Software Quality Assurance Plan

For agentTool III (Dynamic)

Version 1.0

Submitted in partial fulfillment of the requirements of the degree of MSE

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1. **Purpose**
   This document describes the steps that will be taken to ensure that agentTool III will achieve a high level of quality. The required documentation is also defined. This document follows the guidelines stated in the IEEE Standard for Software Quality Assurance Plans.

2. **Reference Documents**
   - Vision Document
   - Project Plan

3. **Management**

   3.1. **Organization**
   **Supervisory Committee**
   - Dr. Scott DeLoach
   - Dr. David Gustafson
   - Dr. William Hankley
   **Major Professor**
   - Dr. Scott DeLoach
   **Developer**
   - Binti Sepaha
   **Formal Technical Inspectors**
   - Deepti Gupta
   - Dominic Gelines

   3.2. **Responsibilities**
   **Supervisory Committee:**
   The supervisory committee will be responsible for attending the presentations given by the developer. After each presentation the committee members will provide feedback and suggestions regarding the software.
   **Major Professor:**
   The major professor will be responsible for supervisory committee duties and also meeting with the developer on a weekly basis to evaluate progress and provide suggestions.
   **Developer:**
The developer is responsible for all documentation and software development tasks for the software. The project plan describes the tasks to be completed. The developer will also meet with the major professor on a weekly basis to report progress.

**Formal Technical Inspectors:**

The formal technical inspectors will be responsible for a technical review of the architecture design artifacts and the formal requirements specifications. They are required to submit a report on their findings.

### 3.3. Tasks

All tasks to be performed have been documented in the Project Plan 1.0. This will be reviewed after the first phase to incorporate any changes. A Gantt chart is included in the project plan to provide a schedule for each task.

### 4. Documentation

The documentation will consist of a vision document, project plan, software quality assurance plan, formal requirements specification, architecture design, test plan, formal technical inspection, prototype, user manual, component design, source code, assessment evaluation, project evaluation, references, formal technical inspection letters. All documentation will be reviewed by the committee members for final approval. All documentation will be posted on the developer’s web site at [http://www.cis.ksu.edu/~binti/MSEProject/agentTool.htm](http://www.cis.ksu.edu/~binti/MSEProject/agentTool.htm).

### 5. Standards, Practices, Conventions, and Metrics

#### Documentation Standard

IEEE standards will be used as a guideline to follow.

**Coding Standard**

The project will use traditional object oriented analysis and design methods. Recommended Java style guidelines will also be followed.

**Commentary Standards**

- Comments shall be used in the project to give a brief description of the code, focusing on the functionality and purpose of commented areas
- Each block of statements shall be well commented
- Each routine shall have comment consisting of one or two lines at the top of the routine, describing the purpose and limitations of that particular routine
• Each file, module and program shall contain the author’s name, date it was written or last modified, and a description of how this code fits into the end product. This might also include external functions that are referenced within the custom code.

**Documentation**

JavaDoc will be used for documenting the complete API for the project.

**Metrics**

Basic COCOMO will be used to estimate the effort and time for the project.

6. **Reviews and Audits**

The committee members will be conducting reviews of the documentation as well as evaluating the developer’s work at each presentation. They will also comment on the software prototype demonstration to suggest changes and additions to the requirements specifications. Deepti Gupta and Dominic Gelinas will evaluate the architecture design artifacts and report on their findings.

7. **Test and Problem Reporting**

All tests, along with their results, will be recorded on a time log of the project web page. Unresolved problems will be reported directly to the committee members.

8. **Tools, Techniques, and Methodologies**

The following tools will be used for coding, testing, and documentation.

• SWT – for coding
• Eclipse with Jigloo Pulg-in as the IDE
• Microsoft Word – for documentation
• Microsoft Software Project 2003 – Project Planning
• USE 2.0.1 – for documentation and testing
• JUnit 3.8.1 for unit testing

9. **Media Control**

The software will be available on a CD-ROM ready for installation. The executable file will be recorded on it. A user manual soft copy will also be saved in the CD to aid with the installation process and use of the software. Documentation will be available from the developer’s website http://www.cis.ksu.edu/~binti/agentTool.htm
10. Records collection, maintenance and retention
The design documentation will be stored in the University library, the Major Professor and the developer. Entire source code, documentation and web pages for the project website will be submitted to the Major Professor in the form of a CD. This should also be stored with the developer.

11. Deliverables
The following is a set of deliverables in each phase.

**Phase I**
- Vision Document
- Project Plan
- Software Quality Assurance Plan
- Prototype Demonstration

**Phase II**
- Vision Document
- Project Plan
- Formal Requirements Specification
- Architecture Design
- Test Plan
- Formal Technical Inspection
- Executable Architecture Prototype

**Phase III**
- Component Design
- Source Code
- Assessment Evaluation
- User Manual
- Formal Technical Inspection Letters
- Project Evaluation