

Project Management System

Software Requirement Specification

Project Code: PMS

Document Code: PMS\_SR– v1.0

**Fpt University HCMC**

**May 27th 2012**

# 1 Record of change

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# 2 SIGNATURE PAGE

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# 4 Introduction

In this accelerating of technologies and economics, Project Management is growing extremely importance to organizations because it deals effectively with the management of change. Modern economics and business environment are complicated than ever, organizations are beginning to realize that the traditional forms of management cannot adapt efficiently to the dynamics and its resulting chaos.

In the future, software industries could very well depend on how quickly the procedures and systems of project management are adopted. Therefore, Project Manager will play a very important role within organizations. Our mission is to provide an online system which actively assists those managers in managing their project. The approaches and techniques that are used in the project management process are of interest to all those who wish to be more certain about achieving predetermined targets.

## 4.1 Purpose

This Software Requirements Specification provides a complete description of all the functional requirements, non-functional requirements, constraints and other requirement specification of the “Project Management System”.

## 4.2 Scope

This project aims to create an online software project management system. With friendly interface, powerful tools, OOPMS provides powerful and efficient customized service for numerous kinds of managers from small to medium projects. Besides, OOPMS can be deployed on J2EE portal servers (JSR168, JSR268).

## 4.3 Definitions, Acronyms, and Abbreviations

Table 1 Abbreviations

|  |  |  |
| --- | --- | --- |
| No. | Key word | Meaning |
| 1 | PM | Project Manager |
| 2 | PMS | Project Management System |
| 3 | ISO | International Standard Organization |

Table 01: Abbreviations

## 4.4 References

FSOFT PMS System

## 4.5 Overview

The rest of this document includes four chapters:

The 2nd“Overall Description” chapter describes an overview description of this document. It lists all the functions, constraints of the application.

The 3rd“Functional Requirements” chapter lists all the required functions for PMS.

The 4th“Non-functional Requirements” chapter provides non-functional requirements, constraints of the system that shall be satisfied.

The final “Supporting Information” chapter gives supporting and additional information in order to make the PMS easier to use.

# 5 Overall Description

This chapter describes an overview description of this document by listingall the functions, characteristics, constraints of the application.



## 5.1 Product perspective:

The PMS shall be developed to manage requirements, tasks, defects, time tracking and report in software projects.

## 5.2 Product functions:

The PMS provides functions as below :

## 1. Dashboard

## 2. Planner

## 3. Report

## 4. Project Eye

## 5. Time Tracking

## 6. DMS

## 7. Requirement

## 8. Admin

## 5.3 User characteristics:

The PMS is designed for human operators who are assumed to have the following characteristics:

+ Fully understand the process of Safety Control System and how it is important inside a mine.

+ No special knowledge or skills.

+ No training in computer system use.

## 5.4 Constraints:

The PMS is a real time system that is responsible for managing project information. It must operate correctly, accurately and in time.

## 5.5 Assumptions and dependencies:

None

# 6 FUNCTIONAL Requirements

This chapter of the document describes all the functions that the PMS application shall provide, and how the system operating these functions using natural language and model, chart.

## Dashboard

This function provides brief information about all projects in the system:

* Provide overall information about projects ‘status including name, health, cost, progress, quality, efficiency, date, effort.
* Allow user to filter projects by status, category, date, cost, progress, efficiency.
* Allow user to sort projects by name, date, project manager.
* Provide link to project detail information and export feature.

## Planner

This function allow user to keep track of tasks, progress of project:

* Allow project manager to manage tasks: add new task, update, delete, assign, monitor progress, completeness rate, and date.
* Feature filter projects by status, assigned to.
* Allow user to sort status, date, assigned to.
* Import feature using Microsoft Project and export report.
* Team memberscanupdate tasks’ progress.

## Report

This function provides report features:

* Project information
* Planner
* DMS
* Timesheet

## Project Eye

This function allows Admin and Project Manager to create new project, edit a project’s information. The function also provides Admin with search function to help them quickly find a project.

**4.1 Manage User**

This function provides Admin with the ability manage users of the PMS system. This function includes search users, create user, and edit user’s information and status.

**4.2 Manage Project Team**

This function provides Admin and Project Manager the ability to manage a project’s team. This function includes search users to add to project’s team, change team member’s role, and remove member from project’s team.

