

Telelogs: A Social Communication Space For Urban Environments

Brian Davis
University of Illinois Urbana-Champaign
201 N. Goodwin Avenue
Urbana, IL 61801
bgdavis@uiuc.edu

Karrie Karahalios
University of Illinois Urbana-Champaign
201 N. Goodwin Avenue
Urbana, IL 61801
kkarahal@cs.uiuc.edu

ABSTRACT

This paper presents a novel idea for a system known as Telelogs. Utilizing the ubiquity of mobile devices, Telelogs functions as a service by which individuals in an urban environment can establish a better sense of community awareness. In addition, this system could serve as a medium through which these individuals can communicate their thoughts and ideas with others within their environment. This would result in a better sense of community solidarity. Telelogs is targeted towards those persons in society that come across one another on a consistent basis but rather than establishing a direct line of communication, they maintain a relationship that could be characterized as one of courteous detachment. In other words, these individuals are known as familiar strangers. There is strong potential for this relationship to be augmented with a mediated communication space. Telelogs would act as a space through which individuals learn more about themselves while reciprocally gaining a better understanding of those persons present in their environment. Telelogs transfers the essence of the blog into an audio form as an extension for mobile devices. A first prototype of Telelogs is presented and accompanied by feedback after a demonstration. In addition, details of a first cell phone implementation follow.

Categories and Subject Descriptors

H.5.3 Group and Organizational Interfaces

General Terms

Human Factors, Design

Keywords

Cell phones, familiar strangers, public space, urban space, telelog, blog

1. INTRODUCTION

In an urban environments, with its high-density

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee.

MobileHCI'05, September 19–22, 2005, Salzburg, Austria.
Copyright 2005 ACM 1-59593-089-2/05/0009...\$5.00.



Figure 1. Strangers use their cell phones while they wait for the bus to arrive.

population, one comes into contact with new strangers every day. There is a subset of these strangers, whom we come into contact with on a repeated basis and establish a special relationship in which the two parties are called familiar strangers. In [1], the concept known as a familiar stranger is presented. Specifically, to be a familiar stranger one must meet the criteria as follows. One has to be observed by the other party and this observation must occur repeatedly and be void of interaction. Familiar strangers have an informal agreement to ignore one another without any penalty of disapproval by either party. It can be inferred from the impersonal nature of urban life that many people in such an environment have a large number of familiar strangers. These may be persons we stand by at the subway lines, have similar taste in restaurants, or possibly a local neighborhood inhabitant.

It is customary in urban culture to avoid eye contact and to pass by individuals without any form of greeting or social communication. Given these two elements of urban culture, it becomes evident that social communication among inhabitants becomes difficult under traditional cultural practices. The urban environment lacks a social communication channel through which an individual can communicate with others in his or her environment without breaking the residual rules established within the urban culture [1]. This provides the opportunity to complement the familiar stranger relationship with an auxiliary system that may promote community awareness and social freedom while not disrupting the established norms of urban culture in regards to social interaction among strangers.

One particular social communication space that has gained momentum in its acceptance is the Web log or Blog. Blogs are websites with novel features, which allows them to be deemed a new genre in social mediated communication. Typically, their

authors update them frequently and list their entries in chronological order. Blogs are used as publicly displayed journals, a medium for providing information whether it is political or possibly a newsletter [3][4][6]. They provide a space by which individuals can express themselves freely and gain feedback from among their reviewers. Because Blogs are only accessible via the web, they are not a space that can be utilized in a non-exclusive urban public space.

One set of devices that have great potential for serving the urban community by providing a social communication space is mobile devices. Specifically, cell phones are becoming more ubiquitous in urban spaces. Telelogs is a system designed to utilize the ubiquity of cell phones to connect people that normally only come in to distant physical contact with one another but do not necessarily know one another. One system that does so but for the purpose of match making is the lovegety device [5]. Users of this device create profiles and are able to share these with members of the opposite sex within a 15-foot range. Upon approval, two individuals are able to discover one another's location through GPS tracking.

With Telelogs, individuals use their cell phones to record a telelog. A telelog is similar to that of a blog. Ideally, one would record entries in reverse chronological order. To be able to listen to the telelog of another, you must be a familiar stranger of that individual. In other words, you must come in to distant contact with that person more than once. Upon a second crossing, the cell phones of the two individuals register one another as familiar strangers and add one another to their list of registered familiar strangers. At this point, the two participants in the system can listen to one another's telelog.

A telelog could be used for many purposes. Some users may decide to make it their own personal radio station, others may decide to express their political views, and then many may use it as more of a traditional journal of their daily experiences. The benefit of such a system is it can be re-appropriated to share with others whatever is in the heart and mind of the author of the log.

