**MINISTRY OF EDUCATION AND TRAINING**

|  |
| --- |
|  |

**Capstone Project Report**

**Report 2 – Project Management Plan**

– Ho Chi Minh, September 2024–

**Table of Contents**

[I. Record of Changes 2](#_Toc187242670)

[II. Project Management Plan 3](#_Toc187242671)

[1. Overview 3](#_Toc187242672)

[1.1 Scope & Estimation 3](#_Toc187242673)

[1.2 Project Objectives 3](#_Toc187242674)

[1.3 Project Risks 4](#_Toc187242675)

[2. Management Approach 5](#_Toc187242676)

[2.1 Project Process 5](#_Toc187242677)

[2.2 Quality Management 5](#_Toc187242678)

[2.3 Training Plan 5](#_Toc187242679)

[3. Project Deliverables 6](#_Toc187242680)

[4. Responsibility Assignments 6](#_Toc187242681)

[5. Project Communications 6](#_Toc187242682)

[6. Configuration Management 7](#_Toc187242683)

[6.1 Document Management 7](#_Toc187242684)

[6.2 Source Code Management 7](#_Toc187242685)

[6.3 Tools & Infrastructures 7](#_Toc187242686)

# I. Record of Changes

|  |  |  |  |
| --- | --- | --- | --- |
| Date | A\*  M, D | In charge | Change Description |
| 08/09/2024 | A | NguyenPTS | Initialize document |
| 09/09/2024 | A | PhatTV, KhanhNA, | Added content:   * Management Approach   Project Organization |
| 08/09/2024 | A | PhatDT, NguyenPTS | Added content:   * Project Communication   Configuration Management |
| 08/09/2024 | A | DangVNH | Added Overview |

\*A - Added M - Modified D - Deleted

# II. Project Management Plan

## 1. Overview

### 1.1 Scope & Estimation

|  |  |  |  |
| --- | --- | --- | --- |
| **#** | **WBS Item** | **Complexity** | **Est. Effort**  **(man-days)** |
| **1** | **Requirement analysis** |  | **9** |
| 1.1 | Define background and context of product | Complex | 3 |
| 1.2 | Find problems and solutions of project | Medium | 3 |
| 1.3 | Determine project scope | Medium | 2 |
| 1.4 | List requirements | Medium | 1 |
| **2** | **Project Planning** |  | **7** |
| 2.1 | Discussion project scope | Complex | 3 |
| 2.2 | Estimate time of scope | Complex | 2 |
| 2.3 | Assign roles to each member of the project | Complex | 2 |
| **3** | **Document writing** |  | **21** |
| 3.1 | Write project introduction | Medium | 2 |
| 3.2 | Write project management plan | Medium | 3 |
| 3.3 | Write software requirement specification | Complex | 4 |
| 3.4 | Write software design document | Complex | 6 |
| 3.5 | Write test document | Medium | 2 |
| 3.6 | Write user guide document | Medium | 2 |
| 3.7 | Write final document | Medium | 2 |
| **4** | **Workspace setup** |  | **7** |
| 4.1 | Setup resource storage workspace | Medium | 3 |
| 4.2 | Setup resource and version control | Medium | 4 |
| **6** | **Implementation** |  | **77** |
| 6.1 | Implement authentication/authorization features | Complex | 7 |
| 6.2 | Implement Admin features | Complex | 15 |
| 6.3 | Implement Student features | Complex | 20 |
| 6.4 | Implement Counselor features | Complex | 15 |
| 6.5 | Implement Manager features | Complex | 10 |
| 6.6 | Implement Support Staff features | Complex | 10 |
| **7** | **Testing** |  | **7** |
| 7.1 | Create test cases | Medium | 2 |
| 7.3 | System testing | Complex | 5 |
| **8** | **Closing** |  | **2** |
| 8.1 | Create Final Project Report | Complex | 2 |
| ***Total Estimated Effort (man-days)*** | | | ***130*** |

### 1.2 Project Objectives

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Testing Stage** | **No. of Defects** | **% of Defect** | **Notes** |
| 01 | Integration Test | <20 | 13,3% |  |
| 02 | System Test | <15 | 12,5% |  |

### 1.3 Project Risks

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **#** | **Risk Description** | **Impact** | **Possibility** | **Response Plans** |
| 01 | Team member is illness | Medium | Low | Give tasks for each member, not too big or too small. So that they can catch up when they recover. |
| 02 | The team member's computer is possible to be damaged | Medium | Low | The computer needs to be fixed, so the task should be assigned to another member until it is repaired. |
| 03 | Requirement changes: requirements unexpected changes | High | High | Choose an alternative solution to adapt to those changes. |
| 04 | Technology risk: cannot find the suitable solution for technique problems, the software cannot fulfill the expectation | High | Medium | Conduct more research using official resources and discuss it with mentors. |

## 2. Management Approach

**SCRUM Methodology**: The SCSS project will follow a SCRUM development process with iterations for each major feature, ensuring continuous feedback and delivery.