**4.3 Manage Project Module**

This function provides Admin and Project Manager the ability to manage a project’s modules usage. This function will help admin and project manager to choose what modules they want to use in a project.

Here is the list of modules:

* Time Sheet
* Project Planner
* Defect Management
* Report
* Requirement Management
* Risk, Issue Management
* Change Request Management
* Cost Management

**4.4 Change User’s Information**

This function provides users of PMS system the ability to change their user’s information. This also includes changing password function.

**Reset Password**

This function will help users of PMS system when they forget their password. Users provide their username and this function will reset and send their password to their Email in user’s information.

**4.5 Manage Cost**

This function provides Project Managers the ability to control a project’s finance. This function will help them manage budget and tracking expense daily. It also alarms them when their project will be over budget at the time they planning the project’s expense. Project Managers can defy their project’s buffer, the Manage Cost module will notice them the status of the current buffer.

**4.6 Manage Product**

This function provides Project Manager and Team Member the ability to control a project’s products. Project Manager and Team Member can add, modify and delete products.

**4.7 Manage Work Order**

This function provides Project Manager the ability to control a project’s stage and deliverables’ schedule. Project Managers can set how many stages a project has and their duration. They can also set when and which product to deliver in each stage.

**4.8 Manage Risk, Issue, Change Request**

This function provides Project Manager and Team Member the ability to control a project’s risk, issue and change request. They can add, modify and delete risk, issue and change request.

## Timesheet

This function allowsmanager to keep track of time and effort:

* Allow project manager to monitortimework and effort of team member.
* Feature filter projects by date, status, project.
* Team members can log timesheet as their works daily or weekly.

## DMS

This function allowsmanager to keep track of defects:

* Allow project manager to monitordefect and fix bug effort of team.
* Feature filter projects by date, status, and project, creator, assigned to.
* Team members can update defect status.

## Admin

**7.1 Admin**

* Manage Project
* Manage User
* Manage Project Team
* Manage Project Module

**7.2 User**

* Change User’s Information
* Reset Password
* Manage Project
* Manage Project Team
* Manage Project Module
* Manage Cost
* Manage Product
* Manage Work Order
* Manage Risk, Issue, Change Request

## Requirements

* Managing feature enables user to store and manage their requirement documents.
* Including: Add, update, remove
* User interface allows user to sort requirement by type, date, priority.
* Display completeness rate updated by user.

# 7 Usecase model

This chapter describes PMS’s features and functions using abstract Use Cases and detail scenarios.

A use case is a description of a sequence of actions (including itsvariations) that the system carries out to create an observable result foran actor.

A scenario is atemporal sequence of interaction events among agent instances.

## Main Use Case Diagrams of the PMS



This main Use Case Diagrams of the PMS show all main functions placing inside the system boundary and all actors that associate with those functions.

## 7.1 General



## 7.1.1 Log-in



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General\_UC01 | |
| Name | Log-in Use Case | |
| Goal | Authenticate guests then authorize them. | |
| Actors | Guest | |
| Pre-conditions | None | |
| Post-conditions | None | |
| Main Flow | 1. User goes into PMS Homepage.  3. Users enter user’s information: Username, Password and hit “Log-in” button. | 2. Display Home Screen and request user to log in.  4. Validate user’s information.  5.Display monitor screen to corresponding user. |
| Exception | If username or password is not correct, the PMSwill show error message and ask user to log in again. | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.1.2 Log-out

## 

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General\_UC02 | |
| Name | Log-out Use Case | |
| Goal | Provide Log-out function for User to check out | |
| Actors | User(include member, admin, project manager) | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1. Users are using PMS and click “Log-Out” button. | 2. Log user out and display Home Screen. |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.1.3 Change Password



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General \_UC03 | |
| Name | **Change Password Use Case** | |
| Goal | This function allows user to change password | |
| Actors | **User** | |
| Pre-conditions | None | |
| Post-conditions | None | |
| Main Flow | 1. Select link “Change Your Information” | 2. Fill in “Old Password”, “New Password”, “Retype New Password” and then select button “Reset Password” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.1.4 Edit User’s Information



