

Ajmo Splite: Come on Split! Tell us what you think!

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ABSTRACT

Technology has often been utilized to address the needs of specific communities. Understanding how technology could be incorporated into solutions for sustainable tourism is a particularly interesting design challenge. This paper describes how we tried to meet such a challenge in an effort to help the residents of Split, Croatia enter into a dialogue with their local authorities about how to develop sustainable tourism within the specific socio-political constraints of their region.

Categories and Subject Descriptors

H.5 Information Interfaces and Presentation (I.7); H5.2 User Interfaces: User-centered design.

General Terms

Human Factors, Experimentation.

Keywords

Interaction design, Participatory design, Children, Tourism, Mobile Communication, Political Design and Public Displays.

1. INTRODUCTION

In the EU, there has been a shift from the concept of mass tourism (i.e. the traditional sun and sand holiday) to that of sustainable tourism which places an emphasis on the natural landscape and history of an area [Sundsseth, 2004; European Report, 2004]. Sustainable tourism, however, consists of more than this cursory transition. While striving to satisfy visiting tourists, sustainable tourism also seeks to protect and enhance opportunities for the future of the host region and its citizens. One of the goals of our short project was to explore Split, Croatia as a center for tourism and to investigate how sustainability would fit into such an environment.

This paper describes “Ajmo Splite: Come on Split! Tell us what you think!”, the solution proposed by the project team to address the sustainable tourism problem in Split. The paper further describes our design process and ultimately the event which we used to encourage interaction between the public and our prototype. We draw conclusions as to what we learnt from

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undertaking such a design challenge and what we accomplished by building a hi-tech prototype.

2. POLITICALLY DRIVEN DESIGN

Other interaction designers and artists have tried, using their designs or art work, to encourage people to take a more active part in politics. For example, Josh Kinberg [Kinberg, 2004] rigged his bicycle (see Figure 1) so that it could receive text messages from the internet and print them in chalk letters on the side walk. He said that his ‘Bikes Against Bush’ was an interactive protest/performance.



Figure 1. Josh Kinberg sharing political messages via his bike.

In a different but related direction, a Scandinavian organization is trying to develop visual methods in an aim to help small pressure groups join forces to lobby politicians. The visualization helps the small pressure groups to see quickly and easily which other groups are active in their area and to join forces on specific issues in order to exert more pressure. It was found that before this program was created the disparate groups had little interaction with each other.

Researchers have, however also commented on the negative impact that the growth of new information technologies has had on political debate [Nold, 2003]. The reach of capitalism to become global has enabled a new kind of decentralized protest to emerge. These groups are formed by protest leaders that can activate groups of people quickly via mobile phones, through websites, mailing lists, and SMS trees. These tactics have been so effective that they have forced organizations such as the World Trade Organization and the G8 to move their meetings to ever more inaccessible and policed spaces. It has also been argued that telecommunications technology has proved to be a political activist nemesis through the use of ‘Flash mobs’. Flash mobs are started when someone sends an SMS message to a mailing list naming a date, place, and time to meet. At the meeting place, instructions are given as to what to do. These are usually trivial things such as: ‘at 6.30, start waving your arms in the air and after ten minutes walk away’. It has been claimed that the Flash Mob raises complex issues about leadership and political purpose. For instance, Flash Mobs do not have a visible leader because the

SMS that initiates the process is anonymous and at the meeting place, no single person starts the protest. There is also often no discernable political point to be made.

In addition to these examples of technology-mediated political expression, conceptual art installations have played a role in thoughts of democracy and the exploration of spaces. Two very prominent artists, Andreja Kuluncic [Kuluncic, 2004], who created some conceptual works on distributive justice and state, and Maurice Benayoun [Benayoun, 2004], who exhibited 'Watch Out!', have both investigated the issues put forward here. In one sense their work can be seen as similar to our "Ajmo Splite" concept. The similarities lie in the cornerstones of our prototype particularly the kiosk, multiple ways of messaging to a broad audience and the underlying political stance. Admittedly, a technology prototype will never be conceptual art and the art of Kuluncic and Benayoun cannot serve as prototypes for technology development. However, the two are quite similar and can be used for the same purpose within a given socio-political context.

