Natural Gesture Mouse for Medical Navigation System in Operating Room

Motivation:

Nowadays, surgeons reasonably rely on the medical images, so there are always several screens in the operating room, belonging to different medical navigation systems. A touchless interface is an ideal solution since it does not demand any physical contact and can provide the necessary control features in a cleansed and sterilized environment. A hand-based interaction framework for multi-screen has been developed in our group. However, the medical navigation systems usually are closed to any other software and hardware for some reasons.

The objective of the project is to develop a gesture USB mouse using an Android device, which could transfer the user’s gesture interaction to any medical navigation system.

Task:

- Understand our hand-based multi-screen interaction method
- Create the gesture USB mouse for to any medical navigation system
  - Create a USB mouse using an Android device according to open source project “android-keyboard-gadget”
  - Modify the App to retrieve mouse information from the hand-based interaction system

Requirements:

A solid knowledge in C++ programming.

Type: Master, IDP, Forschungspraxis
Subject: Natural User Interface
Supervisor: M.E. MA Meng
Tel:+49(0)89440053635
Email: meng(at)in.tum.de