

PDC 2006

Expanding Boundaries in Design

Proceedings of the ninth **Participatory Design Conference 2006**
August 1-5, 2006, Trento, Italy

Volume II

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Expanding Boundaries in Design

Preface to the Proceedings of PDC 2006 – Volume II

PARTICIPATORY DESIGN

Participatory design (PD) is a diverse collection of principles and practices aimed at making technologies and social institutions more responsive to human needs. A central tenet of PD is the direct involvement of people in the co-design of the systems they use. This tenet is based on the recognition that when people are involved in shaping their social, technological and material environments, the better suited these environments are to everyday realities and requirements and the more people able are to claim authority over their work and leisure lives.

The PD Conferences have been held every two years since 1990. The conference brings together a multidisciplinary and international group of researchers, software developers, social scientists, designers, activists, practitioners, users, citizens, cultural workers and managers who adopt distinctively participatory approaches in the design of artefacts, systems, services, environments and technologies.

The theme of PDC 2006 is **Expanding Boundaries in Design**. Our focus is on the multiple contexts in which design takes place and on an expanding range of possible design outcomes. While participatory design principles and practices are most often applied to the design of technical systems and artefacts, increasingly there is both the need and the opportunity to focus PD approaches on other domains, such as physical environments, organizational practices, and IT-enabled services. Likewise, the contexts in which PD is practiced has grown to include teams of globally distributed designers and practitioners; actor networks that span organizational, expertise, cultural and linguistic difference; and activity areas beyond the workplace, such as domestic and leisure. Finally, PD has a significant role to play at various stages of design, from initial concept development, to system configuration, to implementation, to integration within the context of use, and ultimately to ongoing design in use. This year's theme recognizes that we have an opportunity to expand our community, our design focus and the sites for action by bringing the principles of informed participation and social good to an even wider audience.

PROCEEDINGS VOLUME I

The Research Papers presented at PDC 2006 are included in Volume I of the Proceedings. They make a contribution to the theory and practice of participatory design and demonstrate the varied contexts in which participatory design is applicable. Included in the conference proceedings are papers that explore the role of process in structuring participatory practices, how embodiment shapes

participatory practices and informs the designed artefacts, the place of games in guiding design, the critical perspectives participants provide in PD projects, and how the location of participants, agendas and designers affects PD outcomes.

PROCEEDINGS VOLUME II

Included in Volume II of the proceedings are the abstracts of the Keynote presentations; Exploratory Papers; and descriptions of the Interactive Workshops, Panels and Art Installations.

KEYNOTE PRESENTATIONS

The PDC 2006 Keynote presentations are by Patrizia Marti and Klaus Krippendorf. Patrizia Marti is a professor at the Communication Science Department, University of Siena, Italy. Her research in participatory design has focused on diverse areas, including education, health care, museums, and air traffic management. The topic of her keynote address is on the evolution of the concept of participation in design. Klaus Krippendorf is a professor of Communication at the Annenberg School of Communication, University of Pennsylvania. He was originally trained as an industrial designer at the Ulm School of Design in Germany and then went on to receive a PhD in Communications. The topic of his keynote address is on semantics and dialogue in participatory design.

EXPLORATORY PAPERS

The Exploratory Paper track provides a forum for the authors of Exploratory Papers to engage the PD community in discussions about works in progress, practitioners' practical experiences, the challenges of working across cultural and expertise boundaries, and the emergence of innovative tools and techniques. There are six parallel Exploratory Paper sessions inviting a range of topics for discussion. These include the significance of games and play in participatory practices, how the use of various materials and artefacts can enrich participation, how space and place shape and are shaped through participation, the participatory experiences of art and culture, the design of healthcare services and systems, and where PD intersects with software development practices. The Exploratory Papers are presented in this volume, grouped by session and in the order of their presentation.

INTERACTIVE WORKSHOPS

The Interactive Workshops are intended to advance participants' understanding and expertise in PD methods, practices and theoretical perspectives. The workshops are

designed to encourage participant engagement and interaction. This years workshops address a range of issues and topics that focus on play and story telling, research-based design, social action, scenario planning, representing to past for the future, agent-oriented design, participatory broadcasting, paper technologies, space and place in design, learner-centered design, CSCW for healthcare, iTV future scenarios, and prototypes as probes. The half-day and full-day workshop descriptions are included in this volume of the proceedings.

