23COB155 Mobile Application Development
Coursework Specification

This coursework represents 100% of the total assessment of the module.

The Task - Propose, Specify and Develop a Native Android Application

For this project, you will develop a native Android Application using Android Studio. The app functionalities are implemented in Kotlin language using native android APIs. [1]

Students will work individually. Each student is required to propose their own app idea, specify the application's functionalities, and develop the app.

Propose and Specify an App (10%)

You will need to:

- Propose a mobile application to build, and write a short specification (no more than two pages) of what the application does and what problem it solves, and highlight how it would meet the technical requirements. This should be as precise and concise as possible.
- Create mock screens for all user-facing screens. Hand-drawn sketches are OK, but they must be in a digital format.

Individual formative feedback on the app proposal is available during the lab sessions. Each student is allowed to ask for feedback once before the final submission.

Develop the App (65%)

1. Develop your application, make sure it implements the functionalities that you have specified in the proposal (10%).
2. Make sure your application meets the technical requirements listed below:
   Mandatory requirements (25%)
   Your project should:
   - (2%) Have a minimum of two distinct screens.
   - (4%) Use the navigation component to move between screens in your app.
   - (2%) Use Intent to move to an outside app.

[1] 3rd party Kotlin libraries are allowed, but you must reference it clearly in the code

- (4%) Work properly with the app lifecycle (including rotate screen changes).
- (4%) Use permissions and use them responsibly.
- (4%) Make use of local storage
- (5%) Create and use your own ContentProvider

Optional requirements (15%)

Your application should also include three of the following:

- Use firebase for storing and retrieving data
- Receive Broadcast events and make use of them in meaningful ways
- Implement Android Sharesheet
- Implement your own Service
- Use Notifications
- Adapt your app for different screen sizes
- Capture touch gestures and make reasonable use of them

Choose three options that apply the most to your app idea. Implementing more than three will not result in more marks.

3. The remaining 15% of marks are awarded on code style, readability and quality and smoothness of user interface.

Demo (25%)

Each student is required to record a demo including a short app introduction, a demo of the app functionalities, an overview of program implementation and reflective comments. (15 minutes maximum)

Marks for the demo will be awarded for completeness, accuracy, clarity, evidence-based argument and critical thinking.

Panopto is provided for students to record and edit videos. You can use other video recording and editing software if you prefer. All demos should be uploaded through Panopto to bypass the file size limit on Learn. The student guide on how to do so is here: https://learn.lboro.ac.uk/ludata/tel/Student_resources/recording_videos_using_panopto/#/

Final Submission

A single .zip file (containing the app proposal, all source code in the form of an exported Android Studio project as well as a .apk file) and a recorded demo are to be submitted on Learn by **11am on the Wednesday of Week 12.**

Dr Y. Yang