This Must Be The Place

The Importance of Place in Portable Digital Media

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Declaration

I declare that the work described in this research paper is, except where otherwise stated, entirely my own work and has not been submitted as an exercise for a degree at this or any other university.

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To Rachel, my supervisor, thank you for taking the time

to trawl through every draft.

Summary

This paper looks at concepts of place and how they have been applied to digital media.

It analyses how notions of place changed in the late 20th century with the implementation of the internet and the sense of transience associated with globalisation. It then attempts to dissect whether notions of place have regained importance following the widespread implementation of portable media. To do this, a study has been carried out on various concepts of place, and these concepts have been applied to portable media applications that use place in some significant way. Applications by designers and artists that make use of place as a medium or a concept have been researched, and the effectiveness of these applications has been assessed.

The paper looks at three key concepts of place:
1) The relationship between place and people
2) The concept of locality and the importance of location and
3) The idea of social interaction with regard to place.

These are compared to three studies on portable digital media:
1) The use of maps and informational spaces in digital media devices.
2) Locative media and the idea of location-based applications and
3) Hybrid space and the overlap between digital and physical place.

The goal of this paper was to evaluate whether concepts of place have found new relevance in the 21st Century through the incorporation of portable media devices. The findings of this analysis were that place and digital media share many relationships, and that place is certainly an important concept to be taken into account when creating portable media applications. By being mindful of the relationship between people and place, applications have the potential to be more involving and engaging by involving people not only in the digital applications, but in the places that they inhabit at the same time.

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Introduction

0.1 Research Goals and Aims

Concepts of place and space relate to our sense of understanding of the world that we inhabit and move through (Tuan 1977, Augé 1995). In the late 20th Century various theories on place developed to take into account phenomena such as globalisation, the development of cities, and new ways in which people were interacting with places that they inhabit and move through (de Certeau 1984, Foucault 1986, Sennett 1976). In the 1990s, as the internet expanded to an international market and became widely used, cyberspace began to re-use spatial concepts in a metaphorical sense (Manovich 2001). Following this, portable digital media[1] became a part of everyday life, which brought into question theories on place and theories on how portable media can be used (Galloway & Ward 2006, Sassen 2009).

With the development of the internet and the nomadic movement of people during late 20th-century globalisation, concepts of place began to be seen as less important. Joshua Meyrowitz put forward the idea of 'placeless cultures' to describe people that were being freed from the restraints of place through the implementation of digital media (1985). Place was previously conceived as a concept that centred on people's relationship to certain locations based on social or cultural importance (Tuan 1977, pp 161-178). During the mass implementation of the internet, this idea of placelessness persisted. With the development of portable media, the location of an individual developed an important role in how these devices are used and operated. This has the potential to reinvigorate concepts of place in portable media technologies of the 21st Century.

My paper will look at concepts of place and how they developed in the late 20th Century. I will analyse different theories and concepts on place to show how it relates to portable media. Through a study of digital media I will observe how place has become intertwined with digital culture through the internet and digital applications that explore physical space. Place is important in how people understand and interact with the world around them, and my argument is that the use of digital media devices can have an effect on people's understanding of physical place. The overall goal of this paper will be to re-assess theories of place to take into account portable digital technologies, and to research whether portable technologies are altering how people understand the physical locations that they

1 Portable digital technologies refers in this paper to any technology that can be easily transported and used in different places, indoor and outdoor. For example mobile phones, tablets and GPS navigation devices. Laptop computers would not strictly fall under this definition as they are not easily used in many settings (as they often need a solid, flat surface to operate upon).

inhabit. The paper will be divided into three chapters, which will each deal with separate aspects of space and place in digital media.

0.2 Chapter Breakdown

0.2.1 Chapter 1 - Space, Place, Representation and Portable Media

The first chapter will explore concepts of place in detail. It will follow on from how, in the 19th and 20th Century, notions of place became more pronounced in theoretical writing. Foucault makes note of the concept of place as a modernist bourgeois notion that was brought about in post-industrial society (1986), created as a result of the commodification of space in the 19th Century. In the 20th Century, the concept of place was repurposed for the postmodernist sphere, with writers such as de Certeau (1984) and Augé (1995), observing how mobility, transience and globalisation reshaped how people view place.

In the 1990s, concepts of place and space began being studied in relation to digital space (Gibson 2007, Turkle 1995, Murray 1997, Juul 2005). The age of the internet and the rise in popularity of video and computer games began to see spatial concepts being readjusted and reappropriated for the new types of spaces that the internet offered. These spaces were digital realms that could be explored in a different way to physical space.

The spaces of the internet mirrored the ideas of transience and mobility that were prominent in writing on globalisation and city culture (Augé 1995, Lemos 2010, Rieser 2005). Detachment from specific locations through mobility was seen as more relevant in global culture. Transient movement in cyberspace through the use of the internet mirrored transience in physical space through globalisation. This led to questions about how place could be defined or understood through the interconnected computers that seemed to exist in boundless space online (Turkle 1995).

In order to analyse place in the context of digital media, the first chapter will discuss *Google Street View* (Google, 2007) as a technology which is built to be informational, but acts like a three-dimensional environment similar to physical space. *Street View* can be moved through and explored, with information available to users on the places that they are seeing. While using *Street View*, users can explore streets and view locations, however these interactions are not necessarily similar to physical exploration of space. This study will be compared to developments in Microsoft's *Photosynth* (2007) as an alternate informational and spatial application, and the effectiveness of portable devices on how these applications operate will be researched.

0.2.2 Chapter 2 - Locative Media and Place

The second chapter will define and research locative media. Locative media is digital media that uses portable devices and technology that is sensitive to the location of the user (Bleeker 2006, Lemos 2010). By studying locative media projects, this chapter will identify how theories on place that are discussed in the first chapter have been reappropriated by artists, designers and writers who deal with these 21st Century technologies (Galloway 2008, Tuters & Varnelis 2006).

With the development of portable digital technologies, the internet and the virtual world began to overlap with physical place. GPS-enabled devices allowed for location-tracking, and designs were soon implemented in applications and artworks that used location as a mechanism or concept. When Android and iOS operating systems were released for mobile phones and tablets in 2007, more advanced operating systems became available for the development of web and location-based applications, and the use of these applications became more widespread. The development of locative media and portable media has led to new analyses on how place and technology may be connected (Galloway 2008).

The second chapter will discuss projects such as *.walk*, a digital-media led performance-based artwork that combines physical exploration with digital concepts. It will also examine *Geocaching*, a location-based game that combines digital media with exploration, and adds location-tracking as a device for encouraging this exploration. The goal for these discussions will be to draw out theories on place can be applied to portable media as these media become determinants in how people view and interact with physical place.

0.2.3 Chapter 3 - Crowds, Communication and Hybrid Space

The third chapter will explore how social interaction can be a factor in determining how places are understood by groups and individuals. The intention is to assess how locative media can offer a mixed aesthetic[2] that is both important to users in the physical and digital worlds simultaneously. To do this, the chapter will discuss the importance of social interaction in locative media. It will analyse locative media as an individually-based practice, and will look at social interaction as an important determinant on place.

This chapter will discuss the art project *Uncle Roy All Around You* (Blast Theory 2003), which uses social interaction, exploration and a mixture of digital locative media and the internet to create an immersive experience that can alter people's perception of space. This project, and others like it, will be discussed as projects that show the potential of digital media for being more than just informational, but

2 For more on mixed aesthetic consider cyborg aesthetic (Khan 2010) or hybrid space (Galloway 2008)

also relational and social. It will discuss projects that show the potential for locative media to be perceptive and immersive, and to alter how people view and interact with places that they move through.

The third chapter will also discuss the concept of digital hybrid space as space that incorporates aspects of physical and digital space. It will analyse how an overlap between digital media and physical reality can alter and expand the understanding of places for individuals or groups. It will look at interactive applications such as *Wallit*, which gives users the ability to post messages to people who are near to them, and will look at how *Wallit*'s “virtual graffiti” could alter people's view of physical places.

0.3 Summary

This paper will explore concepts of place that were written before the internet had taken hold as an international phenomenon. It will analyse why space and place are important for people's understanding of location, and will attempt to determine how concepts of place have been reappropriated to digital media. To aid this, various portable media projects that adjust or redetermine people's understanding of place will be analysed, and the potential for portable media in reinterpreting our understanding of place will be assessed. Overall, this paper will draw conclusions about whether concepts of place and space that were losing prominence due to the nomadic nature of people and the increased mobility in cyberspace have been made relevant again through the implementation of portable digital media technologies.

