
Evaluating inner city locative media

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Abstract

In this paper, we present a user evaluation of Media Portrait of the Liberties (MPL), a location aware installation set in an urban area. MPL enables the mobile display of video clips when viewers are in specific locations and features content with strong thematic links to both these places and the local community. We discuss a qualitative evaluation of this system including both local residents and transient visitors. The results of this evaluation have clear implications for the design of future location aware multi-media systems.

Keywords

GPS, Locative Media, Distributed Stories, Mobile device

ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): H5.1 Multimedia Information Systems.

Introduction

Every story is bound to its setting and presenting one to an audience situated in that setting creates a powerful link between the reality surrounding the viewers and the displayed content. In the digital arts, a number of projects have explored this theme. For example, the Telephone Call by Cardiff [1] involves its audience following a path described by the artist and depicted on a camcorder they are holding. The contrasts and similarities between the scenes and events shown on the camera's screen and the



Figure 1. Screenshot of GUI showing the map, the radar, and the story icons and related symbols

environment around the viewers creates a powerful, immersive, juxtaposed experience.

More academically, the Mobile Bristol team has looked at MediaScapes [2] or sound landscapes which can be superimposed over a site. As audience members walk around an augmented area, they hear different sound clips in different places. Some clips are narration, some atmospheric sound effects, but the author's suggest that together they can provide an evocative rendition of the history of a place, bringing it to life for their viewers.

As these kinds of locative media system become more commonplace, unique questions of evaluation arise. One important issue is that who the audience is seems likely to exert a strong effect on what they think of the installation. For example, the residents of an area augmented with a locative media system are likely to expect and take very different things from it than tourists or more transient visitors. However, the nature of these variations remains unqualified. More generally, how such systems might be effectively evaluated at all is still an open question. This paper reflects these concerns and briefly presents a video-based locative media system and a systematic evaluation of it with three separate user groups: residents, visitors and media experts. It provides a model for how future evaluations might be conducted and sheds led on how these different user groups think about the system. The paper culminates with design recommendations for future locative media installations.

System Description

Media Portrait of the Liberties (MPL) is a locative media installation set in the Liberties, a deprived urban neighborhood in Dublin, Ireland. It revolves a PDA

based application that is GPS enabled and capable of displaying video content according to the current location of the user. Its contents took the form of a tightly interconnected web of short narrative clips depicting the local history and culture throughout the past few hundred years. Its aim was to preserve, enliven, celebrate and recall the spirit of this closely-knit community.

Figure 1 shows the application and users on the streets are shown in Figure 2. Its most significant features are a scrollable map and various navigation aids such as a cursor indicating the user's position and a radar view showing their location (and current viewpoint) on the whole map workspace. Content is discreetly highlighted on the map by small, high contrast icons. When a user physically approaches one of these locations, a larger icon appears on the screen showing a still from the appropriate video. Clicking on this causes the video to play. The stories were also grouped according to themes such as historical period, characters, and subject matter. When a video clip was viewed, thematically related clips became highlighted, allowing users to easily follow topics that caught their interest.

User Study

Goals, Structure and Methods

The main goal of this study was to perform a systematic evaluation to gauge user's impressions of the system. We explicitly recruited seven users from each of three different populations - residents, visitors and media-experts - as we felt each group would contribute interesting and valuable insights. Within each group, we had three users experience the system alone, while the remaining four worked in pairs. This enabled us to see if novel behavior emerged in the



Figure 2. Two study participants using the MPL system on the streets of Dublin

collaborative use of the system. The experimental measures involved observation of users during their tours (both by tailing them in person and by recording their speech using a wearable mike) and semi-structured interviews discussing their experiences afterwards. Generally speaking we found the users to be positive about the experience (something echoed in other locative media systems [2]). We split our more detailed observations into those attributable to each of our user three groups below.

