LMU LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN

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Praktikum Entwicklung von Mediensystemen

Simple and Secure Mobile Applications

Project Phase – 11/07/2007

Exercise 2 – Solution I

Http-Connection:

1. Input Form:

```
TextField inputField = new TextField("Please provide input", "", 100, TextField.ANY);
form.append(inputField);
…
String input = inputField.getString();
…
if(input.equals(""))
        midlet.showAlert("", "Please provide some input!", form);
else
{
        midlet.showDisplayable(new WaitingForm(midlet, form));
        run();
}
```

Exercise 2 – Solution II

Http-Connection:

2. Http-Connection (GET):

```
String url = "http://murx.medien.ifi.lmu.de/~gregor/echo.php";
HttpConnection httpConn = null;
InputStream is = null;
StringBuffer buffer = new StringBuffer();
…
HttpConnection httpConn = (HttpConnection)Connector.open(url + "?input=" + input);
//GET is the default setting
```

Exercise 2 – Solution III

Http-Connection:
3. Http-Connection (POST):

```
OutputStream os = null;
String request = "input=" + input;

httpConn = (HttpConnection)Connector.open(url);
httpConn.setRequestMethod(HttpConnection.POST);
httpConn.setRequestProperty( "Content-Type", "application/x-www-form-urlencoded");

os = httpConn.openOutputStream();
os.write(request.getBytes());


os.flush();     //Flushes this output stream and forces any buffered bytes to be written out.
os.close();
```

Exercise 2 – Solution IV

Http-Connection:

4. Reading Data:

```
is = httpConn.openInputStream();
int ch;

while ((ch = is.read()) != -1)
{
        buffer = buffer.append((char) ch);
}

is.close();
httpConn.close();
recordManager.writeRecord(buffer.toString());
```

Exercise 2 – Solution V

Record-Management:

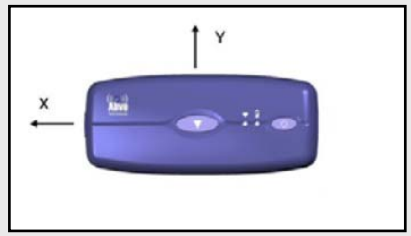
```
//open named recordstore; create new one if not existing
RecordStore historyStore = RecordStore.openRecordStore("History", true);
…
//add records to the recordstore
historyStore.addRecord(input.getBytes(), 0, input.length());
…
//algorithm for last 5 records
```

- Not possible to add records to the recordstore at arbitrary positions
- Get the last 5 records from the queue; see solution

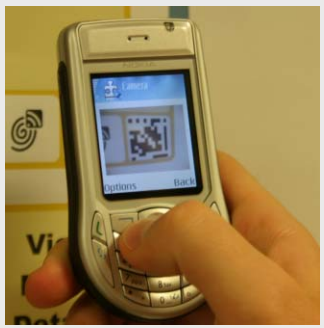
```
…
//close recordstore
historyStore.closeRecordStore();
```

Technical Equipment

- Bluetooth
- GPS
- NFC (Nokia 6131)
- Visual Marker Recognition (Visual Codes, Semacodes)
- Acceleration and direction sensors (3220)
- Alive Heart Monitor
  - collects data and transmits it via Bluetooth
  - ECG, Heart rate and acceleration
  - Acceleration can be used to monitor movement, speed, position, special events (like falling) and more



www.alivetec.com



Scenario Design, Prototyping and Architecture

- **2 scenarios, 2 groups**
  - SMS Timetable: Christian Richter, Tanja Herting, Stefan Zankl, Tobias Hößl
  - Privacy Tagging: Till Ballendat, Tim Langer, Johannes Kiemer, Wenqi Zhang
- **Develop the scenarios, conduct paper-prototyping and sketch out the architecture of your approach**
- **Next meeting: 16.11. => start of implementation**
- **Milestone meetings to provide overview of results**

Creativity Techniques I

Brainstorming

- **Collect as many ideas as possible**
- **Allow ideas!**
  - During brainstorming NO criticism is allowed
  - Developers must not say "this can't be implemented"
  - Graphics designers are not to comment on drawing styles
- **Do a selection in a second step**

(Pin&Play Meeting, July 2002, Lancaster)

