

History Unwired: Mobile Narrative in Historic Cities

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ABSTRACT

History Unwired (HU, see <http://web.mit.edu/frontiers>) is a multi-year investigation of the narrative uses of mobile technology in historic cities. In 2004-2005 a team of researchers from MIT and University of Venice IUAV worked with local artists, citizens, and academics to develop a walking tour through one of Venice's more hidden neighborhoods, delivered over location-aware, multimedia phones and PDAs. The tour was presented at the 2005 Biennale of Contemporary Art and takes visitors around one of the lesser-traveled neighborhoods of Venice: Castello. The tour was tested on over 200 users, over half of whom filled out extensive surveys. In this paper we present the results of these surveys focusing on the how different types of physical and sociological spaces complemented the audio, video, interactive media and positioning capabilities of the handhelds. First we provide some background information on tourism and local culture in Venice. We then describe the narrative and technical structure of the History Unwired walking tour. We then go into the use of mobile media in closed, semi-open, and commercial spaces in Castello.

Keywords

Mixed-reality, augmented-reality, mobile media, tourism, mobile technology, pda walks, cultural technology.

1. INTRODUCTION

1.1 Tourism in Venice

The project comes at a time in which the number of visitors in Venice is rapidly increasing* and tourists are spending less time in the city. The average visit in Venice lasts eight hours and tourist flows are concentrated in the popular St Mark's square. Most tourists have no information about alternative cultural offerings of the city. [1] A common complaint reported by Venetians, and noted in a recent *New York Times* article, is that 'The historic center of Venice has become a kind of Disneyland,' said Mr. Gorghetto, 50, who lives on the main tourist area between the Rialto Bridge and St. Mark's Square. The crush is bad enough that recently he bought a summer house - in a different part of Venice." [2]

* In 1960 less than a million visitors came to Venice and in 2003 over 14 million poured in. The local population was above 170,000 in 1950 and in 2003 it dipped to 65,000. [1]

Various solutions to this problem of mass tourism have been tried. The last local government of Mayor Paolo Costa planted signs around the city ordaining ten rules for "intelligent tourism," including "Get a map of the city and remember that Venice is much more than just St. Mark's Square." Itineraries for alternate routes have been posted on the city's Venice Card website [3] and plans are being suggested for more detailed online services.

1.2 Situating the Project and Character Selection

The goal of the HU project was to develop a media form that would take tourists to lesser-traveled, yet culturally-rich areas of Venice and give them an intimate experience of Venetian life. The area we chose to do this in was Castello, geographically the largest of Venice's historic center's six *sestiere*. The eastern section of Castello was chosen for experimentation specifically for its concentration of locally significant attractions (the Arsenale, church of San Pietro, and Via Garibaldi, the commercial heart of post-WWII Venice) and the fact that it hosts the Venice Biennale, which annually attracts over 300,000 visitors to the neighborhood over six months. [4]

The mobile content for the tour was developed over a series of interviews and walks with Venetians who had a particular attachment to this neighborhood or a degree of fame among its residents. From these interviews we ended up with five characters who all work with the arts and crafts of Venice and a 3 km circular walk starting and ending in front of the Giardini site of the Biennale (see Fig 1).

The tour was available from Sept. 1st until November 7th, 2005 in English and Italian. Devices were offered free of charge from our distribution point in front of the Venice Biennale. We did test the possibility of offering the tour content online for download to PDA's and 3G phones via Tre's network, but we did not test users who downloaded the information.

The tour plays out like a combination multimedia documentary and treasure hunt as users are guided by the personal and folkloric stories of five locals on a winding path into the outer reaches of Castello. We worked closely with each of the characters to arrive at the final version of their content and fact-checked all historical references they made. The choices in technology then followed from the content and spaces, foregoing the use of GPS because of tricky coverage in Venice's small streets. We used Bluetooth sparingly, less for orientation, and more for the loading of bonus

material such as interactive art and the virtual tour of off-limits areas.



Fig 1. At any time the user can see a map of the path and choose to listen one of the five characters

2. CONTENT

2.1 Technology

History Unwired is delivered in Motorola a1000 smartphones and Dell Axim X50 Pocket PC's. All the content is Flash-based, the Pocket PC with a Flash Player v7 and the a1000 with a Flash Player v5 version. Video launched in a separate application: Windows Media Player on the x50 and in the a1000 smartphone video player. Processors were too slow to run the video within the Flash Player.

As mentioned above, the tour makes use of the location sensing ability of Bluetooth on both devices.