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General\_UC04 | |
| Name | **Edit User Use Case** | |
| Goal | This function allows users to edit their profile | |
| Actors | **User** | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1. Select link “Change your Information” | 2. Change User’s information then select button “Save Change” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.1.5 Register New Account



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General\_UC05 | |
| Name | **Register New Account Use Case** | |
| Goal | This function allows guest to register a new account | |
| Actors | **Guest** | |
| Pre-conditions | None | |
| Post-conditions | None | |
| Main Flow | 1. User goes into PMS Homepage    3. Fill in User’s information then select button “Submit” | 2. Select link “Register New Account” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.1.6 Reset Password



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | General \_UC06 | |
| Name | **Reset Password Use Case** | |
| Goal | This function allows user to reset password when they forget password | |
| Actors | **Guest** | |
| Pre-conditions | None | |
| Post-conditions | None | |
| Main Flow | 1. User goes into PMS Homepage    3. Fill in Username and select button “Reset Password” | 2. Select link “Forget Your Password |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.2 Admin***



## 

## 7.2.1 Admin Create New Project



|  |  |  |
| --- | --- | --- |
| User Case ID | Admin\_UC01 | |
| Name | **Admin Create new Project Use Case** | |
| Goal | This function allows admin to create a new project. | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab Project Management  3. Fill in Project’s information then select button “Submit” | 2. Select link “Create New Project” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

Use Case scenario:

## 

## 7.2.2 Admin Search Project



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC02 | |
| Name | **Admin Search Project Use Case** | |
| Goal | This function allows admin to search project | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab Project Management  3. Click button “Search” | 2. Select search condition |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.3 Admin Edit Project



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC03 | |
| Name | **Admin Edit Project Use Case** | |
| Goal | This function allows admin to edit information of a project | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab Project Management  3. Click button “Search”  5. Select link “Change Project Info” | 2. Select search condition  4. Choose the project want to edit  6. Change Project’s information then select button “Save Change” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.4 Admin Manage Module



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC04 | |
| Name | **Admin Mange Module Use Case** | |
| Goal | This function allows admin to manage a project’s modules usage | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab Project Management  3. Click button “Search”  5. Select link “Modules Management” | 2. Select search condition  4. Choose the project want to edit  6. Choose modules and then select button “OK” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.5 Admin Team Management



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC05 | |
| Name | **Admin Team Management Use Case** | |
| Goal | This function allows admin to manage a project’s team members | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab Project Management  3. Click button “Search”  5. Select link “Team Management” | 2. Select search condition  4. Choose the project want to edit  6. Edit Project’s team member then select button “Save Change” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.6 Admin Search User



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC06 | |
| Name | **Admin Search User Use Case** | |
| Goal | This function allows admin to search user | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab User Management  3. Click button “Search” | 2. Select search condition |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.7 Admin Create User



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC07 | |
| Name | **Admin Create User Use Case** | |
| Goal | This function allows admin to create new user | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab User Management  3. Fill in User’s information then select button “Submit” | 2. Select link “Create New User” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.8 Admin Edit User



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC08 | |
| Name | **Admin Edit User Use Case** | |
| Goal | This function allows admin to edit information of an user | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab User Management  3. Click button “Search”  5. Change User’s information then select button “Save Change” | 2. Select search condition  4. Choose the user want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.2.9 Admin Change User’s Status



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | ADMIN\_UC09 | |
| Name | **Admin Change User’s Status Use Case** | |
| Goal | This function allows admin to active, inactive or delete an user | |
| Actors | **Admin** | |
| Pre-conditions | Logged user with admin role | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab User Management  3. Click button “Search” | 2. Select search condition  4. Select button “Active”, ”Inactive” or “Delete” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

* 1. ***Planner***



***7.3.1 Filter Task***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Planner\_UC01 | |
| Name | Filter Task | |
| Goal | This function allows Project Manager and Team Member to filter tasks that are displayed on screen. | |
| Actors | Project Manager; Team Member | |
| Pre-conditions | Users must log in with role “Project Manager” or “Team Member”; Users must go to Planner page | |
| Post-conditions | N/A | |
| Main Flow | 1. Select conditions to filter and click “Search” button. | 2. Show task list after filtering. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | Normal | |

