

**CAPSTONE PROJECT REPORT**

**Report 2 – Project Management Plan**

– Ho Chi Minh, September 2024 –

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# I. Record of Changes

| **Date** | **A\* M, D** | **In charge** | **Change Description** |
| --- | --- | --- | --- |
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\*A - Added M - Modified D - Deleted

# II. Project Management Plan

## 1. Overview

### 1.1 Scope & Estimation

| **#** | **WBS Item** | **Complexity** | **Est. Effort**  **(man-days)** |
| --- | --- | --- | --- |
| ***1*** | ***Initiating*** |  |  |
| 1.1 | Collect and study project requirements from the supervisor | Medium | 7 |
| 1.2 | Write report 1 | Medium | 4 |
| ***2*** | ***Planning*** |  |  |
| 2.1 | Discussion project scope | Medium | 3 |
| 2.2 | Estimate time of scope | Complex | 5 |
| 2.3 | Assign roles to each member of the project | Medium | 3 |
| 2.4 | Create plan project | Complex | 4 |
| 2.5 | Prepare report 2 | Medium | 5 |
| ***1*** | ***Project Management*** |  | ***20*** |
| 1.1 | Manage, assign and track tasks, sprints, backlogs,... | Medium | 6 |
| 1.2 | Team member management | Medium | 4 |
| 1.3 | Timeline and milestone tracking | Medium | 4 |
| 1.4 | Progress reporting | Medium | 4 |
| 1.5 | Notifications and Alerts | Simple | 2 |
| ***2*** | ***Source Code Analysis*** |  | ***25*** |
| 2.1 | Detect errors automatically using API | Complex | 10 |
| 2.2 | Integrate static analysis tools (SonarQube or ESLint) | Complex | 8 |
| 2.3 | Code review management | Medium | 5 |
| 2.4 | Real-time feedback | Medium | 2 |
| ***3*** | ***Integration with Development Tools*** |  | ***20*** |
| 3.1 | Connect to GitHub/GitLab | Medium | 10 |
| 3.2 | Integration with popular IDEs | Medium | 10 |
| ***4*** | ***Reporting and Analytics*** |  | ***10*** |
| 4.1 | Visualize project progress | Medium | 5 |
| 4.2 | Team member performance evaluation | Medium | 5 |
| ***5*** | ***User Management*** |  | ***10*** |
| 5.1 | Role-based access control | Medium | 5 |
| 5.2 | User authentication and authorization | Medium | 5 |
| ***6*** | ***Deployment and Maintenance*** |  | ***5*** |
| 6.1 | Deployment (CI/CD) | Medium | 5 |
| ***Total Estimated Effort (man-days)*** | | | ***90*** |

### 1.2 Project Objectives

*[Provide the overall project objective description and then the specific target metrics of your project in term of quality, time, and cost (allocated effort distribution for project activities: requirement, design, coding, testing, project management, etc). For example*

*Quality*

| **#** | **Testing Stage** | **Test Coverage** | **No. of Defects** | **% of Defect** | **Notes** |
| --- | --- | --- | --- | --- | --- |
| 1 | Reviewing |  |  |  |  |
| 2 | Unit Test |  |  |  |  |
| 3 | Integration Test |  |  |  |  |
| 4 | System Test |  |  |  |  |
| 5 | Acceptance Test |  |  |  |  |

*Milestone Timeliness (%):*

*Allocated Effort (man-days):*

]

### 1.3 Project Risks

### 

| **No** | **Risk Description** | **Impact** | **Possibility** | **Response Plans** |
| --- | --- | --- | --- | --- |
| **No** | **People risks** | | | |
| 1 | Over deadline  (the reason from team member) | Serious | High | The team must meet and report their tasks daily. |
| 2 | Over deadline because of health. | Serious | Medium | Allow members to have a break day, others will solve his/ her tasks. |
| 3 | Unrealistic project schedule | Serious | High | The team must meet and everyone needs to review the schedule. |
| 4 | Communication risks | Medium | High | All members must communicate with the team at the same time and avoid the private talk. |
| 5 | Conflicts between team members | Medium | High | Creating a meeting to share uncomfortable things. |
| 6 | Poor experience | Medium | Medium | All members should support the leader to handle the project process. |
| **No** | **Technical risks** | | | |
| 7 | API technical knowledge | High | High | The team must research based on the supervisor's suggestion. |
| 8 | Framework technical knowledge | Medium | High | The team should take the time to research the framework. |
| **No** | **Requirement risks** | | | |
| 11 | Not understanding requirements | High | Low | Develop a prototype and review this with experts and the supervisors. |

