

## **A DESIGN FOR ANYWHERE COMPUTING IN THE ASPECTS OF EXPERIENCE, CHANGE AND TECHNOLOGICAL NEEDS**

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### **Abstract**

The vision of pervasive computing promises a shift from information technology *per se* to what can be accomplished by using it, thereby fundamentally changing the relationship between people and information technology. In order to realize this vision, a large number of issues concerning user experience, contextual change, and technical requirements should be addressed. We provide a design rationale for pervasive computing that encompasses these issues, in which we argue that a prominent aspect of user experience is to provide user control, primarily founded in human values. As one of the more significant aspects of the user experience, we provide an extended about privacy. With contextual change, we address the fundamental change in previously established relationships between the practices of individuals, social institutions, and physical environments that pervasive computing entails. Finally, issues of technical requirements refer to technology neutrality and openness—factors that we argue are fundamental for realizing pervasive computing. We describe a number of empirical and technical studies, the study of which has helped to verify aspects of the design rationale as well as shaping new aspects of it. The empirical studies include an ethnographic-inspired study focusing on information technology support for everyday activities, a study based on structured interviews concerning relationships between contexts of use and everyday planning activities, and a focus group study of lay-people's interpretations of the concept of privacy in relation to information technology. The first technical study concerns the model of personal service environments as a means for addressing a number of challenges concerning user experience, contextual change, and technical requirements. Two other technical studies relate to a model for device-independent service