From Systems Design to CSCL?

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Introduction

My main research interest is the study of work practices of users and designers for the purpose of offering theories and methods for systems design in an organizational context. My research area is Information Systems (IS) including Human Computer Interaction (HCI), Computer Supported Cooperative Work (CSCW), and Participatory Design (PD). My research has been focused on interdisciplinary, empirically based studies, conducted by action research and case studies approaches in cooperation with industries including the Danish Film Board, the Danish Broadcasting Corporation, WM-data, Nordea, Bombardier. In this paper I describe my research experiences as well as current and future research activities.

MUST

A major part of my research has been devoted to the MUST research program, which I, in cooperation with Finn Kensing and Keld Bødker, conducted throughout a ten year period, 1991-2000, and which has resulted in a method for participatory design [2.3; 4.1; 5.1]. During the MUST program, we conducted 13 empirical projects all engaging an action research approach. The purpose of the MUST program was to develop theories of and approaches to what we define as IT design. An IT design project runs the course from the emergence of the first idea involving change in a company to the development of a cohesive vision for overall change. In my opinion, this is the most critical, complex, and challenging part of the systems development life cycle. It requires strong interdisciplinary skills, since it is completely dependent on the situation and organizational context and involves issues covering (and combining) the spectrum of IT development, organizational change, and qualifications related to human resources.

Within the MUST program I have been focused on PD/HCI approaches, including ethnographically inspired techniques [2.1; 2.4], strategic alignment [2.5], and large scale CSCW related initiatives [2.2]. Ethnographically inspired techniques were developed in cooperation with Lucy Suchman's research group at Xerox PARC, and approaches to strategic alignment was developed in cooperation with Kjeld Schmidt and Peter Carstensen, based on Kjeld Schmidt's work analyses.

DIWA

In parallel with ending the MUST program in 2000, I begun a three year interdisciplinary research program, the DIWA program (Design and use of Interactive Web-Applications) ending ultimo 2003. The participants in DIWA are a group of 8 Danish senior researchers and 8 Ph.D. students from Roskilde University (hosting 2 seniors and 5 PhD's), Copenhagen University, The Danish Technical University, and The IT University of Copenhagen working in cooperation with 6 companies.

The theme of the DIWA program is design, management, and use of interactive Web-applications in distributed work settings, i.e. as an IT platform for collaborative, distributed work inside an organization (intranet) or between organizations (extranet). The program is based on the assumption that the development of such interactive Web-applications introduces new managerial and technical challenges that most organizations and their IT departments have difficulties coping with.

DIWA researches a new area within systems development in an organizational context, since web-based applications opens up for new ways of communicating in organizations. The design, management, and configuration of the applications to a large degree are not handled by IT specialists, among others, due the generic character of these technologies. The structure and content of the information to a large degree is managed by the users of the application.

The research approach has mainly been a case study approach. The research methods applied have been a combination of qualitative and quantitative approaches including interviews, document analysis, surveying, and datamining of http log transactions. My empirical work has been concentrated on projects conducted in collaboration with Nordea, studying deployment and organizational implementation of groupware in the form of a generic web-based CSCW technology (Lotus QuickPlace) used in

geographically distributed settings. Most of the results of this empirical work is still in progress and comprise the following:

- Eliciting general factors influencing the integration of groupware by using the theoretical CSCW framework of coordination mechanisms [3.11].

- Defining conditions for change and developing management strategies related to deployment of groupware in distributed organizations [3.13].

- Developing a general model explaining interdependent conditions for integrating generic groupware in collaborative practice within virtual teams [3.14].

- Investigating and evaluating using quantitative http log analysis as an approach to studying the use of groupware [4.4]

Future Research

The DIWA program has further broadened my research horizon within IS to include a deeper concern for CSCW and include related areas within KM and CSCL. I plan to continue this avenue within the final part of the DIWA program especially by working on the issues listed above.

Lately, I have been introduced to the RUC Online project (2003-2005). The purpose of this project is to follow, assess, and learn from a concerted, large-scale effort to provide comprehensive computer support for study activities at Roskilde University. The facilities made available to the students include a campus-wide wireless network, a Web portal integrating institutional and personal links, and a CSCW system for use in the students' coursework and projects. The RUC Online projects will investigate the introduction and adoption of these facilities as well as their social and study-related effects, thus empirically focusing on CSCL issues.

References

(Numbers refer to publication list on www.ruc.dk/~simonsen)

2.1 Simonsen, J. and F. Kensing (1997): "Using Ethnography in Contextual Design", *Communications of the ACM*, Vol. 40, No. 7, July, pp. 82-88.

2.2 Kensing, F., J. Simonsen, and K. Bødker (1998): "Participatory Design at a Radio Station", *Computer Supported Cooperative Work*, Vol. 7, No. 3-4, Kluwer Academic Publishers, pp. 243-271.

2.3 Kensing, F., J. Simonsen, and K. Bødker (1998): "MUST - a Method for Participatory Design", *Human-Computer Interaction*, Vol. 13, No. 2, Lawrence Erlbaum Associates, Inc., pp. 167-198.

2.4 Simonsen, J. and F. Kensing (1998): "Make Room for Ethnography in Design", *ACM-SIGDOC Journal of Computer Documentation*, Vol. 22, No. 1, February, pp. 20-30.

2.5 Simonsen, J. (1999): "How do we take Care of Strategic Alignment? Constructing a design approach", *Scandinavian Journal of Information Systems*, Vol. 11, pp. 51-72.

3.11 Pors, J.K. and J. Simonsen (2003): "Coordinating Work with Groupware: The Challenge of Integrating Protocol and Artefact", in M. Korpela, R. Montealegre, and A. Poulymenakou (Eds): *Organizational Information Systems in the Context of Globalization*, Kluwer Academic Publishers.

3.13 Simonsen J. and J. K. Pors (2003): "Conditions for Change Related to Groupware in a Distributed Organization – a Case Study", in C. Ciborra et al. (Eds.) *Proceedings of the 11th European Conference on Information Systems, ECIS'2003: New Paradigms in Organizations, Markets and Society*, 19.-21. June 2003, Naples, Italy.

3.14 Bjørn, P. and J. Simonsen (2003): "Teams of Practice: Interdependent Conditions for Integrating Groupware in Collaborative Practice within Virtual Teams", *Proceedings of the 26th Information Systems Research Seminar in Scandinavia, IRIS 26* - Scandinavian Approach to IS Research?, August 9-12, Haikko Manor, Finland.

4.1 Bødker, K., F. Kensing, and J. Simonsen (2004): *Participatory IT Design. Designing for Business and Workplace Realities*. MIT press.

4.4 K. Bøving and J. Simonsen (forthcoming): *http log analysis as an approach to studying use of IWAs*. Paper in progress.

5.1 Bødker, K., F. Kensing og J. Simonsen (2000): *Professionel IT-forundersøgelse - grundlaget for bæredygtige IT-anvendelser*. Samfundslitteratur.