First of all, two interactive art pieces created by Amanda Parkes and Jussi Angeseleva (MIT) were installed along the course and activate in the presence of bluetooth. In one point, walkers find themselves walking near a semi-closed off greenhouse. Panels in the facade of the greenhouse have been covered with black, thermachronic ink. When walkers pass in front of the greenhouse, a circuit is tripped by bluetooth in the devices and the panels are heated to reveal a growing plant form in the façade. However, users must deviate from the path to get close enough to the façade to activate the circuit (approx. 20 meters.) Another installation by the same artists features a line of hanging laundry treated with thermachronic ink. This laundry appears to be a normal gray set of clothes until Bluetooth activates wires in the laundry which heat up to reveal the outline of the landscape the user can glimpse behind the laundry. This installation did not require exploration off the path to activate. The third use of Bluetooth along the tour is discussed below in Section 3.1.

2.2 Mixed Reality

Our narrative structure was designed to make use of the rich visual environment in Venice and the local landmarks (both architectural and human) that we found in the neighborhood. To

make this possible, we tried to fluidly integrate handheld content with one's surroundings. This was done in two ways.

First of all, we made ample use of audio. Of the approximately 70 minutes of content we developed, 50 minutes were audio-only, 12 minutes were video, and 8 minutes were interactive features. We also encouraged users to pause the tour at several points along the walk to experience interactive art pieces, talk with locals, or enter local establishments. Directions were given by audio, and as a last resort, users could refer to interactive maps on the handheld.

Secondly, we tried to make the interface easily "go away." First of all, we gave users a neck strap, so the device could dangle while they walked or be put in their pockets. We also designed the content so that the screen naturally reverted to an animated image of the character speaking—a fun reference point to who was speaking without drawing too much attention to the screen. Finally, every function was no more than three clicks (finger presses) away and the buttons were designed to be operable with an adult finger rather than a cumbersome stylus.

2.3 Narrative Structure

2.3.1 Linearity

Interactive media offers many possibilities for storytelling structure and user input. We worked with relatively "closed" system of storytelling in that users had few opportunities to "choose their own adventure" and add to the content. Users could choose or not choose to see a video, and, with one character, they could choose a shorter version of their segment. But, basically, the content ran like a series of five short films, each giving a portrait of a Venetian as you were guided through a specific portion of Castello.

2.3.2 Coherence

One of the main challenges of the project was to bind the characters' individual stories and perspectives into an overall story that would be both compelling and coherent over the one hour and half that users were on the tour. The other challenge was to create an intimate narrative experience that was neither banal nor too abstract for the average user.

2.3.3 Sensitivity

Beyond narrative continuity, we were hoping that the media would instill a certain sensitivity to local humor, privacy, art, and culture overall. Rather than offer tourists rules, we wanted to provide a more subtle means of understanding local customs, manners, and folk. From our user studies, 87% ranked the tour "good" or "very good" in conveying a feeling of intimacy and connectedness to the characters, and 90% of users gave the same rank for the capacity of the media to make them feel immersed in the environment.

We also endeavored not to use the technology as a voyeuristic or sensationalizing tool. While the media was divided into different segments and characters, we hoped that every bit fed a constant tone of sensitivity, creative exploration, and witty irony that pervades Venice.

3. NARRATIVE POSSIBILITIES OF URBAN SPACE IN MOBILE MEDIA

3.1 Restricted Areas

The visitor to Venice and other historical cities is often intrigued by off-limits areas. The challenge here is to open up these spaces in way that is sensitive to the residents' privacy but at the same time takes users deeper into the narrative. One of the most interesting "closed areas" on the tour is one character's house. This character, Alberto "Berto" Garbizza, is a fisherman and folk singer and lives in the ex-convent next to the Church of San Pietro. Tourists can enter the walkway of the building but a sign overhead clearly indicates that the zone is restricted to residents only (fig. 2).

At this point in the tour we directed the users to look at the device for a virtual tour of the house, including the interior garden and Berto's house. Users stand in the covered entryway and view this content. From our surveys and observations of users we had several interesting findings.

First of all, users in groups often tried to indicate to each other where the virtual spaces they were viewing on the handheld corresponded to the exterior façade. There were eight "rooms" to explore on the interactive feature, the deeper users explored the more personal the discussion became. Berto talks about Venetian housing mechanics in the outer rooms, and squatters and his family history in the inner rooms. This "architecture as metaphor" storytelling structure seemed to work well. Finally, 6% of users reported meeting Berto as he was leaving or entering his house. He was happy to receive people, especially as they were soaking up his bits of wisdom. Finding such extroverted, informed citizens to deliver the content was key in making the "virtual" mesh with the "real", both in terms of place and personality.



Fig. 2 A restricted zone in Venice that offers an opportunity for a virtual tour of the private house of one of the characters.

A potential area of development for such closed areas is the use of sensors, such as Bluetooth, to block content if users cross lines of private space. We developed such an application and tested it successfully although not in Berto's house. Another step would be to work extensively with local residents to create more frequent, sustained interactions with visitors.

