

## Exercises in 3D Computer Vision

### Exercise 0 (P) Video Assignment 2

For the second video assignment you have two weeks of time. It is about augmenting a self made video. It can be solved with a creative composition of the algorithms learned in the lab course.

The task can be divided into the following steps:

- a) Click the seven markers in the correct order on the first frame
- b) Track the points in sequential frame
- c) Insert the model of bender in each of the frames
- d) Insert the model of the table in each of the frames on top of bender and the markers
- e) Save you movie as the avi file `assignment2solution.avi`

The avi file `assignment2movie1.avi` can be found in the folder `data` on `sunhalle`. The script `bender.m` in the folder `data` shows a 3D model of bender. The file `modelBender.m` in the folder `data` contains the 3D model of bender. The file `modelMarkers.m` contains the 3D model of the markers.

Even though bender's model is standing it should be no problem. Just let him stand on the ground under the chair. Make him 1.4 meters tall and let his front be directly behind the table. Model the table as a flat plane through the five lower points of the marker set. In figure 1 you get the information where to set the table relative to the marker set. Your program should work theoretically on any video that has the marker set inside the image on the same place of on table. The interface for your program should look like this. `Assignment2(movie, markerModel, figureModel,`

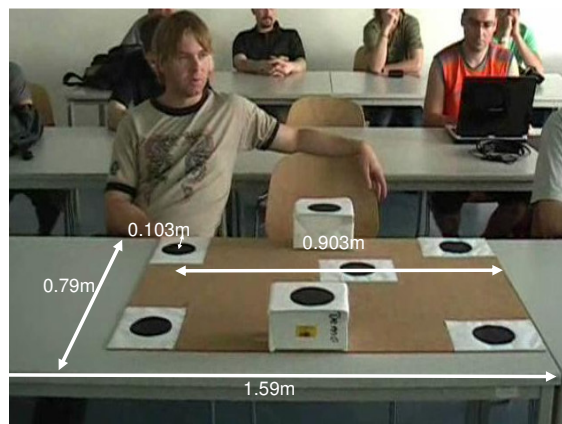


Figure 1: Position

fileNameToSave) and you should provide a script `showAssignment2` which loads the video, the 3D model of the marker set and the 3D figure, and finally tests the function.

Have fun with the assignment!