**Master project Process**

**Initial situation**

2 – 4 cameras (low Resolution)

model puppet

OpenCV

CUDA

**Main Goal**

The main goal is to take a model puppet as an input for the 3D animation process. The movement of the puppet should be displayed in real-time on a digital 3D character to directly examine the posing. If the user is satisfied with a pose a key frame is set digitally. After the motion capture process the interpolation between those key poses result in a digital 3D animation of the digital character.

**Possible Steps**

Based on the paper *“Real-Time Marker-free Motion Capture from multiple cameras“*

1. Camera calibration
2. Silhouette recognition by background subtraction
3. 3D shape construction by combining the different camera views (voxels)
4. Ellipsoid fitting for pose recognition
5. Joint recognition
6. Joint Tracking
7. Transfer of movement on a digital character

***Termin, 30.10.17***

Focus on the 3D reconstruction, fitting process

- No motion

- No occlusion

Dr. Cremers (Computer Vision)

- Articulated body segmentation

- Articulated Shape reconstruction

- Pose Capture method

Research terms: articulated body segmentation, shape reconstruction, 3D reconstruction, skeleton fitting, shape fitting, 3D scanner, Dr. Cremers

**ToDo:**

3D Reconstruction (Code zur Publikation) - Shape

Research for terms!

**Research findings**

Plan for Friday:

* Take **most essential** papers (pose estimation/articulated body/skeleton)
* Find references
* Search specifically for skeleton fitting, shape fitting

Plan for Saturday

* look for 3D scanner programming code
* find relating paper to software/code

Plan for Sunday/Monday

* read as many paper as possible!

***Termin, 14.11.17***