

PDC'92: Proceedings of the Participatory Design Conference

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CPSR



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Above all, any existential revolution should provide hope of a moral reconstruction of society, which means a radical renewal of the relationship of human beings to what I have called the "human order," which no political order can replace. A new experience of being, a renewed rootedness in the universe, a newly grasped sense of higher responsibility, a newfound inner relationship to other people and to the human community—these factors clearly indicate the direction in which we must go.

Vaclav Havel wrote these words in 1978, a year before the authorities arrested him for challenging the ordained social order in Czechoslovakia. Havel and the women and men of the Charter 77 movement struggled with an established orthodoxy that imposed its own view of *how things had to be done*. In the dissidents' experience, the state justified its actions through claims of rationality and necessity. Havel questioned those claims in his influential 1978 essay "The Power of the Powerless," and analyzed in detail the ways in which organizationally imposed ideology can form a bridge between the individual and his organization—a bridge that undermines the individual's humanity, that forces her to work on behalf of the system that oppresses her, that divides him against himself.

In the Participatory Design Movement, we face many of the same questions—although, mercifully, most of us risk

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smaller sanctions than those faced by members of the dissident movement. We too work toward renewed relationships between humans and the computing systems (and other social systems) that some of us construct. We too find ourselves questioning workplace ideologies and the claims of rationality and necessity that are used to justify them. We too continue to search for effective means of working together—ways that honor the dignity and competence in each of us.

After nearly a half-century with electronic computers, we are at last learning some of the lessons of the computer age. A key lesson, and one that other design professions have learned before us, is that the human environment is complex and unpredictable, working according to its own logic and not that of a microprocessor. While this may seem obvious, it has deep consequences for our work as designers of computerized systems: no computer professional, no matter how talented, can derive from first principles—or from introspection—what system users want and need. The participation of users and others affected by computer systems is essential to the design and implementation of effective, humane, well-crafted systems. This participation must begin at the earliest stages of system design, not as an afterthought called "user interface design" or "usability testing." Computer professionals play a key role in the design process, but as facilitators and technical specialists, not as experts in the users' domain.

The first North American Participatory Design Conference, held in Seattle, Washington, US in the spring of 1990, was devoted in large part to "technology transfer." While there was at that time in North America an embryonic

Participatory Design movement, the ideas and practices of PD were more advanced in Europe, particularly in Scandinavia, with its strong trade unions and its history of socio-technical approaches to work design. For many of us in North America, it was our first sustained exposure to active practitioners of Participatory Design. Now, two and a half years later, the program for PDC'92 reveals a still-nascent but evolving movement on this continent and the potential for a lively and more equal exchange with our European colleagues.

PDC'92 deliberately offers a variety of positions and perspectives. Developers from large, bureaucratic organizations; trade union activists; academics; practitioners; representatives of other design fields: as conference chairs we welcomed and even sought this diversity of views. At this stage in the development of Participatory Design as a movement, we did not seek consensus, beyond a commitment to early and meaningful user participation in the design of computerized systems. Instead, we believe that discussion and controversy among people of diverse views is essential to the growth and vitality of this movement. We hope that there will be a PDC'94, and that it will be even more diverse: representatives of other countries, especially Asia and the less developed nations; community activists and employee groups; skeptics who reject the notion that Participatory Design is either desirable or possible; rank and file union members; people of color; and other groups presently underrepresented among us.

Before the planning for the next conference gears up, though, we are eager to thank those who made *this* one possible. Organizing this conference was an all-volunteer effort, and as co-chairs with few resources to command and no rewards to dangle, we are especially grateful to those who gave their time in order to support the cause of Participatory Design. The Program Committee and Conference Committee members, whose names are listed elsewhere in the proceedings, gave generously of their limited time and truly made this conference possible--Michael McFarland, Steve Miller, Melanie Weaver, and Dan Williams deserve special mention, as does Judith Meskill, the Proceedings chair. The organizers of PDC'90, especially Paul Czyzewski, Eric Roberts, Lucy Suchman, Jeff Johnson, Doug Schuler, and Aki Namioka gave excellent advice and much help as well. Our main sponsor, Computer Professionals for Social Responsibility, and our cooperating organizations, ACM SIGCHI, IFIP, Greater Boston SIGCHI, and the Center for Industrial Competitiveness at University of Massachusetts-Lowell provided help with publicity and other forms of support. The MIT conference services office gave invaluable help with grace and professionalism; special thanks to Gayle Fitzgerald, Marie Seamon, and Trish Ezekiel. The staff of the Center for Industrial Competitiveness helped with the production work of conference organizing, and Xerox-PARC generously gave us some early and much-needed financial support. Finally, we would like to thank all of you, because without a lively, growing group of people who embrace, challenge, explore, and experiment, the Participatory Design movement cannot flourish.

