

CS 402: Mobile App Development - Spring 2021



Course Description

A project intensive course on mobile development using Android or iOS platforms. Overview of mobile platforms and their characteristics, mobile interface design and best practices using such technologies as GPS, camera, persistence, and more.

Objectives

1. Become proficient in the major technologies and paradigms of mobile application development, specifically for Android.
2. Develop experience creating real world mobile applications.

Requirements

The following items are required for this class:

- Android Studio: <http://developer.android.com/sdk/index.html>
 - Or, as part of the JetBrains Toolbox (free for students): jetbrains.com/student/
- Github Account: <http://www.github.com>

Recommendations

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

- [Free lynda.com Account](#) - Free Boise Public Library card needed (Need Boise mailing address)
- Broad Topic Guide: [Android Programming Concepts](#)
- A physical Android tablet or smartphone
- [Android Developer Account](#) (\$25)

Schedule

Section	Date	Description	Assignment Due
	Jan. 12	Introduction to the Android platform, Android Studio and Kotlin.	
	Jan. 14	Android platform architecture: Overview, Manifest, Intents and Activities Lifecycle, Strings, Interface layouts	
Kotlin Basics	Jan. 19	Intro to Kotlin	
	Jan. 21	First Android App	
Android Basics	Jan. 26	Intents and Second Activity	
	Jan. 28	Architecture, Singletons, Factories	
	Feb. 2	App Store Marketing and Revenue	
	Feb. 4	Interface Design, UX, HCI	Homework 1
Mobile Features	Feb. 9	Permissions, Camera	
	Feb. 11	Web Services	
	Feb. 16	Observer Pattern, EventBus	
	Feb. 18	Fragments	
	Feb. 23	Android Interview Topics (Things you should know to get an Android job)	
	Feb. 25	Building Apps with Fragments	Homework 2
	Mar. 2	Maps, Locations and GPS	

Section	Date	Description	Assignment Due
	Mar. 4	Databases on Android	Project 1
	Mar. 9	Databases on Android	
	Mar. 11	Servers	
	Mar. 16	2D Android Game Development	
	Mar. 18	3D Android Game Development	
	Mar. 23	Recycler Views	
	Mar. 25	Polish and Google Play Store Prep	
Android Extras	Mar. 30	Topics in Android	
	Apr. 1	Review - Fragments, DBs and data repos.	
	Apr. 6	Review - Firebase App	
	Apr. 8	TBD	
Final Stretch	Apr. 13	Spring Break	
	Apr. 15	Spring Break	
	Apr. 20	Build Variants, iOS intro	Project 2
	Apr. 22	Let's build an app (Review)	
	Apr. 27	Let's build an app (Review)	Project 3
	Apr. 29	Let's build an app (Review)	
	May 3	No Class	Final Project

Subject to change:

Homework (30%) 15% HW #1
15% HW #2

Projects (70%) 15% Project 1
25% Project 2
5% Project 3
25% Final Project

Suggested Readings

Android Programming Getting Started

<http://developer.android.com/training/index.html>

Links

Class Git Repository

Class repository with all assignments, class notes, example code, etc.