Fpt University

TRƯỜNG ĐẠI HỌC FPT

CAPSTONE PROJECT REPORT

Report 2 – Project Management Plan

– Danang, September 2022 –

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I. Record of Changes

Date	A*M,D	In charge	Change Description
13/09/2022	A*	ThanhNPN	Create new

*A - Added M - Modified D - Deleted

II. Project Management Plan

1. Overview

1.1 Scope & Estimation

- Details of the group's WBS & Estimation file by accessing the link: Work Breakdown Structure

1.2 Project Objectives

- Learn new technologies: NodeJS, ReactJS, Figma, CI/CD, microservices,...
- Build communication and time management skills when working in groups.
- Learn to manage source code with Git, and Github.
- Drawing lessons, and experiences and fostering knowledge about the process of building and managing a project, creating a good foundation for work after graduation
- Allocated effort (person - day): 2000 hours

#	Testing Stage	No. of Defects	% of Defect	Notes
1	Requirement	5	25	In the process of building a website, not fully understanding the requirements makes the development sometimes go wrong and make mistakes.
2	Design	2	10	Developing a website in a short time, so it is difficult to have the most perfect interface in terms of overview, colors, fonts, ...
3	Code	3	15	There are many techniques that have never been encountered and draw Gantt chart takes up most of the project time.
4	Review	5	25	Review tasks and functions to make sure the code is clear and working correctly.
5	Test	5	25	Too many cases occurred, taking up a lot of the project's time to execute the test.

Table 1: Project Objectives

1.3 Project Risks

#	Risk Description	Impact	Possibility	Response Plans
1	Lack of clarity in Project purpose and need	High	High	Be careful in defining Project purpose, need from the beginning
2	Scope of project	High	High	Review of scope and revision along the timeline of the project. Define prioritization of topics done. Ability to trim project as progression due to open nature of the project.
3	Poor Project schedule	Medium	Medium	Define Project schedule clearly and everyone must follow
4	Spending time on project is interrupted by member's work	Medium	Medium	Cut low-priority tasks and focus on high priority tasks
5	Technical difficulties	High	High	Prepare deep knowledge, attend training meeting, members are encouraged to share knowledge about the technical, help others

Table 2: Project Risks

2. Management Approach

2.1 Project Process

In this project, our team agreed to use the Agile methodology to approach the project.

The reasons why we chose this approach:

- More adaptability (and less risky): This means that the project can respond to change, even at the last minute, and can adapt to it without much disruption. Project deliverables are not pre-set, so the team can easily reevaluate the plan and adjust priorities to align with updated goals. Teams can consistently deliver and manage change requests and ideas efficiently.

- Continuous improvement: Agile encourages team members to work, exchange, and provide their feedback so that different stages of the end product can be tested and improved as many times as needed.

- Faster handovers: Breaking projects down allows the team to test pieces, and identify and fix issues faster, resulting in more consistent and successful handovers.

- Happier teams: Agile groups are more autonomous. That is, they are often given the freedom to propose new ideas, innovate, and problem-solve that may be lacking in traditional project management methodologies.

