

Interaction Technology and Techniques

Assignment 09: Final Project

Summer semester 2017

Submission due: Monday, 7. August 2017, 23:55

Hand in in groups of max. three.

Your task is to implement an interactive system that allows for gestural interaction and supports novel interaction techniques.

09.1: Design the interactive system

Design an interactive system for one of the following tasks:

- sketching / notetaking
- previewing and organizing documents or photos
- proxemic interaction¹
- generating music
- modeling / manipulating 3D objects
- any other interesting task, as long as you discuss it with me beforehand

The system needs to fulfil the following requirements:

- the Wiimote is used for tracking something (itself, users, pens) in some way
- the sensor data is preprocessed using adequate filters
- you need to design/implement at least one basic interaction technique for each team member, such as:
 - pattern/gesture recognition
 - copy & paste
 - undo
 - (chording) text entry
 - spatial manipulation of objects (move, rotate, zoom)
 - proximity-dependent information display
 - any other interaction technique, as long as you discuss it with me beforehand
- the system should be cool

Hand in the following file:

system_documentation.pdf: a short report (less than 10 pages) describing the system, its usage, and its implementation. A skilled reader should be able to re-implement the system based on your documentation. If the team has more than one member, please also document what parts each team member contributed. Please use the official thesis template.

¹<http://groupplab.cpsc.ucalgary.ca/Projects/ProjectProxemicInteraction>

Points

- **4** The paper describes the system well.
- **2** The paper is visually appealing
- **2** The paper has enough detail to allow replication
- **2** The paper is well written.

09.2: Implement the interactive system

Develop a Python application that implements the aforementioned features. The application should be robust and fast.

Hand in the following file:

system_demo.py: a Python script that starts the demo when executed. It should accept a Bluetooth address as command line parameter for specifying the Wiimote to use. Additional files (e.g., media files) may be handed in, too.

Points

- **6** The application correctly implements all features.
- **3** The application is well documented.
- **3** The application is well-structured and follows the Python style guide (PEP 8).
- **2** The application works robustly
- **2** The application is responsive/fast
- **4** The application is enjoyable and beautiful

09.3: Present the interactive system

Show your system in a short live demonstration (5 minutes) on Thursday, 27.7.2017. Furthermore, create a short video (1-3 minutes) about your system, with a focus on UI, features, and use cases.

Hand in the following file:

system_presentation.mp4: a short video that shows all features of your system

Points

- **4** The presentation showcases a plausible use case
- **3** The presentation is free of malfunctions/problems
- **3** The presenters are able to answer technical questions
- **3** The video shows all features of the system
- **3** The video is beautiful

Submission

Submit via GRIPS until the deadline

All files should use UTF-8 encoding and Unix line breaks. Python files should use spaces instead of tabs.

Have Fun!