PDC'92 Technical Program

The PDC'92 Technical Program Committee reviewed all submissions (papers, panels, workshops, and posters) and worked with authors of accepted submissions to develop excellent contributions. The following people served on the Technical Program Committee:

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Computer Professionals for Social Responsibility

Computer Professionals For Social Responsibility is a public-interest alliance of computer scientists and others interested in the impact of computer technology on society. We work to influence decisions regarding the development and use of computers because those decisions have far-reaching consequences and reflect basic values and priorities.

As technical experts, CPSR members provide the public and policymakers with realistic assessments of the power, promise, and limitations of computer technology. As concerned citizens, we direct public attention to critical choices concerning the applications of computing and how those choices affect society.

Members of CPSR believe that computer technology should make life more enjoyable, productive, and secure. We are working for a world in which science and technology are used not to produce weapons of war, but to foster a safe and just society. These concerns impel us to many forms of action:

- We encourage public discussion of and public responsibility for decisions involving the use of computers in systems critical to society.
- We work to dispel popular myths about the infallibility of technological systems.
- We challenge the assumption that technology alone can solve political and social problems.
- We encourage critical examination of social and technical issues within the computer profession, nationally and internationally.
- We encourage the use of computer technology to improve the quality of life.

CPSR History

Since its beginnings as a small discussion group formed over a Palo Alto computer mail network in 1981, CPSR has grown into a national organization with 21 chapters throughout the United States. We are also affiliated with similar groups in Canada, Australia, New Zealand, Great Britain, Germany, Finland, and Italy. Membership is open to all.

CPSR Projects

Risk and Reliability:

Overreliance on computing technology can lead to unacceptable risks. This project analyzes application areas in which those risks seem particularly serious:

- SDI software problems
- dangers of autonomous weapons

- the inadequacy of simulation as a means for testing complex systems
- the potential for software failure in life-critical systems

Civil Liberties and Privacy:

The growing use of computers for record-keeping has brought with it the danger that the vast amount of information maintained about individuals threatens our privacy. Centered in our Washington D.C. office, the Civil Liberties and Privacy Project is concerned with such topics as:

- the FBI National Crime Information Center
- the growing use of databases of personal information by both government and private industry
- the right of public access to government information
- extension of First Amendment rights to electronic communication
- establishing legal protections for privacy of computerized information

The CPSR Workplace Project:

By the mid-1990s, most U.S. workers will use a computer on the job. The increasing use of computers in the workplace raises important social issues, and CPSR believes that it is important for computer professionals to be involved in this debate. CPSR's Computers in the Workplace Project has concentrated on the following topics:

- design methodologies for workplace software
- electronic monitoring of workers on the job
- health problems associated with computer use

The 21st Century Project:

Since the Second World War, most U.S. research in science and technology has been funded by the military and directed toward military needs. With the end of the Cold War and the changes that have swept Eastern Europe and the Soviet Union, it is time to refocus our scientific and technological research toward the problems that society faces as we enter the next century.

The 21st Century Project, led by CPSR from our Cambridge office, is a coalition of professional organizations working to redirect national science and technology priorities, so that they more closely match social needs.