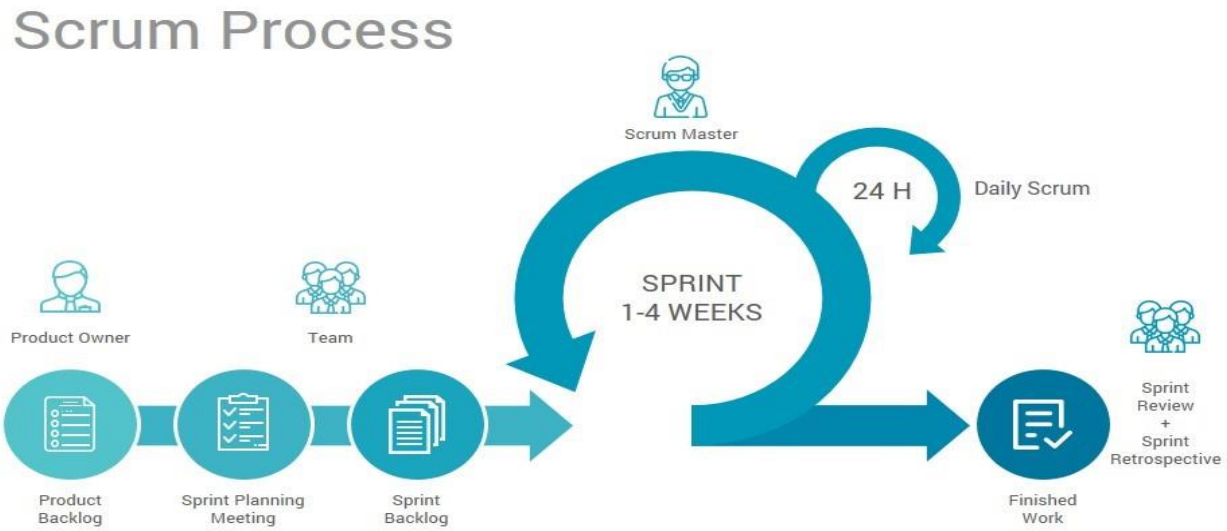

Figure 1: Project Process

2.2 Quality Management

The PDCA cycle is a cycle of continuous improvement in the quality management system. So with the expectation of ensuring the best possible project quality outcome, we decided to use the PDCA cycle for project quality management.

The PDCA cycle includes Plan - Do - Check - Act. In there :

- Plan: Set up a plan.
- Do: Implementation of the established plan.
- Check: Evaluate actual implementation results.
- Act: Change, improve.

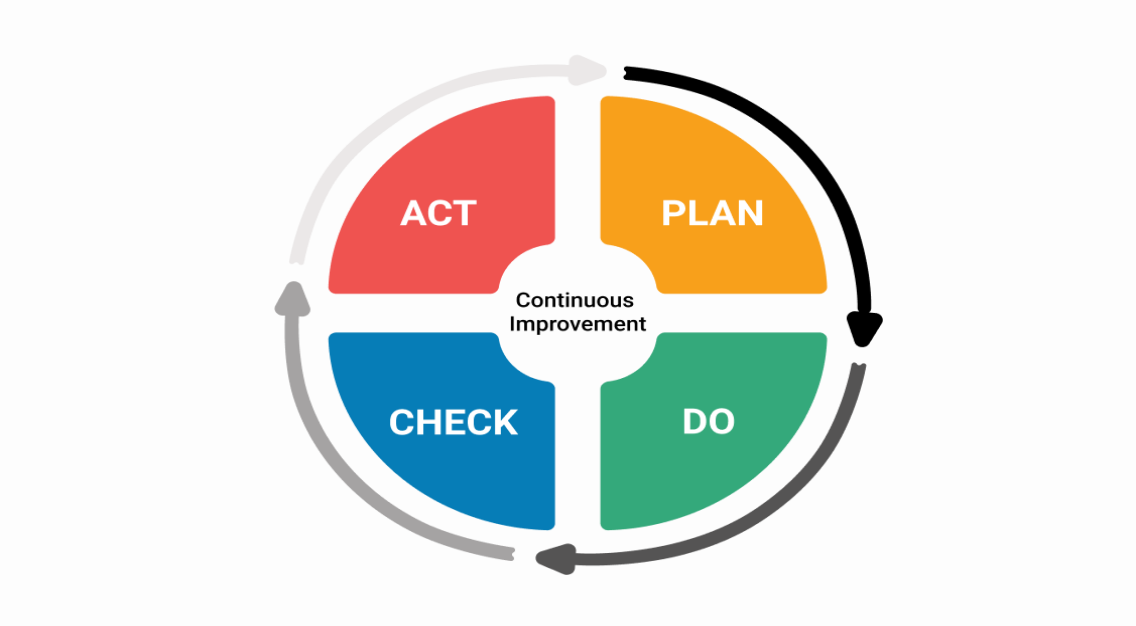

Figure 2: Quality Management

2.3 Training Plan

Training Area	Participants	When, Duration	Waiver Criteria
NodeJs	All members	21-08-2022, 3 weeks	Mandatory
ReactJS	All members	11-09-2022, 2 weeks	Mandatory
Git, Github	All members	22-09-2022, 3 days	Mandatory

