Figure 1: The Ambient Group Mirror. By projecting light onto the ceiling we can change the color of the ambient light in the room from a warm red color (positive) to a cold blue color (negative).

Exercise sheet 5 – Mensch-Maschine-Interaktion 2

Time frame: 1 week
Group size: 1-2 persons for exercise 2, individual submissions for exercise 1.
First challenge: people not having an Android phone need to find people who do. Use social networks or your physical attendance to lecture or exercises to find your partner for this assignment. 51 participated to the doodle I sent by mail in the beginning of the semester, 35 Indicated to have either an Android phone or tablet.
Android HowTo's and Tutorials: https://github.com/thecodepath/android_guides/wiki (thanks to Fabius Steinberger)

For this assignment you receive a maximum of 20 points. If you reached at least 15 points you get <u>one</u> bonus points. Bonus points will be added to the points achieved in the final exam.

Submission

Please Submit until 15.01.2014 14:00 in UniWorx.
Exercise 1: submit as pdf document.
Exercise 2: submit your processing source code.

Exercise 1: Discussing the Group Mirror Experience (6 points)

Note: You work alone. Please submit your individual thoughts and wording.

In the previous exercise, we build a group mirror, experienced it in the lecture, and discussed drawbacks and advantages of such a system.

1. Discuss five issues/aspects – either positive or negative – that you experienced when using the group mirror (or imagine using such a system in the future). Discuss your identified aspects using the following structure: (5 points)

    <suitable name of the aspect>:
    <understandable description of the
    positive or negative issue you identified>

2. Discuss if you envision Group Mirrors to be used in the future and why (not). Suggest also one improvement of our Group Mirror. (1 point)

Exercise 2: *Ambient Group Mirror* (14 points)

Note: You can work in groups of 1-2 persons on this exercise.

Use Processing 2.1 (download at **http://processing.org**) to create an *ambient group mirror*. Use oscP5 (download at http://www.sojamo.de/libraries/oscP5/) to receive incoming OSC messages.

This week you will program an ambient group mirror as illustrated in Figure 1. The projector will be directed to the ceiling and projects a full screen image with a color which is reflected back into the room. The speaker receives feedback via the light color in the room: red light symbolizes a warm and positive mood, blue light symbolizes a cold and negative mood. If no mood was sent, the group mirror projects by default a neutral white color.

1. Open a OSC port with port number 57110 in your setup() method and implement the oscEvent(OscMessage theOscMessage) method in the following way:
    a. If you receive a message with the header ‚/register' that contains a String ‚s', create a participant with the identifier „s" (please adjust your Android app: send an identifying String composed by your name and your birth date, e.g. ‚Julie_01_01_1985'). (5 points)
    b. If you receive a message with the header ‚/mood' and a String ‚s' („positive"/"negative"), visualize the mood as a full screen color. (5 points)
        i. If more people voted positive than negative => red.
        ii. If more people voted negative than positive => blue.
        iii. If equal or no person voted => white.
2. Make your sketch go full screen on start-up (1 point).
3. Participants send a mood which the system takes into account for 60 seconds. Within these 60 seconds, the same participant cannot send another mood. Only when the mood is older than 60 seconds the user can submit a new mood. (3 points)