1 Mobile development is most commonly refers to an application software runs on mobile devices such as smartphones. Mobile application development is directly dependent on the architecture of the hardware and software. Before designing an application, developer must take into account hardware limitations such as storage, memory, CPU and battery life. When the amount of memory is low operating system can shut down some applications. Developers need to optimize their application to avoid this to happen. Unlike computers, mobile devices have some additional capabilities for instance accelerometer used for measuring the tilting motion and orientation of a mobile device. When developing a mobile application, a developer need to keep the size of a mobile device in mind. Smaller screens mean less information can be displayed on the screen. In addition, mobile devices come in different size and shapes, so the app layout needs to be flexible to support all devices. Finally, a developer must create a mobile application for both android OS and the iOS operating system to support all mobile devices.

1a. My application is developed for an android device with a target API level of 28.

2 I faced a lot of challenged while developing a mobile application. The first challenge I faced was learning Android specific methods for storing and retrieving data from the database. Another challenge was how to use intent properly. Whenever I go back to previous activity my app used to crash. In addition, every time I use android studio that makes my computer extremely slow.

3 I overcame the challenge of dealing with the database by watching some recorded videos provided by WGU and reading some codes. Learning about intent was not hard but it took me a while to figure out why my application always crash when I try to go back to previous activity. I did some search online and looked at the error I am getting in Logcat, which help me to overcome this challenge. Android studio makes my computer super slow. I always shut down my virtual emulator whenever I don’t need to test my application.

4 If I have to do this project again I would buy an actual Android device instead of relying on the emulator which wasted a lot of my time and I was not able to test my application on real device. I would use fragment so there are fewer activities in my project. I would also try the room database which I think is much better than SQL.

5 Pros of using emulators are you don't need to buy a smart device when you can use the emulator for all your software testing needs. Mobile emulators are free and are provided by the android studio. Multiple emulators can be run at the same time and they are simple to use. Pros of using real mobile devices are that they provide real results from user interaction. When you are using an emulator you are not testing on the same platform and network that will be used by your user. This means you are not guaranteed to get the outcome you are really expecting. Emulators are also very slow because it has to simulate the hardware and software.