Table 3: Tranning Plan

3. Project Deliverables

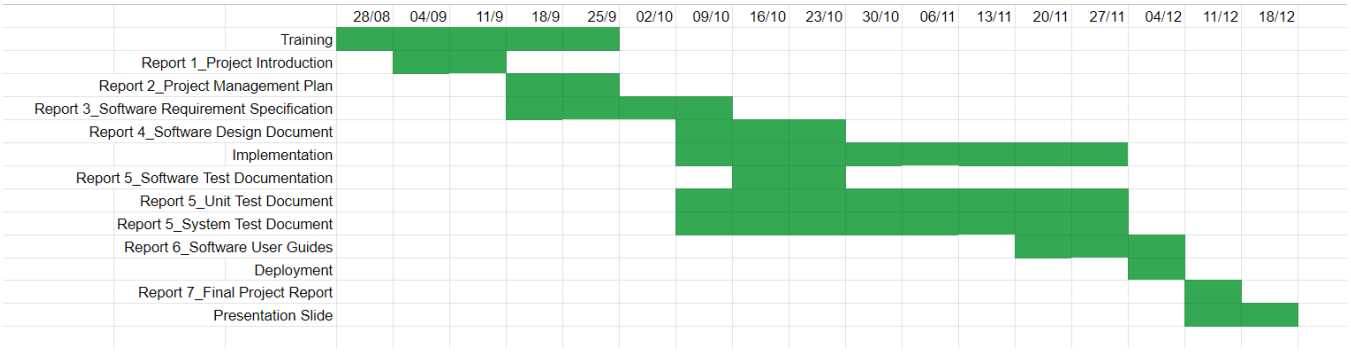

Figure 3: Project Deliverables

#	Deliverable	Due Date	Notes
1	Report1_Project Introduction	11-Sep-2022	
2	Report2_Project Management Plan	25-Sep-2022	
3	Report3_Software Requirement Specification	09-Oct-2022	
4	Report4_Software Design Document	23-Oct-2022	
5	Report5_Test Report	27-Nov-2022	
6	Report6_Software User Guides	04-Dec -202	
7	Report7_Final Project Report	11-Dec-2022	

