is intimate*".[4] The parochial realm exists when the dominating relational form found in some physical space is communal and is "*characterized by a sense of commonality among acquaintances and neighbours who are involved in interpersonal networks that are located within communities*"[5]. The workplace, the classroom and the local pub are typical parochial realms. Finally, the public domain is the world of strangers and the street. People recognize each other categorically (e.g. the 'policeman', 'bus driver', 'shop assistant') but not personally. The public realm is where one confronts the unknown and shapes one's individual identity. The public sphere is the combination of the parochial and the public realm. First and foremost, social realms are entities shaped and manifested through modes of human communication, which in turn means that: the expression of the public sphere in urban space is indicative of the political and social forces underlying the city. That is precisely why their attributes have been described differently depending on the time and political disposition of the thinkers discussing them; and that is also why we need these terms in order to comprehend space defined by media. But how are social realms produced in public space and information space? Martijn de Waal's Interface theory offers an interesting approach.

INTERACTION: MARTIJN DE WAAL'S INTERFACE

An interface is defined as "*The place at which independent and often unrelated systems meet and act on or communicate with each other e.g. the man-machine interface*"[6]. Therefore, an interface is a conceptual area where information is translated from one system to another. Sociologist Manuel Castells notes that: "*Cities have always been communication systems, based on the interface between individual and communal identities and shared social representations. It is their ability to organize this interface materially in forms, in rhythms, in collective experience*"[7] De Waal works with this concept in different scales from the neighborhood to the metropolitan area and produces a system to analyze these interfaces. Therefore, the porch, the street, the neighborhood, the city and the social networks in which its inhabitants participate are nested interfaces, which means that we can use the same toolset to analyze them. That is precisely what makes De Waal's system ideal for this paper since our case studies shift from physical landscapes to mediated architecture and to pure media constructs. He names five components that define an urban -or for that matter, any –interface: Platform, Program, Protocol, Filter and Agency.

The Platform is the environment in which the city dwellers are brought together. This environment can be physical or virtual, as long as it mediates communication between people. Example: a park, a city square, a mailing list, a bulletin board, a mobile phone, Facebook. Program refers to the activity or mode of use of the Platform. It can equally describe an architectural, a social or a software Program. Example: a picnic at the park, shops at a neighbourhood street, instant messaging on Facebook, etc. Protocol refers to permitted or accepted and understood behavioural patterns. It can range from specific laws to unspoken rules and tacit agreements such as volume of voice and personal distance. A Filter, like the name implies regulates who can or cannot use the interface. It brings certain elements together while it separates others. For example: in a high-class suburban neighborhood, extremely high property prices Filter out people of lower incomes and at the same time draw in wealthy residents. Agency refers to capability to change the dynamics of the interface. In other words, it is about control over the rest of the four elements. For example: the Agency in the case of Twitter lies exclusively with the corporation, which tightly controls the way its software can be used. On the other hand, in a local neighbourhood street Agency lies partly with the residents and partly with the local policymakers.

PURPOSE: THE FUN PALACE

Cedric Price is central in the discourse of media architecture and relevant to the central research question of this paper, because in 1964 London –for the first time– a true architecture of information was almost realized. That architecture was the Fun Palace; a valuable precedent to our six case studies of pervasive games. The fun Palace was a product of the political climate of its time: the so called 'politics of leisure' dominated the public sphere. It was widely thought that in the future, people would have too much free time because of technological advancements; political administrators in 1960s London were anxious to find a way to entertain the masses productively and keep them out of morally troublesome situations. The project was designed in collaboration with experimental theater producer Joan Littlewood and cyberneticist Gordon Pask. It consisted in a large scaffold within which temporary structures would be constantly re-arranged. Price wrote that: "*Its form and structure, resembling a large shipyard in which enclosures such as theatres, cinemas, restaurants, workshops, rally areas can be assembled, moved, re-arranged and scrapped continuously [...]There will be no permanent structures..*"[8]

