MediaFranca:
Ubiquitous computing for youth engagement

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Abstract. Networking technology strives for maximizing the possibilities of connection among people but, at the same time, promotes atomistic individualism in narrow communities of interest. Also, a steady decline of social capital is particularly concentrating among youth. This research explores opportunities using ubiquitous computing and location-based media in order to develop design strategies for engaging teenagers in the issues of their communities and providing them with a space were they can raise their voice.

1 Introduction

The decline of civic health has been well documented over the last 3 decades in Western societies [1]. Problems in this area seem to be particularly concentrated among youth, who appear less cohesive and disengaged than earlier generations. Special attention has been drawn to information and communication technologies [ICTs] in order to understand the role they have been playing in this crisis [2]. Although continuously we can access to more and better tools for connecting people, this enhanced connectivity doesn't necessarily mean that we are increasing our sense of belonging to a community; it seems to be working —paradoxically— in the opposite direction. The openness of the networked space reinforces narrow group identities as archipelagos of disconnected islands [3], favoring atomized individualism.

It has also been observed that networking technology affects our cognitive framework of distance. We feel closer to what seems to be more relevant and interesting to us although it could be on the other side of the world. As an exchange of this, we are less likely to engage in local relationships with our immediate surrounding. It has been argued that this cognitive distortion has made our local settings more irrelevant to us [4]. This might explain —in part— why young adults and teenagers are much more disengaged than earlier generations. Young people have also shown to be aggressive early adopters of new technology but more interestingly, they have been able to subvert a re-appropriate of new products as means of being reflective of their own identity and culture. Engaging youth is important because they

have traditionally played a key role in civic life (civil rights, anti-war movements, antinuclear and environmental movements, etc.) raising important issues and bringing new ideas into the public debate. In this sense, a key goal of this work is to impress upon teenagers and young adults their inherent civic presence as active stakeholders of their communities.

This paper explores design opportunities for taking advantage of the connective and associative power of communication technologies as strategies for injecting this power in local youth communities. In other words, this work is focused in how, from a design perspective, ICTs can engender new forms of sociality that traverse onsite and online environments by providing youth a public voice in space.

2 Related Work

There has been a wide variety of research initiatives focused in promoting social interaction trough mobile devices. Especially significant has been the *TXTMobs* project [5] which consists in a free service that allows users to broadcast text messages to a b-board system which ten replicates them to all subscribers. The Yellow Arrow (YA) project [6] consists in the connection between physical evidence (a yellow arrow sticker with a unique code) and a digital content. These stickers are placed in urban settings as a way of saying "there's more here, a hidden detail, a funny story, a crazy experience"[6]. This project has been the first to explore the idea of geographical blogging. In the same line, the *Foundcity* project [7] provides a tool for creating personalized maps on the fly. Users can post and tag locations from their cellphones or from their computers. The *Neighbornode* project [8] consists in customizing and transforming wireless routers for the creation of wireless message boards opened to the public. This project strives for the creation of strong local ties among a community of neighbors. Another significant research is the Familiar Stranger Project [9] that tries to strengthen the sense of belonging by providing people with visual cues in relation with the familiarity of people they encounter in urban crowds. The core idea is to overcome the feeling of anxiety and insecurity of public places and instead strive towards comfort and even playfulness in these urban settings. In a different line, research has been conducted in order to develop frameworks for participation integrating camera phones and web interfaces in a collective city-planning model. [10]

The two major topics of this project are defining social interaction as a strategy for youth engagement and ubiquitous computing as a tool for increased social agency. Given the relational approach we are taking, our focus lies in the relationship between public space —as a space for negotiation— and social interaction as a process of discovering the surrounding community.

3 Design Process

Initial research inquiry was focused in understanding teenagers' needs and motivations in the consumption and production of digital media. Also, how these

practices where embedded in their daily routines. Interviews with teenagers focused in understanding their perceptions, patterns and behaviors in the use of technology as a mediator of their social relationships.

These interviews informed and shaped the next step of the research were participants were asked to craft posters depicting these relationships in detail. These poster-creation sessions, inspired by participatory design principles, where held as workshop sessions were participants were asked to take a reflective and critical stance in relation with their current use of technology. Participants were provided with an extensive set of clip art depicting people, activities, technological devices, general tools and iconic places. Besides the given clip art, participants allowed to draw and write whatever necessary in order to express their idea.

The first session was held in a school with 13 to 16 year old participants who were asked to identify the different social groups they interacted with (different groups of friends, family, classmates, etc.) and As a starting point, participants where asked to place themselves in the center of the diagram and from there draw their interactions. They were also asked to distinguish between positive and negative aspects of your current social relationships, taking a more critical stance.

