Design for Trust in Ambient and Ubiquitous Computing

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Abstract. Ambient and ubiquitous computing systems are characterized by interfaces so non-traditional that these are often not recognized as computer interactions during use. Further these systems may be always on, embedded nearly invisibly into physical surroundings. Thus empowering individuals to control their own privacy and security in ubiquitous computing is particularly problematic. This is further complicated by the fact that privacy is personal and contextual, while system design is centralized. In this presentation, I describe the designs and associated research methods for developing and evaluating privacy-aware ubicomp for in-home use. The project focused on integrating individuals risk perceptions with respect to security and privacy into the technology, so that choices which appear to be risk- mitigating do indeed mitigate risk. Using six prototypes, the presentation illustrates design for trust in home-based ubicomp.