



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



Simulation setup [1]



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