3.2 Semi-Open Areas

Castello and many historic cities are full of semi-private clubs where locals gather to talk, drink, play cards, etc. These spaces are both bastions of local life and often welcoming to discreet visitors (at least in Castello they are). We worked closely with two of these clubs, Circolo Podistico Odeon and Club Anziani Castello Est to create opportunities for users to understand these spaces and interact with their members. The more successful of the two was the Club Anziani, a rather large card/billiard club for retirees. (fig. 3)



Fig. 3. A view into the patio of the Club Anziani with the nursery school to the right appear and the retirees card club in front and to the left.

The club is introduced during a segment of the tour guided by local reggae star, Furio. He points out that the club lies next to one of the few nursery schools in the area. Viewers are afforded a liminal view of both the club and the nursery school through the gate to the courtyard. They then look onscreen for a video chronicling one club member's typical day. The video takes users into many of the interior spaces, conflicts, and opinions of the club members. After the video, users are invited to go into the club to have a drink and say hello to characters.

10% of the total number of users declared they went inside at least one place of the ten areas suggested along the tour. 54% of users didn't go inside the suggested places because they were closed, as are many Venetian locales in the afternoon or weekend. Also, users cited lack of time as a reason for not entering spaces.

While only 5% of users went into the Club Anziani, 19% recalled this video as a highlight of the tour.

The video does a careful job of preserving the architectural space of the club as it glides from room to room and detail to detail, so users feel a link between the exterior space in the corner of their

eyes and the interior space of the video. Also, several users found a nice synergy between seeing people playing cards in reality and seeing a video that talks about some of the rivalries and running jokes behind the games.

This confluence between video and real space could be pushed further by “lining up” video content with the architectural space. That is, rather than merely setting the video inside the building you are standing in front of, make video that matches the perspective of the audience, similar to Janet Cardiff’s “Video Walk”, which premiered at the San Francisco MOMA in 2001. [5]

3.3 Commercial Areas

Working with area businesses was a sensitive issue for the walk, because it was not a commercial venture. However, in situating mixed reality material, area businesses were a big part of telling the story of the neighborhood. As a rule of thumb, we only included local businesses that our characters pointed out and had specific narrative reference to.

One of the qualities of historic cities is that many street names come from the crafts that were practiced there. Thus as users enter the *sestiere* of Castello on the *Rio Terra del Forner*, Paved Canal of the Baker, it becomes narratively sensible to lead them to the last remaining bakery in the area. From our surveys, 11% found this route very memorable, when asked to cite three memorable experiences from the tour.

From a narrative perspective the bakery fulfilled several important functions. First of all, it activated a sensory input that is hard to get with digital media: smell. The smell of fresh-baked bread hits the users just as Furio begins to explain how after years of selling flour to bakeries, the smell made him nauseous because it reminded him of work. The bakery then becomes an adventure in local food as users are introduced to all of the different varieties of bread in Venice. The digital content then gives way to reality, as the tour automatically goes into a pause screen and users enter the bakery to say hi to Spanio, the baker (fig. 4), or press the button to continue.



Fig 4. A shot of Spanio, the baker and singer, appears on the screen before the guide invite the user to go inside the bakery.

This type of interaction with local businesses didn’t seem overly commercial to users and 55% of users reported that they were

interested in receiving a map of local businesses along the tour route.

Finally, Spanio’s bakery was important “pivot” in the storytelling flow. After exiting the bakery, users were offered the option of continuing down a shorter path for Furio’s segment of the tour. This was the only time during the tour in which users had such an option and the bakery was a good pause before they come to this crossroads. Such use of area locales as “pivot” points could be greatly enhanced. For instance, the devices could check how long you stopped or how much you explored the premises and alter future content accordingly. Agreements could also be reached with area businesses to provide special treatment, snacks, or trinkets to those coming in from the tour.

4. CONCLUSIONS

The HU group is analyzing the results of the surveys for both civic and commercial groups interested in developing mobile media for sustainable tourism. The Veneto Region Office of Tourism co-owns the content and has promised to make the tour an ongoing offering in the area of Castello. Several academic and commercial entities around Venice have expressed interest in expanding the tour to other areas of Venice.

Guide books, television shows, and film studios are all moving into the realm of developing mobile media for historic cities such as Venice. The use of closed, semi-private, and commercial spaces in this new form of media will probably run the gamut from highly exploitative to deeply sensitive and edifying. The key to such developments will be the preparedness of tourism boards, local governments, and citizens to understand this media form and get involved in a way that creates tourism that is both sustainable and involved in local life.

5. ACKNOWLEDGMENTS

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6. REFERENCES

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