Some of the design methodologies used by the "Ajmo Splite" team have also arisen from the body politic. Participatory design had its very first origins in the democratization of the workplace in some Scandinavian countries. Brought about by employee influence through unions and collaboration with management. Participatory Design is not a single theory or technique, but rather an approach that is characterized by concern with a more humane, creative, and effective relationship between those involved in technology's design and its use [Suchman, Schuler & Namioka, 1993]. Several techniques have been adopted and/or developed to expedite participatory design, the most prominent being scenarios, early prototyping/mock-ups, participatory design workshops in various guises, contextual design, contextual inquiry, ethnographic field methods, probes, and informal interviews.

One of the founders of participatory design Pelle Ehn [2004] recently commented that cities could be viewed as collective interaction design. If this is true, then participatory practices could be used successfully to involve citizens in that design process. It should be added that some of the most important places in cities are not buildings but spaces or intersections through which the populace wanders. It is this 'public wandering' that contributed to the start of the French revolution. In the summer of 1789 one of the most important events of the French revolution was started by a group of peaceful strollers. This crowd, galvanized by the news of a popular minister's dismissal, formed themselves into a group that stormed the Invalides building, ultimately leading to the frontal assault on the Bastille [Nold, 2003]. The image that this leaves is a vision of the public domain that is not about formal physical space but about temporal intersection points where informal exchanges can take place. The success of the "Ajmo Splite" project was dependent upon both our understanding of the importance of these temporal intersections and the role of informal exchanges in the city of Split.

3. BEGINNINGS

The project began, as most projects do, with vague concepts and general ideas of what could be accomplished by the team. We defined four pillars upon which our design should be built: sustainable tourism, mobile telecommunications, previous experiences of the group, and the information provided by the locals and the tourists.

From there, we agreed upon two possible avenues of investigation. First, develop a solution for tourists: this seemed the more logical and more intuitive choice for the group as we could, in part, put ourselves in the position of tourists. Secondly, develop something for locals: this seemed counter-intuitive to the group as we were not all locals and therefore could not truly know what they needed or wanted. Furthermore, we felt that given the time span of the project (i.e. two weeks) we could not gather enough information about the locals to make an informed decision about their needs. However, we did not want to abandon this idea and so aimed to find out information from locals about their needs with an aim of including their thoughts in the design process.

4. REQUIREMENTS GATHERING

We began our investigation by undertaking a short literature review of previous research in the area of mobile telecommunications. The reason for this review was to inform ourselves of what had been previously accomplished so that we could draw upon those experiences. The second activity we engaged in was a set of city tours. Split officials kindly offered to provide a formal tour of their city. This tour helped us to think about our role as tourists and to identify what the city officials perceived was of interest to those visiting their city. To gain a fuller view of Split and its citizens, we asked two of our team members who lived in Split to give us a second tour from the locals' perspective. They kindly agreed and this tour provided us with a deeper insight into the needs of the community in Split.

The next stage of our design process was a brainstorming session to identify some potentially interesting topics and areas of concern for tourists and locals. We used the information gained from the tours and the literature review as input into this idea-generating session, each member of the team writing down five ideas and attempted to categorize or discard them. This approach is similar to the techniques used in contextual inquiry [Beyer & Holtzblatt, 1998]. When we finished, several themes and communities-of-interest emerged. We then formulated questions to conduct interviews with local adults, local children and tourists. We decided to include children as a target group since our locals' tour had shown that children had been affected by some of the tourism-related decisions made by local politicians. because we discovered during our locals' tour that the children have been affected by some of the tourism-related decisions made by local politicians.

4.1 Findings from Interviews and Field Observations

By dividing the team into smaller groups we were, in a short amount of time, able to conduct interviews with 6 adult tourists, 4 local children/teenagers and 5 local adults. All adults were interviewed in English but the children were interviewed in Croatian. Each of the groups reported back on the results of their interviews and observations.

Our findings were a bit surprising. The tourists all commented that they were quite happy with the facilities already available in Split and that there were sufficient guide books and local tourist offices to help them if they had any questions or problems. The more interesting findings came from our discussions with the locals. In general, they seemed positive about tourism and thought that it brought a lot of good things to the city including jobs, money, and development. However, alongside these benefits there

were also a number of concerns. For example, the electricity supply and refuse management system were inadequate to meet the extra demands during the tourist season and often resulted in blackouts and garbage pile-ups. In addition, the local residents perceived a deeper issue of corruption involving local politicians who were allegedly selling and redeveloping public space without consulting their constituency. What became clear from these interviews was that the locals were not happy with how politicians made decisions about new planning developments. There seemed to be no mechanism for holding politicians accountable for their decisions and no easy way for locals to voice their opinion about local planning issues. Also, the planning process itself was seen as flawed and difficult, with one of the interviewees commenting that out of frustration with the bureaucracy, they had given up trying to get the requisite permits and just went ahead and built their house without formal authorization.

