Symmetry of Ignorance and Informed Participation
—
Analyzing the Synergy of Related, But Different Approaches to Participatory Design of three Research Centers

ORGANIZERS

Pelle Ehn
School of Arts and Communication
Malmö University
S-205 06 Malmö, Sweden
pelle.ehn@k3.mah.se

**Yrjö Engeström and
Jaakko Virkkunen**
Center for Activity Theory and
Developmental Work Research
University of Helsinki, Finland
P.O. Box 47, FIN-00014
yrjo.engestrom@helsinki.fi,
jaakko.virkkunen@helsinki.fi

Gerhard Fischer
Center for LifeLong Learning and
Design (L^3D)
University of Colorado
Campus Box 430
Boulder, CO 80309-0430 USA
gerhard@cs.colorado.edu

DISCUSSANT

Minna Tarkka
University of Art and Design
Helsinki
Hämeentie 135 C
00560 Helsinki, Finland
e-mail: minna.tarkka@uiah.fi

INTRODUCTION

The field of participatory design grew out of work beginning in the early 1970s in Norway, when computer professionals worked with members of unions to enable the workers to have more influence on the design and introduction of computer systems into the workplace.

Participatory Design (PD) is considered, understood, and practiced as a set of diverse ways of thinking, planning, and acting through which people make their work, technologies, and social institutions more responsive to human needs.

The wide-spread use of computers and the emergence of the Internet have opened new challenges for PD transcending the initial focus of *information system design* toward a broad range of digital technology including *web-based, mobile, ubiquitous and new media environments.*

OBJECTIVES

The workshop will explore the further broadening of the concept of participatory design beyond information system and digital technology design to collaborative work and collaborative learning. This will be done by describing, discussing, and contrasting the work of three major research centers. These researchers centers

- *share some common basic beliefs and objectives* (e.g. with regards to participation, learning, and democracy),
- but they also have *their own identity and focus* (e.g. with regards to work, technology, and art).

The workshop will explore the synergy resulting from a comparison and integration of these different research perspectives and objectives.

METHODS FOR MAKING THE WORKSHOP INTERACTIVE WITH THE PARTICIPANTS

Our methods will include the following:

- articulate and define controversial issues by

- contrasting the three approaches;
- use of a discussant to further identify the controversial issues as a foundation for discussion;
- let the members of the audience associate themselves with a particular research direction and argue for its respective strengths and weaknesses; and
- create jointly a synergy of the different approaches.

RELEVANT BACKGROUND OF THE ORGANIZERS

School of Arts and Communication, Malmö University (Pelle Ehn)

In 1998, a number of researchers and teachers, several of whom with extensive research experience from and a long standing commitment to the idea of participatory design, came together to form a new school and studio based research center oriented towards the design of digital media and artifacts. Our vision for the new 'Digital Bauhaus' was instantiated at Beijerskajen 8 in Malmö in close cooperation between the School of Arts and Communication and the Interactive Institute. As the Bauhaus from the 1920s the vision was a program for the design of artifacts based on progressive social and cultural values, artifacts designed to engender social change. The Manifesto for this 'Digital Bauhaus' envisioned a critical and creative aesthetic-technical production orientation that unites modern information and communication technology with design, art, culture and society; and at the same time places the development of the new mediating technologies in their real everyday context of changes in lifestyle, work and leisure. The research studios at the institute and at the school have a focus on digital technologies in relation to space, narrative and creative environments, and art.

