Developing client-side in Android Environment 2 - 65352

Lecturers: Eran Katsav
Teaching: 3h lectures, 1h tutorials
Weekly hours: 4
Credits: 3.5
Prerequisites: Developing client-side in Android Enviroment 1 65351, Object oriented programming 61307, Software Engineering 63301

Course Goals:
A continuation course for the course "Development in a client side in Android 1", which provides a full understanding of the components and capabilities of the android application, along with understanding the customer's side limitations and ways to overcome them. The course will incorporate advanced design patterns in Android, asynchronous work to maintain a responsiveness interface, work with various operating system services (alarm system, messages, tasks, etc.) while optimizing and maximizing customer resources and using all device sensors and external libraries. The course will teach different methods for storing and sharing information, including advanced work with the file system of the device, and on both server and server databases (using Firebase).

Learning Outcomes:
The course will provide the ability to develop complex android applications, save data in the cloud and share it in multi-user applications. At the end of the course, a complex commercial application will be submitted, which will use local and remote databases, enabling information sharing between users.

Weekly schedule:

Week 1	**Android internal and external storage**
Week 2	**Recycler view & View holder**
Week 3	**Asynchronous programing (Threads, Handlers and Asynctask)**
Week 4	**Notifications & Pending Intents**
Week 5	**Services & Broadcast receivers**
Week 6	**Fragments**
Week 7	**Sensors**
Week 8	**Communication**
Week 9	**SQLite Databases & Content providers**
Week 10	**Material Design**
Week 11	**Firebase Authentications, Live databases, and Cloud Messaging**
Week 12	**Floating and Home screen widgets**
Week 13	**Final Projects**

הפקולטה למדעים
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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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