

Socialight: A Mobile Social Networking System

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ABSTRACT

Social network data – information about connections between people – can be very useful to members of a network when they are mobile. This is when they are most likely to find themselves in close proximity to people within their network. After careful review of various types of systems deployed and in development, we found none that allow people to effectively use social network data to help them communicate while mobile. We set out to build a mobile phone-based system to explore how this could best be accomplished. Socialight is a social networking service, currently in the development stage, which features a socially filtered and location-based messaging system. Using their past movements and current location, users can interact with others in novel, expressive ways.

Keywords

Social networks, cellular phones, GPS, light touch communication, location based services.

INTRODUCTION

Mobile phones are near ubiquitous computing devices. Due to the proliferation of these devices, almost 1.5 billion people have access to people and information around the world anytime, anywhere. Since mobile phones are widely deployed, have powerful microprocessors and are networked with other mobile phones and existing communication infrastructure, they can be a useful platform for connecting in ways other than through voice communication.

Social network technologies claim to map virtual connections between friends. The websites built upon social networks can be fun and interesting to browse but users may lose interest quickly if there is no direct way to correlate the virtual or artificial social network with its real world counterpart. Furthermore, existing implementations of social networks are difficult to explore when they should be at their most useful – in social situations – e.g. at a bar, at the park or at the movies. We are developing a system that at its most basic level allows users to discover friends and friends of friends in their vicinity. This could help make the explicit connections that people mapped out

using social network technologies more interesting in the physical world.

BACKGROUND

We were initially influenced by lightweight remote presence applications such as Matt Webb’s Glancing – which was in turn motivated by Erving Goffman’s work in “Behaviour in Public Places” where he observed that non-verbal expressive communication is used to initiate conversations between people who are in the same space but not necessarily talking to one another. The concept of presence awareness as well as the idea of focusing conversations between people who are in close proximity heavily influenced the development of certain features of our application – such as “Tap & Tickle”. “Sticky Shadows” were inspired in part by a comment from Masamichi Udagawa and in part by Greenberg and Kuzuoka’s experiences interacting with their physical surrogates, as described in their paper, “Using Digital but Physical Surrogates to Mediate Awareness, Communication and Privacy in Media Spaces”.

SOCIALIGHT

Friend Locator

The Socialight server tracks the user’s current location and the location of other users within their social network. If friends, or friends of friends, of the user are within a specified distance, the user is notified on their mobile phone. One of the core tools of the system displays friends and friends of friends physically close to the user. The user can then utilize this display to find out more information about a person by viewing their profile or by initiating communication with that person.

Tap and Tickle

Tap & Tickle are Socialight functions that allow the user to communicate gesturally with another friend on the network by controlling the length of a vibration on their phone. They can see who is “Tapping” or “Tickling” them and have the option to immediately respond. This “light touch communication” does not require such a large degree of concentration or commitment from both parties and is similar to ways in which we communicate physically – by glancing or tapping someone on the shoulder.

The following are some possible uses of a Tap or Tickle:

- say “hi” to a friend
- give a virtual kick under the table

- be flirtatious
- develop a Tickle-language with friends (a simple Morse-like code)

Sticky Shadow

Sticky Shadows are location-based messages that are left in a geographical place for specific friends or groups of friends. A Sticky Shadow can be configured to expire after a specified duration, to be available in only a specific area and to be viewed only by select recipients. The content of the messages can include text, audio, video or any combination thereof. When the intended recipient(s) enter the space, the Socialight application on their mobile phone notifies them of any messages and allows them to immediately respond. Figure 1 illustrates this process.

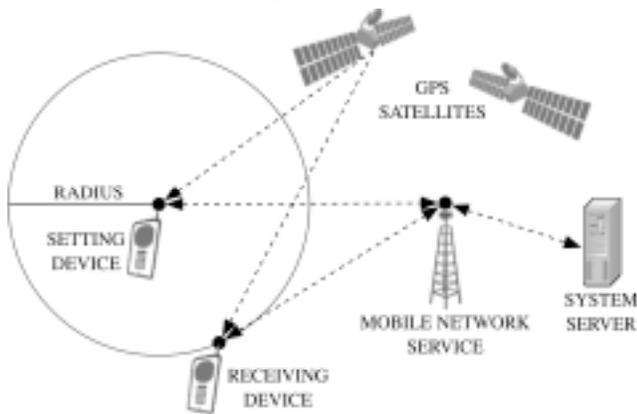


Figure 1: Overview of a Sticky Shadow

The following are some possible uses of a Sticky Shadow:

- life bookmarks (set a "pick up milk" Sticky Shadow outside the grocery store)
- storytelling: tell your friends a story about a place ("under this tree, I had my first kiss...")
- scavenger hunts and games
- touring an urban tour (anything from well-worn landmarks to "Seinfeld's New York")
- education: a teacher sets Sticky Shadows for students
- personal restaurant reviews for friends

TECHNOLOGY

The Socialight platform uses a client-server architecture. The server consists of a number of components including a small-scale social network, databases and application logic. The clients are the web interface and the Java applications running on user's mobile phones.

A potential user of Socialight visits the web site, signs up for the social network service and adds friends to their network. They then download a small Java application to their mobile phone which registers their handset with the server, provides location information and allows them to browse their social network and access Socialight features such as the Friend Locator, Tap & Tickle and Sticky Shadows.

Socialight can glean the user's location information using a

number of different methods – Bluetooth, Global Positioning System (GPS) and network operator data. The current prototype uses Bluetooth beacons to determine the location of the device. When a Socialight-enabled device enters an area with a beacon, a user scans the area, retrieves the location from the beacon, and then transmits this to the server over a General Packet Radio Service (GPRS) network. The server then determines if any friends from that user's social network are in the area and if any Sticky Shadows have been left for the user.

CONCLUSION

By offering mobile phone users an opportunity to have basic social networking information on the go, we may begin to see a change in the way people take advantage of their various networks. By using digital gestures like Tickle or Tapping, and annotating physical space with Sticky Shadows, Socialight explores the nuances created by ubiquitous computing within social environments. Our hope is that Socialight will open up communities of friends in real time by bringing virtual relationships to a physical environment.

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REFERENCES

1. Barabasi, A. *Linked: How Everything Is Connected to Everything Else and What It Means*. Perseus Publishing; May 14, 2002.
2. Churi, A., Lin, V. *Platypus Amoeba*. *Proceedings of Ubiquitous Computing (UbiComp)*, pp 28-30, 2003.
3. Crow, M., Pan, P., Kam, L., Davenport, G. *M-Views: A System for Location-Based Storytelling*. *Proceedings of Ubiquitous Computing (UbiComp)*, pp 31-34, 2003.
4. Kieslinger, M. *Fluidtime: Developing an Ubiquitous Time Information System*, *Proceedings of Ubiquitous Computing (UbiComp)*, pp 65-68, 2003.
5. Reingold, H., "Location-aware Devices, Privacy, and UI Design" *The Feature*. <http://www.thefeature.com/> (December 2003).
6. Rheingold, Howard. *Smart Mobs: The Next Social Revolution*. Sagebrush Education Resources; October 2003.
7. Townsend A M. 2003. "Wired/Unwired: The Urban Geography of Digital Networks" Unpublished doctoral dissertation. Massachusetts Institute of Technology, Cambridge, Massachusetts.
8. Webb, M. "Glancing", (2003) published online: <http://interconnected.org/notes/2003/09/glancing/>
9. Greenberg, S & Kuzuoka, H. Using Digital but Physical Surrogates to Mediate Awareness, Communication and Privacy in Media Spaces. *Personal Technologies*, 4(1), Jan. 2000.