Mediated Lives

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Abstract. This paper presents landscape as the continuous interface between urban media facades and the ever-expanding use of digital devices and their content. It investigates contemporary attitudes toward digital public spaces, such as mainstream media facades, interactive art installations, and mobile apps. Media-infused landscapes could, if handled properly, transfer the public domain back from corporate ownership to public authorship. This paper discusses examples of public participatory spaces mediated by new technologies and emerging opportunities associated with virtual social networks. The types of interactions and experiences that in the past were predominantly confined to art gallery installations or online chat rooms become main street events with broader participation and authorship. While perceived by some as invasive and overreaching, media participatory landscapes could also help us to reclaim the public realm and democratize its content.

Keywords. Media facades; interactive environments; mobile devices; augmented reality; situated technologies.

INTRODUCTION

Digital technologies appear to converge on Mitchell’s notion that one day we would no longer use the term “digital design”; instead, we would go back to the original, unqualified term “design”, because the “digital” would no longer be a distinguishing modifier. While Mitchell’s observation referred to design, it applies equally to the broader realm of the digitally enhanced world that surrounds us.

Mobile technology increasingly, and more and more seamlessly, bridges the physical landscape with virtual environments to form visually rich and emotionally engaging narratives. Wireless communications, ubiquitous online connectivity, and a multiplicity of electronic devices irreversibly augment our daily lives. Video game environments involving massive multiplayer online collaborations affect our outlook on and expectations of our everyday activities and social fabric. Initially conceived as purely virtual experiences confined to the PC box, they start transforming our offline relationships with each other and with the environments that surround us. Mobile devices serve as portals to enter and navigate multimodal landscapes. Geographic data, pictures, and brief commentaries merge into a single data-based landscape. The distinction between the actual and virtual, or the permanent and temporal, fades when seen through the screen of a smartphone or an iPad tablet.
Similarly, the distinction between the permanent and the temporal is blurred with the integration of LED and projection technologies into architectural façades, effectively transforming previously static buildings into dynamic media objects. The built environment becomes a continuous interface between these urban media façades and the ever-expanding use of digital devices with interactive content. Interactions and experiences that in the past were predominantly confined to art-gallery installations or online chat rooms become Main Street events with broader participation and authorship. While perceived by some as invasive and overreaching, media participatory landscapes could also help us to reclaim the public realm and democratize its content.

COLLECTIVE THINKING
In studying social groups and networking, researchers are finding that a group of minds possesses a unique power of collective thinking, which cannot be matched by a number of individual minds. James Surowiecki has written about this power, most notably in his book The Wisdom of Crowds, where he examines the evidence suggesting that, “under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them.” (Surowiecki, 2004) Collective decision making has influenced politics and the economy in both positive and negative aspects, but ultimately contributes to broader, more dynamic and resilient systems. It has become a cornerstone of democratic and free societies. Can this approach be extended to collective collaboration, authorship, and creativity in a similar way to the process by which Wikipedia’s content is developed? Can the power of crowdsourcing be harvested into effective creative or artistic enterprise?

Howe connects the popularity of crowdsourcing with an increased popular use of electronic, previously high-end, tools by the general public. [1] This is another take on the common observation about digital technology being responsible for the democratization of authoring and production of intellectual work. Democratization of technology reduces the gap between professionals and amateurs, and between developed and developing economies.

Opinions on the effectiveness of crowdsourcing are mixed. Enthusiasts often reference the success of consumer-created Super Bowl 2011 commercials for PepsiCo’s Doritos and Pepsi Max Brands [2] as one of the successful examples. However, this example may not be representative of the aspirations and possibilities associated with crowdsourcing. Consumer-created Super Bowl commercials do not innovate anything; rather, the USA Today ranking evaluates the popularity of a particular advertising concept. While watching these commercials, one is not overwhelmed with their conceptually innovative narratives; rather, they connect with rudimentary and stereotypical ways to promote a product, as is the case with “Pug Attack”,[3] which achieved the top ranking in the USA Today Ad Meter.