***7.3.2 Add Task***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Planner\_UC02 | |
| Name | Add Task | |
| Goal | This function allows Project Manager to plan and add specific tasks to his/her project. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; Users must go to Planner page | |
| Post-conditions | N/A | |
| Main Flow | 1. Click “Add New Task” button  3. Fill up task’s information.  6. Click “Save” button. | 2. Redirect to Task Adding Page.  3. Validate task’s information.  5. Display “Complete!” message. |
| Exception | 3A: if task information is not correct, show error message and ask to input again. | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | High | |

***7.3.3 Update Task***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Planner\_UC03 | |
| Name | Update Task | |
| Goal | This function allows Project Manager and Team Members to update status of tasks or change information of tasks. (modifying scope depend on authority of user) | |
| Actors | Project Manager; Team Member | |
| Pre-conditions | Users must log in with role “Project Manager” or “Team Member”; Users must go to Planner page | |
| Post-conditions | N/A | |
| Main Flow | 1. Filer Planner (optional).  2. Click on a task tile.  4. Update task’s information.  6. Click “Save” button. | 3. Redirect to Task Updating Page.  5. Validate task’s information. |
| Exception | 5A: if task information is not correct, show error message and ask to input again. | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | High | |

***7.3.4 Delete Task***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Planner\_UC04 | |
| Name | Delete Task | |
| Goal | This function allows Project Manager delete task on Planner page. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; Users must go to Planner page | |
| Post-conditions |  | |
| Main Flow | 1. Select a task, which he/she want to delete.  2. Click “Delete” button. | 3. Display “Delete Successfully” message. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | High | |

***7.3.5 Import Task***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Planner\_UC05 | |
| Name | Import Task | |
| Goal | This function allows Project Manager to import task from Microsoft Project file. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; Users must go to Planner page | |
| Post-conditions | N/A | |
| Main Flow | 1. User clicks “Import” button.  3. User selects a \*.mpp file from PC and clicks “OK” button. | 2. Display window to user select \*.mpp file.  4. Import tasks in the file to Planner. |
| Exception | 3A: if the file is not correct, show error message and ask to input again. | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | Low | |

***7.4 Project Eye***



***7.4.1 Create Project***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC01 | |
| Name | **Create new Project Use Case** | |
| Goal | This function allows user to create a new project. | |
| Actors | **User** | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1. Select link “Create New Project” | 2. Fill in Project’s information then select button “Submit” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.4.2 Edit Project***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC02 | |
| Name | **Edit Project Use Case** | |
| Goal | This function allows project managers to edit information of their project | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Dash Board"  3. Select link “Change Project Info” | 2. Choose the project want to edit  4. Change Project’s information then select button “Save Change” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.4.3 Manage Module***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC03 | |
| Name | **Manage Module Use Case** | |
| Goal | This function allows project manager to manage a project’s modules usage | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Dash Board”  3. Select link “Modules Management” | 2. Choose the project want to edit  4. Choose modules and then select button “OK” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.4 Team Management



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC04 | |
| Name | **Team Management Use Case** | |
| Goal | This function allows project manager to manage a project’s team members | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Dash Board”  3. Select link “Team Management” | 2. Choose the project want to edit  4. Edit Project’s team member then select button “Save Change” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.5 Change Budget



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC05 | |
| Name | **Change Budget Use Case** | |
| Goal | This function allows project manager to manage a project’s budget | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Cost”    3. Select button “OK” on the commit window. | 2. Fill the budget value then select button “Change Budget” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.6 Add Expense



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC06 | |
| Name | **Add Expense Use Case** | |
| Goal | This function allows project manager to add a project’s expense | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Cost”  3. Fill in the expense’s information then select button “Submit” | 2. Select “Add new Expense” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.7 Edit Expense



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC07 | |
| Name | **Edit Expense Use Case** | |
| Goal | This function allows project manager to edit a project’s expense | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Cost”  3. Fill in the expense’s information then select button “Save Change” | 2. Select the expense want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.8 Delete Expense



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC08 | |
| Name | **Delete Expense Use Case** | |
| Goal | This function allows project manager to delete a project’s expense | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Cost”    3. Select button “Delete” | 2. Select the checkbox at the begin of the expenses’ row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.9 Add Risk, Issue

