Developing client-side in Android Environment 1 - 65351

Lecturers: Eran Katsav
Teaching: 3h lectures, 1h tutorials
Weekly hours: 4
Credits: 3.5
Prerequisites: Object oriented programming 61307, Software Engineering 63301

Course Goals:

The purpose of the course is to provide students with full-level development capabilities in a high-level Android environment, while understanding all of the Android environment and design clusters. Native android development is done in java, so part of the course will be devoted to getting to know its depth as a development tool for event-driven client systems. The ultimate goal is to bring students the ability to develop applications to multi-user environments and to develop complex projects such as projects in the digital medicine and smart cities.

Learning Outcomes:

At the end of the course, the students will develop an application for the Android environment while implementing the object-oriented programming principles and design patterns (Strategy, Observers, MVC, etc.) learned in the Java programming language. Students will be given a comprehensive understanding of all of the visual and architectural elements in an Android app. At the end of the course, the students will be able to develop a complex android application at the user interface level and will submit an educational game (puzzle, memory game, etc.) as a summary project. The course is a first course in a two-semester project and in combination with the Android 2 course, students will be able to develop any complex and simple application into the Android operating system and get a full understanding of client-side programming for an advanced environment.

Weekly schedule:

Week 1	Java princiiples + Java OOP
Week 2	Inner classes, Interfaces & Abstracts
Week 3	Threads (java) + Java Collections
Week 4	Android app baiscs (Structure, Design, Localizations, Event handling)
Week 5	Dynamic design, Layouts and full GUI
Week 6	Android's Intent – Implicit and Explicit Intents
Week 7	Activity for result, Activity Lifecycle and Shared Preferences
Week 8	Touch event, Screen orientation & Animations
Week 9	Menus & Dialogs
Week 10	Projects

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המחלקה למדעי המחשב
Faculty of Sciences
Department of Computer Science

Bibliography:

- Pro Android 5 (Professional Press) by Dave Maclean, 5th edition (June 23, 2015)
- Hello, Android: Introducing Google's Mobile Development Platform by Ed Burnette, 4th edition (Jan 1,2015)
- Android Programming: Pushing the Limits by Erik Hellman, 1th edition (November 4, 2013)

Final grade:

30% Submissions of home assignments

70% Final Project

- To pass the course, a passing score must be obtained in the submission exercises and the final project.
- The final project of the course is about 100 hours done in pairs. The goal of the project is to provide students with practical experience in developing applications and accumulating experience in entering the employment market
- **Mandatory preseence in 80% of the lessons**

Visiting hours:

Pre-scheduled in mail: erankatsav@gmail.com

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