Before the Internet: Early Experiences of Computer Mediated Communication

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Abstract. In the 1970s, some people believed in using computers for making almost any information available to anyone and for supporting information exchange and discussions regardless of geographical distances. These ideas were, at that time, novel and revolutionary. Some people regarded these ideas as dangerous; for example, the Swedish Data Inspection Board (Datainspektionen) forbade people from storing email messages for longer than one month as well as from discussing political and religious issues using computerized forum systems. Although people tried hard to implement systems and had some limited success, the ideas became successful with the public usage of the internet in the 1990s. Many had hoped to realize this much earlier.

Keywords: Bulletin board systems (BBS), computer conferencing, computer mediated communication (CMC), forum software, personal protection legislation, privacy legislation

1 Introduction

Some people feel threatened by computers; others feel computers enhance their opportunities. I have been using these machines since 1963 and have been working in the area of Computer Mediated Communication (CMC) since 1975. This paper attempts to summarize my own early experiences and attempts to use computers as an aid for human communication.

2 Public View of Computers in the 1970s

The public attitude to the effects of computers on society in Sweden in the 1970s was that computers would:
1. Impoverish work tasks, causing more repetitive work and diminishing the capability of employees to influence their work situation and improve their skills. In addition, computers or unskilled labor would replace skilled professionals such as typesetters.
2. Become tools of the government as well as large companies and organizations to

control people to an unprecedented degree.
3. Become unavoidable entity to maintain industrial competitiveness, despite the two aforementioned serious drawbacks, because if we do not use computers we will be outcompeted by other countries [1].

It is not surprising that people had this view of computers in the 1970s. At the time, computers were so expensive that only the government and large organizations, not ordinary people, could afford to use them as tools.

3 A Few People Had a Different View

However, a few people worked with computers and recognized the potential for something vastly different. For example, Torgny Tholerus [2] wrote a paper titled "Computers for Everyone" (Swedish title "Allmänhetens informationssystem"), which proposed that computers could be used as tools for a new kind of free speech – where anyone was able to have their say in ways which enabled everyone to listen.

I myself, Jacob Palme [3], wrote a paper titled "The General Public Information System" proposing people should use computers to handle textual messages, where anyone could write what they wanted and everyone could access the information and comment on it. I also wrote an article for the newspaper, Dagens Nyheter, in 1975 [4] proposing that the new Swedish National Encyclopedia should be published on computer networks, available to everyone, instead of as a set of printed volumes.

Murray Turoff said that computers were like books of white paper, where anyone could write on the pages and everyone could read what other people had written. In 1978, Murray Turoff and Roxanne Hiltz wrote a book [5] titled "The Network Nation," which describes much of what the internet has become today. On two occasions in the late 1970s, Tomas Ohlin invited Murray Turoff and Roxanne Hiltz to Stockholm, to present their ideas to a group of people including myself, Ohlin, and Tholerus. Turoff's talk was pivotal in stimulating our work in this area.

In 1971, Tomas Ohlin wrote an article for the Svenska Dagbladet newspaper [6] proposing home terminals so that people would have better access to government documents and be able to take part in computerized citizens' panels to enhance democracy. Between 1978 and 1981, Tomas Ohlin was the secretary of several government committees (e.g., the information technology committee, Informationsteknologiutredningen, and the commission on new media) which, among other things, proposed that simple, low-cost home terminals could provide access to databases of linked pages, and that consumer information should be available through the same terminals [7].

What we all had in common was that we regarded computers as tools for making all information available to everyone. We thought that people could use computers to give more information to more people and allow more people to make their ideas available to others. This was contrary to the then public view of computers as tools used by the government and large companies to watch over and control ordinary people. None of us expected that it would take more than ten years before our expectations would become reality.

Today, many ideas of Ohlin, Palme, and Tholerus came to realization everywhere, with the internet providing the basis of the free exchange of ideas and knowledge, where anyone can put forth whatever they want, and where everyone can read what others have written. Nevertheless, in the 1970s, we were a kind of underground movement trying to advance our ideas in the rather unwilling public opinion of the time.