## 

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC09 | |
| Name | **Add Risk, Issue Use Case** | |
| Goal | This function allows project manager and team member to add a project’s risk or issue | |
| Actors | **Project Manager, Team Member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Risk, Issue”    3. Fill in the information then select button “Submit” | 2. Select link “Add new Risk” or “Add new Issue” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.10 Edit Risk, Issue



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC10 | |
| Name | **Edit Risk, Issue Use Case** | |
| Goal | This function allows project manager and team member to edit a project’s risk, issue | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Risk, Issue”  3. Fill in the information then select button “Save Change” | 2. Select the risk or issue want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.11 Delete Risk, Issue



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC11 | |
| Name | **Delete Risk, Issue Use Case** | |
| Goal | This function allows project manager and team member to delete a project’s risk, issue | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Risk, Issue”    3. Select button “Delete” | 2. Select the checkbox at the begin of the row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.12 Add Change Request



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC12 | |
| Name | **Add Change Request Use Case** | |
| Goal | This function allows project manager and team member to add a project’s change request | |
| Actors | **Project Manager, Team Member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Change Request”  3. Fill in the request’s information then select button “Submit” | 2. Select link “Add new Change Request” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.13 Edit Change Request



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC13 | |
| Name | **Edit Change Request Use Case** | |
| Goal | This function allows project manager and team member to edit a project’s change request | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Change Request”  3. Fill in the request’s information then select button “Save Change” | 2. Select the request want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.14 Delete Change Request



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC14 | |
| Name | **Delete Change Request Use Case** | |
| Goal | This function allows project manager and team member to delete a project’s change request | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Change Request”    3. Select button “Delete” | 2. Select the checkbox at the begin of the row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.15 Add Product

## 

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC15 | |
| Name | **Add Product Use Case** | |
| Goal | This function allows project manager and team member to add a project’s product | |
| Actors | **Project Manager, Team Member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Product”  3. Fill in the product’s information then select button “Submit” | 2. Select link “Add new Product” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.16 Edit Product

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC16 | |
| Name | **Edit Product Use Case** | |
| Goal | This function allows project manager and team member to edit a project’s product | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Product”  3. Fill in the product’s information then select button “Save Change” | 2. Select the product want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.17 Delete Product

## 

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC17 | |
| Name | **Delete Product Use Case** | |
| Goal | This function allows project manager and team member to delete a project’s product | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Product”    3. Select button “Delete” | 2. Select the checkbox at the begin of the row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.18 Add Stage

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC18 | |
| Name | **Add Stage Use Case** | |
| Goal | This function allows project manager to add a project’s stage | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”  3. Fill in the stage’s information then select button “Submit” | 2. Select “Add new Stage” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.19 Edit Stage



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC19 | |
| Name | **Edit Stage Use Case** | |
| Goal | This function allows project manager to edit a project’s stage | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”  3. Fill in the stage’s information then select button “Save Change” | 2. Select the Stage want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.20 Delete Stage



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC20 | |
| Name | **Delete Stage Use Case** | |
| Goal | This function allows project manager to delete a project’s stage | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”    3. Select button “Delete” | 2. Select the checkbox at the begin of the stages’ row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.4.21 Add Deliverable



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC21 | |
| Name | **Add Deliverable Use Case** | |
| Goal | This function allows project manager to add a project’s deliverable | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”  3. Fill in the deliverable’s information then select button “Submit” | 2. Select “Add new Deliverable” |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.22 Edit Deliverable



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC22 | |
| Name | **Edit Deliverable Use Case** | |
| Goal | This function allows project manager to edit a project’s deliverable | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”  3. Fill in the deliverable’s information then select button “Save Change” | 2. Select the Deliverable want to edit |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.23 Delete Deliverable



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC23 | |
| Name | **Delete Deliverable Use Case** | |
| Goal | This function allows project manager to delete a project’s deliverable | |
| Actors | **Project Manager** | |
| Pre-conditions | Logged user that is a project manager | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Work Order”    3. Select button “Delete” | 2. Select the checkbox at the begin of the deliverables’ row you want to delete |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.24 View Info



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC24 | |
| Name | **View Info Use Case** | |
| Goal | This function allows project manager and team member to view a project’s information | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Dash Board” | 2. Select a project’s name |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.4.25 Report



