**Quality Assurance Plan**

**Introduction**

This document sets out the rules and procedures that I intend to take to ensure that the software I develop is of a good quality.

**User Acceptance Testing**

At the start of each of the weekly iterations of my project, I will draw up a set of acceptance criteria with my project supervisor for the functionality that I plan on implementing for that week. These will be signed off by my project supervisor when they are completed. They will also be a crucial indicator of my progress throughout the project. Each acceptance test I write will typically be based around one of the user stories outlined in the project plan. Each set of unit tests will be documented in it’s own test plan.

**Static Analysis Tools**

While writing the code for each iteration, I will regularly run my code through several Static analysis tools for Scala. This will enable me to ensure that as many bugs as possible are eliminated before they make it into the real application. I will then make sure that as many of these are dealt with as possible before I move onto future stages of development.

**Unit Testing**

Whenever I complete a user story, I will ensure that I have written meaningful unit tests for as much of the code as possible. This will give me a good indication as to whether the new functionality works and whether I have broken anything. I will be using the ScalaTest unit testing tool to do this, which runs on top of JUnit (the standard Java tool for unit testing).

The code and comments in the unit testing classes will be how I document this section of testing. I will also be using the standard Scala test coverage tool to ensure that I have covered as much of the code as possible.

**Integration Testing**

Once testing for the individual units are developed and I am confident that the individual components work as they should, I will perform extensive manual testing of the system in order to ensure that the new functionalities work as they should. These tests will be more in depth versions of the user acceptance tests that I specified at the start of each iteration, with the aim being that by the end of this phase of testing, I should be confident that the functionality that I have implemented works and can be presented to my project supervisor at the next progress meeting. This phase of testing will be tested by the completion of a written test plan.