

**Software Quality Assurance Plan  
Organizational Alert System**

**For**

**CS 895 MSE Project**

**Department of Computer Science**

**Kansas State University**

**Submitted to**

**Dr. Mitch Neilsen**

**Dr. Torben Amtoft**

**Dr. Scott Deloach**

**Submitted by**

**Angela Hall**

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## **1. Purpose**

The purpose of this document is to layout the processes, responsibilities, documentation, and oversight for the project that will ensure the project's quality.

## **2. References**

1. Code Conventions for the Java Programming Language. (n.d.). Retrieved from <https://www.oracle.com/technetwork/java/codeconvtoc-136057.html>
2. IEEE standard for Software Quality Assurance Planning
3. IEEE guide for Software Quality Assurance Planning
4. Kuppa, K. (n.d.). Airline Reservation System [Scholarly project]. Retrieved from [http://people.cs.ksu.edu/~kaavya/Vision Document\\_MSE\\_Phase I.pdf](http://people.cs.ksu.edu/~kaavya/Vision Document_MSE_Phase I.pdf)
5. Tuck, T. Software Quality Assurance Plan for MVC Reporting Website [Scholarly project]. Retrieved from <http://thaddeustuckmastersproject.azurewebsites.net/Content/Documents/Software%20Quality%20Assurance%20Plan%20v1.0.pdf>
6. Nehl, B. Multiagent Control of Traffic Signals [scholarly project]. Retrieved from [http://people.cs.ksu.edu/~bnehl/nehl\\_inception\\_sqap.pdf](http://people.cs.ksu.edu/~bnehl/nehl_inception_sqap.pdf)

## **3. Management**

### **3.1 Management Organization**

#### **3.1.1 Supervisory Committee**

- Dr. Mitch Neilsen
- Dr. Torben Amtoft
- Dr. Scott Deloach

#### **3.1.2 Major Professor**

- Dr. Mitch Neilsen

#### **3.1.3 Developer**

- Angela Hall

#### **3.1.4 Technical Inspectors**

- Richard Waliser
- Thaddeus Tuck

## **3.2 Responsibilities**

### **3.2.1 Supervisory Committee**

The supervisory committee will review each phase of the project which will be presented to them at the culmination of each milestone. They will offer feedback and suggestions during the presentation that will steer the iterative advancement of the project deliverables.

### **3.2.2 Major Professor**

The major professor will supervise and review the progress of the developer.

### **3.3.3 Developer**

The developer will be responsible for the project process, design, documentation, and code.

### **3.3.4 Formal Technical Inspectors**

The Formal Technical Inspectors will be provided a checklist based on the system requirements and will review the project to ensure that it meets the specifications. The inspectors will provide the completed inspection with a report or letter of approval.

### **3.4 Tasks**

All project tasks are documented in the Project Plan document. At the end of Phase II the Project Plan will be reviewed by the Supervisory Committee and any changes needed will be implemented in Phase III.

## **4. Documentation**

### **4.1 Phase 1 Documentation**

Time Log  
Vision Document  
Project Plan  
Software Quality Assurance Plan  
Presentation 1

### **4.2 Phase 2 Documentation**

Time Log  
Action Items from Phase 1 Presentation  
Updated Vision Document  
Updated Project Plan  
Formal Requirements Specification  
Architectural Design  
Test Plan  
Formal Technical Inspection Checklist  
Executable Architectural Prototype  
Presentation 2

### **4.3 Phase 3 Documentation**

Time Log  
Action Items from Phase 2 Presentation  
User Manual  
Component Design  
Source Code  
Project Evaluation  
References  
Formal Technical Inspection Letters  
Presentation 3

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

### **5.1 Documentation Standard**

All project documentation will use the IEEE standards for documents.

## **5.2 Coding Standard**

All client code will be written using the [1] Coding Conventions for the Java Programming Language.

## **5.3 Metrics**

The COCOMO II model was used in the time and cost estimations for this project.

## **6. Reviews and Audits**

The supervisory committee will review all documentation at the end of each phase.

## **7. Test and Problem Reporting**

The developer will create a Test Plan as part of the Phase II documentation process. The test plan will list the tests and expected results. Test results, bugs, and resolutions will be documented in the test plan.

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

The following toolchain will be used for this project:

- Eclipse 4.8 Photon will be used for coding, testing, and debugging.
- Java SDK 1.8
- WindowBuilder Java Libraries
- Git versioning control system
- Apache 2
- Raspbian
- PHP 7.0
- HTML
- XML
- Javascript
- CSS

## **9. Code and Media Control**

Code versioning and backup will be controlled with the Git open source versioning control system and will be stored online at <https://github.com/ifptheng/headsup>.

Documentation versioning will be manually controlled and all versions will be stored online at <http://www.angiehall.com/mse/index.php>

## **10. Risk Management**

If any risks are identified, the developer will communicate the risk and remediation strategy to the major professor. The major professor will advise the developer if they feel further remediation is needed.