Software Quality Assurance Plan

For Environment Model Building Tool (EMBT)

Version 1.0

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

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1. **Purpose**
   This document is intended to define the steps that will be taken to ensure the Environment Model Building Tool will achieve a high level of quality. The required documentation is also defined.

2. **References**
   - Vision Document
   - Project Plan

3. **Management**

   3.1. **Organization**

   **Supervisory Committee:**
   Dr. Scott DeLoach
   Dr. David Gustafson
   Dr. William Hsu

   **Major Professor:**
   Dr. Scott DeLoach

   **Developer:**
   Esteban Guillen

   **Formal Technical Inspectors:**
   Cem Oguzhan
   Kevin Sung

   3.2. **Responsibilities**

   **Supervisory Committee:**
   The supervisory committee will be responsible for attending the presentations given by the developer. Following each presentation the committee members will provide feedback and suggestions concerning the Environment Model Building Tool project.

   **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 Environment Model Building Tool project. The project plan will describe the developer’s 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 then submitting a report on their findings.

3.3. **Tasks**
   All tasks to be performed have been documented in the project plan. A Gantt Chart is included in the project plan to provide a schedule for each task.
4. Documentation
All official documentation requirements for MSE students are defined at http://www.cis.ksu.edu/~sdeloach/mse/portfolio.htm. The documentation will consist of a vision document, project plan, software quality assurance plan, action items, 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.

The all documentation will be posted on the developer’s web site at http://www.cis.ksu.edu/~ejg3500/embt.

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.

Metrics – COCOMO will be used to estimate project effort.

6. Reviews and Audits
The committee members will be conducting reviews of the documentation as well as evaluating the developer at each presentation. The committee members will also comment on the software prototype demonstration to suggest changes and additions to the requirements.

Two technical inspectors 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 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.
- Eclipse IDE – for coding
- Java 1.4.2 – for coding
- Java 3D 1.3.1 – for coding
- MS Visio – for documentation
- USE 2.0.1 – for documentation and testing
- JUnit 3.8.1 for unit testing

9. Code Control
The code will be controlled by a CVS system. The CVS is located at fingolfin.user.cis.ksu.edu/kdd/cvs.

10. Deliverables
Phase I:
- Vision Document
- Project Plan
- Demonstration
- Software Quality Assurance Plan
- Interface Description

Phase II:
• Action Items
• Vision Document
• Project Plan
• Formal Requirements Specification
• Architecture Design
• Test Plan
• Formal Technical Inspection
• Executable Architecture Prototype

Phase III:
• Action Items
• User Manual
• Component Design
• Source Code
• Assessment Evaluation
• Project Evaluation
• References
• Formal Technical Inspection Letters