Chapter 1

Space, Place, Representation and Portable Media

> Broadly speaking, locative-media projects can be categorized under one of two types of mapping, either annotative–virtually tagging the world–or phenomenological–tracing the action of the subject in the world. Roughly, these two types of locative media–annotative and tracing–correspond to two poles of late 20th-century art, critical art and phenomenology, perhaps otherwise figured as the twin Situationist practices of *détournement* and the *dérive*
> (Tuters & Vernelis, 2006, p 359)

1.1 Introduction (on Place and Digital Media)

Place is a concept that is associated with human perception of location and how people form an understanding of where they are physically (Tuan 1977). In some cases ideas of place can be contradictory[3], however all theories relate in some way to how people perceive or understand their surroundings. This chapter will combine theories on place in order to form a definition that will be used throughout this paper. This will conform primarily to how place was perceived prior to the mass implementation of portable digital media in the early 21st Century. This definition of place will help to show how perception and understanding of surroundings and location are important to people's reactions to their geographical location, and will allow for further discussion of place in digital media in following chapters.

Place and space are closely intertwined with the internet and 90s digital media applications. Lev Manovich discussed how aspects of physical space had manifested themselves on the screen through graphical interfaces (2001, pp 213-225). The science fiction author William Gibson, who is credited with having coined the term cyberspace, spoke about how using a Sony Walkman allowed him to contrast physical space with alternate “soundtracks” that had an effect on how he viewed the places that he was moving through (Headlam 1999).

Google Street View was first launched in 2007, the same year that the Android and iOS operating systems were launched on mobile platforms. Through *Google Street View*, an alternate, virtual world was created that represented three-dimensional space, but acted as an information space similar to a map. The simulated world of *Google Street View* is an explorable realm, a recreation of a large portion of the earth, presented through panoramic photographs in digital format. *Google Street View* thus represents physical space as it is explorable, and also represents a digital

3 For example, Foucault describes the formation of place through transient movement and the passage of people (1986), where Marc Augé sees the same transience as definitive of places that are not tactile or real (1995).

media-based understanding of space, which follows on from the idea of space in the internet.

Author Sherry Turkle made the comparison between a person taking a rafting trip in an interactive digital format and taking a real trip, stating that the danger and adrenaline involved in the latter could not be simulated by the former (1995, p 236). Turkle argues that the two should not compete, but should offer two different experiences. By taking what we already understand as explorable space and recreating it in a digital form, *Google Street View* does more than just present an informative map. It presents places that are familiar, local or distant in three-dimensional panoramic photographs that can be viewed in the same way as we can view physical places.

Since the development of portable digital technologies, *Google Street View* can now be accessed in any location with internet access, allowing users to view streets that they are on, plan routes, or find nearby amenities. This transition gave *Google Street View* the ability to act as an augmented reality application[4]. However, the spaces displayed in *Google Street View*, although informative, are only still images. They are representations that do not change, and that do not alter how people perceive places. The following section will deal with the concept of place. Following this, *Google Street View* will be discussed within this idea of place. The second section will discuss *Photosynth* (Microsoft Live Labs, 2008), a program which is capable of representing three-dimensional space in online displays, and will examine how representation of place in digital media devices is not as engaging or informational or relational as being physically present at a place.

1.2 Defining Place

1.2.1 Concepts of Place

In his nominal work "Space and Place", Yi-Fu Tuan noted a distinction between space and place. He argued that a place can be regarded as a space in which human identity, a relationship to memory or cultural signifiers are present (1977, pp 9-18). Tuan notes that the idea of place is influenced by the human senses, and developed by experience. He saw a differentiation between place and space, with an emphasis on place as relational and based on human experience and influence, while space is open, unexplored and without the same relational aspect. In particular, Tuan notes that "An object or place achieves concrete reality when our experience of it is total, that is, through all the senses as well as with the active and reflective mind." (p 18) Forming a relationship to and an understanding of place thus takes time and immersion. It is necessary, in Tuan's view, to be present

4 This and all later occurances of "augmented reality" are referring to following definition: "informational layers that interconnect physical and electronic information." (Lemos, 2010, p 416)

at a location and to learn from it in order to develop a sense of place. The relationship between our sensory appreciation of a space, and how this can be developed into place, is important when analysing the idea of places seen through digital formats.

Marc Augé (1995) and Michel de Certeau (1984) discussed similar concepts of place, and added to Tuan's theories by looking into how people had become more nomadic in the late 20th Century. Both writers discussed transience in cities and the nomadic nature of people in the era of globalisation, and formed theories on what this meant for our understanding of place. Augé places people in the age of what he refers to as supermodernity. This is a phase where places can exist in the sense that they have characteristics of place, but many places do not create an important sense of engagement with people as they are not interactive, or do not contain a sense of experience or inherent memory (1995, pp 77-79.) Augé creates a distinction between place and what he terms “non-place”, which is a phenomenon of late 20th Century culture. Places like supermarkets or airports that are built environments designed to be functional and passed through for a specific reason, but that do not form a relationship with people or individuals fall under the definition of non-place.

Marc Augé's theories add to Tuan's in that they share the idea that place is something definable by experience. Augé states of a person travelling through a non-place that “(h)e becomes no more than what he does or experiences in the role of passenger, customer or driver” (1995, p 103). The passage through spaces that Augé highlights as significant relates to de Certeau's definition of the walker as an active participant in the creation of place. De Certeau argued that passing through a space can have an influence on how it is perceived, and that this could be a new perception that is based in the more mobile, nomadic nature of city life (1984 pp 91-102). Similarly, Richard Sennett saw a changing role in how cities and public centres were being perceived due to the information-based culture that was developing in the 20th Century, but saw this as having a negative effect on people's relationship to place (1977).

Michel de Certeau makes a defining point about how human gesture and movement is part of the language of place in urban centres. He uses a metaphor conjured by Rilke describing people as “trees of gesture”, stating that “If it is true that forests of gesture are manifest in the streets, their movement cannot be captured in a picture, nor can the meaning of their movements be circumscribed in a text.” (1984, p 102) From de Certeau's point of view, the act of walking through an urban space is crucial in how it is perceived or defined, not just by the individual, but also from an outside perspective.[5] This relates closely to late 20th Century

5 This concept of gesture as central to our understanding of objects is elaborated by Jonathan Crary in his analysis of how Modernity relegated touch and gesture to a secondary role in interaction with objects in the

globalisation and changes in how people were living more mobile and nomadic lives (Held et. al, 1999).

In summary, place is a combination of familiarity and understanding of a specific location. This can be achieved through social interaction, passing through spaces, or through a gauging of understanding of environment in relation to the surrounding space. Location is an important concept in place as it creates a relationship between physical presence of a person and the place in which they are present. This will be discussed further in chapter 2. The presence and interaction with other people is important for understanding the role and function of places beyond their most basic role. This will be discussed further in chapter 3. The following sections in this chapter will attempt to analyse how place has been incorporated into digital media devices and applications, and how focussing on informational space can yield only a fragment of understanding about a place.

1.2.2 - Sense of Place in *Google Street View*

De Certeau emphasises the role of the map as an inactive addition to the act of walking. Routes can be traced, but they lack "the act itself of passing by" (1984, p 98). *Google Street View* is an informational resource (a three-dimensional map) and a creates a representation of "passing by" in how a user moves through the three-dimensional spaces that it displays (**Fig. 1.1**). With the simulated realities in *Google Street View* the user is shown a representation of a three-dimensional environment through the window of a device. Tuan specifies that a "place may lack the weight of reality because we know it only from the outside–through the eyes as tourists, and from reading about it in a guidebook." (p 18) As such, there may be a separation between the idea of place as experiential and our relationship to space viewed through the screen of a digital device.

To explain why *Google Street View* is important for this study, one must be reminded that this technology was built to act as a three-dimensional map. However, *Street View* is more than a conventional map or information resource. To take the point of Deleuze and Guattari,

> The map is open, connectable in all its dimensions, and capable of being dismantled; it is reversible, and susceptible to constant modification. It can be torn, reversed, adapted to montages of every kind, taken in hand by an individual, a group or a social formation. (1983, p 25)

Google Street View is certainly an informational resource, however it is not manipulatable in the above sense. It can be traced like a map, but offers a different

19th Century (1990). In this period, the visual gained prominence over other forms of perception, and in some way the use of gesture in portable digital applications may be reacquiring this sense of gesture. However it is not reproducing the same sense of gesture. In the sense described by Crary as pre-Modernity, gesture was used to better understand objects (pp 1-24). In media like *Photosynth* and *Google Street View*, gesture is instead used to gain different visual perspectives. It is not used for reinterpreting or reidentifying an object, only for adjusting a view and gaining a new visual perspective of one.

experience than that of a basic informational resource. Mark Weiser writes about how we learn to read information in quick moves, bypassing the alternative views of what lies underneath (1991, p 78). With *Google Street View*, information is presented in a navigable format, but this is designed to be read in informational language only. However, the role of *Street View* has changed since its original implementation. Various cultural sites including galleries, museums and even ski-slopes are now explorable within the *Street View* universe (**Fig. 1.2**)[6]. These exist not only as 3D information sites, but also as cultural sites that can be passed through, looked around or examined. To see *Google Street View* as a "map" (a flat, informational interface) is to neglect the act of virtual walking that can be performed through it.

