KEYNOTE TALK
Monday, November 29, 2010
1:30PM – 2:30 PM / Ballroom 4-5

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Anywhere Interfaces - Scaling and Adapting Mixed Reality, Real-Time Computer Vision, and Visualization

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Abstract

The biggest obstacle to intuitive context-aware computing in the physical world is no longer a lack of suitable computational platforms. Ultra-mobile personal and tablet computers are finding new users beyond their classic niche applications and the number of smartphone users is projected to exceed one billion worldwide by 2014. But there are technological limitations in scaling the user interface to something that resembles seamless interaction with the physical world and a globally distributed social network. Augmented reality is seen as a technology with great potential to provide a new browsing experience for context-aware computing, and is increasingly used in advertising and entertainment, but currently offered solutions for personal computing fall short in accuracy, robustness, and usability. This talk discusses how research in augmented and virtual reality, real-time computer vision, and information visualization might help bring about new interaction possibilities for global personal and social computing in, and related to, the physical world.

Speaker Bio-Sketch: Tobias Hollerer is an Associate Professor of Computer Science at the University of California, Santa Barbara, where he co-directs the Four Eyes Laboratory, conducting research in the four I's of Imaging, Interaction, and Innovative Interfaces. Dr. Hollerer holds a graduate degree in informatics from the Technical University of Berlin and an MS and PhD in computer science from Columbia University. He is a recipient of the National Science Foundation's CAREER award, for his work on "Anywhere Augmentation", which enables mobile computer users to place annotations in 3D space wherever they go. Dr. Hollerer is a principal investigator on the UCSB Allosphere project, designing and utilizing display and interaction technologies for a three-story surround-view immersive situation room. Dr. Hollerer has published more than 100 international journal and conference papers in the areas of augmented and virtual reality, information visualization, 3D displays and interaction, mobile and wearable computing, and adaptive user interfaces.