**F.1 – Differences if application was used for tables rather than a phone:**

There are several things that could be altered if the application were to be developed for a tablet rather than a phone. I would start with making the navigation elements and text larger. Additionally, more items could be displayed per page regardless of orientation so there may not be a need to have scrollers on many of the pages. Ideally, the application would be able to dynamically switch between the phone version and the tablet version based on the device it's running on. The tablet version would have fragments side by side as opposed to the phone's tabbed fragments.

**F.2 - Minimum and Target Operating System:**

The target Operating System my app was developed for is API 32 but it is compatible with API 30 and above devices as well.

**F.3 - Challenges faced during development:**

I was not familiar with Android development at all coming into this course. With that in mind it did take me a bit of time to get comfortable with Android's development environment. As a user coming from other tools such as Visual Studio it was quite foreign to me. In that environment you also use XML to handle the layout and to tie events to functions within the controller but using a single XML file. In Android Studio there are multiple XML files that are used in many ways. I do see why they would be used, however. Additionally, I did initially struggle to utilize Android Studio's GUI to assemble GUIs for the application. The final issue I ran into was also with the environment. I attempted to import the 'R' class but it wasn't linking to the layout XML files. I also experienced many, many issues throughout the process with the emulated environment, such as running out of space, flickering screens and other, odd issues.

**F.4 - Challenges overcame during development:**

I reviewed the course videos to both familiarize myself with the Android development environment and Android Studio navigation. Honestly, that sums up how I handled most of my struggles throughout the course. I reviewed the materials to familiarize myself with the environment and the concepts Android development utilizes to develop applications for mobile platforms. The penultimate issue I mentioned was a bit odd. I had to invalidate the application's cache to get Android Studio to make the connections to the layout XML files.

**F.5 - What I would do differently:**

I'm the type of person that likes to go in and figure things out. If I had to do this again, however, I would first start with reviewing the course materials. Coming into the platform I had assumed that it would be quite quick to get the hang of it. It was not intuitive to me. It may be to others but I spent entirely too much time trying to get into the weeds rather than learn the material in a structured and sensical manner. Additionally, I would have used fewer XML files.

**F.5 - Emulators Usage vs Development Devices:**

Emulators are used to provide developers with an approximation of what their application would look like on actual Android devices. The word approximation is key, however, as the emulator must emulate the ARM architecture on an x86 development environment - Windows in my case. As far as the pro's for emulation go, it is a great tool to approximate the Android environment without necessitating the purchase of hardware. The cons of Emulation are that it is an approximation and actual results may differ. Additionally, in my experience the emulation was quite clunky and slow. I would say that having the actual platform is an advantage when it comes to having a dedicated development device. The biggest downside of having a dedicated development device is that it can be costly if you're on your first project or are expanding the development team.