Software Ergonomics for Augmented Reality Application

The development of medical robots and manipulators is one of the research areas of the chair. A manipulator system for automated real-time imaging with ergonomic visualization of relevant information in an augmented reality environment is currently being developed.

In the context of this work, a software framework for augmented reality applications in minimally invasive surgery in C/C++ and Matlab is to be implemented and documented with the integration of existing software components. A special focus is on the ergonomic design of the software as well as the suitable representation of the image data for the Augmented Reality application. Finally, tests will be carried out to prove the functionality and suitability of the software.

Prerequisites for the work are:
- Good knowledge and passion for image processing
- Independent operation
- Very good knowledge of C/C++
- Good knowledge of MATLAB and Java

Start of work: From now on

Proposals for accompanying courses:
- Automatisierungstechnik in der Medizin (Automation Technology in Medicine)
- Messtechnik und medizinische Assistenzsysteme (Measurement Technology and Medical Assistance Systems)

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