The Design of the 'Babble' Timeline:
A Social Proxy for Visualizing Group Activity over Time

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ABSTRACT

We describe the design of the Timeline social proxy, a visualization widget that provides cues about the presence and activity of participants in an online conversation system. Unlike most awareness indicators (but see [4] for an exception), the Timeline shows the history of participants' presence and activities, thus providing cues about who has been 'listening' in asynchronous conversations. We discuss our experience with the Timeline, describing some of the ways in which it is used, as well as its design flaws and their potential remedies.

Keywords

Conversation, Awareness, Social Visualization, CMC, CSCW, Chat, Social Computing, Design, Time

INTRODUCTION

Since late 1997 my colleagues and I have been working with an ever-evolving program called "Babble" [2]. Babble is similar to a multi-channel textual chat system except that its conversation persists over sessions, allowing both synchronous and asynchronous talk. Its aim is to support everyday, opportunistic interaction among members of a workgroup. For the purposes of this paper, the most important aspect of Babble is that it provides a *social proxy*, a lightweight graphical awareness mechanism.

The Babble social proxy (hereafter referred to as "the Cookie") provides cues about the presence, number and activities of participants in an online conversation. In the Cookie participants are represented as colored dots, and the proximity of the participant's dot to the circle's center indicates how recently that person has either
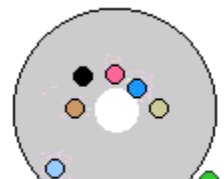
'spoken' (i.e. typed a comment), or 'listened' (i.e. scrolled or clicked on the interface, as is often necessary when reading the comments). Figure 1 shows an example of the Babble cookie in which five people have 'spoken' or 'listened' within last few minutes, two people have been idle for twenty minutes or more, and an eight person (outside the circle, at 5:00) is in a different conversation.

In our considerable experience in deploying Babble and studying its usage (see [1] for some of these), the cookie has proved to work very well, both for its intended purposes, as well as being used in unanticipated ways. However, the cookie has one significant shortcoming: it is synchronous--that is, it shows only the presence and activities of people who are simultaneously using Babble. This is a considerable drawback because the majority of the conversations carried on in Babble are asynchronous, with just a few comments per day (or per week, or per month).

DESIGN RATIONALE

It seemed that it would be useful to provide a social proxy that could give a sense of the number of people participating in or attending to an asynchronous conversation. In particular we were interested in making lurkers -- people who read but do not contribute to an online conversation -- visible. That is, in everyday face-to-face conversation, it matters whether people are listening! There is a big difference between the experience of giving a presentation to a large group, versus a small group, versus to no audience at all (as when one videotapes a talk). It is only in the digital world where 'listening' is invisible, that listening has become lurking and taken on negative connotations. Given the prevalence of lurkers in a variety of online environments (e.g. see [3]), a way of transforming lurking into a more positive activity would be valuable.

Thus, for Babble, we wanted to provide a way for a 'speaker' to see that people were 'listening' (or not), even when the listening was offset in time. A second goal of the Timeline social proxy was to try to give a sense of the rhythm of an asynchronous conversation. That is, knowing whether a conversation gets a few comments per day, or a few comments per month, and how many people listen and how often, sets up very different expectations about the sorts of responses that are likely to occur.

TIMELINE DESIGN AND FUNCTIONALITY

Figure 2 shows the first implementation of what we call the Timeline social proxy. The Timeline proxy has some similarities to Conversation Landscapes [4], although its use for visualizing multiple, long-running asynchronous conversations among a relatively stable workgroup has resulted in an interface that is quite different.