1.3 Representation and Place

1.3.1 *Photosynth* and Digital Concepts of Place

The distinction between physical space and digital space is the distinction between the visceral, sensual experience of our real world and the flatter, more information-based worlds built in digital applications (Turkle 1995, Laurel 1997). There is also a distinction between cyberspace (navigable space on the internet) and information space, which is a phenomenon that incorporates both physical and digital dimensions.[7]

Developments in crowd-sourced technology such as *Photosynth* (Microsoft Live Labs, 2007) are changing how social experiences of spaces may be redefining our digital view of spaces. *Photosynth* is capable of using multiple two-dimensional photographs of a single object or area to create a rendered three-dimensional digital space that can be explored and moved around in (See **Fig. 1.3** for an example of a *Photosynth*-based space). Unlike *Google Street View*, which displays spherical panoramic photographs that are essentially flat, *Photosynth* creates three-dimensional models that can be turned, navigated and viewed from all angles.

Photosynth is capable of using crowd-sourced photographs from the photo-sharing website *Flickr* to create these three-dimensional models. The photographs on *Flickr* are uploaded by users, making this technology capable of taking a multifaceted view of a part of the world and realising a virtual three-dimensional model from this. By using many photographs, the *Photosynth* application gains an impression

6 Further information is available on the Google Blog, for specific reports see Siegel, 2011 <http://google-latlong.blogspot.ie/2011/02/street-view-takes-you-inside-museums.html>

7 Andre Lemos expands on this point: "Today we have to take into account a new form of territory in contemporary societies: the digital, informational one...The informational territory is not the cyberspace, but the territory in a place formed by the relationship between the physical dimensions and the electronic flows." (2012, pp 405-406). Also see Kindberg et. al, "Just as physical places contain people and things (and sometimes other places), web-present places are hyperlinked collections of the web presences of those people, places and things that creates a physical and contextual organization of place information." (2002, p 372)

of the light and dark areas of a given object or place, and the model created is fully explorable through a digital device (See **Fig. 1.4**, a model of the Sphinx compiled from thousands of *Flickr* photographs). However, as Carlos Barreneche writes,

> Flickr links geolocation with a tagging system and other forms of social metadata... The urban imaginary as mediated by Flickr is in this way, allegedly, more likely to be populated by *intensive representations* of place rather than by representative representations of places (i.e. delivering relevance or authoritativeness). (2012)

By using *Flickr* photographs as source material, the *Photosynth* model creates a collective "intensive representation".

Owing to the fact that photographs are the source of imagery used to create the digital worlds in these technologies, the idea of the photograph as a static, unmoving space is important. The intensive representations in *Photosynth* may look like their physical counterpart, but may be missing the context of the wider area, the people or the events at a place. Roland Barthes states that "the Photograph separates attention from perception, and yields up only the former" (1981, p 111). This too is true for the photographic objects of digital applications. The imagery in *Google Street View* and *Photosynth* draw attention to information, but do not yield to perception. In both technologies the compiled images are unpopulated and unmoving, and do not take into context surrounding areas, cultures or conditions.

1.3.2 Representation and its Effect on Place

The mash-up of different individual viewpoints is reminiscent of Lev Manovich's ideas on spatial montage (2001). Manovich wrote on digital devices' ability to create a spatial montage that was not possible in cinema or photography (p 325). Digital devices are capable of alteration and assembly; the montage of *Photosynth* creates a three-dimensional model that theoretically changes as more images are added to it. However, the use of photographs in *Google Street View* or *Photosynth* highlights the weighted importance of the idea of visual data as opposed to any other sensory input.

These applications draw from human visual memory, using photographs from multiple individuals and viewpoints. They embrace the idea of exploration as gestural and sensory, returning to Tuan or de Certeau's ideas on how place can be experienced. As such, there are elements of place in the representations of *Photosynth* and *Google Street View.* They are explorable and have a sense of relationship to viewers. However, there are also fundamental differences between physical places and the digital places created by these applications. Tuan noted how population and human involvement in a space is essential for the creation of place (p 102), and this is not present in the photographic worlds of *Photosynth* or *Google Street View*.

In creating spaces that are still and cannot be altered, *Photosynth* and *Google Street View* come closer to Marc Augé's theory on non-place. Non-places can be passed through, observed, but not acted upon. Like airports or supermarkets, they are functional, visual, yet do not alter perception or engage with people. In this sense, *Photosynth* and *Google Street View* are more like non-places. However, by making applications mobile (i.e. making them available on portable media devices), the sense of space that they convey can become something different.

1.4 Portable Devices

1.4.1 Portable Devices and Mobility

Portable devices allow users to move through and access physical spaces while also staying connected to the internet or global positioning satellites. By allowing users the freedom to move and interact with spaces, portable devices are opening up informational spaces to new interpretations that align and combine digital and physical space.

One of the key points when dealing with portable media is that they are individual. Portable media devices are designed to be used by a single person, and using applications associated with portable media gives an individual experience that is not shared (Ito et. al, 2007). The personal nature of portable devices creates a disconnection between an individual and the people around them (Campbell & Park 2008). Individual users can still be connected to larger groups of people through the social nature of portable devices (i.e. through social media, mobile phone-calls and text messaging etc.), but this connection can become displaced. Users do not have to be in the same place as those with whom they are communicating.

When using *Google Street View* on a portable device, it is usually in the form of an informational map. *Google Street View* acts as an informational interface, and can be a useful aid in helping a user find their way around a city. When physically present, the cultural aspects of *Google Street View* (for example, visiting virtual museums) become secondary as these aspects are not practical in a portable environment.

Photosynth incorporates more of a portable practicality through its use of *Flickr*. Photographs taken on the fly can be uploaded directly to the *Flickr* database, tagged with meta-data and GPS coordinates to situate them in a specific space, and can then be added to the *Photosynth* database of that particular space. Although there is no direct social engagement in this process, by using *Photosynth* in this way the specific digital space can be added to and enhanced due to new information being provided by an individual user. However, the images portrayed

using *Photosynth* also become products of displaced space, uploaded by users who are physically present to a community of users who may not be. This shows how in both *Google Street View* and *Photosynth*, the use of portable media devices can alter how places are presented or perceived through their use.

1.5 Conclusions

Place, in essence, is a concept that is tied to human interaction and geographical location. Through altering people's understanding or perception of a space through familiarity or social relationship, a space can become a place. Place can be in the form of social or individual experience, and a sense of place helps people in understanding and becoming comfortable with their surroundings. In the 20th Century, place began to be analysed in the context of the social development of cities, the more nomadic nature of people, and the development of individualism. By the early 21st Century cyberspace and the internet tied concepts of space and place to digital devices.

Google Street View and *Photosynth* are good examples of digital media applications that have applied the use of informational space to applications that deal with places that people inhabit. Both applications are functional and informational. They can be closely tied to many theories on space and place, and can be seen as a development of how cyberspace and the internet are important in our understanding of the places that we inhabit. However, by acting as navigable, non-relational spaces that use photographs as source material they become more closely related to Marc Augé's concept of non-place.

With portable devices, the use and application of technologies can change due to the fact that portable technologies allow for access to media when on-site in a particular location. By using portable devices the role of applications can change as a result of the relationship between the user and their location. The more technologies attempt to represent or engage with place, the more important it will become to reappropriate and re-assess theories and notions on place with regard to these technologies.

The next chapter will look at how visual art and design have taken portable media as a medium and used it to help develop a sense of place that is based firmly in location. This chapter will analyse how locative media within portable digital media applications has been experimented with and employed to help reinterpret physical place. It will attempt to assess whether a sense of place can be created through the use and application of portable digital media devices, and will analyse projects that challenge how physical place is perceived.