In the mid-1970s, Ohlin was working at a government agency for research funding. Together with a small group of partners, Ohlin started the Telecommunications and Regional Development (Terese) project in Sweden that included studies of pioneering communication software. This project, carried out through social trials of computer conferencing in the north of Sweden 1976–77, used the then unknown Planet narrowband communication system, with fifty writing terminals equipped with acoustic modems. They applied the system to applications concerning transport, education, and health services, among others.

4 Development of the KOM System

A small number of people, mainly researchers at DSV, KTH-NADA, and FOA (the Defense Research Establishment of Sweden), also used Planet. All were fascinated by its potential. At that time, the Swedish government decided that FOA should divide into parts at different locations around Sweden. This decision made it possible for me to get FOA to finance the development of a new, more powerful forum system [8].

Our system became rather popular; at its peak in 1987, it had thousands of users. Although small compared to the internet of today, it was the largest of its kind in Sweden at that time. We also connected to the internet in 1982, the cost partially funded by Skandinaviska Enskilda Banken. This internet connection was restricted to email and mailing lists, and did not constitute full internet connectivity.

We conducted a number of studies on the effects of this kind of software [9]. From the results, we were able to conclude, among other things, that people agree more often than they disagree in online discussions, that online discussions increase the communication between people organizationally or geographically, and that this increase is especially noticeable with regard to younger people, non-management, and those without higher education. Older people, management, and those with higher education already seemed to have access to cross-organizational and cross-location communication through travel, before using computerized communication. We also found that computerized communication increased the equality between different people with regard to them expressing their opinion, compared to previous communication methods.

In 1982, we distributed the system, installing it on three computers at QZ (the Stockholm University computing center, at that time, including FOA), at DSV, and at KTH-NADA with the exchange of messages between the systems. For many years, the system was a major tool for internal communication within DSV. Today, DSV uses First Class for this purpose.

Our first attempt at starting this system met with disaster; the Swedish Data Inspection Board [10], a government agency for the control of computer usage, had

forbidden the use of our system. According to the Data Inspection Board, our system allowed people to store "free text" in which they could write "anything they wanted," while the Data Act, according to their interpretation, forbids storing information in computers except for certain specified fields with explicit limitations on what could be stored in them! The principals at FOA did not dare appeal this decision to the Swedish government, although such an appeal would have been an interesting test of whether freedom of speech through computers was legal or illegal. Instead, the principals at FOA and the Data Inspection Board negotiated an agreement that prohibited us from writing any messages on subjects designated as sensitive information, according to the Swedish Data Act, such as political and religious opinions, among others! We were also obliged to delete all personal emails after thirty days and all discussion messages after three years!

We finally received permission, started the system again, and promptly disobeyed the rules, discussing such sensitive political issues as whether or not one should allow nuclear power. I also archived all public discussions for more than three years, contrary to the instructions from the Swedish Data Inspection Board, posting a selection of them on the internet [11] for anyone to view even today. I am still waiting for the Data Inspection Board to prosecute me for this breach of the agreement.

5 A Threat to Personal Privacy

Case 1: "The credit card company notes that Mr. X and his wife are registered for a double room at a hotel in London. At the same time, his wife uses her credit card to pay her hairdresser in Sweden." This is a typical example of the arguments given by people about the threat of computers to personal privacy.

Case 2: An American computer company decided to add to their internal email system a facility that lets the sender check if and when someone reads an email. This caused an uproar among employees who felt that such a facility was an invasion of their personal privacy.

Case 3: In 1979, we introduced the KOM forum system, which gave users many opportunities to check on each other. A KOM user could see to which forums another user subscribed, when that user last visited a particular forum, when a user read a personal message, and so forth. In spite of such opportunities, very few complained that this was an invasion of privacy. Why? We did add a facility that enabled KOM users to say that other users should not see their personal information. However, almost no user employed this facility to protect their personal privacy. Why not, if there is such a large risk with regard to intrusion of personal privacy using computers?

Case 4: Nevertheless, there was a conflict in one case. The director of studies at a university department started a mandatory forum for information to teachers. After some weeks, he made a printout of the KOM page showing the teachers that had not participated regularly in this forum and he put a copy into all their actual mailboxes.

