**Quality Assurance Plan**

**Introduction**

This document sets out the rules and procedures that will be taken to ensure that the software produced is of good quality.

**User Acceptance Testing**

At the start of each of the weekly iterations of the project, a set of acceptance criteria in conjunction with the project supervisor for the functionality due to be implemented that week. These will be signed off by the project supervisor on completion. They will also be a crucial indicator of progress throughout the project. Each acceptance will typically be based around one of the user stories outlined in the project plan. Each set of user acceptance tests will be documented in it’s own test plan.

**Static Analysis Tools**

While writing the code for each iteration, The code for each iteration will be regularly run through several static analysis tools for Scala, ensuring that as many bugs as possible are eliminated before they make it into the completed 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**

On completion of a user story, it will be ensured that meaningful unit tests have been written for as much of the code as possible. This will give a good indication as to the functionality of the code, and pinpointing any other development issues. the Spec2 unit testing tool will be used, 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**

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