More information about the work in the research studios and at the school can be found at:

- about the vision: Ehn, P. "Manifesto for a Digital Bauhaus" in Digital Creativity, vol. 9 no. 4 , 1998.
- about the space and virtuality studio: http://space.interactiveinstitute.se
- about the narrativity and communication studio: http://narrativity.interactiveinstitute.se
- about the creative environments studio: http://www.creativeenvironments.mah.se
- about the shift program: http://www.skiften.com

Center for Activity Theory and Developmental Work Research, University of Helsinki (Yrjö Engeström, Jaakko Virkkunen)

The Center for Activity Theory and Developmental Work Research was established in 1994 to conduct research in work, technology and organizations going through transformations. The establishment of the Center was a turning point in the development of the methodology of developmental work research (DWR) that had been going on already for about ten years. The methodology is based on the cultural-historical activity theory (CHAT) that stresses the culturally mediated, historically evolving and layered nature of human activity as well as the related idea of expansive learning. The methodology relies on interventions aimed at helping practitioners analyze and redesign their activity systems. In these interventions the practitioners and the researchers identify with the help of empirical data (e.g. video excerpts) important recurring disturbances and ruptures in the collaborative activity, as well as local innovative deviations from the standard practice. Collaboratively they analyze and model the historical and systemic causes of the disturbances as inner contradictions of the system of joint activity using conceptual models of activity theory and expansive learning theory. On the basis of this analysis, an expansive solution to the contradictions is created and implemented experimentally so as to create a historically new form of the activity. The methodology was first applied to single activity systems. Recently, the developmental processes have increasingly dealt with networks of activity systems. The Change Laboratory is a new method for carrying out developmental work research in a condensed form. The methodology has been applied in various fields of activity such as schools, hospitals, service organizations and industry as well as in various kinds of transformations.

For more information about the Center and the approach see

- http://www.edu.helsinki.fi/activity/
- http://communication.ucsd.edu/MCA/Paper/Engestrom/expanding/toc.htm

Center for LifeLong Learning and Design (L³D), CU-Boulder (Gerhard Fischer)

The Center for LifeLong Learning and Design (L³D) has contributed over the last fifteen years to a co-evolutionary approach between (1) a new understanding of thinking, working, teaching, learning, and collaborating, (2) the development of new media, and (3) the change and evolution of institutions (schools, universities, and workplaces). We have developed a number of innovative technologies such as domain-oriented design environments, critiquing systems, and organizational memories.

Recent research efforts in L³D have focused on social creativity and meta-design in lifelong learning communities. The approach is grounded in the belief that human creativity arises from activities that take place in a social context where interaction with other people and the

artifacts that embody group knowledge are important contributors to the process. We have developed and evaluated new socio-technical environments, such as the Envisionment and Discovery Collaboratory and Living Organizational Memory that allow all stakeholders to engage in *informed participation*, exploit the symmetry of ignorance as a source for creating new knowledge, and attempt to create shared understanding among stakeholders with the incremental development of boundary objects.

More information the Center's work can be found at:

- about the Center itself:
  http://www.cs.colorado.edu/~l3d/

- about the Envisionment and Discovery Collaboratory: http://www.cs.colorado.edu/~l3d/systems/EDC/ and Fischer, G., E. Arias, H. Eden, A. Gorman, and E. Scharff (2000): "Transcending the Individual Human Mind — Creating Shared Understanding through Collaborative Design", ACM Transaction on Computer-Human Interaction (TOCHI) Vol. 7, No. 1, March 2000, pp. 84 -113. [http://www.cs.colorado.edu/~gerhard/papers/tochi2000.pdf]

- about the enTWIne research grant on "Social Creativity and Meta-Design in Lifelong Learning Communities":

http://www.cs.colorado.edu/~l3d/entwine/ and Fischer, G. (2001): "External and shareable artifacts as opportunities for social creativity in communities of interest", in J. S. Gero and M. L. Maher (eds), Computational and Cognitive Models of Creative Design V, Key Centre of Design Computing and Cognition, University of Sydney, pp. 67-89. at [http://www.cs.colorado.edu/~gerhard/papers/ccmcd2001.pdf]

INTENDED PARTICIPANTS

We would like to attract participants with very different backgrounds in order to exploit the symmetry of ignorance and engage them in informed participation grounded in their respective background:

- researchers and practitioners;

- designers and people who study work processes and evaluate the usability / usefulness of new media and new technologies; and

- people who come from different countries representing different cultural values.