2. INITIAL PROTOTYPE

An initial prototype of Telelogs was written to support laptops, specifically running Windows XP. It made use of Belkin bluetooth dongles to discover familiar strangers within one's environment. The interface consisted of a main window (figure 2.a), which listed the familiar strangers, button controls, and there was also a task bar icon providing identical menu options as the main window (figure 2.b). Upon discovery of a new familiar stranger, his or her ID is listed in the main window. In addition, a balloon appears cueing the user that a new familiar stranger has been discovered. Familiar strangers were presented by their ID numbers, which were the MAC addresses of the bluetooth device of the remote machine, in a list contained within the main window. Similarly, a balloon was shown to cue the user when an existing familiar stranger was once again in the surrounding area (figure 2.c).

A user was allowed to record one log per day. This decision was made under the assumption that allowing more than one long to be recorded would greatly complicate the interface of the system. The log was limited to five minutes. These rules were established with consideration for future plans, which were to develop

Telelog to work on smaller mobile devices such as mobile phones.

To listen to the log of a particular familiar stranger, a user had to select the familiar stranger's ID from the list of familiar strangers and press the proper button in the interface. Logs were stored on a central server, which participants could connect to through a wireless Internet connection. The system allowed users to listen to as many logs and as often as he or she wanted.

The functionality of this first prototype was presented to a small group of graduate students at the University of Illinois Urbana-Champaign. Viewers at the presentation of the first prototype commented that they would much rather have such a system on their cell phone as opposed to carrying around their laptop in urban spaces. An implementation for a mobile phone would make the use of such a system camouflage with the conventional use of a cell phone device in public spaces and make the system more accessible. An immediate request was for a feature to associate an avatar or a text description with familiar strangers rather than to only choose among a list of identification numbers.

In addition, viewers wanted the option of uploading images, adding commentary to others logs, and the ability for the original owner of the log to remove all subsequent content at his or her own discretion. Some users wanted the option to disguise their voice to prevent listeners of their log or commentary from being able to discover their identity. This feature would aid in protecting the earlier foundation of urban culture and still be able to promote freedom within the Telelogs space. Most were content with the idea of allowing only one log per person on a given day. The consensus of the group was that allowing more than one log was not necessary, would take away the time used to listen to others logs, and cause an overload of information. All of these suggestions were taken into consideration during the design of an implementation for cell phones.

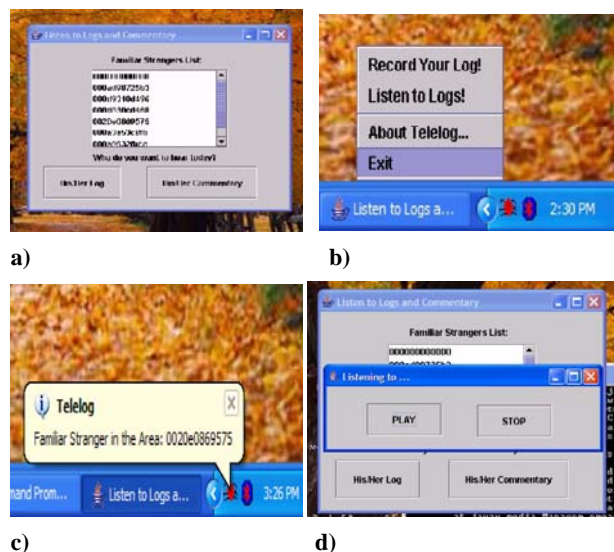


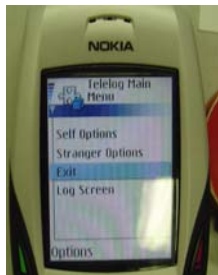
Figure 2. a) A list of familiar stranger's identification numbers (IDs) within the main window. b) The menu displayed by right-mouse clicking on the Telelogs tray icon. c) A notification of a familiar stranger in the area by displaying

a balloon icon through the tray icon. d) The window used to play a log of a familiar stranger.

3. IMPLEMENTATION

The first implementation of Telelogs for mobile devices was developed using the Java 2 Micro edition and Wireless Toolkit 2.2. It was tested on Nokia 6600 Smart phones. In this implementation all information was shared through a bluetooth connection. An individual was allowed to record one log in audio wave format, which was stored on the phone. Any recording of a log would overwrite the previous log that was recorded. This was necessary as the phones had limited space and they were constrained to recording in uncompressed formats i.e., wav and arm.

