Department of Computer Science and Engineering  
The University of Texas at Arlington

Better Software

Team Members:   
Gary Johns  
Dan Lain  
Jose Flores

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# General Organization

## Project Manager

Better Software’s (BS) project manager is Dan Lain, who was chosen because of his years of management experience and desire to take on challenges and bring new ideas to life. The project manager will be responsible for setting up schedules and assign tasks to the other team members based on their experience. The project manager will also oversee all individual tasks to make sure that everyone stays on track.

## Project Oversight

Project oversight will be handled in multiple ways. First on a task level, the project manager will stay in contact with team members on individual tasks to make sure they are able to handle the task in the given time or add resources to help get the task done if needed. Next will be a group review once the tasks are complete and assembled together to make sure everything properly flows together and is concise. After this is the team review, where we will get input from another team in the company to provide use will an outside opinion of our work.

## Roles and Responsibilities

Here are the stakeholders in the Auto Performance Analyzer project and their roles.

|  |  |  |
| --- | --- | --- |
| **Role** | **Responsibilities** | **Assigned To** |
| **Project Supervisor** | Provide team with feedback and review progress | Dr. Csallner |
| **Project Manager** | Monitor project progress  Assign tasks and create schedule for deliverables.  Assist team wherever needed. | Dan Lain |
| **Software Development** | Develop UMLs.  Design GUI | Jose Flores  Gary Johns |
| **Documentation** | Revise documents and make sure they are ready to be delivered on due dates.  Record meeting notes from group. | All |

**Table 1.1**

## Project Constraints

The constraints are as follows:

* Complicated Charting
* Most of team has confliction schedules
* Time constraint of only 3 months
* Team lacks any real experience with this type of project

## Project Assumptions

* Product will make use of existing technologies
* Team will meet at least once a week
* Product will be implemented on Windows operating system
* Deliverables will be completed and submitted by project supervisor’s due dates
* Team will put forth the effort required to bring the project to desired level expected by both the project supervisor and the projected customer

## Preliminary Schedule and Cost Estimates

|  |  |  |
| --- | --- | --- |
| **Project Milestones** | **Due Date** | **Cost Estimation(Man Hours)** |
| Iteration 1 | 10/7/2012 | 60 |
| Iteration 2 | 7/11/2013 | 60 |
| Iteration 3 | 7/11/2013 | 60 |
| Final Presentation | 7/18/2013 | 60 |

**Table 1.2**

# Vision Statement

Create a cutting edge innovative project management software tool to allow small to medium sized companies to keep track of ongoing projects, employees, and costs. This tool shall allow the company to produce Gantt Charts, resource tracking, cost reports, and velocity tracking. This system will be developed by a small agile team of 3developers.

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# Earned Value Management

## Earned Value

Earned value management helps the project stay on course by monitoring the planned accomplishments to the completed accomplishments. The earned value has a couple of components associated with it. Earned value can also be automatically calculated from the Microsoft Project Plan.

## Components

* BCWS – Planned Value
  + How much work (person-hours) is planned to have accomplished at a given point in time (this is from the Work Breakdown Structure)
* ACWP – Actual Cost
  + How much work (person-hours) was actually spent at a given point in time
* BCWP – Earned Value
  + The value (person-hours) in terms of the base budget of what was accomplished at a given point in time (or, % complete X Planned Value)

## Performance Indices

* CPI – Cost Performance Index
* SPI – Schedule Performance Index

Analysis:

* If CPI > 1.0, good performance (ahead of schedule at a point in time)
* If CPI < 1.0, bad performance (behind of schedule at a point in time)
* Similarly for SPI

## Report

The team meets every Tuesday, and any other times if needed, to go over our plan of actions and to report how each member is doing on their assigned tasks. During these meetings, the team go over how far along the team is doing at that moment in time and calculate their earned value.

# Scope Management Plan

## Introduction

Due to the project’s nature of combining key features from existing products, the project could easily become a victim of feature creep. The purpose of this scope management plan is to ensure that the team adheres to the requirements defined in the SRS document. This will help to ensure a timely product delivery, minimal time waste, and allow more accurate planning.

## Tracking

For this project and to ensure its successful completion, the overall progress of each working item will consist of a two phase strategy: first, each team member will have the responsibility to track the work items that it was assigned to work on, with the overall supervision of the team leader. Each team member will provide feedback to the other team members of the major roadblocks encountered in the development of the assigned task, and the team will conduct a group review along with the sponsor. This will ensure that the project schedule will be met and that the plan adheres to the scope already established. The second phase will consist on writing reports done after each milestone is completed; this is with the purpose of reviewing which of the requirements have been met and which have not, and to re-evaluate with greater detail the feasibility of the requirements that have not been met.

