

CSCI 3130
Summer 2011
Software Engineering Term Project Description

During the course of this semester you will work together in groups to progress through the software development lifecycle to develop a working application for the Android OS. Dr. Hawkey will act as the client for the application you will develop, and will be able to clarify the following basic requirements for the application:

- Develop a textbook exchange which enables students to sell textbooks to other students. Students will browse the available textbooks on their Android devices and have access to the following capabilities:
 - Register for the system by providing their name, Dalhousie ID and email address and a password
 - Log in to the system by entering their Dalhousie ID and password
 - Search for textbooks (by title or ISBN number or author), and scroll through the results of their search. The results of their search should include the price and condition of the book.
 - Note that more than one of the same textbook may be returned by the search due to multiple students listing the same book. In this case the user should be presented with a list of results showing the different prices and conditions.
 - Purchase textbooks (by sending an email to the textbook buyer and owner indicating an intent to purchase)
 - Sell textbooks
 - The user will need to enter the title and ISBN number, price and condition of the book
 - Remove user's posted textbooks from the system (once the student has completed a sale, or if the user decides to not sell the textbook)
- Display additional information about textbook search results, provided directly from Amazon, including an image of the textbook cover, price, authors, and the book description

You will note that the above requirements are quite brief. This is a common scenario in the real world of software development. Most clients do not think like software engineers, they do not envision all of the scenarios that can occur in a multi-user environment, or with an application that functions on a small device or over the internet. For each issue you encounter, you can decide whether to consult with the client (Dr. Hawkey) or use your best judgement as to how the app should behave.

An example of a web-based system which implements the above features can be found here:
<http://ptx.tigerapps.org/>

For this project we do not want a web-based system, but rather a natively running application on the Android. The user-interface does not need to be fancy; however, the system must allow the user to perform the tasks described above via tapping the screen in a native Android app.

You will not need to own an Android device for this project; you may present the project working in the emulator that comes with the Android SDK. The emulator and development environment support both Windows and the Mac OS. You can download the SDK and tools, and find the developer guide, reference and sample code here:

<http://developer.android.com/>

To retrieve information about textbooks from Amazon you will need to enroll in the Amazon affiliate program, and download and implement the Amazon Product Advertising API which allows you to submit queries to Amazon for information about their products: You can set up a group account for this purpose.

<https://affiliate-program.amazon.com/gp/advertising/api/detail/main.html>

This project will require more planning, design, and development time than projects you have been assigned in other courses. For this reason you will need to begin working on the project as soon as possible. It is therefore suggested that once the groups have been formed you meet with your group members as soon as possible to assign roles and responsibilities and begin the software engineering development process.