CS 3010: Android Development

Assignment: Final Project

Requirements

Create an Android application for phones and/or tablets, starting from scratch, that is of your own creative design. Demonstrate the components and features of the Android SDK by including the following in your project:

- A variety of Activities, Fragments, and Layouts, used to structure the various views for your application.

- One of the following:
  - An SQL database, used to persist (create, read, update, and delete) application data (Chapter 14).
  - A web API client, used to retrieve data from a remote service using an HTTP connection (Chapters 25–27).

- One of the following:
  - One or more implicit intents, used to open other applications, such as a camera app (Chapters 15–16).
  - A master-detail user interface, used to provide a richer user experience for tablets (Chapter 17).
  - Localization and/or accessibility considerations implemented throughout your application (Chapters 18–19).
  - Audio playback, used to provide audible user feedback or play audio media (Chapter 21).

- One of the following:
  - A comprehensive visual design, implemented using colors, styles, themes, and XML drawables (Chapters 22–23).
  - Custom drawing, implemented using custom views, touch events, and the Canvas and Paint classes (Chapter 31).
  - Property animations implemented effectively within your application (Chapter 32).
  - Material Design implemented consistently throughout your application (Chapter 35).

- One of the following:
  - One or more UI components implemented as a ViewModel using MVVM and data binding (Chapter 20).
  - An effective use of a background service, with notifications (Chapter 28).
  - A WebView, used to display web content not practically presentable with native widgets (Chapter 30).
  - Google Play Services, used to capture location data and/or display a map (Chapters 33–34).

Before you start writing the code for your application, it is prudent to first generate an idea for the application you want to create, and then translate your idea into a visual representation of the application by creating wireframes and mockups, either on paper or using software.

Your application should be styled (using appropriate color, drawables, layout, typography, etc.) to look professional. You will be graded based on the effort you apply to create an application that is presentable to a client or customer.

Your application should be implemented using Android Studio and the Android SDK, and following the appropriate coding and naming conventions, software design and architectural patterns, and standards and principles suggested by the Android SDK (all as discussed in class and throughout the textbook).
While working on your project, you may leverage concepts and techniques from online tutorials and other resources, but the idea that you implement should originate from your own creative process. Your idea should differ significantly from any class or textbook example.

You may submit an out-of-class project for this assignment, provided that: 1) the project is developed independently by you, within the timeframe of this current semester, and 2) the project is not submitted for credit for any other assignment, in any other course, in any past, present, or future semester. Violating one or more of these conditions constitutes cheating.

**Resources**

- Refer to the [Android developer documentation](https://developer.android.com) as needed when completing your assignment.

**Submission**

1. Show your completed assignment to the instructor during class or office hours to receive credit.
2. Submit your project using Git and GitHub. Start by creating a repo for this assignment [here](https://github.com).