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Territory as Interface: Design for Mobile Experiences

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But the cities of today and tomorrow only exist within the twisted relations between the physical community and its network counterpart. We should think of it as a soft landscape that is constantly being updated by its users... (Suzuki, 2001, p.9)

The Mobile Digital Commons Network (MDCN) is a national collaborative research network launched in 2004 by the Banff New Media Institute and Concordia University. Situated in Banff, Toronto and Montreal the network is made up of designers, engineers, and communications scholars from a number of institutions that also includes the Ontario College of Art & Design and York University. The MDCN explores the connections between human beings, urban and wilderness settings, and mobile technologies. By developing interactive mobile experiences and observing the dynamics inherent in wireless immersive environments, each of the MDCN projects that make up the network moves us closer to understanding how these technologies augment, enhance and transform our culturally situated experiences of urban and outdoor spaces.

The following research questions have shaped MDCN research and are critical to the works that we have been developing: 1) How can an awareness of environmental and social histories and local knowledges lead to an engagement with mobile devices outdoor spaces?; 2) How might participatory public authoring play a

meaningful role in interactive new media genres?; 3) How can narrative, character development, location based play structures, gesture choreography, information architecture, and an awareness of space and place combine to structure new forms of game play?; and 4) What forms of content development for mobile devices are appropriate for the enhancement of outdoor experiences in urban and natural environments?

In this paper, I will present two MDCN projects, one which was completed last year titled, *Urban Archeology: Sampling the Park*, and the second, a location based cell phone game called, *The Haunting* which is currently in development for Parc Mont Royal in Montreal. In part, what makes each of these projects possible is a paradigm shift in computation to what we now refer to as ubiquitous or pervasive computing. Rather than constructing virtual worlds and experiences, we can now embed information into ambient social interactions that are played out in the physical world. Each of these projects treats “territory as interface” creating networked environments that seek to connect the physical to the virtual in ways that augment everyday experiences rather than replacing them with artificial virtual worlds that popularized in the 1980s by William Gibson’s novel *Neuromancer*.

British Design critic, John Thackara (2005) observes that these augmented play spaces seek to connect communities of users by encouraging participation in content creation, by facilitating new emergent social behaviors through interaction, and by leaving traces of information in space that are as easy to access with mobile devices as it is to access the web.

MEDIASCAPE I: Urban Archeology: Sampling the Park



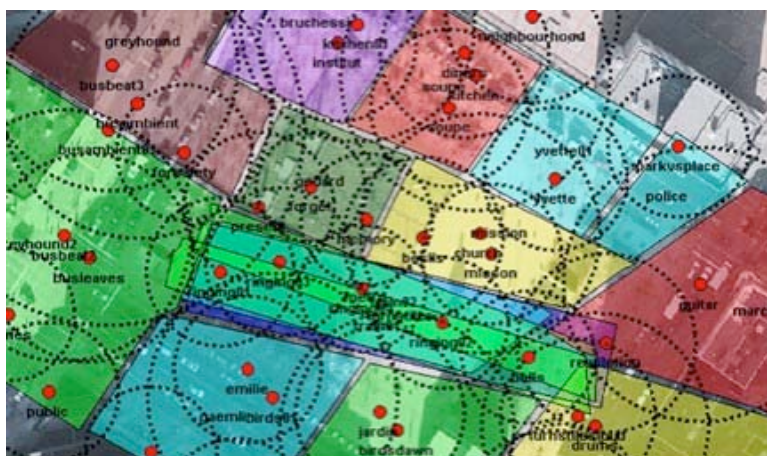
The first of the MDCN Projects to engage with emergent social behaviours is *Urban Archeology: Sampling the Park*, installed at Place Émilie-Gamelin in Spring 2005. This project explored the social history of a city square in Montreal using sound, image and GPS sensors and examined the ways in which memory can be inscribed in space, drawing on field recordings, oral history, and archival material to form a layered mediascape.

In order to produce the project, design, engineering and communications faculty collaborated with graduate and undergraduate students to produce the content and annotate the space. We chose Parc Émilie-Gamelin as it is nested in a prominent intersection where mobility of all forms is represented in one of the densest areas of Montreal. While working on the project we began to see the park as emblematic of a number of competing interests, between the city, capital, small businesses, the nearby residents and institutions, and the different populations inhabiting the park itself. Our interest was to represent this contested space – through a combination of archival study and field recordings – as a kind of

urban archeology, which would help render the 'invisible' visible through the medium of wireless technologies.

