Project Management and Software Development

FMtrack - Optical Tracking System for Medical Procedural Simulator

Project Requirements Presentation – 27.10.2016

Project Supervisors: Benjamin Busam, Patrick Wucherer

Presented by: Ramona Schneider
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]

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

- become familiar with system
- openIGTLink Interface
- intermediate presentation
- requirements presentation
- Pivot Calibration
- Tracking
- Rigid Tracking
- Non-rigid tracking
- Visualization
- Testing/documentation
- final presentation