The second and third poster sessions were held with freshmen students from CMU. They were asked to depict their daily routine by marking frequented places in relation with their social interactions. Another experience was focused in understanding their level of local awareness and how information was accessed through the different settings along the day, defining flows, sources and trust relationships.

4   Research Findings

The sense of disconnection can be traced back to the rhythm in which a teenager's life has been compartmentalized. In the majority of the cases, online relationships were dislocated from physical interactions since they were perceived as belonging to different social natures. In fact, they intersect only in very special cases.

While life of school students is partitioned by the different social circles they participate in (school friends, out-of-school friends, family circuit, teachers and online friends), college students are absorbed in the transition to campus life. Their sense of physical dislocation was in many cases aligned to the fact that old friends where also getting disconnected from each other. This transition encouraged social exploration in the pursuit of new connections and affiliations. Nevertheless, some students remained relatively isolated or within a small circle of friends. But practically in all cases their major need was finding opportunities for meeting people similar to them and with whom they could expand their social network.

Technology offerings are looked with suspicion and skepticism but are rapidly absorbed and re-appropriated suiting their particular needs. This is the case of IM and text messaging, while email is considered as a tool for old people. Also, they have strong multitasking skills: they can watch TV, do their homework, browse the web and chat with friends at the same time.

4   Design Concept

MediaFranca is a platform for running publishing services in mobile devices. Media is posted with geographical metadata as users can access it through their cameraphones. This service provides users with geographically situated media that has been filtered by their contact network and preferred interests.
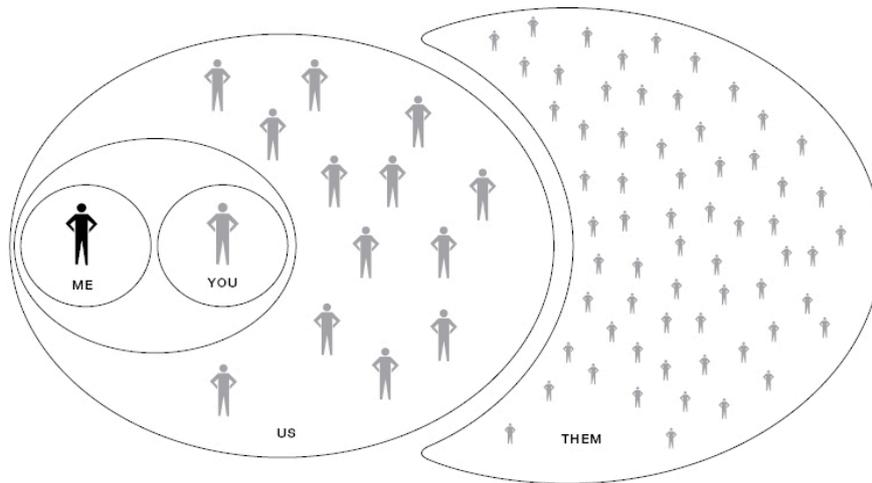

Fig. 1. This social framework provides a way for recognizing various levels for interaction for perceiving, maintaining, building and exploring different social relationships.

4.1   Scenario A

It is 8.30am and Travis, a first college year student, is having a coffee before class at the university center. He has time to check what's going on around campus, so accesses his mobile device as if he was taking a picture. Through the screen, he notices a video icon over in the center of the hall. He opens the post and realizes it's from Greg, a 4th year engineering student. The video is an invitation to a concert Greg's band will be performing in a local pub. The post also includes a link to a couple of songs that Travis is allowed to download to his cameraphone. After listening to the song he decides to go to the concert that night and adds Greg as one of his contacts.

4.2 Scenario B

Its Saturday morning and finally Owen, a 24 year-old self employed mechanic, is going with his friends for a ride. This time, they'll be exploring a different bicycle. When they arrive there, their mobile device notifies them that there's something important to check. It is a video warning about a very challenging spot in the trail that previous bicyclist left there. After the ride is over, Owen decides to leave a reply with their video and also suggesting people to take enough water because refills are few and far between each other. He also takes the opportunity to invite the bicyclist community to join him every last Friday of the month at the City Library, for a massive ride promoting alternative ways of transportation.

5   Conclusions

Physical interaction and situated communication raises the relevancy of the near and promotes further discovery of the immediate surroundings. This situated interaction is more likely to unfold and transcend from the digital to the physical. Nevertheless, we must distinguish that the finitude of physical space requires the development of a

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