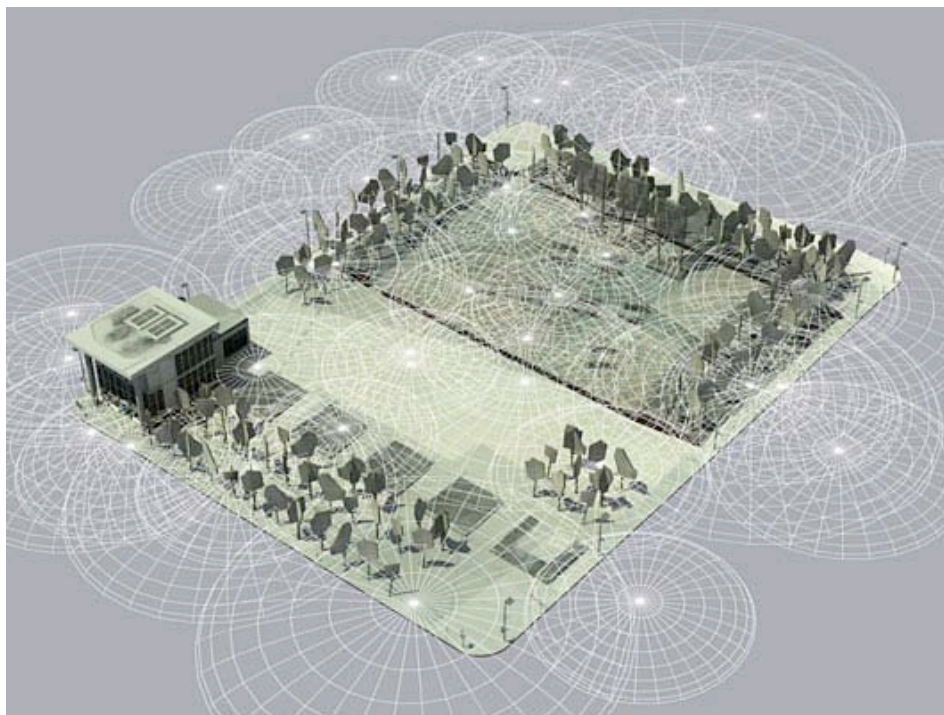


To create the installation, we used a new authoring environment developed by Mobile Bristol. The Mobile Bristol Toolkit is a software application that provides a “drop & drag” GUI for attaching media files — such as sound, text and image — to GPS coordinates. The authored experience, what Joe Reid and the rest of the team at HP Labs called a Mediascape, can then be downloaded to a PDA, or handheld computer, and played back in real-time and space using headphones and a GPS receiver connected to the PDA via Bluetooth.



Using the programming layer of the software, the sound experience can be augmented and choreographed in a number of ways creating a degree of dimensionality and the impression of walking through an event unfolding in space. In addition to the sound, image files can also be attached and played back on the PDA in a browser window or using Flash. For the content of the experience, we integrated archival material with current content through a practice of sampling: recording in situ and later mixing and shaping material into contrasting varieties of sound/media experience. We opted for a collage of voices and sounds that would incorporate both abstract and literal material: oral narratives, recent events, hidden histories, and the diegetic sounds of the park itself.

This 3D schematic of the media content was embedded in the park.



The user crosses a sound tunnel that conforms to the underground metro route cutting below the park, sampled and mixed as a kind of musical collage, with accompanying footage of its mid-sixties construction. There are over 40 media files that include a range of sounds and images from interviews with nuns who used to work in a mission located on the block for over 100 years to students protesting tuition fee increases.



Upon reflecting on the results of our work we realized there a number of limitations that led to the following considerations for the next iteration of the project. These included: moving from locally stored pre-generated content to networked user-generated content; taking full advantage of the communication capabilities of mobile phones to text each other, make phone calls, instant message and send images; maximizing opportunities to share content amongst users using Bluetooth peer to peer networks, GPRS networks, and geo-caching with WiFi when available; avoiding tunnel vision - we wanted to design experiences that get people engaged as much with the space around them and each other, as they are with the

technology; and finally needing to design along a continuum that ensures a seamless transition from the real to the virtual.

Mobile Experience Design: Working in Distributed and Networked Environments



Making Place

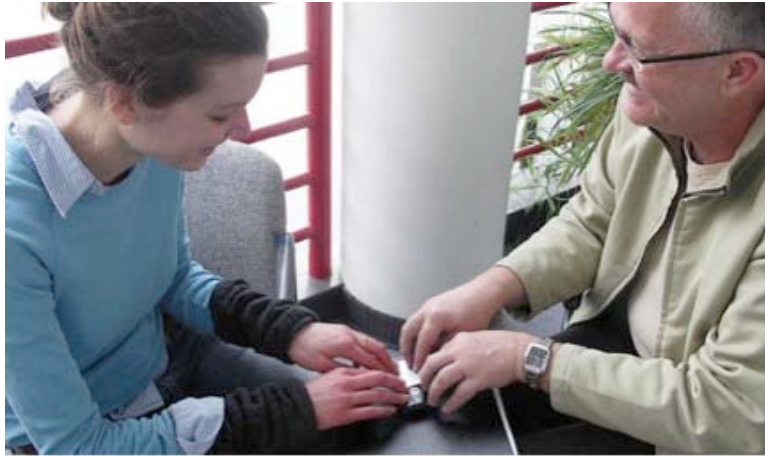
In his book *Digital Ground*, Malcolm McCullough (2005) argues that “place is not a given, it is made.” If this is true what sorts of questions do we need to ask ourselves about a place when creating a location based mobile game that could augment our experience and understanding of that space and place. In response, we thought it would be important to consider the following questions. What is the sensory experience of the place and how can it feed the narrative mediated by social behaviors, technology, and physical terrain? What are the impacts of humans on these environments, and in turn, how do these influence users? What are the temporal implications for the space? How does it change over time? How are we going to engage with the official policies and regulatory protocols that currently govern the space? Who are the people, communities, or other stakeholders involved that we need to consider and consult?

