Conferences offer insights into how computers may affect our future

Lorrie Faith Cranor and *Adam Lake*

In recent years computer scientists have become more aware of the human factors and social issues related to computer systems. The launch of *Interactions*, an ACM magazine focusing on human computer interation, the establishment of USACM, ACM's U.S. public policy committee, and numerous conferences focusing on human computer interaction and the impact of computers on society demonstrate the desire of computer science professionals to focus more attention than ever before on the interaction between human and computer.

Some colleges and universities are beginning to incorporate courses on human computer interaction, ethics, and social issues into their curricula. However, for many students, the best way to learn about these areas is to attend conferences. Often students can obtain scholarships that pay part or all of travel, lodging, food, registration, and other conference expenses.

Adam Lake and Lorrie Cranor were among the many students who received student scholarships to attend a computers-and-society-related conference this past spring. Each gives a first hand account of their conference experience.

Society and the Future of Computing '95

Between June 11 and 14, 1995 in the resort town of Durango, Colorado, over 150 social scientists, computer scientists, journalists, and others gathered to ``...share, discuss, and demonstrate responsible uses of the National Information Infrastructure for the benefit of diverse communities and to articulate novel research directions that advance computer science in ways that have high social benefits.''

The conference was initiated by USACM and sponsored by Los Alamos National Laboratory (LANL) in cooperation with the University of Maryland Human-Computer Interaction Laboratory and the ACM special interest groups SIGCAS, SIGHCI, SIGAPH, and SIGSOFT. Sponsors from industry included

Cray Research, Inc, Apple Computer, Inc., IBM POWER Parallel Division, and MCI Government Systems.

I attended the conference as a student Fellow. This meant I received a scholarship for the conference and a reduced fee for my room. All meals were covered in the cost of the conference. Fellows were required to assist organizers by helping in the office, maintaining up-to-the minute coverage of the conference including digital images posted to the Internet, and assisting attendees in the email room. I also presented a poster at the poster session on a project known as Justine.

Sunday was registration day. Everyone attending received a backpack with the SFC '95 logo. Sponsors gave away CD-ROM's and brochures for their products as well. A reception was held after registration. Conference attendees talked into the night about what they expected over the next few days.

Monday began with Hassam Dayem, Director of the Computing, Information, and Communications (CIC) Division at LANL, stating ideas that were echoed through the rest of the conference. Hassam was emphatic that we find ways to use technology as a societal tool rather than a societal menace. He also pointed out that the information highway should restore the strength of the community rather than further weaken it. He concluded his discussion noting that individual privacy should be a concern in the coming years.

The next speaker was Barbara Simons, USACM chair. Dr. Simons began by asking the question ``Whose information society?'' and emphasized that the social implications of technology needed to be addressed. She also listed several concerns the USACM has regarding our information society. One concern was the media's misrepresentation of technology by sensationalizing pornography on the Net while overlooking the technology which exists to solve such problems. She also addressed the lack of understanding of technology by policy makers and their staff who end up being misguided by special interests.

Ben Shneiderman of the University of Maryland urged that human values be considered in new agendas being set for computing technologies. Dr. Shneiderman said ``we [technologists] are responsible for the direction of technology.'' This gives students of computer science a different view of their role in the world: not just to program systems to do a task but to also be responsible for the systems they create, asking tough questions in the design process about the social impact and ethical implications of the project.

This was just the first session of the conference. There were a total of 12 sessions, each reported in the up-to-the-minute conference coverage, available online at the SFC web site. The titles of the sessions follow.

Monday, June 12

Tuesday, June 13

Wednesday, June 14

SFC '95 built an important bridge between computer scientists and social scientists. While the computer human interaction conferences focus on how computer scientists think they will meet the goals of society, SFC included discussions of current computer applications and future directions that the social scientists would like to see addressed. From these discussions the group drew up the [Durango Declarations](#), a statement of ethics and action for social and computer scientists. It asks for broad public discussion and coordinated action among professionals and a higher level of user and worker participation in design. The full text of the declaration is available online.

