**SWENG 500 – Software Engineering Studio**

**Final Report**

**Introduction**

The PokémonTool project was a complex undertaking for us. We both had no experience with mobile platform development. As such, we sought out a project that would allow us to learn and grow as computer scientists. We went to the official Android requests forums where people post requests for Android applications. One user explained the need for an application utility to assist in playing Pokémon Trading Card Game. Similar applications exist for other card games, but none existed for Pokémon. We decided that this project had just enough complexity for us as amateur mobile application developers.

**Plan**

Our plan was to create the exact user interface the person in the forum requested. In addition to that, we researched the Pokémon game to discover other features and functionalities to bring to the user interface. The requester had omitted one Pokémon status. We also decided to implement a bench for all Pokémon not currently on the field.

At the same time, we needed to make sure our complexity was enough. With discussion with Dr. Barb, we decided to integrate a database connection with our application. Statistic regarding how many times a status is selected were going to be recorded.

The plan was then set in place. With just the two of us, we felt that this application would be a reasonable challenge for the course period.

**Execution**

The first four weeks of the project were the roughest. The first step of the plan was to get a simple application running. A development studio was recommended for us – Appcelerator Studio. After weeks of attempts, we ended up finding out that it was recently updated, but the documentation for the studio was not updated for the new version. There was no way to know how to get anything to function correctly. We ended up giving up on it and moved on to Google’s own Android Studio.

Android Studio brought a lot of success. Integrating it with GitHub was fairly straightforward and creating a new project was simple enough as well. Over the next four weeks, we developed the core functionality of the application. The user interface was relatively primitive, but all of the functionality was there.

For the next four weeks, we focused on additional features and visual optimization. We implemented the bench feature and an animator for the coin flip. The user interface was enhanced with custom icons. The menu button was moved to a better location. We also spent this time thoroughly testing the application. We tried to implement a JUnit test suite. After much hassle, we successfully got JUnit to run. Unfortunately, getting mocking to work in Android Studio was not simple to figure out. Time was running out, so, with discussion with Dr. Barb, we decided not to overwhelm ourselves by trying to figure it out at the last minute. Our black box tests were successful and comprehensive at the end. All in all, these four weeks were extremely productive from a user experience point of view.

The last two weeks of the class were focused on documentation. We updated and completed all of the required work for completion.

**Lessons Learned**

We are both glad that we decided on this project. Being a new technology and framework gave us a lot of opportunities to learn.

The first lesson we learned is to avoid software without proper, correct documentation. This may seem silly, but in the real world this can jeopardize projects.

We learned a lot about Android, Java, and the application framework. Our experience prepared us for mobile development outside of the classroom. Our greatest struggle was lack of experience, but we jumped this hurdle.

As a team, our communication provided no issues. As a two man team, we used GitHub to house and commit our code effectively. We communicated consistently so as not to duplicate work.

Overall, we consider this project a huge success. We learned a lot and produced a completely usable and satisfactory application that could be put on the Android application store.