Fig. 1.1 - A view of Pearse Street, Dublin, taken from Google Street View [Accessed: 24/02/2013]

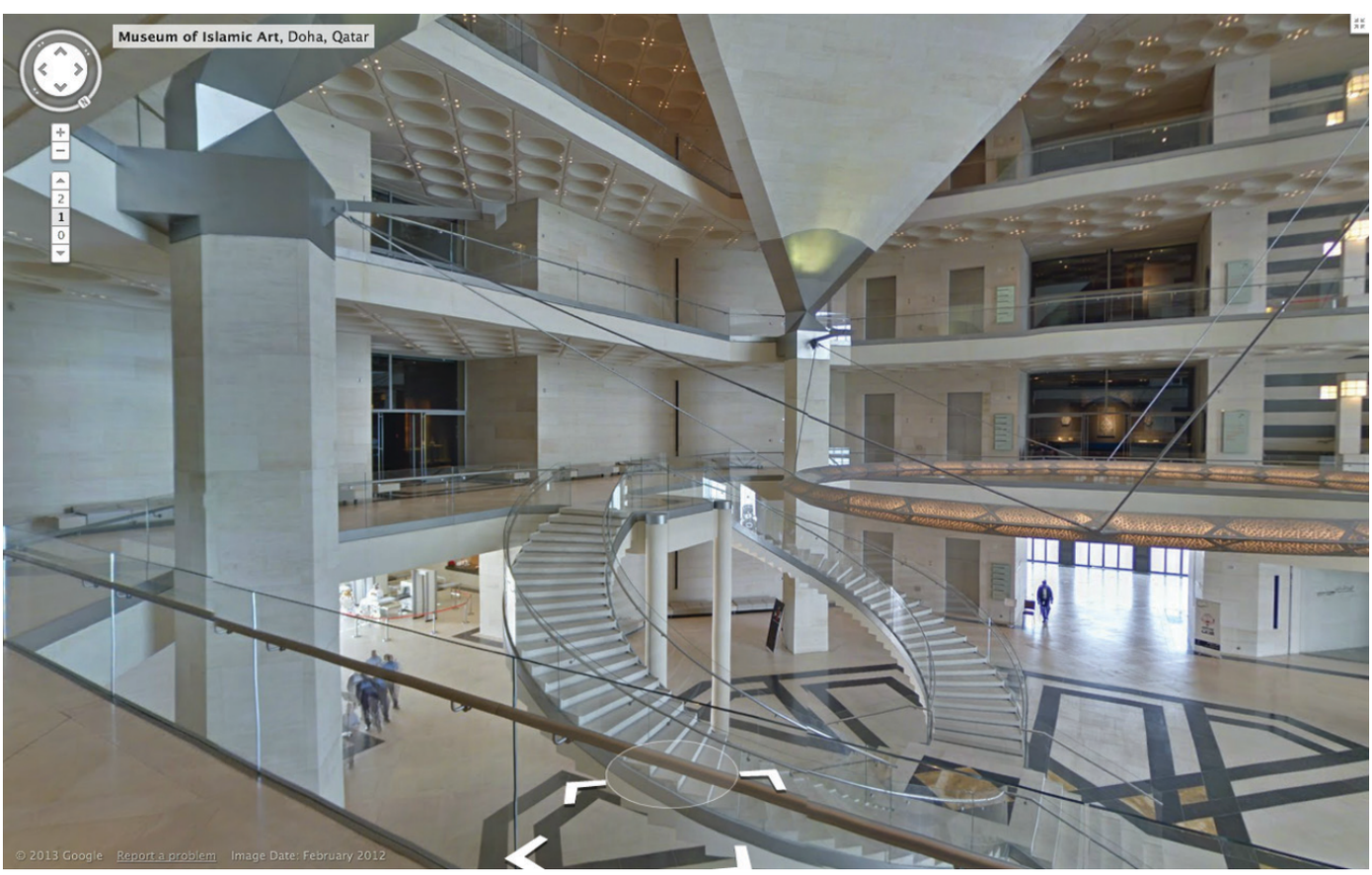


Fig. 1.2 - A view inside the Museum of Islamic Art, Qatar, taken from Google Street View [Accessed: 24/02/2013]

Fig. 1.3 - Photosynth compiles several images together to create a three-dimesnsional panoramic view. Photo from: http://gingerjam.co.uk/uncategorized/photosynth [Accessed: 01/02/2013]

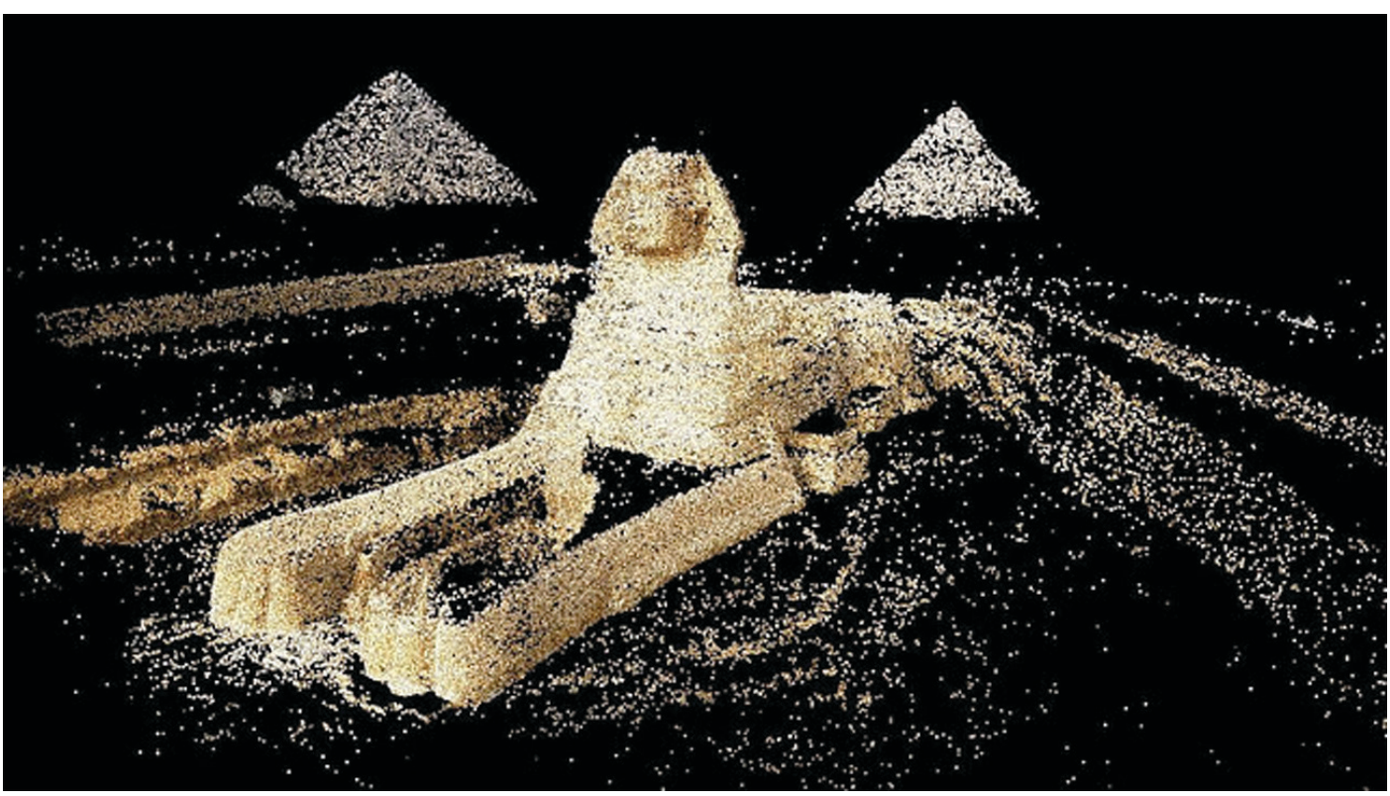


Fig. 1.4 - Thousands of photographs are compiled to make one three-dimensional image of the Sphinx using Photosynth and Flickr. Image courtesy of http://www.flickr.com/photos/binarymillenium/2807951831/ [Accessed: 02/02/2013]

Chapter 2

Locative Media and Place

2.1 Introduction

2.1.1 Place and Location

Place is predominantly about a relationship between people and a specific location. Spaces are not relational, places are; as Yi-Fu Tuan states, “when space has become thoroughly familiar to us, it becomes place” (1977, p 73). This familiarity is gained through sensory interaction as a person moves through or interacts with a space and gains an understanding of it.

While using portable media applications, users are given the ability to physically traverse space and engage with their location. Lakoff and Johnson discuss the “locational self” as a concept that deals with how location can affect people's comfort within a place (1999, pp274-275). They write about how familiarity of location can help people feel more comfortable in a space. With *Google Street View*, the application helps people to become familiar with the objects in their location, but it does not help people to understand their location by identifying and engaging with the location in other contexts besides the informational one. Physically locating oneself at a place can help with this understanding.

2.1.2 Location in Portable Media

Some developments in portable technologies are beginning to use location to alter how people view and understand their location. One example is a customised version of the mobile operating system Android that was developed by Optio Labs in 2012. The custom operating system can be adjusted by administrators to allow access to sensitive information specific to single areas. Designed for use in a business environment, the technology can restrict access to files unless users are in a specific location[8]. For example, a file for a business meeting can be accessed only in an office boardroom, but can also be assigned to be active in another specific location (the office of a client, for example). It is also possible to customise the technology so that files will only become available when particular users are nearby. Therefore, use of the technology is both sensitive to location and to the movement of people.