His admonition on this copy "You are all obliged to participate in this Forum!" caused uproar among the teachers.

In trying to analyze these cases, my conclusion is as follows: When people complain about "a threat to personal privacy," their real objection is actually against the use of computers to try to control them. The reason so few KOM users (Case 3 above) complained was that they designed KOM mainly to be under the control of each user. According to KOM users, KOM enabled them to control their usage. They could choose to which forums to subscribe, when to go to a forum, in which order to read news, as well as what to read and what to disregard. Due to this design, they did not feel that KOM was trying to control them.

People thought their personal privacy was threatened when they felt that large companies and organizations "spied on them" and used this information to gain power over them. Since KOM was not (usually, Case 4 as an exception) used in this way, people did not feel that KOM threatened their personal privacy, although KOM did allow users to see much personal information about other KOM users.

This is very important, because if we believe that the problem regards a threat to personal privacy, we may try to resolve it with methods that make the problem worse and not better. By understanding that the real issue is about control and power, we can solve the real problem through the design of software that does not impoverish the user and by making it difficult for large organizations to use the computer to control people.

6 What Were People Really Afraid of?

This fear had made me think about how computer systems should be designed so humans make decisions, not computers [12].

In other cases, the Swedish Data Inspection Board has tried to forbid an author from writing a book with personal information in it. The author appealed this decision to the government, which wisely said that freedom of speech is more important than the Data Act. The board then prosecuted a person who used the internet to criticize practices of Swedish banks. The lower court found the person guilty, but not guilty in the highest court of appeal.

The Data Inspection Board will probably not prosecute me for violating their rules, because they could be somewhat ashamed of their history of trying to prevent freedom of speech on the internet. They have attempted to do this a number of times, but the courts most often declared their decisions illegal on appeal. Apparently, those appeal decisions were based on a better understanding of the democratic principles protected by the Swedish constitution than the Data Inspection Board's understanding of the same principles.

In 1982, I asked a friend of mine, Olle Wästberg, who was a member of the Swedish Parliament at the time, to submit a private member's bill specifying that freedom of speech should override the Swedish Data Act. The parliament rejected the bill without any specific reason!

Our computer system for information exchange attracted a great many users, but it received mixed reactions from the media. Some journalists wrote positive articles about the opportunities, others wrote scandal articles, selecting the most ridiculous texts written by any of our thousands of users and presenting them to discredit our system. At that time, my belief was that the media were afraid of losing their monopoly in providing information to a large number of people.

Other organizations made several attempts during the 1980s to develop similar systems, some met with partial success, others not. Notable failures were the Teleguide system in Sweden and the Prestel system in the U.K. However, a notable success was the Minitel system in France. Minitel was the only system that existed before 1990 that is comparable to the internet today. Why did Minitel succeed, when others did not? The main reason is that Minitel allowed any information provider to put whatever they wanted on the Minitel network. Just like the internet of today, the competition between information providers generated many services where some failed while others were very successful, was the reason for the success of Minitel and the internet.

7 Conclusions

· The success of human society is based on the flexibility of humans and their willingness to adapt their activities to different circumstances.

· Humans are most happy and productive when they can influence their living environment and contribute to solving problems together.

· Laws and regulation are a form of communication between humans. They are in reality only guidelines, people have to adapt to varying circumstances and interpret and apply the rules with understanding and human compassion. If everyone had to adhere 100 percent to all laws and regulations, human societies would no longer function.

· Laws and regulations written on paper usually present no problem. However, if the laws and regulations are programmed onto computers so computers control what is allowed and not allowed, serious problems will often occur. In the best case, people will only be unhappy and unproductive; in the worst case, a major catastrophe could occur.

· The design of computer software must allow flexibility and human choice. Humans should interpret laws and regulations, not machines.

· Making software more complex so that it includes more specific handling of special circumstances will often only make it worse. Instead of complex software, it should be flexible and open-ended.

· There is a human tendency when designing software to include "proper procedure" and "experience how things should be done." This tendency can easily produce unusable or unsuitable software.

· A possible exception to the above occurs when we need to enforce security rules to overcome human weaknesses.

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