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Project Eye\_UC25 | |
| Name | **Report Use Case** | |
| Goal | This function allows project manager and team member to view a project’s report | |
| Actors | **Project Manager, Team member** | |
| Pre-conditions | Logged user that is a project manager or team member | |
| Post-conditions | None | |
| Main Flow | 1. Choose tab “Dash Board”  3. Choose tab “Report” | 2. Select a project’s name |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.5 Dashboard***



***7.5.1 Filter Project***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Dashboard \_UC01 | |
| Name | Filter Project | |
| Goal | This function allows user to filter projects, which appear on Dashboard. Project on system can be filtered by status or category. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; Users must go to Dashboard page. | |
| Post-conditions | N/A | |
| Main Flow | 1. Select conditions to filter and Click “Search” button. | 2. Display filtered project list. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | Normal | |

***7.5.2 Export Dashboard***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Dashboard \_UC02 | |
| Name | Export Dashboard | |
| Goal | This function allows Project Manager to export Dashboard to Microsoft Excel file. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; Users must go to Dashboard page. | |
| Post-conditions | N/A | |
| Main Flow | 1. Filter project list (optional).  2. User Click on “Export” button. | 3. Export file. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | Normal | |

***7.6 Requirement***



## 

## 7.6.1 Add Requirement



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Requirement \_UC01 | |
| Name | Add Requirement Use Case | |
| Goal | This function allows user add new requirement or CR (Change Request). | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; | |
| Post-conditions | N/A | |
| Main Flow | 1. Go to Requirement page. Click “Add” button.  3. Fill needed information and click “summit” button. | 2. Display page with required fieldfor user to fill information.    4. Save requirement information. |
| Exception | N/A | |
| Open Issues | How to save requirement documents. (Link or database) | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | 5 | |

## 

## 7.6.2 Update Requirement



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Requirement \_UC02 | |
| Name | Update Requirement Use Case | |
| Goal | This function allows user to updatedocument, status. | |
| Actors | Project Manager, member | |
| Pre-conditions | N/A | |
| Post-conditions | N/A | |
| Main Flow | 1. Go to Requirement page. Choose requirement, Click “Update” button.  3. Fill needed information and click “Save” button. | 2. Display page with information for user to modify.    4. Save updated information. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | 5 | |

## 

## 7.6.3 Delete Requirement



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Requirement \_UC03 | |
| Name | Add Requirement Use Case | |
| Goal | This function allows user to delete requirement. | |
| Actors | Project Manager | |
| Pre-conditions | Users must log in with role “Project Manager”; | |
| Post-conditions | N/A | |
| Main Flow | 1. Go to Requirement page. Choose requirement, Click “Delete” button.  3. Click “Yes” button. | 2. Display confirm box.    4. Delete Requirement. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | 5 | |

## 

## 7.6.4 Sort Requirements



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Requirement \_UC04 | |
| Name | Sort Requirements Use Case | |
| Goal | This function allows user to sort, filter requirement by Size, Priority or Date. | |
| Actors | Project Manager, member | |
| Pre-conditions | N/A | |
| Post-conditions | N/A | |
| Main Flow | 1. Go to Requirement page. Choose kind of filter (type, date, priority). | 2. Sort and Display new list. |
| Exception | N/A | |
| Open Issues | Sort by user and last modified? | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | 5 | |

***7.7 Defect Management System***



## 

## 7.7.1 Search defect



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | DMS\_UC01 | |
| Name | Search defect Use Case | |
| Goal | This function allows users can search defect.  Defect has 3 kinds : open defect, closed defect, leakage | |
| Actors | Member | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1. Users login into DMS system 2. Click button search | 1. Select search condition |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.7.2 Add defect



Figure 20 Search defect Use Case model

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | DMS\_UC02 | |
| Name | Add defect Use Case | |
| Goal | This function allows users can add defect.  When defect was added, member become creator, defect change status to opened | |
| Actors | Member | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1Users login into DMS system | 1. Click button add new |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.7.3 Update defect



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | DMS\_UC03 | |
| Name | Update defect Use Case | |
| Goal | This function allows users can update defect.  Creator can change status of defect from opened to cancelled or corrected.  Assigned member can change status of defect to opened, canceled or closed. | |
| Actors | Member | |
| Pre-conditions | Logged user | |
| Post-conditions | None | |
| Main Flow | 1Users login into DMS system  3..Click button update | 1. Select defect |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.8 Timesheet Module