Residents reaction

The resident's were recruited from a local community centre. Most were middle-aged, and came from families who had been living in the area for several generations. Their use of the system was characterized by a strong engagement with both its content and the environment around them. Many of them were familiar with the stories and characters relating to relatively recent events, actively volunteering their own additions to the anecdotes, and recalling their past. They were also comfortable in the area (which has a reputation in line with its disadvantaged state) and found it extremely easy to navigate. They often encountered and discussed the system with friends or acquaintances they met on the street.

Generally, they were technological novices, and appeared relatively uninterested in, and unhindered by, the features and UI of the system. They were able to use it to play the videos they wanted, and they subjected it to no further analysis. Instead their interview sessions were filled with lively discussions related to the content itself – how they recalled the events of one story, or how the lifestyle depicted in

another had changed. They were keen to suggest topics or stories that would make compelling additions.

Visitors reaction

The Visitors user group encompassed both tourists and residents of other areas of Dublin. They tended to be younger and more computer literate than the residents, but were unfamiliar with the Liberties area. Generally, they treated the system as an informative tool supporting them as they roamed around an unknown area. They found it worked reasonably well as an unstructured tour-guide, allowing them to navigate a neighborhood they would normally not visit and providing snippets of interesting historical, cultural or anecdotal background.

However, they tended to feel the system would have been useful had it included more factual content: the exact dates events took place or detailed history regarding the construction of some landmark. Some of them also found it hard to connect to the more personal stories. For instance, one series of clips chronicled the life of a family through the various trials and tribulations of moving around from house to house and job to job. Lacking the required cultural reference frame, many in the visitors group found this narrative fragmented and difficult to relate to. They lacked the social background to understand and emphasize with the lives being depicted in these stories. This group also provided insights about the interface and system itself. They were noticeably more reliant on the system to navigate, and had problems orientating themselves. They sometimes inadvertently returned to clips they had previously viewed, suggesting information about their path should be made easily available.

Media-experts reaction

The media-experts were a varied group from both technical and artistic backgrounds; their comments and experiences tended to reflect their expertise. Those with computing science backgrounds commented on the interface and functionality, sometimes suggesting that the GPS accuracy was insufficient, or that the visual design of the icons cluttered the screen. Those with a more artistic bent commented that the PDA and UI inherently distracted from the story experience. One, a writer, suggested the characters lacked motivations and psychological depth. Another, who had previous worked with non-linear narratives, found the fragmented content charming and poignant.

One issue that was repeatedly raised was that it could be hard to precisely locate the content of the video clips in the environment. Often the media referred to a specific building, but the GPS accuracy of 10-15 meters, and the fact that orientation was not measured meant that it could be quite hard to find the relevant landmark. This confusion detracted from the experience and should be resolved in any future system.

Recommendations

All users were generally positive about the MPL experience, suggesting there may be a broad audience for future locative media systems. The evaluation was informative and we make these recommendations:

- **Design for your users.** Each of the three user groups had different opinions on many aspects of the system, from appreciation of the content to use of the interface. For locative media, the question of who the audience will be should be at the forefront of every design decision.

- **Modular stories convey atmosphere.** Short story fragments work well in the context of LAMS systems. Generally, we found that users were able to stitch together the disconnected scenes they watched into a cohesive whole; to link the fragments that directly connected with one another, and to absorb the rest as detail contributing to a richer and more atmospheric experience.
- **Include guidance, such as paths or timelines.** Users unfamiliar with a neighbourhood tend to use the system as a tour guide to aid navigation. Providing tools to support this, such as paths suggesting where to go next, may make the system more accessible for them.
- **Explicitly situate media.** It is important that the media is explicitly designed to allow users to situate the content in the environment. If they are unable to superimpose the videos with their location, the effect of the experience is lessened. One technique is to start each clip with a photograph of the relevant location.
- **Screen UI is a visualization, not an interaction.** Generally, the users wanted to see more (e.g., the path they had taken or might take next or indications about whether they had already seen a piece of content) but *do less*. They wanted to look at the system, but keep actual, explicit interaction to a minimum.

In conclusion, this paper focuses on the evaluation of a locative media system. By using a broad population in our study, we offer a fresh and detailed view of how real users think and feel about the system. This has value for future locative media applications.

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References

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