This type of technology that is based on geographical position is referred to as locative media, and will be explored in the next section. Media that are operated in situ can create a relationship between physical places and digital environments like

8 For more information see MIT's preview of the technology (Talbot, 2012) and Optio Labs' homepage <http://www.alliedminds.com/subsidiaries/optio-labs>

those discussed in chapter one. Dependency on location is key to the use of locative media,. By creating this dependency, users' perception of and interaction with spaces may change based on the use of digital media in a specific location. The second section of this chapter will look at examples of how a user's location and the use of digital media can be combined to alter how place is perceived in the physical environment.

2.2 Locative media and Place

2.2.1 Locative Media

Locative media as defined by Julian Bleecker is

> ...made by those who create experiences that take into account the geographic locale of interest, typically by elevating that geographic locale...to the level of existential, inhabited, experienced and lived place. (2006)[9]

This type of locative media is built to enhance or alter a physical environment through creating a relationship between digital applicationss and the physical locale. Locative media has been explored by artists and game designers using mobile technologies as a medium[10].

Locative media developed from the information field of maps and the use of location information. The politics of map representation has been passed down from the early military uses of mapping technology, and has gradually filtered into mainstream items and devices (Fusco, 2004). Portable devices and map information are naturally paired for useful information design, and have been substantially researched and refined due to their long-standing history of use.

As Marc Tuters and Kazys Varnelis write, “the fundamental manifestations of locative media–maps–and the typical site–the handheld PDA–are ubiquitous and easily understood” (2006, p 48). The concept of information without cultural substance as a key element to locative media is reminiscent of Augé's points on how the “link between individuals and their surroundings in the space of non-place is established through the mediation of words, or even texts.” (1995, p 94). Augé argues that the information-heavy spaces of non-places undermine cultural or social interest and replace this with information that expedites the utilitarian passage through non-places.

During recent years, mobile technologies have gradually developed to allow for a

9 For a more expanded definition see Lemos: “ We can define locative media as a set of technologies and info-communicational processes whose informational content binds to a specific place” (2010, p 405). Lemos' view reads more on how information and communication of information that is place-specific is embedded in locative media.

10 Artists and groups that use locative media include Blast Theory (Britain), Social Fiction (Netherlands), Christian Nold (Britain) and Teri Rueb (USA). Berlin hosts an annual festival of media art (Transmediale) that has featured many locative media projects since its inception in 2004.

user's presence in a particular space to be relevant in applications and websites. Location-based applications track a user's geographic position and return information to the application based on this. The use of location-based applications therefore manifests a sense of local environment through the use of a mobile device such as a smartphone, portable GPS or tablet. By directing users to locations through applications, it is possible for portable media to influence how physical space is travelled through and experienced. Locative media games like *Geocaching* (Groundspeak, 2000) are designed to allow for the interaction of users and place through their movement in physical space.

2.2.2 How Locative Media can Influence Place

Geocaching is played using GPS-enabled devices (**Fig. 2.1**). Users find hidden treasures (geocaches) planted by other users by searching at locations marked by GPS coordinates. Geocaches are marked with approximate latitude/longitude coordinates on GPS devices, but do not give specific locations for the hidden treasures. With *Geocaching* open exploration is a key mechanism. Locations of the geocaches are rough estimates, not precise coordinates, and users can place new geocaches at any location at any time. As such, *Geocaching* encourages exploration, enticing players to act within and experience the locations that they are searching in. In addition, *Geocaching* alters physical place through users' interactions, but the portable devices used do not influence this alteration, they simply assist users in finding geocaches (**Fig. 2.2**). *Geocaching*, like *Google Street View* uses maps as a tool for interaction, but use maps as a tool for exploration due to the use of location as a medium.

Artists and designers have used location as a medium to encourage exploration in space that can alter people's understanding of specific locations. At the 2004 Transmediale media art festival in Berlin, Utrecht-based media art group Social Fiction created *.walk* (aka dot-walk)[11]. This participatory art piece was designed to engage participants in the city of Berlin by providing them with a randomly generated path to take through the city. The path was calculated by a program designed to make the user act as a "peripatetic computer"[12], exploring the city via a path set out by Social Fiction's program. By encouraging randomised exploration, users explored the city of Berlin in a way that they would not without the influence of digital media, and this alternate exploration changed their understanding of their location.

.walk helped to pave the way for coding in locative media to become a more

11 Further information available at the Transmediale website, <http://archive.transmediale.de/04/page/detail/detail.0.projects.41.html>, last accessed 03-02-2013

12 In essence, a peripatetic computer is a computer that will move from place to place physically. The concept of *.walk* was to create an artwork that would "re-code" human participants and make them act as computers (Tuters & Vernelis 2006, p359).

prominent medium in visual art. Tuters and Varnelis note that in *.walk*,

> The success of this simple project is representative of a larger event taking place in the media art world, in which, having left behind net art, locative media escaped the bounds of the screen to enter the city at large. (2006, p 357)

Since Transmediale 2004, *.walk* has been implemented in other cities using locative computing. The code was provided as an open-source resource by Social Fiction, and users were invited to generate walks on location in their own spaces.

The idea of "localising" or bringing a sense of understanding or exploration to the specific location in which a user of portable media is located can alter how users perceive their locations based on how they use digital media devices. As Annet Dekker writes, "With the arrival and popularity of location-based technologies, a shift occured from material cues to the immaterial virtual signs by which people navigate the streets." (2009, p225) This highlights an importance on the concept of the local as being altered and influenced by locative media. The internet laid a platform for globalising information and connecting spaces across the world through a system of digital networks. With locative media like *.walk*'s open-source code this global concept is being split into amalgamations of localities.

2.3 The Idea of the Local in Global Society

2.3.1 - Global, Local and Digital

Michel Foucault argued for the idea of re-evaluating what we understand as place in his 1986 paper "Of Other Spaces". Foucault saw the idea of place as outdated, describing it as a modernist convention that we had moved past in postmodern times (pp 22-25). He saw a shift occurring in space and place that was altering how we perceive areas that we act within. He perceived a new sense of place, what he called a heterotopia, in which older roles and ideas of public places would dissipate (the customs associated with graveyards and town halls, for example) and new social and individual participation would reshape our older perceptions of what place is.

Foucault was exploring the idea of creating a postmodernist concept of place before the integration of the internet became widespread. Digital media platforms and the digital world of cyberspace helped to reshape the landscape of place. As Sherry Turkle writes:

> Today more than ever we blur the line between simulation and reality, between what exists on the computer and what is real. Nevertheless, we are usually aware that pictures and screen representations are not in the world in the same sense that we are. (1995, p 164)

However, theories on place and on how we interact with it still have social

relevance, and in many ways are being re-evaluated by locative media (Sassen, 2009, pp 33-37).

Andre Lemos states that “All these experiences with locative media indicate that mobile technologies are not seeking for the virtual to overcome the real world” (2010, p 409). The virtual and the real-world may be closer connected since the implementation of portable media. Lemos continues, “What we are seeing now are several examples of integration, mixed processes that merge electronic and physical territories, creating new forms and new senses of place.” (p 411). The merging of locative media and place are leading to a necessity to reappropriate what we understand as place.

2.3.2 - The Influence of Portable Media on Place

The implementation of technologies employed in *Geocahing* or *.walk* that take users through spaces show a relationship between location and portable media. These projects allow users to interact with digital media and with their location in order to form an alternate sense of the space that they are acting within. The influence of late-20th Century globalisation on space and place has had a profound impact on how we read place through digital media. Global networks provide global systems of understanding (Sassen 2011). Place is essentially a local concept; it is related to personal or group experience, and is specific to its geographical specificity (Tuan 1977). Combining the concept of the global digital space (the internet) with local physical space is problematic. Locative media is beginning to perform this task.

The location-specific nature of locative media creates a sense of environment before users even access the digital media. The fact that being on-site is essential to the use of many locative media applications (*Geocaching* or Optio Labs' custom Android environment, for example) means that the idea of the local is questioned more often in locative media than in internet-based information spaces like *Google Street View*. This makes the question of place relevant in an analysis of locative media, and makes previous theories on place more relevant in a study of portable technologies than they were in non-portable digital devices of the 90s and early 2000s.

2.4 Conclusions

Locative media can combine the use of digital devices and the navigation of physical space in order to recreate and alter the way that spaces are understood by people. Media that can specify and repurpose particular spaces like *Geocaching* can alter an understanding of physical locations through their use. Locations can be explored, analysed or interpreted through locative media applications, and

through the use of these applications places can form new relationships with people.

In the global culture of the 90s, concepts that described how explored space is more transient affected how space and place were understood at this time (de Certeau 1984, Augé 1995). With the development of locative technologies, transient space became a medium that can be used to engage people. Projects like *.walk* highlighted exploration as a key concept, but used digital media devices to encourage this exploration. Through this, spaces were understood and interacted with through movement and exploration, guided by digital media.