## 

## 

## 7.8.1 Search Timesheet



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Timesheet\_UC01 | |
| Name | **Search Timesheet Use Case** | |
| Goal | This function allows users can search timesheet. | |
| Actors | **Add Timesheet** | |
| Pre-conditions | User logins must be member of project | |
| Post-conditions | None | |
| Main Flow | 1. Users logins to Timesheet system.  3. Click button Search | 2. Select search condition. |
|  |  | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.8.2 Add timesheet



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Timesheet\_UC02 | |
| Name | **Add Timesheet t Use Case** | |
| Goal | This function allows users can add a new timesheet record | |
| Actors | **Add Timesheet** | |
| Pre-conditions | User logins must be member of project | |
| Post-conditions | None | |
| Main Flow | 1. Users logins to Timesheet system. | 2. Click button add new. |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.8.3 Update timesheet***



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Timesheet\_UC03 | |
| Name | Update timesheet Use Case | |
| Goal | This function allows users can update timesheet records. | |
| Actors | Member , Project Manager | |
| Pre-conditions | User logins must be member of project | |
| Post-conditions | None | |
| Main Flow | 1. User logins to Timesheet system.  3. Click button update | 2. Select timesheet record to update |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 

## 7.8.4 Delete timesheet



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Timesheet\_UC04 | |
| Name | Delete timesheet Use Case | |
| Goal | This function allows users can delete timesheet records. | |
| Actors | Member , Project Manager | |
| Pre-conditions | User logins must be member of project | |
| Post-conditions | None | |
| Main Flow | 1. User logins to Timesheet system.  3. Click button delete | 2. Select timesheet record to delete |
| Exception | None | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

## 7.8.5 Approve/ Reject timesheet



Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Timesheet\_UC05 | |
| Name | Approve/ Reject timesheet Use Case | |
| Goal | Allow project manager to approves or reject members‘ timesheet records | |
| Actors | Project manager | |
| Pre-conditions | Logged users as role project manager | |
| Post-conditions | None | |
| Main Flow | 1. User logins to Timesheet system  as role project manager  3. Click button approve or reject | 2. Select Timesheet to approve or reject |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business Rule | N/A | |
| Priority | N/A | |

***7.9 Report***



***7.9.1 Print Report***

Use Case scenario:

|  |  |  |
| --- | --- | --- |
| User Case ID | Report\_UC01 | |
| Name | Print Report | |
| Goal | This function allows Project Manager and Team Member to view and print report about planner, timesheet, DMS or overall of the project. | |
| Actors | Project Manager; Team Member | |
| Pre-conditions | Users must log in with role “Project Manager” or “Team Member” ; Users must go to Report page | |
| Post-conditions | N/A | |
| Main Flow | 1. Select report by clicking on name of report (planner, timesheet, DMS...).  3. User clicks “Print” button. | 2. Display Report  4. Export Report. |
| Exception | N/A | |
| Open Issues | N/A | |
| Relationship | N/A | |
| Business rule | N/A | |
| Priority | High | |

# 8. NON-FUNCTIONAL Requirements

This chapter of the document describes all the non-functions requirement of the PMS.

The PMS’s usability, availability, performance are very important factors to ensure that the system operate effectively and keep hundred miners safe.

## 8.1 Usability

The PMS usability is the key factor to ensure that the system run exactly as well as the operators can control the system efficiently.

The PMS application shall provide clear, friendly and easy interface to operate so that system users have to spend no more than one hour learning to use the system.

### 8.1.1 Background knowledge

PMS users are assumed to have very basic knowledge at using computer systems.

### 8.1.2 Training

Operators’ training time requirement: 60 minutes.

## 8.2 Reliability

### 8.2.1 Availability

Whenever the system is during operation time no matter how many people working inside, the PMS has to be ON.

### 8.2.2 Mean Time between Failures (MTBF)

Mean Time between Failures (MTBF): more than 6 months.

### 8.2.3 Mean Time to Repair (MTTR)

Mean Time To Repair (MTTR): less than 48 hours.

