Exercise 3 – Advanced Topics in HCI (MMI 2)

Mobile HCI

1. Extension to an existing application (10 Points – June 16th 2008):

This exercise aims at extending an existing mobile application. It has been developed by the University of Oulu and the University of Munich during the last winter. The system encompasses a large public display and several mobile phones equipped with acceleration sensors (see Figure 1).

Figure 1. Users interacting with a large screen.

The system is designed to let people browse and share their images taken during their vacation on a large screen. The large screen hereby serves as the viewing canvas (like a table has been used earlier). As the viewing canvas is not reachable, the system covers this by utilizing a mobile phone to control certain entities on the large screen. The system's functionalities are briefly given as follows:

- The mobile display serves as control display and shows the user's personal tool palette (currently: *move*, *rotate*, *scale* and *copy*).
- The public display shows all the pictures that have been transferred to it. In addition, the cursors of each user are shown.
- The control of all the functions and/or the cursor is implemented using the acceleration sensors (see Figure 2 and Figure 3).

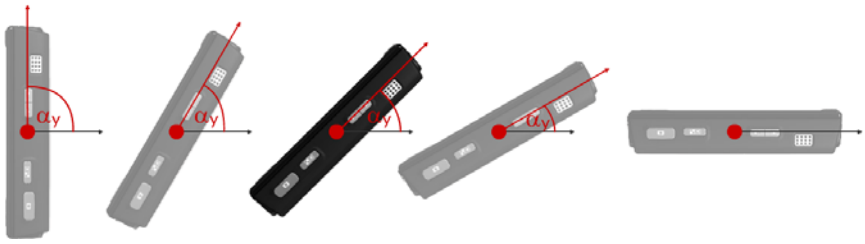

Figure 2. Rotation around the phone's y-axis. The zero point is at 45 degrees. The bigger the difference to the zero point, the faster the cursor moves up (left) or down (right).

Figure 3. Rotation around the phone's x-axis. The bigger the angle, the faster the cursor moves to the left (left side) or right (right side). The center depicts the zero point (no movement).

Your task is to design additional functionalities (**two per group**). You are also allowed to change existing functionalities if needed. Please focus on modeless interaction (i.e.: the user does not need to change the style of interaction for different functions). If applicable, use gestural interaction for each of the tools.

Submit a `*.ppt` file, that contains your presentation of the results. Send this file to sebastian.boring@ifi.lmu.de by **Monday, June 16th 2008 11:59 a.m.**