

Software Quality Assurance Plan

For a GMoDS-based Runtime Agent Role Interpreter

Version 1.0

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

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1. Purpose

This document serves as the Software Quality Assurance (SQA) plan for the GMoDS-based Runtime Agent Role Interpreter. This project is the Master of Software Engineering final project for Kyle Hill.

2. References

1. Kyle Hill. "GMoDS-based Runtime Agent Role Interpreter Project Plan 1.0". http://people.cis.ksu.edu/~kylhill/phase_1/project_plan.pdf.
2. IEEE Std. 730-1998, Standard Software Quality Assurance Plans, IEEE, 1998.
3. IEEE Std. 730.1-1995, IEEE Guide for Software Quality Assurance Planning, IEEE, 1995.
4. Oracle. "Java SE 6 Documentation". <http://download.oracle.com/javase/6/docs/>

3. Management

3.1. Management Organization

The GMoDS-based Runtime Agent Role Interpreter project will have the following management organization.

3.1.1. Supervisory Committee

- Dr. Scott DeLoach
- Dr. Gurdip Singh
- Dr. William Hsu

3.1.2. Major Professor

- Dr. Scott DeLoach

3.1.3. Developer

- Kyle Hill

3.1.4. Technical Inspectors

- Mike Fraka
- Shylaja Chippa

3.2. Tasks

All project tasks are scheduled and defined within the Project Plan [1].

3.3. Roles and Responsibility

3.3.1. Supervisory Committee

The supervisory committee will be responsible for attending all three project presentations. Each project presentation will be presented by the developer. The committee will provide guidance and feedback to the developer at the conclusion of each presentation.

3.3.2. Major Professor

The major professor will be responsible for monitoring and guiding the developer throughout the project.

3.3.3. Developer

The developer will be responsible for creating all project documentation and deliverables. In addition, the developer will present a summary of the state of all project documentation and deliverables at the conclusion of each development phase.

3.3.4. Technical Inspectors

The technical inspectors will be responsible for conducting a formal review of the project's architectural design. They will review the design according to a review checklist provided by the developer. The technical inspectors will then return a letter of inspection to the major professor and developer.

4. Documentation

All project documentation will be published at <http://people.cis.ksu.edu/~kylhill/>.

4.1. Purpose

The project documentation will serve as the primary source of information about the project. It will also provide information about the current state of the project at any given time.

4.2. Minimum Documentation Requirement

The following documents will be produced during each phase of development:

Phase 1

- Time Log
- Vision Document 1.0
- Project Plan
- SQA Plan
- Presentation 1

Phase 2

- Time Log
- Vision Document 2.0
- Project Plan 2.0
- Architectural Design 1.0

- Formal Requirements Specification
- Technical Inspection Checklist
- Test Plan
- Presentation 2

Phase 3

- Time Log
- Component Design 1.0
- Technical Inspection Letters
- User Manual
- Project Evaluation
- Presentation 3

5. Standards, Practices, Conventions, and Metrics

The GMoDS-based Runtime Agent Role Interpreter project documentation will follow the standards outlined in the IEEE Software Quality Assurance standards [2][3]. In addition, the project source code will conform to the Java 6 platform conventions and guidelines [4].

6. Software Reviews

At the conclusion of each of the three project phases, the developer will present all documents and deliverables to the project committee for review and comment. In addition, a formal technical review of the project architecture will be conducted by the technical inspectors.

7. Test

A detailed project test plan will be provided during the second phase of the project. This test plan will outline detailed unit and integration tests to be performed on the GMoDS-based Runtime Agent Role Interpreter

8. Problem Reporting and Corrective Action

The developer will be responsible for requesting guidance from the major professor throughout the project. Any discrepancies or concerns the major professor identifies will be communicated to the developer. In addition, the supervisory committee will provide recommendations for corrective actions at the conclusion of each project phase. Finally, technical inspectors will be responsible for reporting any architectural problems they identify during their inspection. The developer will be responsible for implementing any suggestions provided by the project members.

9. Tools, Techniques, and Methodologies

The project will be implemented in the Java 6 programming language. The project source code will conform to its conventions and guidelines [4]. All project documentation will be prepared using Microsoft Office 2007, specifically Word, Excel, PowerPoint, Visio, and

Project will be used. All software development and testing will take place within the Eclipse 3.6 IDE. All UML documents will be produced using the Argo UML diagramming tool.

10. Media Control

All project source code will be kept under version control by the Multiagent and Cooperative Robotics Laboratory (MACR) Content Versioning System (CVS) repository. In addition, a copy of the source code will always be stored locally on the developer's computer. The final software deliverables and source code will be published to the project site:

<http://people.cis.ksu.edu/~kylhill/>.

11. Record Collection, Maintenance, and Retention

All project deliverables and documentation will be stored locally on the developer's computer, as well as published to the project site: <http://people.cis.ksu.edu/~kylhill/>.

12. Risk Management

The developer will be responsible for identifying project risks and bringing them to the attention of the major professor. The major professor will then provide guidance on how to mitigate the risk, or will assist the student in finding someone with the required expertise who can provide guidance to the developer. Any project risks that are not reported to the major professor will be identified at one of the three project presentations that will be held at the end of each phase.