Grassroots Projects:

CPSR's chapter-based projects and national interest groups span a wide range of issues, including:

- computers in education
- computers and the environment
- viruses and threats to computer security
- computerized vote-counting systems
- status of women in computer science
- implications of speculative technologies such as nanotechnology and virtual reality

Highlights

In the ten years since CPSR's creation, CPSR has been effective in alerting the public and key decision-makers in the U.S. and abroad about the impact of computers on society:

- CPSR published the first papers and held the first public debates on the computing aspects of the Strategic Defense Initiative, or "Star Wars."
- CPSR members testified before a U.S. Senate subcommittee on the feasibility of SDI.
- CPSR/Boston produced an award-winning slide show and videotape called "Reliability and Risk: Computers and Nuclear War."
- CPSR members produced the first book for general audiences on the ways in which computers revolutionize modern weapons systems, *Computers in Battle: Will they Work?*
- At the request of a House subcommittee, CPSR studied the FBI's proposed National Crime Information Center upgrade (NCIC 2000). CPSR's report was widely credited for the FBI's subsequent decision to drop a proposal to track individuals who had not been charged with any crime.
- CPSR co-produced a "Special Report on Computers and Elections" for the 1988 Presidential Campaign, highlighting the potential for errors in electronic vote-counting systems.
- CPSR filed lawsuits under the Freedom of Information Act to force the FBI and Secret Service to reveal whether they monitor computer bulletin boards and electronic mail.
- CPSR/Portland hosted a conference on Computers and the Environment.
- The CPSR Workplace Project organized PDC'90—the first U.S. conference on participatory design, in which users work together with software designers to ensure that systems meet workers' needs.
- CPSR helped lead a successful grassroots campaign to convince the Lotus Development Corporation not to release their proposed Marketplace: Households product, which would have included data on 120 million Americans.

- CPSR/Berkeley organized a media campaign to register our concern over the deadly role of computing technology in the Persian Gulf War.

Membership Benefits

- The CPSR Newsletter—a highly regarded magazine with reviews of CPSR's activities and analyses of issues of concern to CPSR members.
- Invitations and discounts to CPSR events, including the annual meeting, our biannual conference on Directions and Implications of Advanced Computing, and various special events.
- Notice of new CPSR educational materials, including videotapes, research papers, and books.
- Automatic membership in a local CPSR chapter (if available) and notices of chapter meetings and activities.

Membership Categories

The attached reply form lists several categories of membership. The \$40 "basic" membership covers only the costs of sending you the newsletter and the basic administrative services we provide. If you want to help support CPSR's program work, please consider joining at the \$75 "regular" rate, or at whatever higher level you can afford. CPSR's accomplishments during our first ten years were possible because we had strong membership support. Such support will continue to be critical as we try to make our second decade even more successful.

Privacy Notice

The CPSR membership database is never sold, rented, lent, exchanged, or used for anything other than official CPSR activity. CPSR may elect to send members mailings with information from other groups, but the mailings will always originate with CPSR.

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A CPSR membership form is attached as the last page of this volume.

Keynote Speaker:
Participation and Power:
The Role of Collective Voice in Participatory Design

George Kohl

Communications Workers of America

Worker participation in the development of computer systems inevitably raises issues of relative power among three groups: the workers, the "experts" (technicians, programmers, system designers, etc.) and management. These power issues are manifested through both overt and covert mechanisms. The limits of participation are established most fundamentally, not by the desires, sensitivities or techniques of the programmers, but rather by the concrete manifestations of management power within the design, development and implementation processes. In particular, problem definition, resource availability and standard setting are important ways that power is manifested.

The only effective counterbalance to management power, particularly given the historical biases of Taylorism, is a collective voice for the workforce which can appropriately and effectively delineate the interests of the workforce, which can begin from an independent evaluation of "the problem", which can provide a "safe place" to the workforce to express all of their concerns, needs and hopes, and which can speak with the authority necessary to advocate for the interests of the workforce when they are ignored or rejected.

George Kohl is the Director of Development and Research for the Communications Workers of America (CWA). The CWA represents over 350,000 people in the Telecommunications industry - a sector which is increasingly affected by changing technology, particularly computers, software innovation and other forms of digitalization. The CWA has negotiated for involvement of the workforce in the design, development and implementation of technologies, including new language in its recent contract with AT&T which speaks to union involvement in designing the Workplace of the Future.

George will discuss the threats and opportunities of worker participation in technology design with a focus on the problems with individual involvement. He will also discuss concrete mechanisms for collective workforce involvement.

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