Many people had suggestions about how to improve the conference next year. I talked with Marsha Woodbury, student coordinator for SFC '95 and Director at Large of CPSR about her suggestions for future SFC conferences. Dr. Woodbury suggested that future conferences have ``fewer topics and more depth. [For example,] workshops after each session." She also suggested asking the speakers to give longer presentations in order to get a deeper involvement between the speakers and the attendees of the conference. I agree with Dr. Woodbury's criticisms and her observation that things went very well considering that the conference had never been held before.

I felt the conference lacked the atmosphere necessary to challenge and engage participants. For instance, smaller groups and longer question-and-answer sessions would permit more debate among participants. It would be good if the political scientists that come to the conference share more of their expertise. From the computer scientists, I would like to see examples of systems which both fail and are

successful, and discussions of the lessons learned from these systems. This was addressed in the Computing for Improvements in Education session on Tuesday, but testimonials from business would prove useful as well.

There were two areas adaquately addressed at the conference. One was testimonials of people helping society within the field of computer science. Examples of this were telemedicine and education forums, as well as the community network and tele-democracy forum. Another area which was adequately addressed was the fact that not all technology is good technology. Putting a computer in front of all school children alone is not the answer, neither is unsympathetically allowing logic to be the sole factor in social decisions. We must try to understand what the machine can do for us, to understand both its strengths and its weaknesses. A blind embrace of technology, which is the *current* state, could be disastrous.

I discussed the conference with Rick Light, co-chair of the conference and staff member in the CIC division of LANL. When I asked him if this conference has had an impact on the way he will think about the design of computer and information systems, he said, ``Of course. How can we as human beings face ourselves and not then apply that knowledge to life? Similarly, we at the conference got the chance to jointly plant seeds -- to create an opening for possibility for the future. Now as we continue our work, these seeds will germinate into changed viewpoints, expanded awareness, and increased social sensitivity that will have a dramatic impact on future systems development.''

Full information on the entire conference can be found at http://info-server.lanl.gov:52271/usr/u096272/SFC95/sfcHome.html.

- Adam Lake

Computers Freedom and Privacy

CFP'95, like the two previous CFP conferences I attended, was a great opportunity to meet other students and professionals interested in issues related to the social impacts of computers. While most of the formal sessions proved interesting and enlightening, the informal discussions with other participants -- held during meals and receptions, in the hallways between sessions, and late into the night -- were just as valuable.

CFP conferences tend to serve as backdrop to a variety of bizarre and unexpected events. At a previous CFP a conference attendee was briefly detained by law enforcement officers who had mistaken him for a fugitive hacker. At CFP'95, held March 28-31 in San Francisco, a journalist ran from the conference hall chasing furiously after a television camera crew that (unbeknownst to him) had been filming over his shoulder as he typed on his laptop computer. Later, Dan Farmer, creator of the controversial SATAN computer security program, made a grand entrance dressed in black leather and accompanied by a similarly clothed female friend. The two sat in the back of the conference hall posing

for photos as the conference program continued.

One of the most interesting presentations of the conference was Professor Margaret Jane Radin's [after-lunch talk](#) about property rights, the Internet, and fish. Radin described two property rights paradigms and discussed the advantages and disadvantages of applying them in cyberspace. She also speculated that as more people flock to cyberspace, the Internet may evolve into something similar to current broadcast TV. She described the TV audience as ``potential customers delivered to advertisers for a fee.'' Thus, she explained, the TV broadcast industry is a giant commercial fishing industry. ``It would be good if cyberspace doesn't turn us into fish,'' she concluded.

A panel discussion on ``Transaction Records In Interactive Services'' raised some additional questions about property rights as they relate to personal privacy. The panelists debated a variety of issues including who owns personal information records (the person who provides them or the organization that collects them), the merits of ``opt-in'' and ``opt-out'' privacy protection systems, and where the responsibility for privacy violations should rest.