Brainstorming

- **Some hints**
  - Get a mixed set of people (developer, manager, admin, writer, students, sales, customer)
  - Allow people to have freaky / crazy / unrealistic ideas
  - Use low technology (e.g. paper, pens, post-its, posters)
  - Do not allow to fetch / lookup additional material during the session
  - Go to a neutral / different / inspiring place (e.g. meeting room in another building, meeting room in a hotel at the Starnberger See, a hut in the mountains)
- **If you get stuck?**
  - Ignore boundaries – assume there is a little magic available
  - Assume there is a human brain insight
  - Get another person to help (e.g. get another person and explain where you are stuck)
  - Go for a walk

Brainstorming

- **Organize the ideas**
  - Involve everybody
  - Identify concepts and themes
  - Group ideas that express the same concept or belong to a common theme
  - Identify conflicting ideas
  - Identify parallel ideas
  - Identify ideas that exclude each other
- **Document the results!!!**
  - Capture the raw material (usually you won't need it but it is no effort…)
  - Extract the design/product concepts
  - In the best case you have several competing concepts that can be evaluated

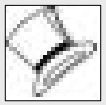
Six Thinking Hats

- **Framework for parallel thinking in teams**
- **Can help to**
  - Improve exploration, creativity and Innovation
  - Foster collaborative behavior
  - Avoid conflicts
- **Basic Idea**
  - The group looks at the issue from one angle at the time (wearing one hat at the time)
  - At a given phase in the discussion everyone is looking from the same angle onto the problem, the group takes one perspective (all in the meeting wearing the same hat at a given time)
- **The colors of the hats indicate the view that is taken**

(photo Nora Zelhofer)

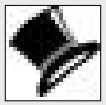
Creativity Techniques V

Six Thinking Hats



The White Hat calls for information known or needed. "The facts, just the facts."

The Yellow Hat symbolizes brightness and optimism. Under this hat you explore the positives and probe for value and benefit



The Black Hat is judgment - the devil's advocate or why something may not work. Spot the difficulties and dangers; where things might go wrong. Probably the most powerful and useful of the Hats but a problem if overused.

The Red Hat signifies feelings, hunches and intuition. When using this hat you can express emotions and feelings and share fears, likes, dislikes, loves, and hates.

The Green Hat focuses on creativity; the possibilities, alternatives, and new ideas. It's an opportunity to express new concepts and new perceptions.

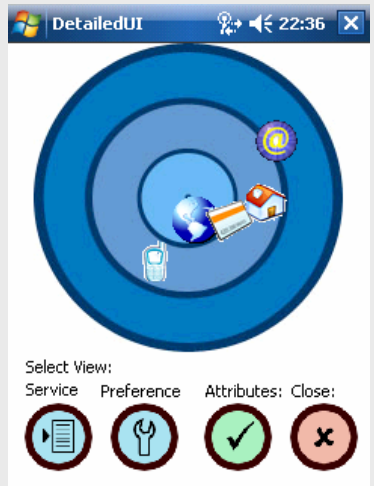
The Blue Hat is used to manage the thinking process. It's the control mechanism that ensures the Six Thinking Hats guidelines are observed.

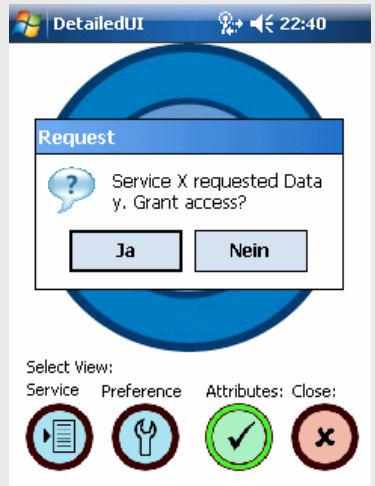
Simple Mobile Services (SMS)

- Simple Mobile Services (European IST project)
- Goal: Provision of innovative tools enabling a new class of mobile services
- Simple to find, simple to use, simple to trust, simple to set up
- Creation and provision of mobile services as easy as creating content for the WWW
- PEM: focus on Physical Mobile Interaction with university-related services
- www.ist-sms.org

DISCREET

- DISCREET (European IST project)
- Goal: Privacy for Pervasive Computing Environments
- Don't trust service providers
- Provide technical means to controll the disclosure of personal information
- PEM: Privacy on public spaces: Proivde a mobile privacy community
- www.ist-discreet.org





Have fun!