Visual Computing Forum

Collaboration in Multi-User Virtual Reality

Prof. Dr. Bernd Fröhlich

Bauhaus-Universität in Weimar, Germany

Friday September 30, 2014, from 14.00
Store Auditorium, 2nd floor, HiB (d. blokk)

Abstract

Immersive telepresence allows distributed groups of users to meet in a shared virtual 3D world. Our approach uses two coupled projection-based multi-user setups, each providing multiple users with perspectively correct stereoscopic images. At each site, the users and their local interaction space are continuously captured using a cluster of registered depth and color cameras. The captured 3D information is transferred to the respective other location, where the remote participants are virtually reconstructed in life-size. Local and remote users can jointly or independently explore virtual environments and virtually meet face-to-face for discussions. We structure collaborative activities of collocated and remote users can jointly or independently explore virtual environments and virtually meet face-to-face for discussions. We structure collaborative activities of collocated and remote users using Photoportals. Virtual photos and videos serve as threedimensional references to objects, places, moments in time and activities of users. They can be shared among users and serve as portals to the captured information. Our Photoportals also provide access to intermediate or alternative versions of a scenario and allow the review of recorded task sequences that include life-size representations of captured users.

Visual Computing Forum

Parallel Computing Towards Exascale

Dr. André Brodtkorb

SINTEF, Oslo

Friday September 30, 2014, from 14.00

Store Auditorium, 2nd floor, HiB (d. blokk)

Abstract

Today's computers are increasingly parallel, and mapping algorithms to these architectures has become increasingly difficult. Failing to adapt to the architecture leaves our performance in the dark ages, with little hope of scaling on today's and tomorrows hardware. This tutorial-like talk discusses the underlying parallel hardware constraints, different approaches to parallelism, a hands-on example for computing PI, and the use of domain specific languages to hide complexity.