## Modifications

In order to control the scope of the project, the team will define the features and establish them in the beginning in such manner that minimizes further modifications. When any modifications arise to the features already established in the SRS, the team will have to extensively and carefully analyze the proposed modifications to weight the impact that it will bring to the project’s schedule. Any further modifications must be agreed on by all team members prior to allocate resources to the proposed modifications.

# Work Breakdown Structure

## Purpose of Closeout Report

The purpose of the closeout report is to ensure that all personnel, contract, administrative, and financial issues are resolved, that documents are archived, and lessons learned are documented.

## Administrative Closure

### Were the objectives of the project met?

After the project is completed, the team will review the SRS and evaluate whether the completed project meets the sponsor requirements as specified in the SRS. All fulfilled and unfulfilled requirements will be analyzed and documented.

### Archiving Project Artifacts

The following items will be documented and stored in the team’s shared Dropbox File and shared GitHub:

* System Requirement Specification
* Architectural Design Specification
* Detailed Design Specification
* Photos
* Diagrams
* Charts
* Personal Research Documents and Notes
* Any Change Requests
* Meeting Notes

### Final Project Performance Report

After the project is completed, BS will produce a Final Project Performance Report. The Final Project Performance Report will review and summarize the project’s quality achievements, scope management, schedule adherence and an assessment of how risks were reduced and how it actually reduced the time taken for the completion of the project.

# Quality Management Plan

## Introduction

The quality management plan will be used to ensure that the team will meet all of the requirements, and that it will deliver a high quality product. This plan outlines the different quality management features that will be used during the project development.

## Software

The software for the BS shall be designed, documented, and tested to the highest competence of the team. The code shall be written in a modular manner to ensure that will be bug free and that it will meet all the specifications. This plan includes:

* The source code will be peer reviewed by the members team
* The source code will follow a uniform format
* The source code will be fully commented
* The source code will have a strong exception handling
* The source code will follow the PHP and HTML standard specification and naming techniques for classes, methods and instances
* The Source code will be refactored as needed
* Source code files will be backed using a Version Control Software (GitHub)
* Changes to the source code will be thoroughly documented

## Test Plan

* Tests will be designed to ensure requirements were fulfilled
* Test cases shall be implemented to test the correct output of the system based on different input scenarios

# Communications Plan

## Summary

Communication is vital to the success of this project. Communication channels must be established not only between team members, but also with the team supervisor.

## Internal Communications

### Dropbox

The team has established a shared dropbox folder containing the teams contact information including both phone and email. The dropbox folder will also be used for sharing files and collaborating on documentation.

### Text Messaging

Text messaging will be used for quick short communications, when information needs to get out to individuals or the whole team quickly and the information is not to in depth or lengthy.

### Email

Email will be used for lengthy messages and also as a form of documentation of team correspondence.

### Team Meetings

Will be held on a weekly basis to start and will scheduled otherwise as needed and when all or most of the members are available. Meetings will be used a group work time after discussion topics are covered.

# Change Management Plan

## Purpose of Integrated Change Management Plan

Changes are without a doubt unavoidable in large-scale projects. A solid plan is essential to take care of these changes when they arise. When such changes are encountered, our plan must be to be prepared, accept them and deal with them in the appropriate manner. These alterations can occur during the requirement stage as well as the implementation stage.

To be able to deal with such changes, a change management plan must be developed beforehand.

This plan works as a guide on how to handle the changes that the team will be challenged with throughout each phase of development. The change management plan provides a rough idea of the procedures to deal with changes comprising of duties and roles, evaluation and authorization as well as change documentation. This plan will assist the team in handling changes in a well-organized fashion. The plan will make sure that the team handles the change thoughtfully and intelligently.

## Roles and Responsibilities

**Project Team**

Individual members may suggest changes during a meeting. The team members of the project will estimate the possible benefits and drawbacks of making proposed changes into the project. The team members will then review and assess changes for feasibility and will decide if the change is necessary and within the scope of the project.

## Review and Approval Process

Changes recommended will be explained in a Change Proposal document that includes the recommended change and its result on the predefined requirements and how such change will affect the project schedule. The document will also include its impact on the feasibility of the project as well as the importance of applying the recommended change.

The change proposed will undergo an evaluation process before any final decision is made. The project manager will organize a meeting for a preliminary analysis. If the team agrees that the suggestion calls for additional review, proper evaluation will then be done. Risks associated with the change and its impact on the project budget will be evaluated. If the proposed change has a negative impact on the project schedule, then there will be explicit documentation notifying as such. The team then decides whether change will be made to the project and tasks are then reassigned appropriately.

## Change Identification, Documentation, Implementation and Reporting

Any approved or rejected changes that are made to the project must be acknowledged, approved and well documented. After the final decision for the change proposal is made with compliance the team leader should apply the suggested and notify the team of the updated project schedule.

