The Need for Usable Social Interfaces

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Communication systems from the optical and electrical telegraph, to the telephone, to messaging over the Internet were originally geared towards business applications. As the infrastructure became more commonplace, people adapted social conventions and motivations towards these systems - for example, weddings took place over the telegraph. The telephone was originally marketed for use by men in the office with the advertisement being, “NO SKILL WHATEVER is required in the use of this instrument” for one to use it successfully. The telephone then migrated from the office and into the home and bedroom, etc., where ads eventually became, “friends who are linked by telephone have good times.”

Packet-switching technologies of the 60’s and early 70’s made it easier to send messages to and from remote computers. Arpanet, starting in 1969, was created with the intent to enable scientists to remotely share resources such as specialized hardware, databases, and programs. This vision of Arpanet became a reality. What was not anticipated, and was a big surprise, was that the most popular and most used feature of the Arpanet was electronic mail. People could message each other if they were logged on to the same machine or they could leave messages that could be read later. Hence, the beginning of computer-mediated-communication (CMC).

The telegraph, the telephone, Arpanet or as it is known today (2004) as the Internet, have not changed our basic needs and drives. “Changes in attention, social contact, and interdependencies do not alter human nature of fundamental processes of society. People still fall in love, care about their bosses evaluations, and work for money.” [1] Historian George Daniels generalizes this by saying:

> *No single invention — and no group of them taken together in isolation from nontechnological elements — ever changed the direction in which a society was going... [Moreover,] the direction in which the society is going determines the nature of its technological innovations...*
>
> *Habits seem to grow out of other habits far more directly than they do out of gadgets.*

The changes in technology, however, highlight our adaptability and our need for communication and interaction. The primary vision for these channels for interaction was work oriented. Nonetheless, people used these connections for casual, sociable interaction. We strive to communicate using almost any medium capable of supporting communication cues. The most striking phenomena of these different media become not those that let people work more efficiently, but those that let people communicate and act in ways that were not possible before.

Today, more and more computer-mediated-communication interfaces are in use such as instant messaging systems (MSN, AIM, ICQ) and mobile messaging systems (SMS). Some of these interfaces work well, and some don’t. The research area I find most interesting is how to create new interfaces that improve social communication.

To date, most of the research in this field deals with the technical aspects of improving transmission speed, clarity, and accuracy. The quest to uncover the underlying social needs for communication is often neglected. The latter is an issue far bigger and far more fascinating than creating network topologies for connecting as many people as possible in the shortest amount of

time. The technology exists; now, the social forces driving communication are far more powerful than the technical capabilities of these systems.

I believe graphical visualization and audio interfaces are powerful techniques for creating novel communication interfaces, and I believe that an emphasis on intuitive interfaces and design is critical. The biggest challenge, however, is determining what is a useful communication interface. We should not use technology to replace conversation that we do so well already, but more importantly, we should use it to transmit cues that are not readily obvious – to create new communicative, provocative, aesthetic, and useful interfaces.

I am not suggesting we abandon research for improving clarity and speed; I am suggesting that we begin investing time in making fast and clear systems that people will want to use, and that will provide added in remote interaction. We should not neglect cultural influences when designing word-wide enterprise systems. An early example of this can be seen with the telephone - why did families in England perceive its ring as a visit and have it announced? Why was social interaction originally considered a frivolous trivialization of the telephone service in its first decades of use? Although there are economic factors such as pricing and permeability at play here, it is evident that there are social and cultural drives behind the use of communication tools, etiquette that evolves around them, and social boundaries they impose.

The Internet is still in its infant stage, yet we are still moving forward to create enhanced computer mediated communication. The imagined in the following 1879 *Punch* cartoon has passed several stages of implementation and testing. We have not yet found an acceptable interface for it.

Figure 1. Edison's Telephonoscope (transmits light as well as sound)
George Du Maurier, Almanach Punch 1879. Although implementation of two-way audio-video connections emerged in the 20th century, speculation for such interfaces emerged alongside the telephone. Here we see a video window above the mantelpiece in a Victorian villa whereby the parents are communicating with their children. They are holding microphones to speak with them while they watch them on the video screen or telescope.

References

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[2] Goffman, Erving. *Interaction Ritual — Essays on Face-to-Face Behavior*. New York: Pantheon Books. 1967.

[3] Hall, Edward, T. *Beyond Culture*. New York: Anchor Books. 1981.

[4] Pool, Ithiel de Sola, ed. *The Social Impact of the Telephone*. Cambridge, MA: The MIT Press, 1977.

[5] Sproull, Lee and Kiesler, Sara. *Connections: New ways of Working in the Networked Organization*. Cambridge, MA: The MIT Press. 1991.