Nevertheless, there are a number of promising examples that could help to transcend the intellectual status quo and enable new modes of collective creativity. The premise of open-source collective thinking set the conceptual framework of Web 2.0, providing a basis for the success of platforms such as YouTube, Facebook, Craigslist, and even Expedia and Amazon, with users’ input as a critical component of their business. According to Tim O’Reilly and John Battelle, organizers of the original Web 2.0 Conference, “Collective intelligence applications depend on managing, understanding, and responding to massive amounts of user-generated data in real time.” [4] In many ways, collective intelligence is an extension of a “fridge poetry” game, or of the surrealist exquisite-corpse authoring method, with creative outcomes emerging out of fragmented and independent contributions. These fragmented contributions are biased by personal goals or misconceptions, but often still manage to deliver unexpected and innovative results. The same concept of including diverse viewpoints and averaging opinions applies in the case of Web 2.0-enabled collective authoring.
What opportunities might we find in tapping into this collective intelligence by integrating the technologies available to us into our public spaces, our buildings, floors, and walls, and synchronizing them with our now-ubiquitous portable devices?

Another example of the power of crowdsourcing was the recent DARPA Network Challenge organized by the Pentagon’s Defense Advanced Research Projects Agency. The challenge was to locate ten red weather balloons scattered in public locations across the continental U.S. in the shortest time possible. The MIT team, relying on digital social networking, realized this task in just nine hours. [5] While the method used by the winning team was relatively low-tech, nonetheless the team was able to mobilize a great number of contributors and ultimately locate all ten weather balloons. The above example speaks to the effectiveness not only of digitally facilitated social networking, but also of effective crowdsourcing.

While it is hard to evaluate the role mobile devices played in the success of the MIT team in solving the DARPA Challenge, it is clear that the ubiquitous computing associated with mobile-wireless communication would increase the effectiveness of the electronic social networks that were credited with the success of MIT’s team. An ability to instantly communicate with other crowdsourcing participants makes a social group into an effective network capable of problem solving.

INTEGRATING PHYSICAL AND DIGITAL INTERFACES

Most commercially driven media façades are simple projection or display screens superimposed on a façade without considering architectural design. They often are seen as design eyesores that desperately cry for public attention. Recently, however, more buildings have incorporated media components into their façades in ways that do not compromise design. In the Graz Art Museum, Peter Cook and Colin Fournier introduced “communicative display skin” that incorporates a large, low-resolution media façade. Their design relies on abstract patterns with pixilated text or graphics, treating the media component as yet another building skin and augmenting it with a textural reading.

This approach allows media content to enhance a structure’s appearance and to communicate a message or convey a building’s functional content without compromising its design integrity. In other projects, media screens and projection lighting elements change the three-dimensional perception of an immobile object, as seen in works by digital-media firm NuFormer. In the case of NuFormer work, projections become social events engaging urban life, often merging contradictory interests of public entertainment and of the commercial needs of corporate sponsors such as Volvo or Samsung. They follow the same business models as many so-called banned commercials [6] distributed on YouTube that use a viral and humorous message to encourage watching otherwise commercial advertisements. [7]

Media facades are usually institutionally or socially controlled, due to their what-you-see-is-what-you-get (WYSIWYG) nature, and strictly serve the interests of their owners. However, there is a movement of reappropriation of the public realm from commercial interests through digital graffiti, laser tagging, and building projections in an analogous way to the billboard hacking practiced by the New York artist Ron English or the Billboard Liberation Front. The reappropriation of media facades, or billboards, is usually seen as an encroachment on private property and generates mixed feelings among the general public. However, these feelings can be partially altered by the content, the message, and the intent behind these actions. Another way to step outside the legal constraints of graffiti or billboard hacking while preserving the intent and the message is to port part of the communication into the virtual realm. The virtual realm can modulate and enhance the real-world experiences, which can be commonly shared (WYSIWYG) or customizable to a narrow group of users and hidden from the rest.
MOBILE DEVICES

“Foursquare is all about helping you find new ways to explore the city. Earn points and unlock badges for discovering new places, doing new things, and meeting new people.”[8]

“Yelp is the fun and easy way to find, review and talk about what’s great—and not so great, in your area.”[9]