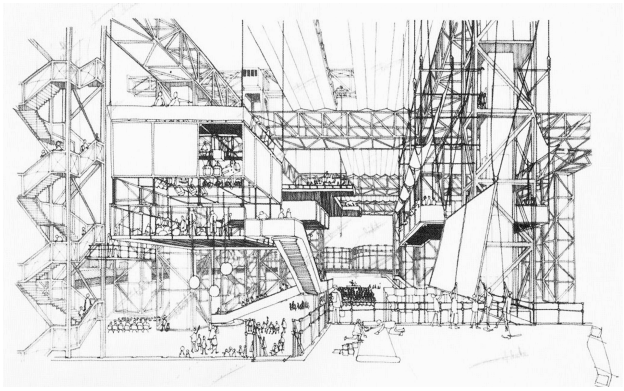

Figure 2 Visualization of the Fun Palace by Cedric Price

A cybernetic software program would be the heart of the Fun Palace. Its purpose would be to analyse the behaviour patterns

[4] Lofland, Lyn. The Public realm, 11.
[5] ibid, 10.
[6] Mirriam Webster Dictionary
[7] Castells, 'The Culture of Cities in the information Age', 382.
[8] Cedric Price and Joan Littlewood, The Fun Palace, 130.

of the users and re-arrange the building. The project was fluid and mutable on every level; it was especially difficult for contemporary policymakers to understand since it had no fixed appearance, while at the same time Price called it 'the anti-building'. Unfortunately the project stalled and by 1968 it was clear that it would never be built. But for this thesis it is the intention of the Fun Palace that we are interested in: Price described it as a 'toy' and his main aim was to disrupt the daily routine of life by infusing it with playful leisurely activities, through which the participants would also learn: from participatory theatre and art workshops to star-gazing, debate events and informative multimedia experiences. As the case study analysis showed, this is precisely how most mobile pervasive games work.

PERVASIVE GAMES: SIX CASE STUDIES

Pervasive games are a recent phenomenon; the very term was coined in 2001 and the academic field that developed around pervasive games is consequently very young and suffers from ambiguity over practices and definitions. In this thesis we followed Montola et al.'s model, according to which a pervasive game's fundamental quality is that it breaks the traditional boundaries of play and invades into everyday reality. Specifically: "*A pervasive game is a game that has one or more salient features that expand the contractual magic circle of play spatially, temporally or socially*"[9] By 'magic circle' Montola refers to the term coined by Dutch historian and cultural theorist Johan Huizinga, where he describes it as a commonly agreed upon social contract, without which play or any sort of ritual activity would be impossible: "*All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course.*"[10] Therefore, the defining attribute of pervasive games is that they brake the fundamental existential conditions of play: their space is not well defined, they are usually played in the entire city; the play-session has no clearly defined start and end, which means that the game becomes part of daily life; finally, it is not clear who is playing and who is not, since non-participants are usually drawn into the game. These attributes endow pervasive games with a disruptive ability, since they can break social norms, take players out of their comfort zones and produce unexpected uses of public space.

All six games analyzed are classified as 'pervasive' according to the criteria of Montola. A three-axis chart was used to show the type of pervasiveness displayed in each game –spatial, temporal, and social. Subsequently, the criterion of choice for the case studies has been the element that links the game to a definite component of the physical, urban space. Throughout the candidate examples several different 'links' with the public space can be observed. The ones chosen for this study utilize links to:

1. Other people (Body Movies)
2. A historical narrative (REXplorer)
3. Ambient technology (Insectopia)
4. Temporal and spatial life patterns (Mogi)
5. Urban Landmark topology (Ingress)
6. Urban architecture (PocketOulu)

Therefore, a wide field of interaction can be observed as games are used to interrelate with a variety of non-game elements; from tangible ones like urban monuments to immaterial ones like ambient Bluetooth signals. The six games in short are: Body Movies, an interactive art installation where people collaborated in creating shadow projections; REXplorer, an educational game that explained the history of the city of Regensburg through an urban adventure; Insectopia, a collection game that used Bluetooth devices in the environment as resources; Mogi, a trade game that used real locations to generate items; Ingress, a strategy game that uses urban landmarks as outposts and resources; and finally PocketOulu, an Augmented Reality puzzle game that asks users to re-assemble the city of Oulu. The following graphic is a typical diagram used to analyze a game under the urban Interface paradigm