The notion of the locals' lack of political engagement and the absence of democratic forums for discussing political matters was mirrored in the observations made by our team. One notable experience was an evening when the town was out on the streets of Split celebrating the Croatian sporting heroes who had returned from the Olympic Games with gold-medals. Fire works were lit, music was played, and the athletes were cheered when they entered the stage. Suddenly, when local politicians entered the stage to offer their remarks, a collective "Booooooh" was heard from the audience.

Historically speaking, the Croatians have been a politically frustrated people. They have had foreign masters, endured a government led by people from another land and culture, and they have been part of larger federations. The Romans, the Venetians, and the Yugoslavia federation have all left their traces on the landscape as well as in the culture of Croatia. As a result, the Croatian people are politically aware, but have always had someone else to blame for their problems. This sentiment is often evident in some cultural expression and in the language [Gustavsson, 1977]. While in Split, the team observed the locals engaging in "Splitski Djir", which loosely translates to "the Split way" or "what's up in Split right now." In Split the locals go out in the streets to have a coffee, to meet people and to talk. They rendezvous at the beach for swimming and linger to enjoy the sun and camaraderie. The political consciousness is not as strong, particularly amongst the young people; they are more concerned about Splitski Djir!

5. THE BIRTH OF A CONCEPT

After discussing our findings from the tours, our observations of the events that took place in the city centre, the results from our interviews and our research on previous politically-driven design, the team decided to focus on a concept that would enhance the socio-political environment of Split. What was needed most was a mechanism to open the communication channels between the locals, the local authorities and the politicians, particularly around the issues of city planning.

Since we were attempting to solve a real-world problem, we wanted our project to result in a working prototype that could be used to observe reactions and gather feedback from the citizens and their local context. The main goal for our prototype was to create an initial spark which would get people talking and interacting with the political machine. Initially, we drafted three

possible solutions (See Figure 2) which were ultimately combined into one "uber" concept. Some of our concepts were inspired by previous research on cooperative and participatory design (mentioned in the previous section) which had been a success at enhancing the socio-political environment and using this to solve real design problems. We also wanted to include some notions from Interaction Design (i.e. that a design should be fun, engaging etc.), especially since we wanted to include children in the interaction.

We realized at this point, however, that we were still not 'locals' and that, despite all our efforts, we had only undertaken a very limited inquiry into the locale. We decided, therefore, to engage with three invited locals over dinner, asking them to listen to our plans and provide honest and critical feedback. The locals who attended the dinner embraced the concept proposal and provided positive feedback to the group.

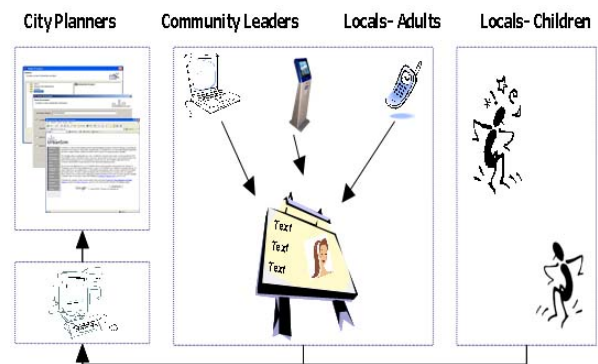


Figure 2: The Three concepts integrated into one.

A high tech prototype was favored over simpler forms since it would allow us to observe 'real' technology being used by 'real' people in a 'real world' setting. The design focused on building a single digital billboard that afforded different types of interaction and offered local people, of all ages, a platform to voice an opinion on a local issue. This design centred on a kiosk that was situated in a public space in the city, with people's opinions being projected onto a wall.

Although we wished to utilize a full participatory design approach during the prototype development, it was not possible due to lack of time. However, we were still keen to involve real citizens in the design of the prototype as it evolved. So, a compromise was reached through the involvement of a lecturer and students from the Arts University of Split. We discussed our prototype design with them and they provided an objective and local perspective that was informed by local issues and the needs of their own community. In an effort to make us fully understand the poor decisions that had been taken by city planners one of the lecturers took two of the group members to buildings and building sites which had been abandoned before completion due to poor city planning.

