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**Proposed Project Title: Virtual Pass Wallet for Android**

## Project Description

**This will be an android app used for creating, storing and displaying different kinds of virtual tickets or passes. Examples include tickets for concerts, festivals and cinema viewings; boarding cards and more.**

**The user will have several ways to create a ticket including: from a saved .pkpass file; from a custom app specific file format; by scanning a QR code/Barcode and entering relevant information; or from scratch, including generating the QR code/Barcode. The user will be able to receive notifications close to the time of the event and/or when within a certain distance from the location of the event. The notification will remain on the lock screen/notification drawer until the event has passed or the user has moved away from the location. Tapping on the notification will take the user directly to the pass for convenience. A database will be used to store passes, on a per user basis, for use between devices. This database and login system will be secured using modern security conventions. (e.g. password encryption)**

**The app will be developed in Android Studio using Java.**

**With this project I am hoping to learn about Android development which is something I can potentially see myself working with in the future.**

## Requirements Gathering

**I will be providing all of the requirements. I will be writing a full requirements specification document to be used during development and at the end to judge the progress of the application. I will also be creating a use cases, class descriptions and class diagram documents to be used during development and when testing the application. The requirements will not be completely set in stone, so if I or my supervisor, after discussing this, believe that they should change, those changes will be reflected in the documentation.**

## Deliverables:

### Basic –

**The user should be able to create a pass from a .pkpass file and see that pass displayed on the screen. (The app should be able to read and parse .pkpass files and display the information on screen.)**

**The user should be able to continue creating passes and be able to select which pass appears at any given time. (The app should store multiple passes at a time and have the ability to display a specific pass when prompted).**

### Intermediate –

**The user should receive a notification from the app when the time is close to the event time on a pass. (The app, when a pass is created, should schedule a notification to be displayed on the lock screen when close to the event time on the pass)**

**The user should also receive a notification when his location is near a location specified on the pass. (The app should detect the location of the user and display a notification if the user is near a location specified on the pass).**

**The user should be able to by tapping on the notification immediately access the pass corresponding to said notification. (The app should, when a notification is tapped, display the pass in question)**

**The user should be able to create new passes by filling out a form and/or by scanning a QR code/Barcode. (The app should display a form and use the user input to create a new pass. The app should also access the camera and scan a QR code/Barcode and copy it onto the new pass. If a QR code/Barcode wasn’t scanned the app should generate said code and display it on the new pass)**

### Advanced –

**The user should be able to create an account and log in to that account on any android device. He should be able to access all of their saved passes from any device they are logged into. (A secure database will be created for access by the app where user data and passes will be stored by the app. The app should allow the user to register and log in via register and login forms when prompted.)**

**The app should look nice and appeasing to the eye with a modern interface and be fully functional without any bugs.**

**All of the above deliverables are just a suggestion and will probably be changed and then finalized after discussion with my supervisor.**