<u>Übung 5 – Mensch-Maschine-Interaktion</u>

Topic: Mobile Phone Application

Part 1: Diary Study

(Per-person homework)

During five consecutive days, take note of situations in your daily life when/where you use Internet access or when/where it would be convenient to have Internet access. Record the situtations on a separate sheet of paper for each day in the following format:
 – Time
 – Location
 – Device (PC, notebook computer, mobile phone)
 – Network for access (T1, DSL, WLAN, dial-up, GSM)
 – Category (work, study, leisure, traveling)
 – Purpose (e.g. reading email, looking up a timetable)
Use the form at the end of this execise sheet to enter your data.

After the diary study, briefly discuss the potential benefits and problems of this approach for researching user requirements.

Give a brief suggestion (basic functionality and screen sketches) for a mobile phone application that supports users while they do a dairy study. For the sketches, pictures of mobile phones can be downloaded on the web page „Übung".

Part 2: Prototype of a Mobile Phone Application

(Per-group homework, 2 weeks)

Using e.g. Flash/ActionScript or HTML/JavaScript, create a prototype for a mobile phone application. Use **one** of the application scenarios described below as the basis for your prototype.

Option 1: Informative Personal Screensaver
Consider that a mobile phone can collect a variety of information such as:
 – Time spent talking to another person (phone number)
 – Number of SMS messages received or sent from a certain person (phone number)
 – Time spent in certain locations (at home, at work, traveling), e.g. using cell ID
 – Number of people one has communicated with (over the phone) in the last 7 days
 – Identities of other devices close by (e.g. using Bluetooth)

Use this information to create an aesthetically pleasing screensaver that provides personal information about a subset of the data sensed by the phone. The information should be presented in such a way that only the person that has set up the screensaver can infer its meaning. This idea is similar to the concept of ambient displays as explored in ubiquitous computing research. You may also take advantage of further (actual or hypothetical) sensors present in a mobile phone.

Provide at least sketches for the following screens:
- The visualisation of the screensaver
- The setup screen where users can configure what meaning the visualisation has

The prototype created should be interactive and at least have the screens mentioned above. It must work on the Firefox browser.

Example: The user has configured the screensaver so that there are 4 circles in the visualisation. The circles have different colors and each represents a person close to her. The size of each circle represents the time spent talking to this person in the last two weeks.

Option 2: Application for a diary study
Create a prototype application that improves the quality of a diary study. Take the example from part 1 as the basis for your design.

Consider in particular:
- What does the user have to input into the diary and how can this be made simpler?
- What information can be automatically included in the diary?
- How can proactive behaviour (e.g. prompting the user at certain times or in certain locations) of the phone improve the quality of the data recorded?

Provide sketches for the key screens and create an interactive prototype to experience the functionality.

General hints:
The mobile phone application prototype must run inside a desktop PC's web browser. It should be suitable for display as a mobile phone screensaver or as mobile phone application. The screen area should reflect the screen size of a particular phone (e.g. 176 x 208 pixels for the Nokia 6630).

Part 3: Implementation of the application on Mobile Phones

(Optional)

Implement your idea from part 2 on a mobile phone. Using the 30-day-trial version of Macromedia Flash Professional 8, it is possible to create Flash animations for mobile phones, including the Nokia 6600/6630 phones present at our lab. The trial version is available from http://www.macromedia.com/software/flash/flashpro/. The Flash Lite *player* for mobile phones cannot be obtained for free – if you want to test your application on a real phone (as opposed to an emulator), you can borrow a Flash-capable phone from Enrico Rukzio.

Alternatively, you can also implement the screensaver in Python. Python is available for Nokia's series 60 mobile phones only:
http://opensource.nokia.com/projects/pythonfors60/index.html

As a third option you can consider using NetBeans which provides a powerful visual editor and IDE to create J2ME applications.

Submission:

- Submission is by email to mmi1@hcilab.org
  For the diary study (to be handed in individually), use a PDF attachment named
  `uebung5-lastname.pdf`. Alternatively, you may hand in the filled-in sheets in person
  by putting them into the letterbox next to room 507 in Amalienstraße 17, 5. OG.
- Hand in the mobile phone prototype in a compressed attachment named `uebung5-gruppeN.zip` which contains all files necessary to view the prototype.
- Deadline for submission: **Tuesday, January 10th 2006, 8 a.m.**
- Presentation of results: Exercises on January 17th/18th/20th. Each group member must
  be able to explain her/his group's solution in the exercises session.

Sheet for diary study

Time	Location	Device	Network	Category	Purpose