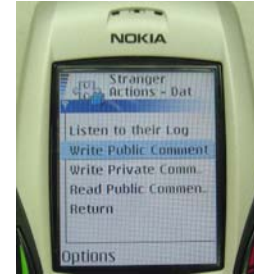
In this implementation, strangers were presented in a buddy list fashion. Rather than appearing as identification numbers, users were able to input an epithet, which was presented to remote users. Users were given two menus, one containing actions they could perform locally and actions they could perform upon a stranger they have connected to (figure 3.a). Within the first menu users could select to record their log, listen to their log, read public comments, and read private comments (figure 3.b). Within the second menu users could select to listen to the log of a stranger, send the stranger a public comment, send the stranger a private comment, or read their public comment (figure 3.c). Comments were text messages. They were also stored on the phone like the log. Public Comments sent to a user were visible by strangers of that particular user. Private comments were only visible to the designated recipient. When a message was received, a screen message would appear informing the user of the username of the remote party and the actual message that had been sent. Upon receipt of a message it was written to the phone for later viewing.



a)



b)



c)

Figure 3. In all subsections the emulator screen shot is on the left and the Nokia screen shot on the right. a) The main menu of the Telelogs application. b) The menu for actions that are performed locally. c) The menu for action performed on a stranger

4. FUTURE WORK

The first implementation will be improved upon. In the presentation of the prototype, users stated they wanted to be able to disguise their voice. This could be a useful feature, which could encourage the use of the system by individuals who are not interested in disclosing their identity by the sound of his or her voice. Also, the sharing of images is another useful feature that will become a part of the system. By using Java, access to the file system of the phone is not permitted. This would limit the user to taking and sharing pictures taken with the camera phone within the Telelogs software. However, this is only an implementation issue. Upon extension of the system with more features, a user study will follow.

5. CONCLUSION

Telelogs is a system designed to serve as a medium through which individuals in urban spaces can communicate their thoughts and ideas with others within their environment, resulting in a better sense of community solidarity. It has taken the essence of the Blog, and transferred it to an audio format and made it accessible through one of the most ubiquitous mobile devices in the urban setting, the cell phone. We have presented a discussion of the initial prototype and feedback from users. In addition, we have discussed the details of a first implementation of the system.

The uses of such a system by individuals in society are limited only by the imagination of society. Technology that finds a use in society always makes an impact and it is unforeseen how such a system, as Telelogs could make its own. One individual thought that by using such a system, they would find oneself surprised by what he or she learns from listening to the log of strangers. They thought it would be interesting to compare character perceived from the log with how a discovered stranger might appear. After speaking to another person, they stated that it was something they would enjoy using with their friends whom they don't always get a chance to speak with. They felt hearing the voice of a comrade was more personal and having easy access through their phone would be great, but felt fearful of being heard by others.

In the process of designing this first implementation, a number of issues arose. In the initial prototype of the system, logs were stored on a remote server, however in the cell phone

implementation logs and commentary were stored on the cell phone. The benefit to storing information on the cell phone is that it could be transmitted over bluetooth wireless technology and therefore resulted in no airtime charges. However, there are many drawbacks to this. If the log were to be stored on a remote server then there generally would not be a problem of losing the signal, and thus providing a better quality of service whereas bluetooth technology is limited to 100 meters. In addition, by storing the log on a server, storage space would be preserved on the mobile device. This is important because mobile devices have limited storage capacity and users may want to use their storage space for other applications and needs.

Another concern was the privacy of the users of the system. Currently there is no protection if a user were to lose their phone. If a malicious person were to find this phone, they may decide to taint the identity of the user by sending vile messages to others or recording obscene logs. By allowing a user to disguise their voice, it would be even easier to taint the user's image if the malicious user were to disguise his or her voice. Another security concern was that marketers could target users of the system by using intelligent software to determine the interest of users through their log and public comments and send advertisements through the commenting functionality of the software. All of these issues have been noted and are being taken into consideration as the implementation evolves and is prepared for a user study.

6. ACKNOWLEDGMENTS

Acknowledgement and thanks to Tyrone Roach, Olugbemiga Adekunle, and Rivkah Cooke, for their support and opinions. In addition, thanks to all those present at the presentation for their presence and comments.

7. REFERENCES

- [1] S. Milgram, *The individual in a social world: essays and experiments*. Reading, Mass.: Addison-Wesley Pub. Co., 1977
- [2] Eric Paulos, *The Familiar Stranger: Anxiety, Comfort, and Play in Public Places*. ACM CHI 2004.
- [3] "Live Journal", <http://www.livejournal.com>
- [4] "Blogger", <http://www.blogger.com>.
- [5] H. Rheingold, *Smart mobs: the next social revolution*. Cambridge, MA: Perseus Pub., 2002.
- [6] Susan C. Herring, Lois Ann Scheidt, Sabrina Bonus, Elijah Wright, *Bridging the Gap: A Genre Analysis of Weblogs*. HICSS04.
- [7] Forum Nokia. *Introduction to Developing Networked MIDlets Using Bluetooth. Version 1.0 May 11, 2004*
- [8] Forum Nokia. *Games Over Bluetooth: Recommendations to Game Developers. Version 1.0. November 13, 2003*