**C196 Reflections**

**1. Explain mobile application development through the context of the architecture involved, including hardware and software capabilities and limitations.**

Android development is done through android studio and makes development fairly easy and straightforward. There is plenty of documentation online. Having a decent desktop computer removes any “hardware and software limitations.”

**a. Identify the version of the operating system your application was developed under and is compatible with.**

The app was developed on a windows 10 machine. It was built for SDK version 29 and has a minimum backwards compatibility with SDK version 27.

**2. Describe the challenges you faced during the development of the mobile application.**

I had trouble figuring out notifications and how to schedule them. I also had trouble figuring out how everything was put together. I had difficulty aligning the ui elements to look decent and usable. Android studio’s room and sql was new to me and that took some time to learn as well.

**3. Describe how you overcame each challenge discussed in part F2.**

I used google to search for answers. I read android documentation and followed examples. Nearly all programming problems are solved the same way, Google it, because someone else has had the same problem as you. I was able to figure out how to get notifications scheduled by using android alarm library. I used annotations to set up sql queries. The visual ui editor was helpful when paired with the xml to precisely control the layout. Familiarizing myself with the android lifecycle enabled me to figure out how all the class and xml files fit together.

**4. Describe what you would do differently if you did the project again.**

If i had to develop a mobile app for android i recommend developing a mobile friendly website or coding in html and packing it that way. HTML5 enables use of most if not all mobile features. I would also spend time thinking about how all the code should be organized now that I know how many classes and resources are needed for each screen.

**5. Describe how emulators are used and the pros and cons of using an emulator vs. using a development device.**

Emulators allow a user to simulate a physical device without actually having one. This allows developers to test on a large amount of devices. With modern computer hardware acceleration and virtualization there are very few downsides to using a virtual device. The only downside is not being able to physically hold the device. There is also limited support for simulating physical phone motion and multi touch.