### 2.1 Project Process

### 2.2 Quality Management

**Defect Prevention**: Continuous code reviews and adherence to coding standards.

**Unit Testing**: Ensure at least 95% test coverage.

**Integration Testing**: Test all integrated features before system testing.

**System Testing**: Validate the overall functionality with comprehensive test cases.

### 2.3 Training Plan

|  |  |  |  |
| --- | --- | --- | --- |
| **Training Area** | **Participants** | **When, Duration** | **Waiver Criteria** |
| Java Spring Boot | Trình Vĩnh Phát | 7 days | Mandatory |
| Git, Github | All members | 3 days | Mandatory |
| React Native | Nguyễn An Khánh  Phạm Trần Sơn Nguyên | 7 days | Mandatory |
| React JS | Vũ Ngọc Hải Đăng  Đoàn Tiến Phát | 7 days | Mandatory |
| DevOps tools (Docker) | All members | 7 days | Mandatory |

## 3. Project Deliverables

|  |  |  |  |
| --- | --- | --- | --- |
| **Sprint** | **Deliverable** | **Due Date** | **Notes** |
| 1 | Project Plan Document, SRS Document | 14 days | Project Planning, Software Requirement |
| 2 | Authentication module, Admin module | 14 days | Architecture Design, Basic Design, Detail Design and Database Design |
| 3 | Student module, | 14 days | Code & API test cases & System test cases |
| 4 | Counselor Module | 14 days | Code & API test cases & System test cases |
| 5 | Manager module | 14 days | Code & API test cases & System test cases |
| 6 | Support staff module | 14 days | Code & API test cases & System test cases |
| 7 | Test Reports, Guide Documents, Final Project Package | 14 days | User manual guides, Final code, documents. |

## 4. Responsibility Assignments

|  |  |  |
| --- | --- | --- |
| **Fullname** | **Role** | **Responsibility** |
| Huỳnh Công Việt Ngữ  Lê Võ Minh Thư | Supervisor | * Instruct project team * Supervise project status * Review deliverables * Answer questions about the project |
| Trình Vĩnh Phát | Leader | * Managing process * Clarifying requirements * Prepare documents * Quality management * Support other team members * Arrange meeting |
| Vũ Ngọc Hải Đăng  Đoàn Tiến Phát  Phạm Trần Sơn Nguyên  Nguyễn An Khánh | Team members | * Designing database * Clarifying requirements * Prepare documents * Coding Create test plan * Testing GUI design * Support other team members |

## 5. Project Communications

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Communication Item** | **Who/ Target** | **Purpose** | **When, Frequency** | **Type, Tool, Method(s)** |
| Daily Stand-up Meetings | All member | Check the progress of all members. Assign new task | Daily | Google Meet, Discord |
| Weekly Progress Report | All member | Provide status updates | Weekly | Google Meet, Discord |
| Sprint Planning & Review | All member | Plan and review sprint progress | Weekly | Jira |

## 6. Configuration Management

### 6.1 Document Management

All project documents will be managed using **Google Docs Online** for version control. Changes will be tracked using document version history table to ensure traceability.

### 6.2 Source Code Management

**GitHub** will be used for source code management. Branching strategies (feature branches, development, and release branches) will be enforced, and code reviews will be mandatory before merging into the main branch to ensure code quality and traceability.

### 6.3 Tools & Infrastructures

|  |  |
| --- | --- |
| **Category** | **Tools / Infrastructure** |
| **Technology** | ReactJS (FrontEnd), React-Native (App), Java/SpringBoot (BackEnd) |
| **Database** | MySQL |
| **IDEs/Editors** | Visual Studio Code, IntelliJ |
| **Diagramming** | StarUML, DrawIO |
| **Documentation** | Ms Office, Google Docs/Sheets/Slides |
| **Version Control** | Github(Source Codes), Google Drive (Documents) |
| **Deployment server** | Azure, Docker |
| **Project management** | Jira, Zalo(Task Management) |