Presenter

Dr Markus Rittenbruch, Institute for Future Environments (IFE), Queensland University of Technology (QUT)

Title

Interacting on a massive scale: Cube & CubIT, the design, implementation and evaluation of very large-scale collaborative multi-user workspaces.

Abstract

"The Cube" is a unique facility that combines 48 large multi-touch screens and very large-scale projection surfaces to form one of the world's largest interactive learning and engagement spaces. The Cube facility is part of the Queensland University of Technology's (QUT) Science and Engineering Centre, designed to showcase QUT's teaching and research capabilities in the STEM (Science, Technology, Engineering, and Mathematics) disciplines.

"CubIT", a large-scale multi-user presentation and collaboration platform, was specifically designed to allow QUT staff and students to utilise the capabilities of the Cube. CubIT's primary purpose is to enable users to upload, interact with and share their own media content on the Cube's display surfaces using a shared workspace approach. User can log into CubIT on any of the wall surfaces using their

RFID-enabled staff or student card. The system is implemented via three components, a large-screen *multi-touch interface*, a *mobile phone and tablet application* and a *web-based content management system*. Each of these applications plays a different role and supports different interaction mechanisms supporting a range of collaborative features including multi-user shared workspace interaction, drag and drop upload and sharing between users, session management and dynamic state control between different parts of the system. In this talk I will briefly introduce the Cube facility and describe the design and implementation of the CubIT framework in detail. The talk will highlight lessons learnt from the first 8 months of the system's operation, present initial results from a recent evaluation of the framework and discuss plans for future research.

Biography

Dr Markus Rittenbruch is a Senior Research Fellow with the Institute for Future Environments (IFE) at the Queensland University of Technology (QUT) and a member of QUT's Urban Informatics Research Lab. He has over 18 years of research experience in the fields of Human-Computer Interaction (HCI), Computer Supported Cooperative Work (CSCW), and Ubiquitous Computing (UbiComp). Before joining QUT he has been invited to work at various research organisations in Germany and Australia, including the University of Bonn, the Distributed Systems Technology Centre (DSTC), the University of Queensland, the Australasian CRC for Interaction Design (ACID), and NICTA, Australia's Information and Communications Technology Centre of Excellence.

Markus' research focuses on solving problems in urban and organisational contexts through the design of engaging, innovative interaction technologies and approaches. His interests include the design of collaborative software, advanced models of awareness in groupware, in particular contextual and intentional awareness, social software, ambient, ubiquitous and physical computing, natural user interfaces and different ways of interfacing with sensors and sensor data. Markus has authored and co-authored over 50 publications in journals, edited books, and conference proceedings, including publications in the leading journals in HCI (Human-Computer Interaction Journal) and CSCW (Journal on Computer Supported Cooperative Work).