**Change Request Form**

Proposed By: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Name: Signature: Date:

Team Members:

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# Risk Management Plan

## Purpose of Risk Management Plan

In this project, risks will be defined as the probability of certain events that can put our project behind in the schedule. Some of these risks are common factors associated with our team members’ everyday lives, as well as technological risks. Due to the fact that our team has a very limited time schedule, it is absolutely imperative that we take the time up front to determine what these risks could be, and to come up with an effective risk management plan to identify, to analyze and, to minimize the impact these risks will bring if they should occur.

## Roles and Responsibilities

* *Team Leader.* Dan Lain will be the team leader for this project. He will be in charge of supervising the overall development to prioritize potential risks and communicate them to the other team members.
* *Project Team.* Will assess and discuss possible risks during scheduled meetings.
* *Risk Manager.* The risk manager will be Jose Flores. He will be responsible for leading the risk assessment plan and maintaining the risk documentation. This involves deciding which risks pose the more serious threats and show the results of the evaluation to the rest of the team and discuss potential plan of action to handle them if they should occur.

## Risk Identification

It will be the entire team members’ responsibility to communicate to the rest of the team any risks that may arise during the development of the project. A list maintained by the risk manager with the most prominent risks identified and once identified and recorded, the team will evaluate the impact and establish the action plan to resolve the issue before it poses a threat to the project’s schedule.

## Risk Triggers

Risk triggers are events or performance characteristics that warn of the occurrence of risk events. Some of these include:

* Schedule slips become frequent
* Missed milestones by team members
* Programming tasks slip schedule
* Software integration issues

## Risk Severity

The following table shows the severity of the risks identified in the previous table. Each risk will have an overall risk exposure. This exposure is calculated by multiplying the probability of risk occurrence times the cost of the risk.

|  |  |  |
| --- | --- | --- |
| **Category** | **Risk** | **Risk exposure (weeks)** |
| Budget | Insufficient funds to acquire necessary components | 0.30 |
| Hardware | Insufficient OBD-II knowledge | 2.25 |
| Hardware | Delays in obtaining the hardware | 0.20 |
| Schedule | Team member unable to meet deadlines due to emergency | 0.10 |
| Sponsor | Requirements change beyond capabilities of team | 0.30 |
| Software | Insufficient of knowledge developing Android apps | 4.00 |
| Software | Lack of version control software | 0.4 |
| Hardware | Limitations of the hardware performance | 0.1 |

Table 9-2 Risk Severity

## Risk Response Planning

The following table shows the teams strategy to minimize the effects of the risk to a level where the risk can be controlled and managed to ensure the project’s requirements and schedule will be achieved

|  |  |
| --- | --- |
| **Risk** | **Risk Response Method** |
| Requirements change beyond capabilities of team | Risk may occur. Improve communication with the sponsor, team will keep to be realistic about schedule |
| Insufficient of knowledge developing this type of software | Risk expected to occur. Plan ahead and research documentation online or printed form |
| Lack of version control software | Risk unlikely. Ensure that we have good version control software and knowledge |

Table 9-3 Risk Response

## Risk Documentation and Reporting

The team will keep a risk database in the form of an Excel spreadsheet in a specific folder in our Dropbox repository. The risk manager will be responsible of updating and maintaining such risk database.

## Risk Control

Team members are expected to continue monitoring the documented risks, as well as all new potential risk triggers if they arise during the development phase. Each team member is expected to communicate to the risk manager or to the team lead as soon as the potential risk is identified in order to bring the issue during the weekly team meetings. The identified risks will be accepted and documented into the risk database, or rejected by the team consensus.

# Project Closeout Report

## 12.1 Purpose of Closeout Report

The purpose of the closeout report is to ensure that all personnel, contract, administrative, and financial issues are resolved, that documents are archived, and lessons learned are documented.

## Administrative Closure

### Were the objectives of the project met?

After the project is completed, the team will review the SRS and evaluate whether the completed project meets the sponsor requirements as specified in the SRS. All fulfilled and unfulfilled requirements will be analyzed and documented.

### Archiving Project Artifacts

The following items will be documented and stored in the team’s shared Dropbox File and shared Google Drive:

* System Requirement Specification
* Photos
* Diagrams
* Charts
* Personal Research Documents and Notes
* MS Excel Template
* Any Change Requests
* Meeting Notes

### Plans for Post Implementation Review (PIR)

Post Implementation Review (PIR) will be conducted to evaluate the project. The complete and final project will be compared with the proposed project to test the consistency and practicality of the project under standard conditions. The product will then be demonstrated for the project sponsor to ensure that (s)he is satisfied with the final product.