ART INSTALLATIONS

The Art Installation track is dedicated to strengthening the PD community's collaborations with artists and designers engaged in creative practices that support new roles for visitors/viewers as active spectators and co-authors. The main event of the Art Installation track is ParticipART, an exhibition of participative and electronic art at the MART (Museum of Modern Art of Trento and Rovereto, Italy). Artists, musicians, game designers and performers exhibit their work at the ParticipART event in a setting where PDC 2006 attendees engage with the art and artists. The art installations are grouped into five broad themes which focus attention in turn on enabling co-production of expression, facilitating connections, interacting with the animate and artificial, reinterpretations of the lived experience, and engaging in collective performances. Included in this volume of the proceedings is a paper by the curators of ParticipART Exhibition that describes the goals of the exhibition and art track at PDC 2006 and a brief description of each of the art installations.

ARTFUL INTEGRATOR AWARD

The Artful Integrator Award is awarded for the second time during PDC 2006. The Award is intended to recognize outstanding achievement in the area of participatory design of information and communications technologies. Where traditional design awards have gone to individual designers and/or singular objects, the Artful Integrators' Award emphasizes the importance of collaborative participation in design, and a view of good design as the effective alignment of diverse collections of people, practices and artefacts. The award goes to a group of people who together have worked out, in an exceptionally creative way, a new and useful configuration of artefacts and practices. While no single element of the design might be particularly extraordinary in itself, the combination of design process and outcome are.

The first Artful Integrator Award was given to the Global Fund for Women and was accepted by Randy Trigg and Kavita Ramdas at PDC 2004. The 2006 Artful Integrator award goes to The Health Information Systems Programme (HISP) and accepting for the HISP international team is

Faraja Mukama. HISP is an extensive, on-going international collaboration in health information systems for public health and higher education. HISP is committed to cultivating locally grounded cultures of 'information for action' in public health at the district health level, seen as the strategic unit for primary health care. The programme's methodology for contextual research, information systems and software research and development has deep roots in the principles and practices of Scandinavian participatory design and participatory action research, which are in turn being extended and adapted to new and very different contexts through HISP's international collaborations. Congratulations to the entire HISP team!

OUR THANKS

Many people and institutions have contributed to PDC 2006. We would like to thank them for their efforts and support. First, we would like to acknowledge the warm hospitality provided by our host city, Trento, Italy and thank the MART for hosting the ParticipART event. Since the first PDC in 1990, Computer Professionals for Social Responsibility (CPSR) has been committed to the success of this conference. The last few years have been challenging for CPSR to sustain itself and we encourage PDC attendee to support CPSR in its efforts to advocate for a socially aware and concerned technology policy <<http://www.cpsr.org>>. We would also like to thank the Sociology School, University of Trento; the Institute for Technology Assessment & Design, Vienna University of Technology; the Design of Organizational IT group, IT University of Copenhagen; and the Almaden Services Research group, IBM Almaden Research Center. In addition, there were individuals who worked behind the scenes to make PDC 2006 a success. Vincenzo D'Andrea adeptly took care of many details that kept the conference on track, and Hanne Sørensen and Tariq Andersen worked steadfastly to prepare the PDC proceedings for publication.

And no conference would be successful without the authors who submit papers, the program committee who reviews the submissions, and the chairs of the various conference tracks. We thank them all and importantly the conference attendees for shaping a continually challenging research agenda and contributing to the evolution of our vibrant, committed Participatory Design community.

Ina Wagner, Technical University of Vienna, Austria

Jeanette Blomberg, IBM Almaden Research Center, USA

Gianni Jacucci, University of Trento, Italy

Finn Kensing, IT University of Copenhagen, Denmark

August 2006

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The Evolution of the Concept of Participation in Design

Keynote Address

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Multidisciplinary design of interactive systems often entails cultural and intercultural encounters. The integration of different disciplines in early user research and in the synthesis of the findings and their application to design activities is not obvious or granted. In particular the domain knowledge of users involved in the design of a future system is often the weak ring of the process in the meeting of different cultures and visions about future systems. Successful intercultural communication in system design is often difficult to achieve, as it involves a great number of factors like expectations, previous knowledge, capability of envisioning, practices, conflicting objectives, use of time and resources. For these reasons, the harmonisation in multidisciplinary design teams is a delicate task. Admittedly, the mediation between different cultures requires the communication and sharing of ideas and information from one cultural context to the other, and the development of *ad hoc* methodologies to help the different actors understanding each others and working together. The construction of a common vision is a collaborative endeavour of customer, users, designers and manufacturer and the user participation should be regarded as a process of incremental optimisation of quality of the final system that results in a reasonably satisfactory solution.