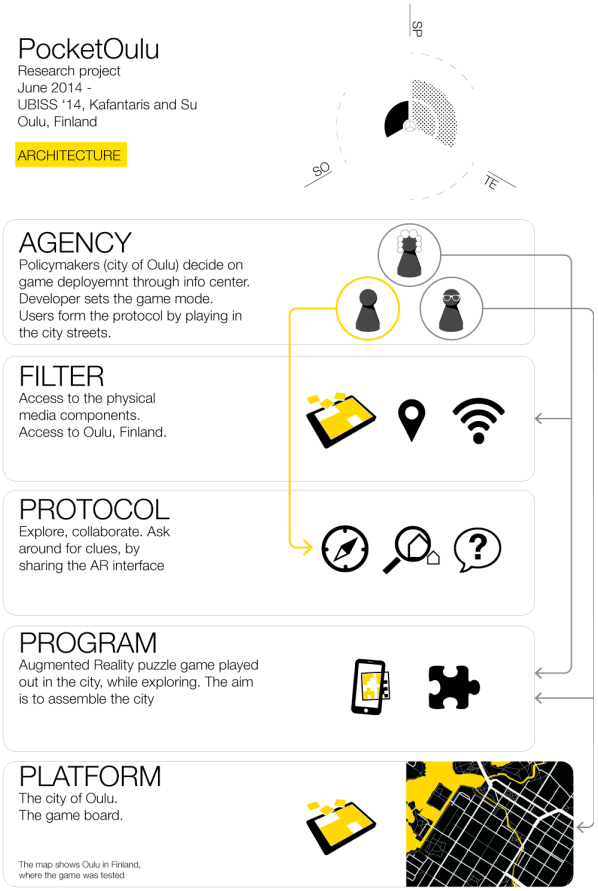

Figure 3 Example analysis template for the six case studies

The individual game analysis is too extensive to be covered in this summary but a general overview can be offered. All games played out in the physical, urban space –more accurately, they were overlaid on it. In the case of Body Movies the overlay happened through actual projectors. For PocketOulu, an Augmented Reality playing board was used; the players would take it out to the city and see themselves and their surroundings projected on the board. In the other four cases, a mobile device with GPS geo-location capability would act as the interface that brings the game world and the physical world together. In half of the cases, the game would become part of the player's daily routine, integrating itself into a schedule of work, commuting etc. Most importantly, in all six cases, the games would work as catalysts for social interaction in urban space: non-players are drawn into the game; users would explore unfamiliar city areas and spend time discovering their cities.

The six pervasive games that we examined exhibit important differences: degree of adoption and player base; available technology at the time of their introduction, educational,

[9] Montola et al., Pervasive Games, 17.
[10] Johan Huizinga, Homo Ludens, 10.

commercial or purely experimental outlosok; out-of-game focal element and so on. Nevertheless, the similarities between them are significant: by using available media technology to the maximum of its potential these six games played out –half of them still do– in the physical public space of the city. The introduction of game Protocols into the urban public space becomes a catalyst for social interaction in varying degrees, on a case-by-case basis. The game aspects related to education, physical exercise and sightseeing seem to be interchangeable components that do not really drive the game logic –rather, they take advantage of it in order to work. This brings us back to the Fun Palace, which was supposed to work in an interestingly similar way.

FROM THE FUN PALACE TO PERVASIVE GAMES

One interesting aspect of the Fun Palace that stands out when we study it as an interface is that, unlike our other examples, it was conceived and designed from the beginning as one. By calling it the 'anti-building' and its content 'anti program', Littlewood and Price emphasised their intention to create a system that would be a catalyst for interaction. De Waal's Interface theory further highlights the conceptual affinity between the Fun Palace and pervasive games. The Platform of the Fun Palace was the physical structure itself; all interaction happened inside the mobile scaffold framework; however, there was a conscious effort to extend it into the media sphere and transcend location. Subsequently, the Program of the Fun Palace was supposed to be fully malleable and defined by a cybernetic system of control as we already saw; The Program was a mix-use environment where leisurely play would meet education, personal expression and socialization –not unlike some of the games that we examined. It would adapt to the users' behavioural patterns but interestingly enough, that did not refer to user preferences. The Protocol was also supposed to emphasise the playful and stress-free environment of the Fun Palace. It is succinctly stated in the same 1968 text: "*the essence of the place will be its informality: nothing is obligatory, anything goes*."[11]