### 8.2.4 Accuracy

Accuracy: 100%

### 8.2.5 Maximum Bugs and Defect Rate

Maximum Bugs and Defect Rate: 0.3 bugs per thousand lines of code (0.3 bugs/KLOC).

### 8.2.6 Critical Bugs

Critical bugs:

+ Loss of Log: No

+ Unable to operate any function: No

## 8.3 Performance

### 8.3.1 Response Time

Response time for a respond:

Average: 50 milliseconds

Maximum: 80 milliseconds

### 8.3.2 Capacity

Only one operator at the same time.

### 8.3.3 Resource utilization

Memory:

+ 512MB of RAM

Operating System:

+ Microsoft Windows XP or newer version

+ Mac OS X 10.0 or newer version

+ Linux 3.5 or newer version

## 8.4 Supportability

### 8.4.1 Coding standards

According to “Standard Java Coding Convention”

– 09be-HD/PM/HDCV/FSOFT - Version 1/1.

### 8.4.2 Maintenance Utilities

Support working hours phone call technical support: 8:00 to 16:00 from Monday to Friday.

## 8.5 Design Constraints

Coding standard:

+ This application will be developed in Java programming language, version J2EE 6.

Software process requirements:

+ The software process shall confront to the CMMI 5 standard.

Developmental tools:

+ This application will be developed using Eclipse from Sun Microsystems.

### 8.5.1 Software Languages

GUI , Help documents, all other support documents are in English.

### 8.5.2 Software Process Requirement

The software process has to meet the CMMI 5 standard.

### 8.5.3 Development Tools

The PMS shall be developed using Eclipse 3.6 , SQA activity using FSOFT template and j-unit.

## 8.6 On-line User Documentation and Help System Requirements

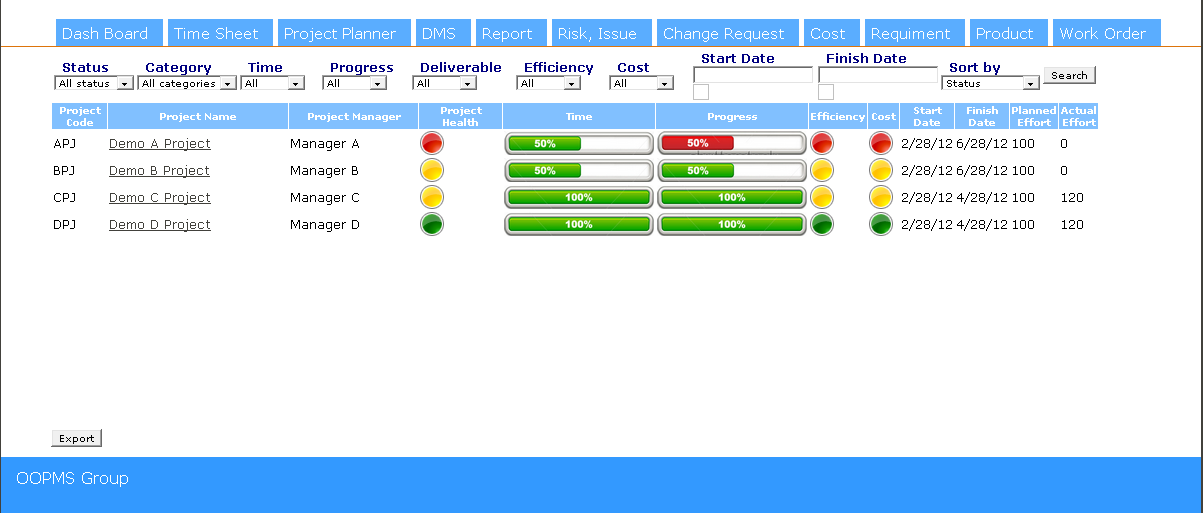
The deployment of the application shall be provided by a technical agent include full help document for user.

## 8.7 Purchased Components

None

## 8.8 Interfaces

### 8.8.1 User Interfaces



### 

### 8.8.2Hardware Interfaces

API to interact with sensors are provided in advance.

## 8.9 Licensing Requirements

The PMS is only applicable for Project Management Department, which legally buy this product. No other use is legal.

## 8.10 Legal, Copyright, and Other Notices

This PMS is protected under the national law of copyright.

## 8.11 Applicable Standards

The system shall confront to the ISO 90003:2001 standard.