CompSci 402: Mobile App Development - Spring 2020

Course Description

A project-intensive course on mobile development using iOS as a platform. Overview of mobile platforms and their characteristics, mobile interface design and best practices using such technologies as GPS, camera, persistence, notifications and others. Software used for course assignments requires a Mac so students must have their own.

PREREQS: COMPSCI 321

Objectives

1. Become proficient in the major technologies and paradigms of mobile application development using iOS.
2. Develop experience creating real world mobile applications.

Requirements

The following items are required for this class:

- Intel-based Mac
- Xcode
- Github Account

Recommendations

The following items are not required but will help in developing mobile applications

- An iOS device (iPad, iPhone or iPod Touch)
- iOS developer account

Schedule

Date	Description	Assignment Due	Resources
Aug 25	Introduction to iOS Xcode 10 Overview, Git		
Aug 27	Introduction to Cocoa Touch, iOS devices, device capabilities, OS versions and differences.		
Sept 1	Intro to Swift . Views and View Controllers (classes, variables, properties, ARC, class vs instance methods)		Chapter 1
Sept 3	Swift Advanced, View Controllers and UIKit		
Sept 8	Layout Constraints, UIKit, Optionals		
Sept 10	Optionals, communication between view controllers	Assignment 1 Due	SwiftUI Tutorials
Sept 17	Collections, planning an app, prototyping apps		EA Tutorial
Sept 19	Workspaces and CocoaPods		
Sept 24	Data persistence (Plists, JSON, User Defaults)		
Sept 26	Web Services (ReST, JSON, APIs)		
Oct 1	TableViewControllers		Recorded
Oct 3	Core Data		
Oct 8	Core Data		EA Tutorial
Oct 10	Guest Speaker		
Oct 15	Core Data Review App		

Oct 17	TBD		
Oct 22	Location and Maps, Permissions		Core Data
Oct 24	Camera and Images		
Oct 29	WebViews		
Oct 31	TBD		
Nov 5	Mobile App Development		
Nov 7	Releasing Apps to the Store		Locations
Nov 12	TBD		
Nov 14	Firebase & SailsJS as a backend		
Nov 19	SpriteKit, SceneKit and iOS Graphics		
Nov 21	TBD		
Nov 26	Thanksgiving Break		
Nov 28	Thanksgiving Break		
Dec 3	Review		
Dec 5	Presentations		
Dec 10	Presentations		
Dec 12	Workshop - Attendance optional		
Dec 15	No Class - Final Project Due	Final Project Due	

~~Attendance 10%~~

Assignments 70%

Final Project 20%

Course Requirements

- Completing all requirements will yield a grade of 80%. Going above and beyond, adding features not taught in class, being creative, adding additional items to the requirements can yield the remaining 20% or more.
- Attendance is required. Email me prior to absence to get a link to the recorded course.
- Project source code must be in your GitHub repository and shared with BSUMobileDev (MichaelZiray@BoiseState.edu)
- Repositories should be named as such:[LastName]-20XX-Fall

- The assignment must be able to be built in Xcode. I will pull your code from Git, open and build it in Xcode. Failure to run or compile could result in a grade of zero.
- Your app must work and appear appropriately on any iPhone Simulator.
- Your app must work in different orientations for both phone and tablet. This means if you rotate the device to landscape that your interface displays in landscape mode (or locks portrait).
- Each assignment requires a git tag or comment your commit to show me it's your final commit
- You will be graded on:
  - If your app compiles properly straight from Git
  - If your app looks and feels like a proper iOS app (ask if you have questions about this)
  - Rotation works
  - If your app functions on both iPhone and iPad sized iOS devices
  - Each assignment will have a grading rubric it will be graded against
- Code quality. It should be obvious to me what your code does. If there's a variable or method name that is confusing, points will be taken off. Your code should be self documenting but feel free to add comments if needed.

Discord

https://discord.gg/qHnsmKG