

Location-Aware Mobile Application Design

Exercises 2/8, 22.3.2013

1. Backward compatibility is desirable goal in any software development. Explain how backward compatibility of operating systems needs to be taken into account in mobile programming. How it is handled in Symbian and Android environments?
2. Target of course project would be to implement database of international students with program, year, and home country as the main information. Following is sample components and the basic functionalities the system is expected to include:
 - Student database, User database
 - Query by name
 - Query by start/graduation year
 - Query by program type
 - Query by country
 - Map access: zooming and panning
 - Updating data
 - Reports of overall info (different program types)
 - Plot data on map
 - Cluster data before sending to map
 - Batch input of new students (during enrolment)
 - Encryption of data
 - Maintaining user data

Select 4 functionalities of your choice and define specs for their implementation: what is the input, output and what technology would be most suitable.

3. The above information is mainly for knowing “who is studying”. Think about other functionalities that would be useful for students themselves especially in mobile side. For example: knowing when and where are the next lectures starting, where are all the student restaurants. How existing systems could be utilized for implement any of those functionalities?
4. Create a simple “*Hello World*” application either in Symbian or in Android. Compile and run it.
5. Download Mopsi software to your phone. If you don’t have smartphone, get one from SIPU group or loan from another student. Software works also in iPad and Android tablets. Even web interface can be used if no other choice. Familiarize to Mopsi and select 6 longest (or strangest) phrases that you can find anywhere in the software. Import them into your *Hello world* application and output when user presses number from 1 to 6.