Subject code: IFI7164   *Subject name: Mobile Devices Workshop*

Study load:

4 (EAP/ECTS)

| *Load of contact hours: 20* | *Study semester: Autumn* | *Assessment: Exam* |

Objectives:

The objective of the course is to provide an overview of the mobile applications technologies. The course introduces students to creation of the application concept, frameworks, a designed prototype and a responsive prototype.
Students are expected to work in teams, creating of the concept of an application and a working prototype by using operating system specific software (SDK) or web tools.

Course outline:

05.10
- Examples of mobile applications.
- HTML5 and CSS examples of mobile website design.
- Applying the pre-designed templates to personal web-pages.
- Basic JavaScript commands for a mobile website.

Homework: A thematic web page for a mobile device, containing JavaScript code (e.g. a calculator).

19.10
- More complex solutions of client-side programming in JavaScript. JQueryMobile.
- Data storage (WebStorage) and buffering the web-pages (AppCache).
- Drawing in HTML5 Canvas.
- Setting up Android development environment (Eclipse).
- Basic program structure. XML- and Java-based layout for Android application development.
- Android-specific methods in Java for writing Android applications (@override, etc.).
- Hello World on Android.

Homework: Creating an application with search and client-side recording properties (in JavaScript).

30.11
- Java-based layout for Android application development, without using XML.
- Designing and creation of more complex Android applications in Java (using Eclipse).
- Overview of AIDE - Android integrated development environment (IDE) for developing Android Apps directly on Android devices.
- Brief introduction to Windows Phone and J2ME.

Homework: Creating a native application (preferably with some features which are not easily developed when using web-based tools).

14.12
- The server-side programming in PHP.
- Combining the server-side applications with client-side applications on mobile devices.
- Seminar, based on topics covered within the course.

Homework: A group project of designing and creating of (2-4) usable mobile solutions.

11.01.2014 (?)
- Test. Project presentations

Learning Outcomes:

The students are aware of the opportunities and threats of developing mobile applications. They are able to choose an appropriate platform and technology for developing a mobile solution. The students are able to design mobile applications, and create basic applications by themselves.

Assessment Methods: Homeworks. Seminar. Test.

Teacher(s):   Jaagup Kippar, Kätlin Kalde

Subject name in Estonian: Mobiilirakenduste töötuba

Prerequisite subject(s):   IFI7102 „Computer Skills and Programming Update" or equivalent skills

Compulsory Literature:
- Ilya Shmorgun. Supporting Interaction Design Processes with Concept Mapping. Retrieved 06.09.2011 from http://www.cs.tlu.ee/teemaderegister/get_file.php?id=112&name=ilja_smorgun.pdf
- Institute for Human and Machine Cognition. The Theory Underlying Concept Maps and How to Construct and Use Them. Retrieved 06.09.2011 from http://cmap.ihmc.us/Publications/ResearchPapers/TheoryCmaps/TheoryUnderlyingConceptMaps.htm
- Programming Android. Java Programming for the New Generation of Mobile Devices. 2011. By Zigurd Mednieks, Laird Dornin, G. Blake Meike, Masumi Nakamura.
- http://developer.android.com/training

Replacement Literature: To be discussed with the teacher. It is not possible to finish the course only with replacement literature.

Participation and Exam requirements:	To pass the exam, the student has to have a specific role in a team, being able to describe it. The student must actively take part in the seminar and be able to converse on topics covered in the course. Attendance requirements: the student must attend at least 75% of contact hours.
Independent work:	Students are required to work independently within the work groups and accomplish the tasks assigned to them by completing their • Homeworks; • planning, developing and presenting a group project at the end of the course.
Grading criteria scale or the minimal level necessary for passing the subject:	• Ability to design and create mobile apps: A – As a group leader, is able to create and coordinate the creation of suitable applications for the end-user. B – As a workgroup member, is able to design, create and complete applications. C – Is able to plan and create applications. D – Is able to plan and create basic applications. E – Is able to customize basic applications.