5.1 The Shape and Purpose of the Prototype

The final prototype that emerged was a three-sided kiosk coupled with a digital billboard. This kiosk served several functions (i) to provide information to locals about the project; (ii) to capture video clips of people responding to the question 'How well is planning and control organized in Split?'; and (iii) to provide a

physical and more playful interface that allowed children to voice an opinion on a related issue. Each of these functions was allocated a side in the kiosk design. In addition the kiosk contained some of the technology that was required and provided a platform for the projector. A web cam enclosed in one side of the kiosk allowed users to record 15-second clips by pressing a button and speaking into the camera. A mirror around the camera provided the users with visual feedback on what was being recorded.

The children's interface was intended to encourage a more physical and playful form of interaction. It was agreed that this was a more intuitive and natural way for children to express themselves. Also, other researchers have claimed that the use of traditional human computer interaction styles with input devices such as a keyboard, mouse, or game pad are not interactive enough and encourage poor levels of interaction. They propose that researchers should explore more physically engaging alternatives [Höysniemi, Hämäläinen, Turkki & Rouvi, 2005]. We were also concerned about how the children would engage with a political message and debate. We were also grappling with time constraints. Given all this information we decided to develop a 'low-tech' design that would prove to be, we hoped, physically engaging. Two illustrations were attached to one side of the kiosk, each a response to a single issue. Children were able to voice their opinion by simply throwing a soft ball into one of the baskets fixed below each illustration.

We specifically chose an open space that was used transiently by the majority of Split residents to project the digital billboard. Research shows that large visual displays have often been used to augment the social space. In the main this has been done in the work place and at conferences [Churchill, et al., 2004] [Carter, et al., 2004]. This project allowed us to explore the efficacy of this technique in a more commonplace social setting. Another way in which our work differs from previous work in the HCI area on large displays was the target audience for the device. Our prototype was designed with the firm aim in mind that everyone should be able to interact with it and engage in the debate. More specifically, part of our prototype was aimed at children and aimed to include them in a political debate that would affect their future. This is something that the project team saw as important, as do others in the HCI area. For example, William Griswold, argued that shared physical spaces cannot be depoliticized in terms of communication. Therefore political considerations especially from an ecological perspective could have a positive impact on any visual or interactive design for these spaces [McCarthy, et al, 2004].

5.2 Pre-event Preparations

Preparing for the event involved addressing a number of practical issues. This included finding a suitable location and time for the event, getting permission from the local authorities to use a public space, and finding places where we could also get easy access to electricity. We visited a number of possible locations with local members of our group. All the locations were within the Diocletian Palace of Split and were familiar to the locals. We finally chose Fruit Square, a plaza in the center of the city that was surrounded by cafes and bars. This square was a popular place for people to socialize and also formed part of a thoroughway between the medieval city and the promenade. Based on the research highlighted earlier, that one of the most important things

about the public domain is not only the physical space but also the temporal intersection points where informal exchanges can take place, we found the selected location even more appropriate. Lastly, we decided that we would run the event in the early evening, a time when families were out in the city enjoying Splitski Djir!

6. THE EVENT



Figure 3. The event in Fruit Square

The kiosk was placed in Fruit Square with the billboard content being projected onto one side of a medieval building, a seamless mix of new and old. People could record video clips of themselves or text their opinions to us. The projection combined information about the project together with captured video clips and text messages. New content was interspersed with random selections from previously captured content. A local, wireless network was set up between three laptops. Collectively these laptops captured, stored and projected people's opinions on to the wall. Technically the prototype combined both automated and 'Wizard of Oz' approaches. Whilst video capture and selection was automated the handling of text messages was more 'hands on'. This was a conscious decision that was made earlier in the design process. It was decided that given the public setting text messages should be checked before being projected. Consequently text messages were received, checked, edited if necessary, and then forwarded for projection.

7. CONCLUSIONS & REFLECTION

We felt that by undertaking this event we succeeded in provoking interest among the citizens and giving local children a voice. For example, the locals stopped and watched the projected images. We received live SMS messages (9) during the short time of the event; a small number of video messages were created (6). SMS did seem to be a more acceptable method of communication than video messaging. This is probably for two reasons. First, the fact that people are used to sending SMS messages to each other or to TV shows but are less comfortable with leaving a video message. Second, anonymity could also have been an important factor here.