The alteration of physical place by portable devices in applications such as *Geocaching* or *.walk* is not duplicated in *Photosynth* or *Google Street View*. The cultural importance of place created by *Geocaching* or *.walk* is developed through the relationship between the user and the physical spaces that they move through. This relationship is similar to the walker as described by Michel de Certeau when writing on the interactions of a walker with the city (1984). By altering a place through digital technologies, an identity of place is developed that recreates how users see specific places (Dekker 2009).

However, although certainly capable of altering an individual sense of place, portable media are still designed to be individually operated. The projects explored thus far do not take into account the social aspect of place. *.walk* or *Geocaching* engage people with places in a way that is user-specific owing to the individual nature of digital media devices.

The third chapter will analyse hybrid space and social interactions in portable media. This will be used to discuss how portable media devices can be used to create a new social sense of place through the overlap between digital and physical spaces, and through the interaction of people through digital media devices. This chapter will look at the idea of communication in the development of sense of place in a larger social realm. In particular, it will discuss the importance of crowd-developed material, and the use of hybrid space in reappropriating places in both virtual and physical space for the creation of a sense of history or culture that is produced solely from the use of portable media devices.

Fig. 2.1 - Geocaching often leads users to locations that they may not have otherwise ventured to, helping to determine new places of interest. From Geocaching official website, http://www.geocaching.com/seek/gallery.aspx [Accessed: 19/02/2013]

Fig. 2.2 - An example screen from the Geocache application, showing how users view their path as they attempt to find a geocache.

Chapter 3

Crowds, Communication and Hybrid Space

3.1 Introduction - Locative Media and Communication

Throughout an analytical study of place, one factor that recurs constantly is the importance of the human influence on the creation of place (Augé 1995, Tuan 1977, de Certeau 1984). The transition of space into place does not happen without human interaction, whether in an active or passive role. The user's role in locative media helps to secure a sense of place in physical reality, however, as mentioned in chapter 2, the places that are experienced are guided by the use of locative media applications. This chapter will analyse whether portable media devices can create new senses of place for individuals or groups, and will look at how social interaction and digital space can be used to do this.

As previously stated, locative media applications are most often operated by individuals. In order to fully study how place is being presented and reappropriated through portable media devices, the idea of group or social behaviour in devices must also be analysed. In recent times there has been a development toward the concept of “An Internet of Things”, whereby objects and people, and their actions of one upon another, become intertwined and influential upon one another in specific settings (Tuters & Varnelis, 2006). Through the internet of things, immersion in portable digital media is changing the emphasis from immersion of individuals in cyberspace worlds (Murray, 1997, pp 97-103) to immersion of groups in networks (Hiller & Hanson, 1984). The internet of things concept is closely related to the notion of hybrid space, where things, places and people come together as informational objects that act upon one another and alter perceptions of people's surroundings.

This chapter will discuss the concept of hybrid space, and how creating a mix between physical space and digital space leads to a reinterpretation of theories on place. The main points will be 1) to discuss how hybrid space can create lasting alterations on the visible landscape in both digital and physical spaces and 2) to analyse how groups rather than individuals can have a more intricate role in altering perceptions of place through portable media. Finally it will analyse whether digital places can be built, maintained, and accumulated, perhaps becoming as common and intrinsic a part of every-day life as physical places are.

3.2 - Hybrid Space and Physical Place

3.2.1 Hybrid Space and Digital Hybrid Space

Hybrid space is a combination of two different spatial environments. For example, the Linked Hybrid Building, also known as MOMA (Contemporary Museum of Modern Art) in Beijing is a residential building complex that proclaims “reality will become a set of a film” (Fang, 2009). This space contains residential, recreational and commercial spaces within one frame. It is hybrid because it supports multiple functions that are layered on top of one another. In this sense, a hybrid space can alter or reshape a sense of place by refashioning it into something else.

Digital hybrid spaces combine an existing space with a digital one in order to develop a new environment from a combination of the two. A hybrid space can adjust or alter a sense of place by redefining the already defined purpose of a place. An example of how digital hybrid space has been used to create a sense of place is in British art group Blast Theory's participatory artwork *Uncle Roy All Around You*, which was first staged in 2003.

3.2.2 *Uncle Roy All Around You*: Altering Place Through Social Interaction

In *Uncle Roy All Around You*, users are required to sign up and give themselves over to the experience of taking part in an event that was designed by Blast Theory. The piece has been recreated many times in different locations, and some of the specifics have changed over time. In its original incarnation, participants had their belongings taken from them, and were given a handheld digital device to help them track down a character created for the piece, named Uncle Roy (See **Figs. 3.1** and 3.**2**). The handheld device that participants received showed a map and relayed messages to participants. The map corresponds to the area that the art piece is being performed in, and adjusts values using GPS information. As such, the piece draws from its surroundings as well as from the portable technology that is employed. Similar to other projects discussed in chapters 1 and 2, there is a relationship formed between both the physical and virtual spaces, and one is dependent upon the other.

An important aspect of *Uncle Roy All Around You* is that it features communication between online participants and physical participants as part of the performance. Defined as 'Online Players' and 'Street Players' by Blast Theory, the experience is designed to encourage communication and participation from both types of participant. The Online Players navigate a virtual city that is built to match the physical city (**Fig. 3.2**). They can view photographs of the actual locations by interacting with the technology, although they are not physically present. The

Street Players physically navigate the environment (**Fig 3.1**). They are restricted by the time limit on the event, and required to move around a city in search of Uncle Roy. Both types of participant are dependent on their location and the technology that they are using in order to participate in the event.

There are two key factors to *Uncle Roy All Around You* that develop a sense of relational place through digital hybrid space. First, the use of physical space inside of an urban location is important. This space already has specific roles and functions outside those of the art piece, but an understanding of these is altered and challenged through participation. This is similar to the sense of place developed by *.walk*, however in *.walk* there was no alternate hybrid reality. Second, the social aspect of the performance in the communication between Online and Street players through digital media creates group participation. Feedback from players showed that "the improvised interactions between street and online players were also a significant part of the experience" (Benford & Flintham, 2006).

3.2.3 How Participation in Digital Hybrid Space Alters Physical Place

Michel De Certeau states that "if it is true that a spatial order organizes an ensemble of possibilities...then the walker actualizes some of these possibilities. In that way, he makes them exist as well as emerge"(1984, p 99). As such, the act of walking is an act of interaction with place. If the Street Players of *Uncle Roy All Around You* act by walking through a place, their use of portable devices is what activates the places due to the fictional environment imposed on the physical world. Participants move through a place that is reconstructed on their portable devices, and new meaning is applied to buildings, open spaces, and other places in the city. For example, Uncle Roy initially contacts participants to tell them that he will be at a park by a lake, highlighted on their portable handsets. This creates an alternate sense of place to the park–in the physical environment it is a recreational open space, defined by its culture, history and use; in the hybrid environment it is all of these things, but with an added significance as the meeting point with Uncle Roy.

Eric Kluitenberg puts forward the weight of the historical importance of communication technology, stating that "Because the space of electronic communication is rooted in local networks, it is also linked with local history."(2006, p 10) Kluitenberg's writing on hybrid space suggests that the distinction between virtual and physical space is lessening with hybrid technologies, as elements from physical space can be altered or adjusted via the associated virtual world (pp 9-10). With the story of the character of Uncle Roy and his place in the fictional environment, as well as the communicative aspect, the participants become immersed in the environment of the piece but gain new understanding of their surroundings from their participation.

3.3 - Group Participation and Social Roles in Places

3.3.1 - Different Roles and Shared Experiences

With *Uncle Roy All Around You*, a virtual space combines with a physical one to create an alternate sense of the environment of the city. Although Street Players are moving through a physical world, the world that they are participating in is influenced by the portable devices that they carry. It does not affect people who are not taking part in the experience, but alters the environment for both Online and Street Players.

In *Uncle Roy All Around You*, the movement of the Online Players from a separate location, through a digital interface, is more similar to interacting with *Google Street View* than to interacting with the hybrid spaces that the Street Players are moving through. The Online Players' perspective might be more akin to the concept of non-place in a digital space–the world that they are moving through is like a physical reality designed to be functional and informational.

However, for Online Players the experience is much more involved than simply moving a character through an interface. Only through communication with Street Players can the plot of *Uncle Roy All Around You* develop. Online Players can communicate with Street Players and help them to find Uncle Roy. At one point, Online Players are required to direct Street Players to a hidden door that is visible only in off-site. Through this engagement, physical place is altered or redefined for Street Players who are on location only by communicating with off-site Online Players. The Online Players can influence the places in the city by creating a relationship between themselves and the Street Players. Only through communication with Street Players is the entire environment of the art piece constructed.