The designers' intention was to and re-forge characters and social relations by doing away with most societal norms. It is worth remembering at this point that at its beginning, the Fun Palace was conceived as a "*university of the streets*" aimed at the working class with the goal to uproot class differences. Therefore the Fun Palace was, by design, socially disruptive. There was no particular Filter; in fact, conscious effort was put in order to remove all barriers to participation. During its lifetime as a pending proposal, the Fun Palace always retained its "*free and open for all*" status. The final component to examine is Agency; perhaps it is also the most controversial one. While the users had apparently total freedom to act within the Palace –therefore directly setting the Protocol and indirectly the Program as well–, they were not supposed to be conscious of or involved in the cybernetic control system. From the wording used by Littlewood and Price it is apparent that they did have in mind the formation of a new Public Sphere, consisting of socially aware individuals that were 'enhanced' through the experience of the Fun Palace: "*The curiosity that many people feel about their neighbors' lives can be satisfied instructively, [...] The visitor can enjoy a sense of identity with the world about him*."[12]

Littlewood's words echo the conception of the public domain as "*a republican or even libertarian urban life of familiar strangers*"[13]. It seems very likely that Littlewood, Price and Pask were trying to create the ideal interface between the individual and communal identities when they designed the Fun Palace; does that mean that pervasive games have the capacity to do the same? While this is not a question that can be fully answered yet –after all we are only at the beginning of the proliferation of pervasive gaming–, our analysis points to a positive answer. Through the three-fold expansion of Huizinga's magic circle, pervasive games have the capacity to introduce ludic (play-like) attitudes into urban space and create the 'positive disruption' to which Cedric Price also aspired. By creating confrontation and unexpected situations, they can allow a renegotiation of urban space, as city dwellers are gently pushed out of their comfort zones.

CONCLUSION

The most important lesson learned through the Fun Palace is to be found in the project's major omission: true user participation. Not only was Gordon Pask's cybernetic system designed to 'improve' people, but they would never have the chance to participate in the processing of the information that their behaviours generated. This resonates deeply with the very current question of urban data management and user Agency, or what Dan Hill describes as 'Locked Down Street' versus 'Open Source Street'[14]. On the first scenario, public space users are consumers in increasingly tailor-made services that target them personally, while on the second one, publically generated information is accessible to everyone –and so are the flow channels of this information. However, especially in this case, it is users being conscious of their Agency that will affect the direction of public data management; pervasive gaming can make urban dwellers conscious of their position within the urban media sphere. Finally, the vision of a leisure-based economy might be long gone since we are experiencing the opposite: an intensification and increase of workload, paired with higher unemployment. However, the advent of urban media has created an unprecedented situation where individuals can carry their private domains –including their magic circle of play– with them at all times. One of the side effects of smartphones that act as 'territory devices' is that the blending between work and leisure is happening increasingly through wireless social networking and casual gaming; the link back to urban space could possibly be found in this overlap.

Today, the Fun Palace can indeed be everywhere: in everyone's pocket, home or office, expanding their social territory and invading into urban public space. Urban media –and especially pervasive games– constitute what the title of this thesis refers to as 'The Ubiquitous Palace': a new type of urban interface and a new type of appropriation of space; albeit one that was foreseen half a century ago. What remains to be seen is whether the field of architecture can work with these new tools to create truly hybrid physical and mediated interfaces the way that Cedric Price imagined. Our cities amount to much more that their material components and it seems that, finally, we are in the position to not only interface between the physical and media spheres but directly affect the interface mechanism as well.

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[11] Cedric Price and Joan Littlewood, The Fun Palace, 130.
[12] ibid, 131.
[13] Martijn de Waal, City as Interface, Loc 1040.
[14] Dan Hill, The Street as Platform, web.