CS 477 Mobile Application Development - Fall 2020

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      cs477.gmu@gmail.com – going to use this account when
        you need to send me a link to a .apk file that you want me to run.
Office Hours:

Course Content

This course will teach fundamental programming principles with a focus on the mobile environment and the Android Platform. The course emphasizes practical application of numerous academic concepts. This course is intended to be a project-based course. The introductory weeks focus on essentials needed to work on these projects. Students will complete multiple small labs and one final course project. Each student will design and implement an application for the final project. Course projects will be written in Java for the Android platform using the Android SDK.

Designing applications for a mobile device present unique challenges. User interface, mobile-specific technologies, and the importance of performance require special consideration. The Android SDK has its own interesting aspects to learn: the multi-touch model, accelerometer, important APIs will receive attention. Students will learn important development concepts applicable to any environment as well as Android specific APIs.

Pre-requisites

A C or better in both CS310 and CS367. **STRONG** programming skills. Completion of one or more CS senior course strongly recommended.

Course Outcomes

Upon completion of this course, students should:

- o   Have a firm grasp of event-based computing models.

- Be able to demonstrate an understanding of and the ability to use different types of components used in mobile platforms.
- Be able to use threading efficiently and correctly in mobile apps.
- Be able to appropriately use different types of data management for mobile devices.
- Be able to appropriately use different types of networking options for mobile devices.
- Have a clear understanding of the creation and use of simple user interfaces.
- Be able to use tools to create apps for a mobile platform.
- Be able to create simple graphics for mobile devices.
- Have an understanding of the importance, role and use of security on mobile devices.

Textbooks

Recommended: Android App Development, H. Franceschi, 2017.
Other online textbooks listed on blackboard

Grading

Assignment	Percent of final grade
Labs (10-11) – Approximately 1 per week related to the lecture	25%
Projects (2)	30%
Exam (late in the semester)	15%
Course Project (see below)	30%

- Course Project: This project will use multiple elements studied in the course and at least one 'new' element that you teach yourself how to use. You may do this project alone or with 1-2 partners. Larger groups must build more complicated projects. The project will have graded documentation checkpoints before the final due date of the finished project, which you will demonstrate for the class.
- Late work 10% first day, 20%/day after. Max late days for assignments = 3.
- Students claiming an excused absence must apply in writing and furnish documentary support (such as from a health care professional who treated the student) for any assertion that the absence qualifies as an excused absence. The support should explicitly indicate the dates and times the student was

incapacitated due to illness and provide contact information for verification. Self-documentation of illness is not sufficient support to excuse an absence.

Honor Code

You are expected to abide by the honor code. Programming assignments and exams are individual efforts. Information on the university honor code can be found at: http://jiju.gmu.edu/catalog/apolicies/honor.html

This semester I will probably be using similarity detection software to assist me in finding honor code violations