Working out Work
From Personal Informatics to Redesigning Work

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Akademisk avhandling

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Abstract

“Personal Informatics” (PI) and “Quantified Self” (QS) are two contemporary notions in the field of Human–Computer Interaction. Such hardware and software systems gather personalized quantified data and visualize them for the purpose of supporting self-reflection. Many of these systems focus on breaking the habit of prolonged sitting and increasing physical activity in our daily lives. The problems associated with the sedentary lifestyle and prolonged hours of sitting have been noted in many studies. In fact, stationary behavior is a risk factor for cardiovascular disease, diabetes and certain types of cancer. Nowadays we, as adults, spend more than 8 hours a day on work and work-related activities. As a consequence, the time spent sitting in office workspaces contributes to the majority of stationary behavior in our daily lives. Throughout history, designers and technocrats have constantly redesigned workspaces in attempts to increase work productivity and efficiency. Thus “modern” office work configuration includes desks and stationary computers and so office workers have become accustomed to prolonged sitting in their workplaces.

In relation to this research problem, I have worked on my PhD thesis within the context of a four-year cross disciplinary research project in which we have been exploring ways of increasing physical activity and breaking the habit of prolonged sitting among office workers. This is a thesis in informatics and closely allied to medicine and it focuses on studying how contemporary office work affects the body and how to redesign this context. For this thesis, I conducted three empirical studies and designed and developed two prototypes - the “NEAT Lamp” and the “Talking Tree”. The “Sport Co.” study was the first quantitative study, and was followed by two qualitative observational ethnographic studies – the “Housing Co.” study and the “Health Co.” study. The research process adopted during the work can be described as an intertwined process consisting of three methodological approaches: observational ethnographic studies, concept development and prototyping. These three came together to form a coherent contextual design process for tackling the research question, “How can we approach the design of work in today’s offices in order to make office workers more physically active in their workspaces?” This process resulted in five papers presenting various aspects and results of the research conducted. The results cover the role of bodies at work by considering the history of work design, knowledge about the local movement and mobility patterns of office workers in modern office spaces and eventually the design and evaluation of the two prototypes introduced in this thesis. Finally, I conclude this thesis by highlighting my overall contributions. The first contribution targets designers willing to design for increasing physical activity and breaking the habit of prolonged sitting in workspaces. In relation to this I introduce a design space as a tool for understanding the design of work in relation to worker’s bodies. The second contribution highlights how observational ethnographic studies, concept development, and prototyping can be combined when exploring the context of physical activity in office environments and it shows how contextual design might be a suitable approach for such studies. In addition, it emphasizes ways for how we can redesign work and expand our contextual knowledge. This, by examining and evaluating interactive prototypes in real office settings.

Keywords

Personal Informatics, Quantified Self, Redesigning Work, Contextual Design, Observational Ethnographic Studies, Concept Development, Prototyping, Design Space