

Our "Game Studio"

Surgical Disciplines

Simulations for

- Rhinology
- Otology
- Dentistry
- Maxillofacial surgery

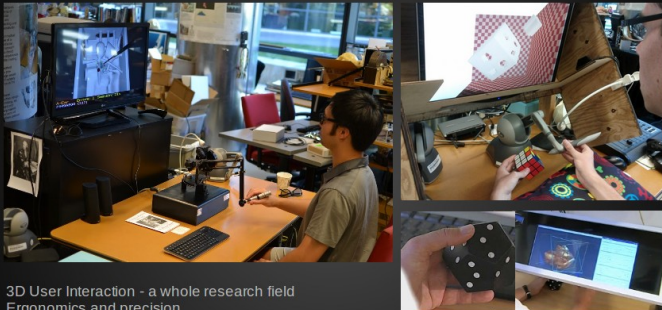


Applications for

- Training
- Rehearsal
- Instruction
- Planning

Plenty of "customers" and real usage scenarios

Creating Effective User Experiences



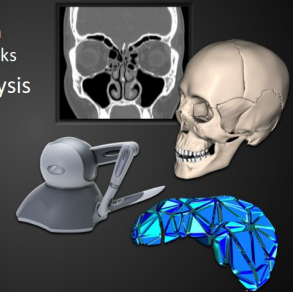
3D User Interaction - a whole research field
Ergonomics and precision
Switching between 3D and 2D interaction
Engaging both hands (feet?)
Collaborative interaction and telemedicine

Exploring interaction devices & techniques

Research Areas -> Building Blocks

Our work in several research areas results in building blocks

- Medical image analysis
- Computer graphics
- Haptic rendering
- Physics simulation
- Interaction Design



Case study: Instruction in 3D Anatomy



Real-time 3D surgery simulation for teaching -
in use at Stanford School of Medicine

Designing With an Invisible Material



Haptics can not be seen - only felt.

- How can application developers decide what should be perceived by the user?
- What constitutes a high-fidelity experience?
- What level of realism is required to make an application successful?

Research Opportunities In Surgery Simulation

November 17, 2012

Hi, my name is Jonas Forsslund and I'm a PhD candidate at KTH, currently working in the Biorobotics and Surgery simulation lab at Stanford University, USA. If you find the pictures above awesome, I would like to invite you to work with me for you *exjobb* (MSc thesis) or similar, in Sweden or on-site in California. For the entrepreneurial minded there are also opportunities in my spin-off company or new enterprises. Thesis topics of interest include but are not limited to implementation and verification of state of the art graphic rendering algorithms, head-tracking and workstation design, 3D user interfaces, medical imaging segmentation and simulation case creation workflow.

All topics require decent programming skills, and a hunger to learn more, work hard and take own initiatives. Sounds great?! Email me in Swedish or English at jfo02@kth.se today with a text about yourself to find out more!