We found that the children were the most interactive participants with the installation, possibly drawn to the simple physical interaction. The children voted in favor of banning dogs from the local parks (3 against the ban, 8 for)! The children were also keen to make video clips. In Figure 3 the girl is asking her father if he can lift her up so that she can make a video clip, providing a simple lesson for the interaction designers i.e. make your interaction device available to people of different heights! During the set-up of the kiosk and the preparations in the square, a large number of people came forward and started asking questions. Our prototype was built with the technology hidden so that it would

not “scare people off”. But surprisingly the computers, cables, and projectors, attracted attention and curiosity. We realized that in certain circumstances, particularly those that require interaction and engagement, making the underlying technology visible may be a method of attracting participants.

This finding goes against some common ideas in interaction design at the moment where the computer and the technology are supposed to “disappear”. We suggest that the presence/absence of technology should be carefully considered in each design, without pre-defined assumptions. Using a hi-tech technology prototype gave us the opportunity to observe how people engage with our idea in a `real life setting`. This understanding could not be achieved through paper or other low-tech prototypes.

In our post-event analysis we agreed that had time permitted we would have made a number of changes. For example, we would have increased the frequency and duration of the time exposure. That is, we would have had the kiosk out on the streets for a longer period of time e.g., a number of evenings in a row or consistently and repeatedly on a certain week day. That would have given us an iterative process of refining the concept, design and technology.

In the long term, it would be interesting to extend the concept by installing similar systems in other cities that have similar problems. This would enable people in different parts of the world to discuss these problems and provide a wider awareness of these important issues.

One can argue that the number of users involved in testing this prototype was insufficient. However, testing a prototype like this in a real setting is challenging. As, many things can go wrong e.g. poor weather conditions, power cuts (this is a common occurrence in the summer in Split), and the authorities might withhold permission for the use of the public space. It is also difficult to define how many citizens you have to involve in a test since all citizens are representative. The only solution to these matters would be to have more time for the testing, something we didn't have.

8. REFERENCES

- [1] Benayoun, M. <http://www.benayoun.com/>, 2004-10-14
- [2] Beyer, H & Holtzblatt, K. Contextual Design: Defining Customer-Centered Systems. 1998, San Francisco, Morgan Kaufmann Publishers.
- [3] Carter, S, Churchill, E., Denoue, L., Helfmann, J., & Nelson, L.. Digital Graffiti: Public Annotation of Multimedia Content. CHI 2004, April 24-29, 2004, Vienna, Austria.
- [4] Churchill, E., Girsensohn, A., Nelson, L., & Lee, A. Blending Digital and Physical Spaces: For Ubiquitous Community Participation. Communications of the ACM, 2004, 47, 2, 38-44.
- [5] Ehn, P. <http://www.interaction-ivrea.it/en/news/education/2003-04/symposium/participants/ehn/index.asp>
- [6] Gustavsson, Sven. Politik och lingvistik. Språkfrågan i f d Jugoslavien. (unpublished lecture by Sven Gustavsson, professor 1977 and professor emeritus in Slavic languages).
- [7] Höysniemi, J., Hämäläinen, P., Turkki, L., Rouvi, T. Children's Intuitive Gestures in Vision-Based Action Games. Communications of the ACM, 2005, 4, 1.
- [8] Kinberg, J. <http://www.bikesagainstbush.com/blog/index.php>
- [9] Kuluncic, A. <http://www.andreja.org/>, 2004-09-30
- [10] McCarthy, J.F., Boyd, D., Churchill, E.F., Griswold, W.G., Lawley, E., & M. Zaner. Digital Backchannels in Shared Physical Spaces: Attention, Intention and Contention. CSCW'2004, Nov 6-10, 550-553.
- [11] Nold, C. Legible Mob. Interaction Design, 2003. <http://www.softhook.com/legible.htm>
- [12] Suchman, L. A., Schuler, D., and Namioka, A. (1993). Participatory Design: Principles and Practices. Hillsdale, N.J.: Lawrence Erlbaum Associates.
- [13] Sundeth, A. http://europa.eu.int/comm/enterprise/services/tourism/studies/ecosystems/study_sustainability.htm, 2004-09-30
- [14] Anonymous. Using natural and cultural heritage to develop sustainable tourism. A report form The European Commission, October 2002.