The Timeline works as follows: each user is represented by a row in the Timeline; when they are logged on to Babble, they leave a flat trace or line, and when they 'speak' they leave a vertical mark or blip on the line. If the line/blip is in color, it means that that user was present/speaking in the conversation currently being viewed by the user of the timeline; if they were in a different conversation, the line/blip is shown in gray (and the line becomes thinner). As the user mouses over the Timeline proxy the name of the conversation and the user and the time is shown in the upper left corner of the proxy; the user can scroll back through as much as one week of activity. The Timeline proxy also provides access to other functionality via a menu accessed via a right-click on another user's row (e.g. private chats).
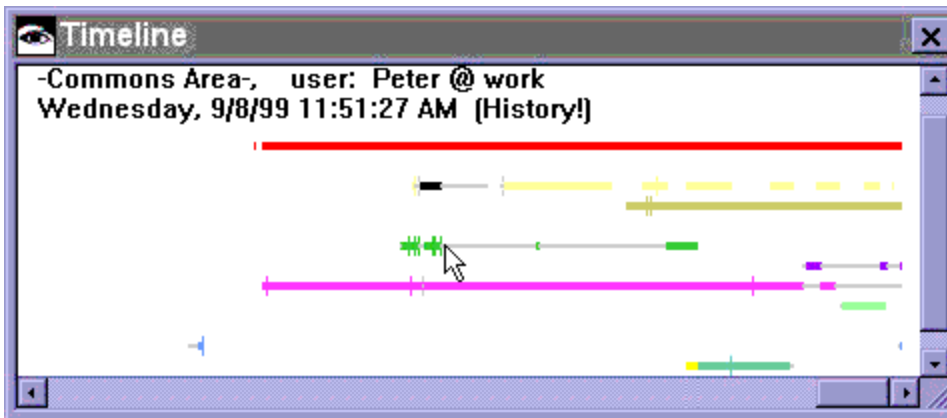
Figure 2. The Timeline Social Proxy

For example, in figure 2, we can see that nine people have logged onto Babble (shown by the presence of lines), and that all of them have spent some time in the current conversation (shown by the color/increased thickness of the lines), and that many but not all have 'spoken' (shown by the blips). The line being indicated by the cursor shows that the user 'Peter' logged on around 11am, made a couple of comments in the "Commons Area" conversation, switched to another topic, and then switched back to the Commons area about 1pm, and then logged off.

DISCUSSION

As of this writing, the Timeline proxy has been implemented and deployed in several different Babble installations. While we have not yet done a full scale analysis of data generated by these deployments, we have a number of results based on our own usage, on informal observations of various deployments, and on a short email survey of our most recent Babble deployment.

The Timeline has meet with a mixed reception. Most users appear to look at it once or twice early in their usage of Babble, and then do not access it again. Two factors seem important: First, many users report difficulty in manipulating and reading the Timeline, calling it "unattractive and cumbersome" and non-intuitive. Specific complaints included needing to scroll to see activity over a long period of time, and difficulty in keeping track of who is represented by a single line. Second, the timeline is displayed in a separate window and so it must be explicitly called up (in contrast to the Cookie, which is always on view); if users do not see it as immediately useful, they have no incentive to access it again.

On the other hand, a majority of users surveyed recommended retaining the timeline, commenting that it would at least be useful for administrators, and noting that a number of its flaws could be fixed. Furthermore, a minority of users report finding the Timeline useful and using it regularly. These users reported uses such as: looking to see who has visited a topic in which they had posted questions; looking to see whether a colleague who hadn't posted recently had been online; and using the Timeline to get a sense for the activity of the community as a whole. One user wrote: "It's a little like reading an electrocardiogram, the heartbeat of the community. I noticed that I missed <user1> by an hour on Monday morning.... <User 2> comes in every so often as a blip. <User 3> jumps from space to space...."

NEXT STEPS

We are currently engaged in building a next generation 'Babble-like' system. Our experience thus far leaves us cautiously optimistic about the Timeline. Most of the usability flaws seem to be addressable by redesign. We also hope to integrate the timeline (or some sort of historical view) into the descendent of the Babble 'Cookie' proxy so that a bit of the activity history is always near to hand, rather than having to be explicitly sought out.

ACKNOWLEDGMENTS

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