Natural user interfaces for collaborative environments



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Abstracts

Until recently, the limitations of display and interface technologies have restricted the potential for human interaction and collaboration with computers. For example, desktop computer style interfaces have not translated well to mobile devices and static display technologies. However, the emergence of interactive whiteboards has pointed to new possibilities for using display technology for interaction and collaboration. A range of emerging technologies and applications could enable more natural and human centered interfaces so that interacting with computers and content becomes more intuitive. This will be important as computing moves from the desktop to being embedded in objects, devices and locations around us and as our "desktop" and data are no longer device-dependent but follow us across multiple platforms and locations. The impact of Apple's iPhone and an increasing number of multi-touch surfaces show that users' expectations about using these devices in their daily lives have increased. The reaction to these natural interface implementations has been very dramatic. With the increasing development of interactive walls, interactive tables, and multi-touch devices, both companies and academics are evaluating their potential for wider use. These newly emerging form factors require novel human-computer interaction techniques which will be discussed in this presentation. My research goal is to design, develop, and evaluate natural user interfaces that will enable everyone, not just experts, to use our interactive surfaces. In this presentation, we will describe particular challenges and solutions for the design of tabletop and interactive wall environments and present the user-centered design.

Biography

Michael Haller is working at the department of Digital Media of the Upper Austria University of Applied Sciences (Hagenberg, Austria), head of the Media Interaction Lab, and responsible for computer graphics, multimedia programming, and augmented reality. He received Dipl.-Ing. (1997), Dr. techn. (2001) and Habilitation (2007) degrees from Johannes Kepler University of Linz. He is active in several research areas, including interactive computer graphics, augmented and virtual reality, and human computer interfaces. In 2004, he received the Erwin Schroedinger fellowship award presented by the Austrian Science Fund.