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### Project Reflection

The minimum SDK this project was developed for is API 26: Android 8.0 (Oreo). The target SDK for this project is Android 10.0, or API 29. My application would function and look differently when developed for a tablet as many of the individual activities I have for my application can be combined to form a single activity. On my application, I have a single activity that takes up the entire screen for the list of courses. When you click one of the courses it takes you to a new activity showing the course details. The course detail activity also takes up the entire screen. With a tablet, you have much more screen real estate. The list of courses activity and the course detail activity can be two fragments of a course list and detail activity on a tablet.

I faced many challenges developing this application since it was my first time developing for Android. The first challenge I faced was understanding the terminology of how the application lifecycle works. From activities to fragments and DAOs to repositories, the structure of the application proved to be confusing from the beginning. I overcame this challenge through a combination of reading the material, watching tutorial videos from various sources, and repetition. As I finished the assessment's portion of the application, it became a little less complex to understand.

Another challenge I faced was the implementation of the Room database style. Tutorials I watched seemed to be outdated or in another language, so it was difficult to grasp the concept at first. However, being able to save, edit, and delete data without having to write much SQL is definitely a concept I can get behind. I overcame this issue again through reading the material, repetition, and following tutorials on the official Android development documentation website.

If I did this project again, there are a couple things I would do differently. First off, it was wrong of me to assume this project would be similar to the assignment we did for C195. Android development is much more complex, so I'd start off again by reading more of the material and getting a better understanding of the basic concepts of Android development before beginning. Another thing I would do differently is get a solid understanding of what the assignment was asking and how I want my build my UI to handle the requirements. There was too many times I ended up redoing portions where the UI wasn't working for what the assignment asked for.

Emulators are used to test mobile applications without having to need the physical device. The OS runs virtually on the developer's computer so that testing can be done much more rapidly and efficiently. On the other hand, having a development device allows you to test the application in a much more natural environment. It verifies the application works on the device's specific hardware and all touch and movement gestures can be tested much more naturally unlike running the OS on an emulator.