Throughout the conference speakers raised questions about how to preserve privacy and personal freedoms while making the most of new technologies. Although many of the speakers urged caution, most were generally optimistic about and supportive of new technologies. However, the ``Case Against Computers'' session offered an alternative view, featuring four panelists critical of computer technology. Most of these panelists were self-proclaimed ``Luddites'' -- people who avoid (and often speak out against) new technology. Jerry Mander began the discussion by reminding everyone that people used to get along just fine without computers. He suggested that contrary to what electronic activists claim, while computers can help people feel more powerful, they are not actual instruments of empowerment. Rather, he argued, computers enforce centralized power structures that take power out of the hands of individuals. In addition he expressed dismay at the way computers and other new technologies have been accepted by the public without debate or consideration of their down sides. Panelist Ted Roszak then discussed the fact that most computer users are not computer experts -- and don't wish to be. He urged computer experts to remember that when designing computer systems. Panelist Chet Bowers gave a very academic presentation about the cultural impact of computers that was probably lost on most of the audience. Richard Sclove, the only panelist who admitted to having an email address, reminded the audience that information technology affects everyone, even people who don't use computers. Although the panelists raised some excellent points, I suspect that many of the techies in the audience probably dismissed these points as the ramblings of seasoned academic Luddites.

The second day of conference sessions began with a panel titled ``Defining Access Paradigms: Libraries, Rural Areas, and International Aspects.'' While not particularly controversial, the panel addressed some interesting problems. Karen Coyle of the University of California described the free lending library as a product of the print world. She explained that libraries generally purchase books but lease electronic materials. If libraries had to pay per-use fees on all their materials, they would likely have to pass some of these fees onto their patrons. In addition libraries face problems in distributing electronic information to patrons who want to take the information home with them.

Another session featured an interesting discussion of efforts to bring the Net to underprivledged populations. Art McGee of the Institute for Global Communications described the famous *New Yorker cartoon* featuring one dog introducing another dog to the Internet. The cartoon caption reads, ``On the Internet, nobody knows you're a dog.'' This led McGee to comment that the second dog should have asked, ``What's wrong with being a dog?''. He added that technology gives people the power to express themselves in their own voices, without having their messages spun by the media. But he reminded the audience that there are still a lot of illiterate people and ``all the computers in the world won't help them if they can't read.''

A discussion on ``Freedom and Responsibility of Electronic Speech'' filled most of the afternoon. The discussion began with presentations from three individuals who have been involved in freedom of electronic speech disputes and concluded with a ``Socratic forum'' (somewhat like a TV talk show) led by Stanford Law Professor Kim Taylor-Thompson. Brock Meeks, who was sued for defamation because of something he posted as part of an online newsletter (http://cyberwerks.com:70/1/cyberwire), discussed his case. Because the case was settled out of court, it sets no legal precedent, but Meeks proposed that people who enter into a discussion on the Internet should be considered ``public figures'' who cannot be easily libeled. He suggested the public figure characterization is appropriate because Internet discussion participants have easy access to the same public forum as those who might try to defame them. Jean Camp, a doctoral student at Carnegie Mellon University discussed CMU's censorship of sexually explicit newsgroups. Roger Karraker, a journalism professor who maintained an electronic conferencing system at Santa Rosa Junior College, described a case in which a female student filed a sex discrimination complaint against him after hearing that derogatory remarks had been made against her on a men-only discussion group. Karraker said one of the mistakes he made with the conferencing system was in describing it as an extension of the student newspaper, because newspaper publishers are responsible for their content. Karraker said individuals should be responsible for their own speech in electronic discussion groups.

The second day of the conference concluded with an evening of Birds of a Feather sessions. Probably the most well-attended BOF was the public forum on cryptography policy. Members of the National Research Council cryptography committee listened and took notes as conference attendees expressed their concerns.

The final day of CFP95 began too early in the morning with an 8 am talk by Willis Ware. The audience was sparse and sleepy from two nights of BOFs which ran until midnight (followed by informal discussions which ended early in the morning). Most of the conference attendees had dragged themselves out of bed in time for the next session: ``Can We Talk Long Distance? Removing Impediments to Secure International Communications.'' While much of the discussion centered around issues which have been brought up repeatedly over the past few years, Cypherpunk Tim May summed things up nicely by characterizing the encryption controversy as a debate between those who feel that their communication is ``none of your damn business'' versus those who ask, ``What have you got to hide?''.