These, and similar, messages greet you when you download smartphone applications from a number of the popular online social networking sites. To increase their functionality, the apps link you automatically with your Facebook friends and Twitter feeds. These messages entice you to join a virtual club of urban dwellers and promise exciting new possibilities. By monitoring your activities through your phone's GPS, the apps alert you when friends are nearby, showing their location. They also help you to map daily routines, comment on venues, and learn from anonymous contributors. On occasion, they give you a personal insight into private arrangements within the public realm: Navneet Alang, a Toronto-based blogger for This Magazine, writes about his favorite tip from Foursquare, which suggests asking a waiter at a certain restaurant for “the secret pink menu.” “You could call it a new approach to urban discovery, one that takes the online mantra of ‘by the people, for the people’ and mixes it with happenstance,” he adds.[10]

All these applications are built on the “open source” concept (a version of the collective intelligence discussed earlier), where individual members contribute content that is often unfiltered or unchecked. While the society is usually reluctant to accommodate unfiltered and unchecked public communication, it is exactly these types of contributions that most effectively produce collective wisdom.

Furthermore, location-based mobile apps augment the physical reality with highly customizable and personalized messages that can be addressed to all or just to a selected few. In this aspect they redefine the meaning of a communal space, away from the traditional WYSIWYG model, and bring the public realm closer to a Web 2.0 character, with dynamic communications where a given Web page would display individualized content relevant to a particular viewer.

Since the digitally enhanced public realm is no longer visually explicit, it allows for alternative cultures and parallel ways of living. Mobile devices, such as cell phones and more recently iPads, allow for an individualized view into the public realm: a view with simplified datascapes or privileged information that considers our needs and responds to our expectations. While the use of mobile devices as the intermediary between us and the environment may seem awkward at first, they quickly become non-present, much like eyeglasses after a brief time of “getting used to” them. Furthermore, mobile devices not only become a physical extension of ourselves, but also emotional, philosophical, and intellectual. In many ways they do for us what a magic wand does for Harry Potter and his friends, becoming an attribute of elevated capabilities.

DATA OVERLAYS

The popularity of smartphones has moved the Web from desktop computers to our pockets. Collective intelligence applications no longer rely exclusively on human input, but increasingly also incorporate data captures through sensors monitoring our behavior and second-guessing our intentions. Data is being collected and shared in real time with other users with the ease of pushing the “send” button.

Mobile apps such Yelp or Foursquare already take advantage of the embedded GPS capabilities of smartphones. Recently, the next generation of location-specific content apps, such as Layar or Wikitude, utilizes mobile phone sensor capabilities such as a digital compass or accelerometer in combination with a video camera to deliver mobile augmented reality experience.[11] These apps allow not only for 2D—the present limitation of a GPS platform—but increasing 3D navigation and data assemblies.
Furthermore, these applications effectively combine physical-world data such as real-time video input with Internet databases to provide interactive, information-based navigation platforms. For example, the augmented reality mobile application Layar[12] augments real-world input by adding customized information overlays, such as building or business information, over imagery captured with a mobile phone camera. The overlaid, highly detailed data correlates not only with the location, but also with the direction camera is pointed toward.

Unlike media façades that augment a public space in a conspicuous way that is the same for each participating observer, the mobile-based augmented reality can be highly specific and customized for the needs of an individual user. These technologies are analogous to dynamic Web pages (Web2.0) that respond with fresh information (content and/or layout) for each viewing. This approach is commonly employed by websites such as Expedia or Amazon, which track users’ activities and suggest products that a viewer might be interested in by matching similarities in past purchases and pages visited with those of other customers. “Customers who bought this item also bought…” is a subtle suggestion of a purchase from the Amazon’s web site that utilizes content-specific dynamic Web pages. The same approach can be extended to customize urban experience by providing on-demand assemblage of data needed by a user at the particular moment.