In conjunction to thinking about space and place, we also need to consider the interface – or more importantly interaction. McCullough also argues that interaction design will become the main liberal arts of the 21st century. In the discussing the core experience for the game, we decided that we may need an open narrative structure that will encourage social interaction between players and facilitate user input. This means engaging in the already existing social histories embedded in and time and space that will allow for moments for revelation. This may inspire players to learn something about the space but also contribute to our collective knowledge of it. Our objective is to facilitate role playing tied back to a group experience that will encourage new kinds of emergent social behavior through the technology. Finally, we want to develop a poetic

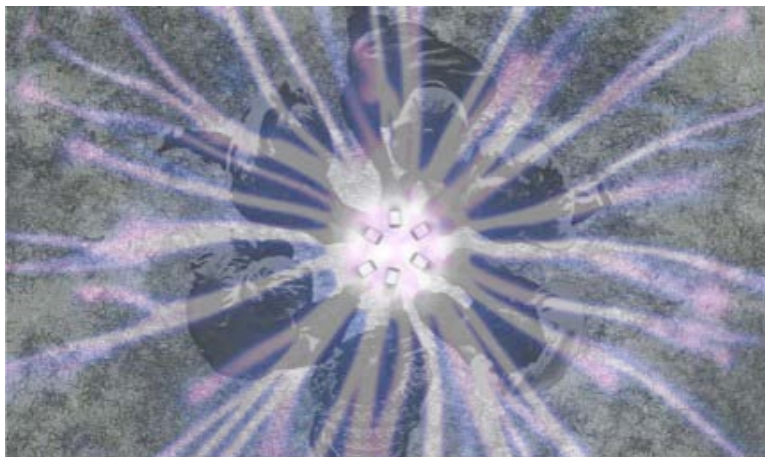
engagement with the space rooted in fantasy: not only in what is, but in the possible.

Predominant features of the park are the two large cemeteries located on the north west side of the mountain. This got us thinking about a haunting – ghost stories, and talking to spirits. We began to think of the park as a kind of giant Ouija board and the cell phone as the latest technology to be used for communicating with the dead.





We contemplated possible interactions that might come from treating the phone as a sixth sense. Can we communicate with the after life through phone calls and text messages? Can we conjure a ghost – could our phones be inhabited by a ghost? Can we use the phone as a “ghost buster,” a device for finding ghosts? Can a player be possessed through the phone? Can we take pictures of shadows, objects and ourselves the might evoke paranormal experiences? Can we superimpose virtual these images onto the real?





The project is underway now and we encourage you to visit our website that will be available the end of March 2007.

Conclusion/Questions

Working in what Manuel Castells has identified as the “space of flows” – flows of people, information, technology, images and sound presents us with new design challenges (2000). Designers and theorists, such as McCullough (2004) and Thackara (2005), believe that these challenges are best taken up by an open ended, bottom-up approach that is multidisciplinary. Thackara writes, “[r]edesigning the space of flows needs to be continuous, rather than episodic. It needs to focus on how things work, rather than just on what they look like. And it entails a fundamental change in the relationship between people who make things and the people who use them” (212).

In addition to thinking about “things” and “people,” designers must be equally accountable to the spaces and places of use. These territories are, potentially, a new design interface. It is incumbent upon designers to consider how to use mobile technologies to engage people in meaningful interactions in these spaces.

Dialogues, playful interactions, and new exchange scenarios can be opened up between the hardware and software infrastructure that supports ubiquitous computing or the burgeoning “ubicom” urban environment.

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Biography

Michael Longford's creative work and research activities reside at the intersection of photography, graphic design and new media. Currently, he is a co-principle investigator for the Mobile Digital Commons Network (MDCN), a joint research project launched by Concordia University and the Banff New Media Institute. He has organized numerous workshops, artist talks, exhibitions and conferences. He has also served on a number of committees overseeing the integration of new technologies in the Faculty of Fine Arts. He is a founding member of Hexagram and was a former axe director for the Advanced Digital Imaging and 3D Rapid Prototyping Group.