Grant Kester saw dialogue and communication in participation as a key aspect for making collaborative artworks more engaging and meaningful, emphasising how community can redefine the meaning behind particular experiences (2004). Incorporating hybrid space into locative media can create an overlap between a place that is physically present and a place that is presented through a portable digital platform. Immediate communication in *Uncle Roy All Around You* redefines and adjusts the role of places during the performance. As such, hybrid spaces can create a different sense of place to physical places through elements like human communication and a sense of fiction.

3.4 Place and Groups in Portable Media Networks

3.4.1 Transient Experience in Group Participation

Uncle Roy All Around You is sufficient in creating a hybrid space within the environment set forth by Blast Theory. However, this environment, restricted by the "rules" set forth by the organisers, may only reshape the world for the participants. Martin Rieser argues that in *Uncle Roy All Around You* "The real and virtual sit in a schematic relationship with the environment itself, only valued as a source of directional clues and the casual bystander remains mystified and excluded" (2005, p 5). The environment is immersive, yet it is still part of an art piece. It may alter the perception of participants of physical places during and after gameplay, but for people who do not participate there is no permanent alteration of the public places in which the performance takes place. The experience cannot be shared afterward with new individuals who were not present.

There is an element of simulation that dispels the idea of place outside of the experience of the art piece. In this way *Uncle Roy All Around You* is somewhat similar to an interactive film or theatre piece–there can be a psychological impact on participants, but larger social groups can operate in the places where the event is being held without being aware of any alterations to the sense of place around them. Yet the piece is a perfect example of a participatory event that creates an experience of a larger collective experience through hybrid space. It is also a good example of how place can be created that is experienced by groups through a hybrid space. Other digital applications have taken this idea of hybrid space and expanded it to incorporate anyone who uses a portable device or application, without the limitation of taking part in a specific event.

One example, *London Undersound* (Johanna Brewer, 2007), was designed for use in the London Underground. This application has specific music tracks uploaded to particular underground stations that are specific to each station. Users who have the application installed can pick up tracks from their location and carry them through the underground systems. In this way, music that is specific to a particular location can be transported via a journey through the underground system. Songs can be uploaded or downloaded at any station, so each station forms a relationship with the crowds and people that travel through it via the music that is shared in each location. This creates a relationship between the movement of crowds and the fixed locations at stations where songs are transferred from. This group interaction is not limited to the duration of an event, and is instead open to anyone who chooses to participate at any time. Although not necessarily altering the places that are moved through, this project does highlight how crowds and groups can be used as a medium to engage with places in a more meaningful way.

3.4.2 Social Places and Portable Media

Uncle Roy All Around You and *London Undersound* relate to the built environment that they are used within. They alter perception of place by taking structures and applying new meaning or understanding to the roles of these places. Tuan mentions how “the built environment clarifies social roles and relations. People know better who they are and how they ought to behave when the arena is humanly designed...” (1977, p 102). Town halls, churches, art galleries, etc. are places as a result of the social interaction of crowds or groups that use a specific place as a hub or centre of activity. A sense of place can be developed both as an individual concept and as a social concept.

Urban Tapestries (Proboscis, 2002) is a public authoring application that is designed to allow users to alter how a place is viewed through the use of a digital media device. Users affect a specific place by adding stories, pictures, sounds or other media to generated maps of specific locations that can then be accessed by other users at that location. A later development, *Social Tapestries* (Proboscis, 2005) brought the application onto portable platforms, and allowed users to create or access other people's alterations to places by using portable media devices (Lane 2009). This application brings together the concept of place as a relational space (Augé 1995) with the use of a social, portable platform.

Another similar application that uses location and user-generated content is the social networking application *Wallit* (Wallit, 2012). This application engages with a user's sense of locality by allowing them to engage with crowds in a particular geographic area. *Wallit* allows users to post messages online that are visible only to people who are physically close to their location. This gives the opportunity for social interaction that is tied to place, and affords users the opportunity to tap into local knowledge, engage directly with nearby people, and construct an understanding of a physical place through the use of portable devices.

3.4.3 - Super Walls and Physical Presence

Recently, *Wallit* updated their application to include an augmented reality feature called “super walls” (Marlowe, 2012). This feature enables users to create messages as “virtual graffiti” within hybrid space (**Figs. 3.3** and **3.4**). The application still posts messages publicly, but now these messages can be “written” exclusively on super walls that are accessed and edited through the virtual world, but can only be seen by users who are physically present at the location of these walls. In addition to this, in order for a user to write a message on a particular wall, he/she has to be physically present at that wall at the time of writing.

Lakoff and Johnson write about the multiple self, using the metaphor of multiple people “being in the same place” as a description for how people can come

together through a single goal or interest (1999, p280). This relates to a production of place that is more metaphysical than physical. It is contained within a social form and relates to social identity (Pile 1993). By adjusting how users interact with the technology so that the key aspects of it are only accessible when in a certain location, *Wallit* allows for a social construction of place that is a shared experience brought about through the use of portable media.

By creating a necessity to be present, *Wallit* forms a relationship between physical space and the space as re-interpreted by portable devices using the application. The use of super walls to display messages creates a public interface that can be viewed and responded to by anyone with access to the application. There is a social aspect to the alteration of place in the hybrid space that users create. The digital graffiti creates a social bond that is reminiscent of *Uncle Roy All Around You*'s relationship between Street Players and Online Players, but is based in existing locations and is not designed to reinterpret them. Messages on super walls could encourage people to meet or advertise events in a public sphere. As Andre Lemos writes on portable media and augmented reality, “The social life produces significance in space, and consequently produces places” (2010, p 409). Like *Social Tapestries*, *Wallit* encourages social interaction that is based on location, creating a bond between locative media and social interaction.

To use Merleau-Ponty's poetic metaphor, “The space could be to the place what the word becomes when it is spoken” (1964, quoted in Augé 1995, p 80). This implies that, like words, a space can be activated through an interaction that makes it meaningful. *Wallit* and hybrid reality applications like it create something akin to augmented place. Unlike the walls and spaces presented in *Google Street View*, super walls are interactive, changable, and can alter the impression of physical spaces by altering their digital counterparts. With applications like *Wallit*, places can be altered or changed based on the use of the walls as message-carriers, but these same places cannot be experienced or interacted with without the user being physically present at a super wall.

3.5 Conclusions

The use of locative media and hybrid space together can be used to create an alternate sense of understanding to physical place. By using a combination of the physical location of an individual and a hybrid location incorporating portable locative media, a sense of place can be created through the use of digital media devices in specific locales. The combination of being physically present at a location and acting upon it using a digital media device means that the experience of place is enhanced both through the physical and digital environments.

The social aspect of *Uncle Roy All Around You* or *Wallit* also bring another element into play. By combining a sense of locality with a sense of social interaction or community, people in groups can form collective experiences or events that correspond to particular places. In this way, social cultural memory of places are formed through the interaction of people with these places.

Hybrid space can thus identify with many of the theoretical aspects of place. It is possible to create a sense of place through a combination of devices and physical realities that, together, can reshape and redetermine the world that we live in and move through. The more portable media engages with locative media the more likely it will become that place will be explored and engaged through portable media devices. *Uncle Roy All Around You* shows the potential for the creation of a sense of locality in places that may not have had this relationship for people in the past. *Wallit* shows the potential for creating social engagement in places, altering people's sense of locality by adjusting the roles of physical places for users. Both social interaction and the interaction between digital devices and portable media can have an effect on people's understanding of the places that they inhabit.

Fig. 3.1 - Uncle Roy All Around You. A view of a Street Player. Courtesty of Blast Theory's official website, http://www.blasttheory.co.uk/bt/work_uncleroy.html [Accessed: 18/01/2013]

