

Project Management and Software Development

# FMtrack - Optical Tracking System for Medical Procedural Simulator

Project Requirements Presentation – 27.10.2016

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# **Background and Motivation**

- Medical: Measurement and assessment of surgical performance in training environment
- Technical: Motion tracking of surgical instruments



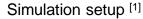
### **Problem Statement**

- Automatic identification and tracking of non-rigid medical instruments
- Simulation of medical images





Non-rigid instrument





[1] http://www.medability.de/for-instrument-manufacturers/ (26.10.2016)

## **Stakeholders**

- Project Partners
  - FRAMOS
  - MEDABILITY
  - IFL
- Medical Expert
  - Dr. med. Simon Weidert (LMU)
- Supervisors
  - Benjamin Busam
  - Patrick Wucherer
- Project Manager
  - Ramona Schneider



## **Requirements and Specifications**

- Real-time processing of data
- Tracking and identification of medical instruments
  - Multiple
  - Rigid
  - Non-rigid
- Simulated images
  - Current instruments
  - Correct position
  - Correct shape



### **Tasks**

- Getting to know Optical Tracking System (OTS)
- Getting to know framework for haptic feedback
- OpenIGTLink Interface
- Pivot Calibration
- Tests with rigid medical instruments
- Develop image processing pipeline for tracking of flexible tooltip
- Visualize/augment medical images
- Testing
- Evaluation of results
- Documentation



# **GANTT Project Plan**

