

# MediaFranca: Ubiquitous computing for youth engagement

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**Abstract.** Networking technology strives for maximizing the possibilities of connection among people; however, communication technology also promotes atomistic individualism in narrow communities of interest. Today's youths experience this paradox as the increasing emergence of mobile communication technology and networked devices contribute to a steady decline of social capital. This research explores opportunities for using ubiquitous computing and location-based media in order to develop design strategies for engaging young adults in the issues of their communities and providing them with a space where they can raise their voice.

## 1 Introduction

The decline of civic involvement has been well documented over the last 3 decades in Western societies [8]. 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 [10]. Although people can continuously access more and better tools for connecting people, this enhanced connectivity doesn't necessarily mean that people are increasing their 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 [9], favoring atomized individualism. Networking technology diminishes our sense of geographic 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 surroundings. It has been argued that this cognitive distortion has made our local settings more irrelevant to us [6]. 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 or re-appropriate 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 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. This work focuses on 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 focused on promoting social interaction through mobile devices. Especially significant has been the *TXTMobs* project [5] that allows users to broadcast text messages to all subscribers. The *Yellow Arrow* project allows users to make explicit connections between physical places and digital content through the use of a yellow arrow sticker. 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"[1]. This project has been the first to explore the idea of geographical blogging. In the same line, the *Foundcity* project [2] 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 [3] consists of 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. Additionally the *Familiar Stranger Project* [7] tries to strengthen people's sense of belonging by providing visual cues of the user's familiarity with an urban crowd. The core idea is to replace the feeling of anxiety in public places and instill comfort and even playfulness instead. Finally, research allows people to participate in city planning through the use of camera phones and web interfaces [4].

In our project we leverage social interaction as a strategy for youth engagement and design ubiquitous computing as a tool for increased social agency. 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

Our initial research inquiry was focused in understanding young adults' needs and motivations in the consumption and production of digital media and how these practices become 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 where participants were asked to craft posters depicting these relationships in detail. These poster-creation sessions, inspired by participatory design principles, were held as workshop sessions where 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 were 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.). As a starting point, participants were 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 their current social relationships, taking a more critical stance.

The second and third poster sessions were held with first year college students. 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 young adult'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 intersected 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 were also far away. Lack of autonomous means of transportation was also a promoter of dislocation. Life transitions 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 themselves and with whom they could expand their social network. Also important was their perceived lack of agency as they declared that most of the key issues that affected their lives were out of reach.

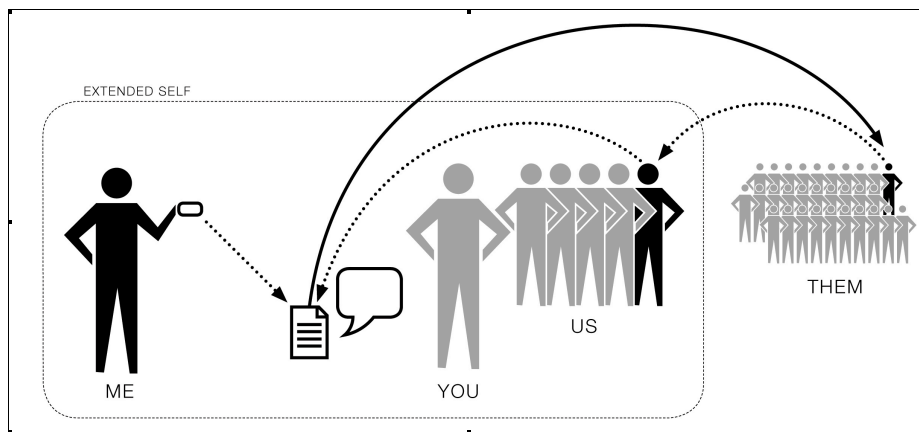
Technology offerings are looked upon with suspicion and skepticism but are rapidly absorbed and re-appropriated suiting their particular needs. This is the case of IM and text messaging, which are tools of choice, while email is considered as a tool for old people. Also, they have strong multitasking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

Finally, we generated a set of concepts from these findings which were presented to our participants. They were asked to discuss their feasibility in potential scenarios

of use as well as the projections they could envision from the interactions with and through the product.