The importance of involving users in the design process has been widely recognised by the Participatory Design (PD) approach. The origins of PD are deeply intertwined with trade unions efforts to bring democracy into the work domains. During the Seventies the Scandinavian Approach lead by Ehn and Kyng among the others was the first that clearly recognized workers' democratic participation in the organisational change process as a multi faceted issue (Ehn & Kyng 1987; Ehn, 1988). The possibility to voice one's own opinion in the management decision-making process is certainly one relevant means to bring the workers in a more active stance, but often it does not suffice. Even if these principles were readily accepted by the HCI community, a certain degree of inertia appeared. At the beginning at the Nineties Bannon (Bannon, 1991) could well highlight the differences between PD principles and current practices. Bannon claimed that end-users were still considered as Human Factors rather than Human Actors, that is emphasis was still on humans as "a passive element in a human-machine system", and not "as an autonomous agent that has the capacity to regulate and coordinate his or her behaviour". More than ten years later, these claims still represent an open issue, as the transition from Human Factors to Human Actors has not been a linear or completed process.

By reviewing the literature on user participation in the design process we have come to discover different roles for users participating in the technology design process. For example, Druin (1998) defined four roles that children can play in the technology design process: user, tester, informant or design partner. Summarising, Druin considers USERS children who contribute to the research and development process by using technology, while adults observe and videotape with the aim to test

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concepts and understand the learning process. TESTERS are children who use prototypes of emerging technologies. The goal of this type of research is to shape new technologies before these commercial products or research projects are released. INFORMANTS contribute at various stages of the design process mainly being asked for their feedback when researchers feel that children could provide needed information. DESIGN PARTNERS are equal stakeholders in the design of new technologies. While children do not have the same specialized expertise that adults have, they have equal opportunity to contribute in any way they can to the design process. By reflecting on our own design experiences, we have come to discover somehow similar but also different roles for user participation in the design process. In particular we observed three roles: *in-house users*, *testers* and *cultural mediator* users.

The TESTERS are not part of the team, as they are only convened to participate in certain design activities. They typically represent the final users of the system. They are external to the design team as they belong to a different professional community, but also because their involvement is “occasional”, that is limited and discontinuous. In general, they participate only in a few of the system design activities; in many cases they take part in only one of them. Their effective contribution requires an *ad hoc* training, focused on the objectives of the specific design step. Consequently, their view of the project is partial and limited exclusively to those aspects of concepts/tools which are deemed necessary for their occasional involvement.

Both *in-house users* and *testers* represent traditional roles of the users in the design process. These roles act as informants and testers. Their involvement is supervised by the design team with the aim to get information needed to feed the design process. They can be considered “subjects” of the study and part of the system to design and evaluate. *In-house users* are essential to the successful outcome of the project, because they ensure a constant participation of final users in the design team, as required by the PD. They are mostly involved in the design phase whilst the *testers* take part to the assessment of intermediate or final solutions.

The MEDIATOR USERS are a “hybrid” category of users that mediate the relationship between the design team and the *tester users*. Being asked to hold both the *tester* and the design team viewpoints, the *mediators*’ task consists in interpreting the behaviour of the *testers* according to the objectives and the perspective of the designers. Hence, they cannot be considered subjects of the study, since they are actors fully involved in the design activity. To achieve their goals, the *mediators* are given a two-fold training which concerns not only the operational practice (i.e., how *testers* should deal with new operational concepts, working methods and the system) but also the evaluation objectives and techniques utilised by the design team. In many cases, they are also provided with specific supporting tools, such as checklists and monitoring grids to support their work.

These different modalities of user participation in the design process will be fully explained through the presentation of case studies in different domains from education, to health care and air traffic management.

Our aim is to understand how to bring the designer knowledge from the "real world" of the final users into the "design world" of technology development. To achieve the goal, we believe that a more adequate definition of user roles and methodologies for their involvement is necessary. The definition of *cultural mediators* may be a step ahead in the achievement of a more fruitful and natural intervention of users in the design process.

Meaning, Participation, and Dialogue

Keynote Address

Klaus Krippendorff

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There are two concepts that I wish to elaborate. The first is “meaning.” It will be argued that the concern for meaning requires designers to adopt a vocabulary, and epistemology that deviates sharply from past functionalist ways of conceptualizing design. I will describe four ways artifacts may acquire meanings as a precondition for them to exist at all. My concern for the semantics in design is part of a more a more general project of developing human-centered concepts in design and elsewhere. Design that focuses attention on what designed artifacts could mean to others has to acknowledge the cultural context in which artifacts are produced, made sense of, used, and play cultural roles.

The second concept that I wish to draw into this discussion is “dialogue.” In everyday life communication is mostly considered in pursuit of purposes, to convey information, influence, entertain, or instruct. In participatory design, such established notion of human communication can undermine meaningful participation, supporting inequalities that diminish the virtue of participatory design. Aware of this danger, I wish to present several imperatives of dialogue and explore how they might enhance participatory design.

It would violate the premise of dialogue as well as the promises of participatory design if I were to merely present a paper that was conceived and written well before the meeting. My hope is to listen to the conversations preceding this concluding plenary talk, and modify it according to what I am looking forward to have learned.

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