Automatic Pose Synchronization

Charalampos Papathanasis

Supervisor: Benjamin Busam
Project Partner: FRAMOS

Project Requirements Presentation

Technische Universität München,
Germany October 27, 2016
Background and Motivation

- Computer aided medical procedures
  - Different medical instruments and robots move separately
  - Multiple pose information streams
  - Different instrument positions → different lags at different times
  - Actual position and orientation is crucial
Problem Statement

Synchronize different pose streams in time

+ Lag minimization

Stakeholders

Project Partner: FRAMOS

Supervisor: Benjamin Busam

Project Manager: Charalampos Papathanasis
Requirements and Specifications

- Use of Quaternionic Upsampling
- Alignment of different tracking streams
- Visualization Framework
- Demo

Source: B. Busam, M. Esposito, B. Frisch, N. Navab  Quaternionic Upsampling: Hyperspherical Techniques for 6 D-o-F Pose Tracking International Conference on 3DVision (3DV), Stanford University, California, USA, October 2016
## Tasks

- Communication interface
- Quaternionic Upsampling
- Prototype – Synchronization of artificial data streams
- Real time poses evaluation
- Debugging
- Demo
Work Packages and Milestones

Gantt Chart

- Project requirements presentation
- Communication Interface
- Upsampling
- Prototype development
- Intermediate presentation
- Evaluation + Testing
- Debugging
- Demo
- Final presentation

Dates:
- 23-10-16
- 12-11-16
- 02-12-16
- 22-12-16
- 11-01-17
- 31-01-17
Thank you!

Questions??