## 4 Design Concept

*MediaFranca* is a platform for running publishing services in mobile devices. Rich media is posted with geographical metadata as users can access it through their cameraphones as augmented reality. This service provides users with geographically situated media that has been filtered by their contact network and preferred interests. Geographical posts can vary from self-narratives (such as traditional blog posts) or can include more conversational formats such as public statements, sign-ups, questionnaires or community notices.



**Fig. 1.** Different degrees of social proximity will determine the visibility of situated media. Peer filtering becomes a way of avoiding media pollution but also provides a pathway for exploring new relationships based upon trust. *MediaFranca* provides a way of maintaining current relations but also encourages exploring and building new ones.

**Scenario A.** It's Saturday morning and Sonja is waking by the river shore on her way to the groceries, as a way of taking advantage of the wonderful day. Her cellphone vibrates: it's a notification from the *Sierra Club*, an environmentalist group she belongs to. This notification was triggered because she was passing by a certain place where a recent post has been placed. She interacts with her device as she was taking a picture and notices a post icon by a group of bushes, about 50 mt. away. The post consists of a picture of trash and a voice recording describing the situation: *It seems that we have a new illegal dumping zone; you can see lots of trash bags and empty boxes here. We need to raise this issue in the next city council meeting.* Sonja decides to check the place closer and notices that now there is more trash than what is shown in the post: there are bunch of car tires and empty paint cans. Sonja takes a picture of the place for making a quick reply to the thread, adding an audio description: *These tires weren't there last week so the situation is getting worse. We need to take care of this immediately before it's too late.* 2 hours later, on her way back home she passes

the same place and notices that the thread has a new post by John: *Don't worry, I've contacted one of my friends at the City Council and they'll send a truck during the week. He told me that they might even put a sign indicating the penalty fee for leaving trash there.*

**Scenario B.** It's the last Friday of the month and Owen is sitting on the grass with a couple of friends, waiting for the rest of the *Critical Mass* participants to show up. He uses his cellphone to search for a post nearby and he notices a Critical Mass Gathering post. He subscribes to the thread as a bulletin board in audio format. The ride starts and the mass starts moving east; it seems that this time there is no predefined itinerary. A few blocks later, Owen's cellphone vibrates; it's a message from the CM thread: *Ok folks, we are going to make it left at Craig St. and head to Liberty Ave, from there we'll head to the point a do a little mess there. Ah! and please remember to let the buses roll.* Later, Owen feels a little bit tired but he wants to enjoy with his friends a little longer, so he sends a message to them: *Hey guys, what about a couple of beers? let's head to the north side and meet at the Hi-tops in 10 minutes.* Later that night, Owen is finally home. He checks the CM post on his computer and notices all the pictures and videos that the participants left attached as continuations of the thread. It's nice to review the ride again from different points of views.

### Conclusions

Mediating artifacts can shape the way in which social interaction takes place. If media is situated in specific geo-social context viewers can easily track down further connections to the information. Physical interaction and situated communication raises the relevancy of the near, promotes further discovery of the immediate surroundings and strengthens the sense of belonging to a community. Civic engagement can be leveraged from this stronger sense of community as this system provides a space for raising issues that are relevant to their constituents.

### References

1. Counts Media (2004). Yellow Arrow: Map your world - Publish your life - Create your journey <http://yellowarrow.net/>
2. Geraci, J. (2005) Foundcity <http://www.foundcity.net/>
3. Geraci, J. (2005) Neighbornode <http://www.neighbornode.net/>
4. Goodman, E. (2005). 'Created by everybody': Engaging participation with mobile interfaces. Intel Corporation.
5. Institute for Applied Autonomy, (2004). TXTMobs <http://www.appliedautonomy.com/txtmob.html>
6. Mejiias, U. (2005). Re-approaching nearness: Online communication and its place in praxis. First Monday, 10(3). [http://www.firstmonday.org/issues/issue10\\_3/mejiias/index.html](http://www.firstmonday.org/issues/issue10_3/mejiias/index.html)
7. Paulos, E., & Goodman, E. (2004). The familiar stranger: anxiety, comfort, and play in public places. Proceedings of the 2004 conference on Human factors in computing systems, 223-230.
8. Putnam, R. D. (2000). Bowling alone: the collapse and revival of American community: Simon & Schuster.
9. Terranova, T. (2004). Network Culture: Politics for the Information Age: Pluto Press.

10. Wellman, B. (2002). Little Boxes, Glocalization, and Networked Individualism. *Digital Cities II: Computational and Sociological Approaches*, 10–25.