## 2. Management Approach

The timeline of the projects is 14 weeks, but the requirements and the scope will be changed significantly based on the supervisors and the current background. After the discussion, our team decided to apply the scrum framework that is described below.

### 

### 

### 2.1 Project Process (Scrum)

This project is developed using the Scrum model - part of an agile framework for Software development projects. Our team chose the Scrum model because of the following reasons:

* Our team only has 4 members, and tasks assigned vertically, do all steps from design, coding, testing, and implementation. The scrum model is the most suitable model for small and medium projects like this.
* In the project, there are many new technologies that need to be learned. With the Scrum model, the team can learn and develop in parallel to meet deadlines.
* Product owners can change requirements or extend the scope. The team will adapt to change better.

### 2.2 Quality Management

*[Provide the approach you would apply to improve the project quality, reach the project quality objectives. Some of the quality approach can include*

* *Defect Prevention*
* *Reviewing*
* *Unit Testing*
* *Integration Testing*
* *System Testing*

*]*

### 2.3 Training Plan

| **Training Area** | **Participants** | **When, Duration** | **Waiver Criteria** |
| --- | --- | --- | --- |
| .NET | Duy, Thang, Hiep | 5/9, 1 week | Mandatory |
| Git, Github | All | 5/9, 1 week | Mandatory |

## 3. Project Deliverables

*[Given the main project deliverables. Those can be internal and/or external deliverables. Students can prepare master schedule like the table format as below or in the more detailed structure as the sample in the attached sample file -* ***Report2\_Sample High Level Project Schedule.pdf****]*

| **#** | **Deliverable** | **Due Date** | **Notes** |
| --- | --- | --- | --- |
| 1 | … | dd/MM/yyyy | … |

## 4. Responsibility Assignments

| **Role** | **Responsibility** |
| --- | --- |
| Product Owner (PO) | - The person has the power to decide the product's features, decide the order, priority, and decide which should be at the top of the list for the next Sprint.  - When the team has problems with project requirements, program flow, techniques, but cannot reach a final decision, the PO will be the one making that decision.  - PO is the person who answers the team's questions about the product. |
| Scrum master | - Support for the Product Owner and team.  - The scrum master helps the team solve obstacles affecting productivity, team goals, process understanding thoroughly.  - Ensures that the rules set by the team are followed. |
| Development team | - The remaining members of the project.  - Includes all the expertise necessary to deliver the potentially shippable product each Sprint.  - Requires the ability to organise, self-manage work according to commitments, and responsibility for completing the work. |

## 5. Project Communications

| **Communication Item** | **Who/ Target** | **Purpose** | **When, Frequency** | **Type, Tool, Method(s)** |
| --- | --- | --- | --- | --- |
| Room 107 in FPT University | Supervisors | Clarify overview requirements for enforcement | Thursday per week | Meeting |

## 6. Configuration Management

### 6.1 Document Management

We use google drive as the storage and version control under the supervisors control.

### 6.2 Source Code Management

Our team uses GitHub to manage the source code version and combine it with slack to get the notification from git control.

### 6.3 Tools & Infrastructures

| **Category** | **Tools / Infrastructure** |
| --- | --- |
| **Technology** | ReactJS (FrontEnd), C#/.NET (BackEnd) |
| **Database** | MSSQL Server |
| **IDEs/Editors** | Visual Studio Code, Visual Studio |
| **Diagramming** | StarUML, DrawIO |
| **Documentation** | Ms Office, Google Docs/Sheets/Slides |
| **Version Control** | GitHub (Source Codes), Google Drive (Documents) |
| **Deployment server** |  |
| **Project management** | Jira (Schedule), Jira (Tasks, Defects) |