A session on copyright and the Net included an interesting discussion about how copyright should be enforced in cyberspace. In response to often-repeated claims that it is not possible to enforce copyright laws on the Net, Attorney Lance Rose pointed out that intelligent software agents that can be programmed to search the Net for certain types of news can also be programmed to search the Net for copyright infringements. Michael Kepplinger of the U.S. Patent and Trademark Office and Law Professor Pamela Samuelson debated the ``Green Paper'' produced by the Working Group on Intellectual Property Rights. Samuelson criticized the Green Paper authors for assuming that there will not be any useful content on the Internet until Congress passes strict intellectual property laws. However, she said that people are already finding useful information on the Internet. Brad Templeton of ClariNet Communications Corp. followed up by asserting that most people respect copyright, regardless of whether or not it is enforced. Templeton, whose company provides Associated Press and other news feeds over the Internet, said that ClariNet has been profitable under the current copyright laws.

Lenny Foner, a graduate student at the MIT Media Lab and winner of the CFP95 Student Paper Competition, presented his research on agents during lunch. Foner described a ``matchmaker'' system he is developing that is designed to demonstrate the feasibility of a large scale distributed system in which it is essential to build in privacy. His system includes personal agents that people can setup to read their email and determine their interests. The agents then go out on the Internet and communicate with other agents to find people with similar interests.

By the afternoon of the last day of the conference, a large portion of conference attendees had migrated from their chairs to the floor in the back of the conference hall. Students, journalists, long-haired hackers, and libertarians camped out with backpacks and laptops on the audio platform and the surrounding floor space. One gentleman fell asleep, but was woken by a journalist when he started to snore. At one point Conference Chair Carey Heckman pointed out that there were plenty of empty seats towards the front, but nobody in the back moved forward.

A session titled ``It Oughta Be a Crime'' kicked off an afternoon filled with some of the most lively sessions of the conference. Scott Charney of the Justice Department opened his remarks by reminding the audience that ``there is always a percentage of the population up to no good.'' Although only a small percentage of those up to no good are currently computer literate, 30 years from now everyone is likely to be computer literate, he said. He added that there are some types of behavior -- such as extortion and wire fraud -- that is clearly criminal conduct, however, there are other types of behavior that fall into grey areas. Santa Clara District Attorney Ken Rosenblatt discussed statements that police have no business on the Net because electronic conflicts are more a ``cultural war'' than criminal behavior. However, Rosenblatt said that all laws are an expansion of cultural norms. Panelist Mark Traphagan of the Software Publishers Association concluded the session with a discussion of copyright infringement.

Many conference attendees anticipated that the session titled ``Who Owns the Law? The Debate Over Legal Citation Form and What It Means'' would only be interesting to lawyers. However this session proved to be the most animated of the entire conference. After the four panelists gave their opening

statements, Glenn Tenney of Fantasia Systems Inc. gave each five minutes in which to question the other panelists. This format provoked a lively debate about the U.S. legal citation system. Jamie Love of the Taxpayers Assets Project complained that [West Publishing](#)'s page numbers must be used when citing most court opinions. Because one cannot determine the West pagination from the official court documents, one must visit a law library or pay online charges to West to find the complete citations. With an increasing amount of legal research being conducted online, this can get very expensive. However, West argues that they spend a lot of time verifying the accuracy of the opinions they publish and should be compensated for their work. Besides, they say, it is not their fault that the courts do not provide accurate copies of their opinions that can be cited in legal proceedings.

The final CFP95 session featured several presentations about anonymity, pseudonyms, and the technologies that make such things possible. Highlights of this session included a presentation by [David Chaum](#) about the electronic cash products being developed by his company, [DigiCash](#); a presentation on anonymous remailers by writer Steven Levy; and a review of the conference by science fiction writer David Brin.

- Lorrie Faith Cranor

Wrap Up

The CFP and SFC conferences address many diverse issues ranging from privacy to education to intellectual property rights. While SFC focused on moral issues, CFP dealt with freedom and privacy issues related to current and future systems. CFP speakers tended to offer an optimistic yet very cautious view, encouraging individuals to empower themselves or risk the loss of their freedom and privacy. On the other hand, the SFC speakers remained quite optimistic about the future, giving examples of how technology might be able to help people if issues such as those addressed at CFP are resolved.

CFP '96 will be held from March 27-30 in Boston. For information visit http://web.mit.edu/cfp96. It has not been determined when, where, or if another SFC will be held. Given the positive reception of this first conference, it is likely that a second conference will be held in 1996. For more information contact Rick Light at rxl@lanl.gov.