Spatial navigation enhanced by the Layar app shifts functionalities of media façades back to virtual world of data overlays. While media façades are experiences jointly shared by all participants, augmented reality of mobile computing allows for highly customizable and user specific (not only location specific) content. Even though, this highly customized direction could take away from commonality of shared experiences that define public realm, it also may more effectively extend the freedom associated with World Wide Web (WWW) into the urban environment. The freedom that would not be limited by property rights or a common perception of appropriateness and expected use.

**URBAN GAMES AND ARTS**

A new potent mix of gaming, mobile devices, and urban environments transforms the public realm and the way we operate within it by embedding digital information in the physical world. According to the website for Simon Games, a project of the Pervasive Media Studio, “Games are the new cinema, they are breaking free from the console and hitting the streets. These games are a new way of exploring ideas, meeting people and having fun. Hugely social, they are a new entertainment form.”[13]

While breaking free from the console and hitting the streets, we always make sure to bring a mobile device with us. Mobile devices become a necessary interface and facilitators for social interactions by allowing us to read and embed a digital location-based content. Multiplayer gaming environments, electronic social networks, or mobile location-based games allow for a diverse level of encounters without the need to personally engage with others face-to-face or reveal one’s identity. Digital media make it easier for many to engage with strangers, particularly for those who feel apprehension in interacting with strangers or just want to explore their inner self in a social context that is not predefined.

A description of The Comfort of Strangers, a Simon Group game that was played in 2008 at New York’s Come Out and Play street festival, invites participants: “Create your team out of the anonymous crowd; every chance encounter could be your last, or an opportunity to live and survive—find comfort in strangers.”[14] The Comfort of Strangers is a street game utilizing mobile devices to create social encounters. There is no visual interface, just a voice in the earphone telling you about the risks and common interests. The game creates ad hoc and anonymous relationships that usually last only as long as the game itself.

The SMSlingshot installation by the VR/Urban group aims to reclaim urban media façades from corporate and commercial messages into an open public participatory system. It continues a tradition of artistic civil disobedience associated with graffiti
User Participation in Design

culture and the mid-twentieth century Situationist International (SI) movement. While this intent remains still within a conceptual level rather than an actual guerrilla-like action—VR/Urban installations operate within the confines of museum galleries or public festivals—the conceptual framework signals a broader social aspiration to reclaim the public domain, or at least the voice within it.

The SMSlingshot installation effectively combines media displays—building projections—with mobile communication. The installation participants are able to use a custom-developed slingshot device [fig.1] equipped with a mobile telephone interface to send an SMS message. By aiming and “firing” a slingshot onto the facade, users can project their personalized message onto the building’s wall, expressed through the splash-like graphics. [fig.2] (Fischer, Zöllner, & Hornecker, 2010)

While projecting political or artistic messages onto public buildings is a well-established practice evident in works by artists such as Krzysztof Wodiczko, the addition of mobile communication is an important step into broader communal participation and ownership of public domain. The Interactive Power Station’s “Shooting Star” installation [15] achieves it perhaps more fully by allowing contributing individuals to customize their holiday messages, using the Electrobel Power Plant cooling tower as a canvas for the animated LED light installation. However, the theme of holiday wishing imposes a significant limitation on this particular project. An opportunity for a political or social speech is limited to socially predictable forms.

Along the same lines but breaking out of the socially correct framework, Graffiti Research Lab (GRL) develops urban media interventions that challenge the traditional demarcations of public and private, appropriate and inappropriate. Their purpose stated in their motto “dedicated to outfitting graffiti- and street-artists with an open source technologies for...”

Figure 1
Electronic sling shot device. (Image courtesy VR/Urban)

Figure 2
SMSlingshot installation in Berlin, 2010 (Image courtesy VR/Urban)
urban communication” is activated through the development of “tools of subversion and mass dissent. Like a giant graffiti laser.” [16] A certain level of dissent represented in GRL’s work moves the center of creative gravity outside the comfort of art galleries into an authentic street art. However, GRL works still do not achieve a guerrilla status like that of Banksy public art. Anonymity is a common denominator of Banksy’s art and traditional graffiti, and in this case, it is a strong differentiator from prescribed and staged digital installations that feel more like works ported out of the gallery, not home-grown street happenings. This anonymity of street art, and the expressive freedom associated with it, can be put back into digital media installations by developing systems that integrate individual participation through the use of mobile devices.