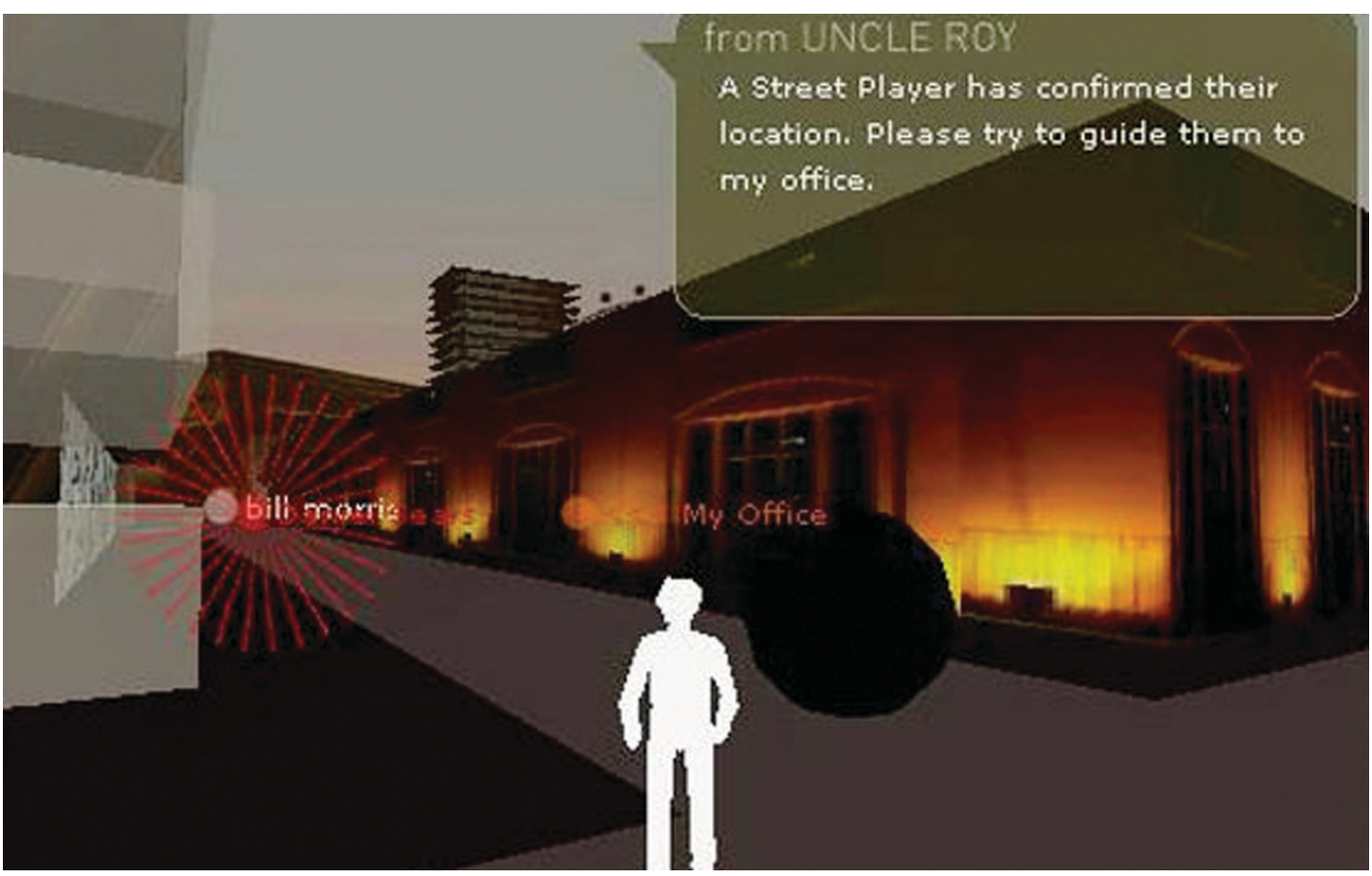
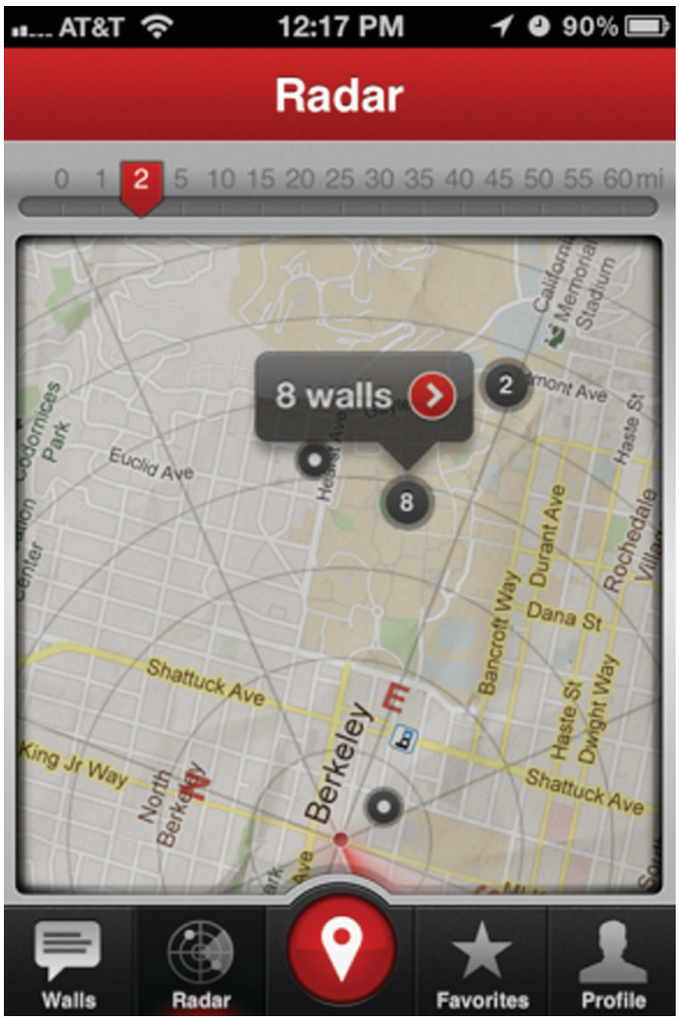


Fig. 3.2 - Uncle Roy All Around You. A view of an Online Player. Courtesty of Blast Theory's official website, http://www.blasttheory.co.uk/bt/work_uncleroy.html [Accessed: 18/01/2013]



Figs. 3.3 (left) and 3.4 (below) -

Left: The display screen for Wallit shows users where nearby super walls can be located.

Below: An advertising image for Wallit shows how a potential Super Wall can be displayed and used to transmit public messages.

Conclusions

This paper has attempted to research how concepts of place have been applied to locative media in the early 21st Century, and to determine the possibilities for locative media to alter people's perceptions of place. The main goal of this paper was to observe how, between the implementation of portable devices and locative media applications, concepts of place have re-emerged as significant in the 21st Century.

In chapter 1, spaces that are represented through informational, map-based applications are shown to have an intangible relationship to concepts of place. Yet the ability to roam free throughout these digital spaces is unrestricted, is purely functional, and is transient, making the places displayed through these applications comparable to Marc Augé's theory of non-place (1995). The significance of this is that applications like *Google Street View* or *Photosynth* are in some way akin to our own physical space, and act like a conduit for space that can be moved through. They are closely related to how spatial epistemologies were being studied in the late 20th Century, when cyberspace and globalisation were important theories that seemed to be making place as a concept redundant. However, by using portable technologies, the role of these informational applications changes, due mainly to the overlap between information and physical location.

In the second chapter the idea of the local is explored. Locality is important to individuals as it is how they relate to place. With locative media, the geographical position of an individual is an important factor for determining how users interact with these media. Rather than focussing on a digital space that is separate from physical space, location-based devices and applications emphasise a combination of the specific geographical location of a user and the influence of digital devices upon that location. As locative media on portable devices allow users to move through and interact with their surroundings, they give users the opportunity to use digital media to determine a sense of place from the physical world that they are interacting with. However, locative media applications are generally designed to be experienced by individuals due to the individualistic design of portable media devices, and this creates an individual response to places that are altered or redefined through locative media.

In the third chapter the idea of social interaction as a determinant in place is researched. This chapter looks at hybrid space and how a new sense of places can be experienced through an overlap of digital and physical environments. As these places are perceived through a combination of physical exploration and interaction with a digital equivalent, they begin to have a profound impact on how groups and

individuals view place, and thus how people understand and relate to the places that they live in and move through. In particular, an emphasis on the use of communication between people helps to create a sense of local place that is shared by groups or communities, and portable media devices are capable of creating this sense of place. Through communication, portable media devices become less individualistic, giving the opportunity for a more interconnected, networked interpretation of place for individual users.

4.1 Summary

Place is social, interactive, and determined by the relationship that is formed between a location and the people that inhabit or move through it (Tuan 1977, Sennett 1977, de Certeau 1984, Augé 1995). As Sherry Turkle suggested, virtual places should be explored and analysed as different entities from physical places (1995, p236). Through the use of digital media, a sense of place can evolve within physical space that may not be defined without the use of these media. One of the major aspects of portable media is that they allow users to interact with their physical location in a way that is determined by the use of portable media devices. As such, a sense of place can be established in individuals and groups that is created through their own physical location and through social interaction and engagement with applications on portable media devices.

The concept of place has been changed irrevocably by the widespread implementation of digitally networked media. As the internet grew and digital technologies embraced new ideas of space and representation, previous spatial epistemologies were re-evaluated to take into account the new landscape of cyberspace. When locative media technologies and portable devices were popularised in the early 2000s, theories on place found new relevance in the augmented landscape of digital and physical reality. As locative media becomes a more integrated aspect of current digital media practices, concepts of place will continue to be important to our psychological, social and philosophical understanding of the mixed media world that we inhabit. The responsibility of locative media in the future will be to incorporate consciously the idea that these media can alter places based on their use of location as a medium, and that this can have an effect on the way that people view or understand physical places. By incorporating an understanding of place into digital media devices, artists and designers have the opportunity to create more engaging, meaningful and lasting applications that are informational but also engaging as relational models that acknowledge the idea of place.

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