Position Paper "Considering Gender in CSCW"

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Abstract. Considering gender in CSCW or in systems design in general means to both deal with concepts and theories of gender and with ideas of how labor is structured. We understand gender as socially constructed and are convinced that the use of technology has a deep impact on the organization and structure of labor – and simultaneously on the construction of gender. In this position paper we introduce the research approach of our working group in the field of sociotechnical systems design & gender studies.

The key task of our working group "Sociotechnical Systems Design & Gender" is to reflect on the consideration of gender in systems design and to identify possible ways for taking gender into account when designing information systems. In order to deal with this challenge, we reframe the question as follows: What does it mean to consider the *construction* of gender when designing *socio-technical* systems? Thus we position our work within two distinct theoretical lines – the first regarding the concept of gender, the other referring to how we perceive technical systems and their design.

On the one hand, we understand gender as socially constructed, in particular by material conditions as they are manifested in economic gender relations, i.e. arrangements and regimes of paid and unpaid labor (Wetterer, 2009). The gender-specific division of labor and women's position in economic structures have been a – if not the most – important issue in the emergent field of "Women's Studies" in the 1970s and 1980s. Following the theoretical innovations of the 1990s, feminist theory today provides concepts for constructions of gender as effects of the division of labor (Wetterer, 2009). Similarly, feminist studies of

technology theorize and research the "co-construction" of gender and technology (see e.g. van Oost, 2003).

On the other hand, we are convinced that information technology has an impact on the way labor is organized and structured. Very often indeed, it is explicitly deployed with the goal of organizing and structuring labor – and thereby impacts on the power relations as well. The 1970s and 1980s have been an era in which systems designers witnessed the redesign of workplaces through the introduction of information technology as maybe the most predominant task of systems design. When realizing the impact technical systems had on the organization of work, important political strategies emerged, such as Participatory Design as well as a perspective on technical systems, reconceptualizing them as "socio-technical systems" (Bjerknes and Bratteteig, 1995). A socio-technical perspective is the precondition to analyze the intertwined character of social and technical systems – and to understand actions and decisions of systems designers as having a strong influence on working conditions.

Thus, our approach, drawing on both gender theory and the socio-technical perspective, turns the focus to the construction of gender as an effect of the processes in which technology and the organization of work are constructed and configured.

What is the goal when one wants to consider gender in systems design, starting on the basis that gender is socially constructed and that systems design is always a socio-technical activity? It seems evident, that this goal is to some extent political and normative. It deals with discourses of inequality and raises and reflects questions of power and social arrangements, for example the connection of gender with the perceived value of the work a person performs. As designers we want to critically analyze proposed innovations and changes and ask whose interests they might serve. Our approach means setting off from two starting points.

Firstly, our research is driven by areas of technological innovation. Whose interests get priority when designing "smart homes"? What scenarios are used for the prototyping of service robots? What effects of social exclusion can be anticipated by the turn towards eServiecs? The assessment of current trends from the gender perspective triggers new and often unexpected questions. Other areas of application are made accessible, but also potentially conflictive reactions towards certain designs of technology (or its use) and social implications can be pointed out.

Secondly, we study areas of "female connoted" service work. Typical "women's work" very often takes place in the service sector (e.g. shop assistant, nurse, librarian, call-center agent) and is not perceived to include very skilled and difficult tasks. Furthermore it often includes much "invisible work" that is seldom recognized in the process of requirements analysis at all and therefore not supported very well by technology. Feminist research – such as on the history and

sociology of domestic and reproductive work (Bock and Duden, 1976) – has achieved important results in analyzing "invisible work" and the mechanisms which generate the very invisibility. Constructing and devaluing certain kinds of tasks and qualifications as e.g. "women's nature" simultaneously renders work as *work* invisible and socially constructs a "natural" gender. There are approaches to systems design, particularly in the field of CSCW, that recognize the existence of different kinds of "invisible work" (Nardi and Engeström, 1999; Star and Strauss, 1999) and reveal the connection to certain kinds of infrastructure or service work. It is to the merit of these and other CSCW approaches to have analyzed and described the impact of "invisible work" in the process of requirements analysis and systems design (see also Suchman, 1995; Muller, 1999).

Software design usually deals with formally representing real world objects and processes. Software designers identify recurring structures, abstract from irregularities and thereby (re-)construct standard cases – and the status quo. But the results of such modelling processes do not only depend on the designers' professional skills. They are also determined by their perceptions, assumptions, and priorities. What catches their eyes and what remains invisible? What do they consider important? What counts as "normal" and is therefore represented?

We want to make use of the knowledge, concepts and theories provided by gender studies in order to advocate a more reflective and critical approach when designing systems. This approach is supposed to have effects on the phase of requirements analysis as well as on the design of systems based on the preceeding analysis. But since applying a gender sensitive approach to requirements elicitation does not automatically lead to gender sensitive design, the elicitation results need to be carefully and critically analyzed again - in order to evaluate possible effects on gendered power and working relations before the phase of implementation.
Gender is certainly not the only category that structures design decisions and power relations in our society, but it is an important one. Furthermore gender sensitivity may also be used as an eye-opener to reconstruct and question (gendered) images and norms that underlie existing software systems and concepts, mirroring social arrangements and inequalities.

References

Bjerknes, Gro and Bratteteig, Tone (1995): 'User Participation and Democracy: A Discussion of Scandinavian Research on System Development', *Scandinavian Journal of Information Systems*, 1995, vol. 7, no. 1, pp. 73–98.

Bock, Gisela and Duden, Barbara (1976): 'Arbeit aus Liebe - Liebe als Arbeit. Zur Entstehung der Hausarbeit im Kapitalismus, in *Frauen und Wissenschaft. Beiträge zur Berliner Sommeruniversität für Frauen*, 1976, pp. 118-199.

Muller, Michael J. (1999): 'Invisible Work of Telephone Operators: An Ethnocritical Analysis', *Computer Supported Cooperative Work*, 1999, vol.8, pp. 31-61.

Nardi, Bonnie A. and Engeström, Yrjö (1999): 'A Web on the Wind: The Structure of Invisible Work', *Computer Supported Cooperative Work*, 1999, vol. 8, pp. 1-8.

Star, Susan Leigh and Strauss, Anselm (1999): 'Layers of Silence, Arenas of Voice: The Ecology of Visible and Invisible Work', *Computer Supported Cooperative Work,* 1999, vol. 8, pp. 9–30.

Suchman, Lucy (1995): 'Making Work Visible', *Communications of the ACM*, September 1995, vol. 38, no. 9, pp. 56-64.

van Oost, Ellen (2003): 'Materialized Gender. How Shavers Configure the Users' Feminity and Masculinity', in Nelly Oudshoorn and Trevor Pinch (eds.): *How Users Matter. The Co-Construction of Users and Technologies,* Cambridge (Mass.)/London, 2003, S. 193-208.

Wetterer, Angelika (2009): 'Arbeitsteilung & Geschlechterkonstruktion – eine theoriegeschichtliche Rekonstruktion', in Brigitte Aulenbacher and Angelika Wetterer, (eds): *Arbeit. Perspektiven und Diagnosen der Geschlechterforschung*, Münster, 2009, pp. 42-63.