Laser tagging is a contemporary equivalent of traditional graffiti implemented on an urban scale without the negative associations graffiti tagging brings. Additionally, the GRL Laser Tag Rotterdam event [17] provides an opportunity for greater public participation, since the marking device is separate from the projector. The installation could accommodate unrelated or competing users collaborating or competing for the screen authoring. The GRL laser tag setup uses a high-performance video camera to track a green laser point projecting over a building façade. [fig.3] The laser pointer movement is reinterpreted as tag graphics and projected on the façade. A custom-written code (C++) allows for the adjustment of multiple settings, including brush size and type (for example, shaped like a chisel) as well as control of the drop mode with frequency and fading options.

In this case, the mobile device is not a smartphone, but a simple laser pointer; on the smaller scale of an art gallery, one could use a Wiimote controller. In either case, mobile devices serve as an interface between user intentions and media-enhanced urban environments, bringing together the power of creativity, public participation, and digital technology.

Another form of reappropriation of media facades can be achieved through augmented reality (AR) apps. Media facades become augmented as seen through mobile device cameras, with a change to their intended content and meaning. While this is not as present as real-world tagging or graffiti, it can also remain undetected by unprivileged urban dwellers. While apps like Layar facilitate the consumption of the AR environments, the full public engagement is realized with apps such as ARTags, [18] a self-described first AR application that allows easy and on-location content authoring, a critical addition to a situated technologies toolkit [fig.4]. According to the product description, “You can express your skills on your own mobile phone. Once your ‘tag’ is completed, you can drop it in one of our AR Browsers and leave your mark.”[19] And later: “ARTag allows everyone to express themselves anonymously and freely [in] the world of augmented reality through a mobile app for Android.”[19]

This form of expression provides full and uncensored authorship of public domain, albeit limited to its virtual form. It is similar to the Interactive Power Station project discussed earlier, but empowered by direct authorship without a middleman evaluating the user’s content. Certainly, this approach would quickly overproduce and most likely “pollute” the AR environments with meaningless, mediocre, or vulgar content. However, a future solution to this problem should involve intelligent electronic agents that allow users to preselect their AR content and not to be

Figure 3
subject to outside, socially or corporately imposed censorship. Both installations illustrate social, emotional, or environmental data using an interface that puts residents into the position of active content creators, thus shifting their role from consumption to authorship.

Some of the examples discussed here represent art gallery installations ported onto a street or into a landscape and are missing the guerilla-like character of street art. Also, it is not coincidental that much of the discussed work happens in Europe, a cultural environment open to alternative public expressions and tolerant of private ownership transgressions. While working within socially accepted confines provides comfort for explorations of new ideas, these digital media tools need to be hijacked and passed to the masses for full crowdsourcing experiments. The next frontier would be to liberate the well-crafted but often less fluid digital installations into open and fully participatory media frameworks: frameworks that allow for anonymity, spontaneity, and occasional iconoclastic expressions. At that point, this digitally enabled art would fully integrate with a city life, much the same way Banksy’s graffiti art has become one of London's prime destinations. While a street with building projections and media facades provides the platform for public art expressions, mobile devices seem to be destined to become enabling agents of this broader participation.

As digital media, and especially AR mobile devices, assume a more prominent role in contemporary life, there is a growing need for experimentation and for creative models that demonstrate enriching and meaningful integration of this technology into the urban environment. As the ARTag group suggests: “Very soon augmented reality will invade our life with a lot of marketing aiming to make us accept...mercantile products. But augmented reality can be much more, we just need to know how to use this tool.”[19]

A number of questions emerge for developers of these new media real estates. How can the integration of new technologies with landscape create spaces that evoke new experiences and touch us emotionally? How can media-rich environments reinforce democratic values and facilitate individual creative fulfillment?

REFERENCES


[6] http://www.youtube.com/watch?v=VSdxqI8FEAw (German Coast Guard-Berlitz Ad) http://www.youtube.com/watch?v=cUEkOVdUjHc&feature=related (Learn English Ad)