Table 4: Project Deliverables

4. Responsibility Assignments

4.1 Team & Structures

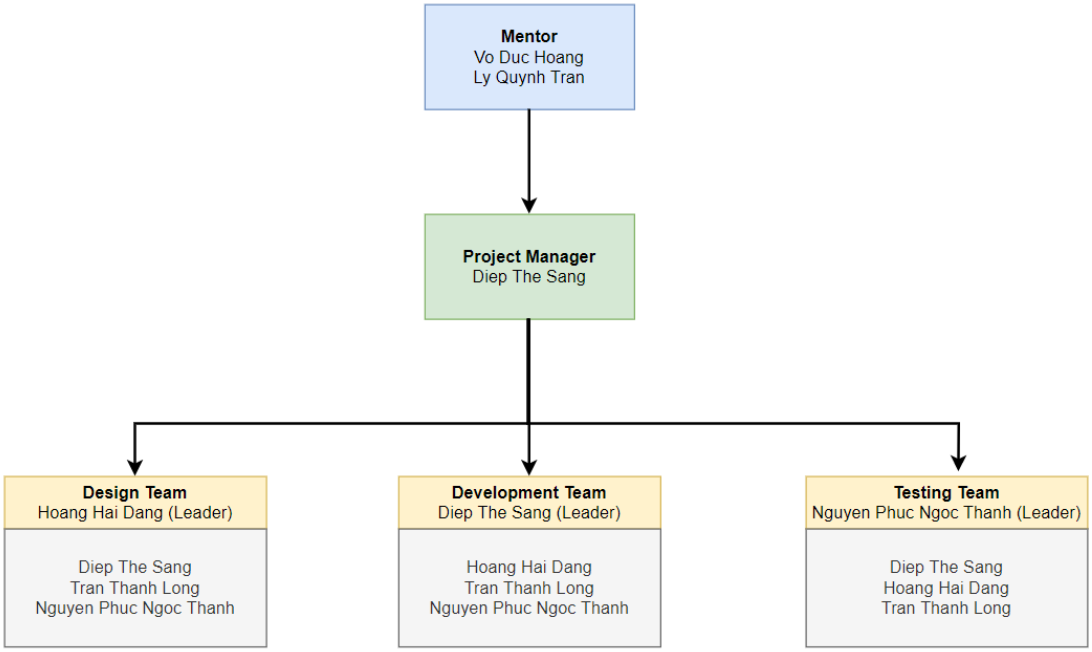

Figure 4: Project Organization

4.2 Responsibility Assignments

D~Do; R~Review; S~Support; I~Informed; <blank>- Omitted

Responsibility	SangDT	DangHH	ThanhNPN	LongTT
Project Planning & Tracking	D, R, I	S	S	S
Prepare Project Introduction Document	D, R	D	D, I	D
Prepare Project Management Plan	S, R	D	S, I	S
Prepare SRS Document	D, R	S	S, I	S
Prepare Use Case Specifications	D, R	D	D, I	D
Prepare Software Design Document	S, R	D	S, I	S
Coding Front end	D, R	D, R, I	D, R	D, R
Coding Back end	D, R, I	D, R	D, R	D, R
Prepare Software Test Documentation	S, R	S	S, I	D
Prepare Unit Test Document	D, R	D, R	D, R	D, R
Testing	D, R	D, R	D, R	D, R
Prepare Software User Guides	S, R	S	D, I	S
Deployment	D	R	R	R
Prepare Project Report	D	R	R	S
Prepare Presentation Slide	S, R	S	D	S

Table 5: Responsibility Assignments

5. Project Communications

Communication Item	Who/ Target	Purpose	When, Frequency	Type, Tool, Method(s)
Online Meeting	All Members	Tracking plan, planning task for the next sprint, review product	20h30 Monday	Google Meet
Online Meeting	All Members	Tracking plan, planning task for the next sprint, review product	20h30 Friday	Google Meet
Stand-up meeting	All Members	Tracking status, issue	15 minutes at 20h All day	Google Meet

Table 6: Project Communications

6. Configuration Management

6.1 Document Management

All documents will be organized and saved in Google Drive, which only members and supervisors of the group have permission to add or edit. In addition, we always prepare a backup when needed or the original is unfortunately deleted.

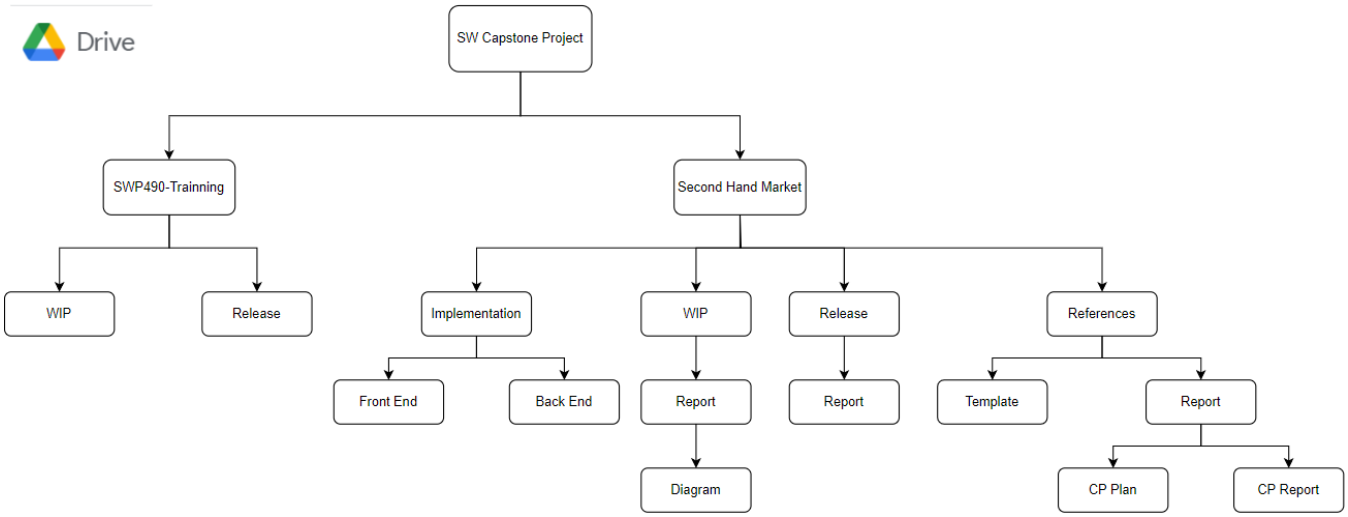

Figure 5: Document Management 1

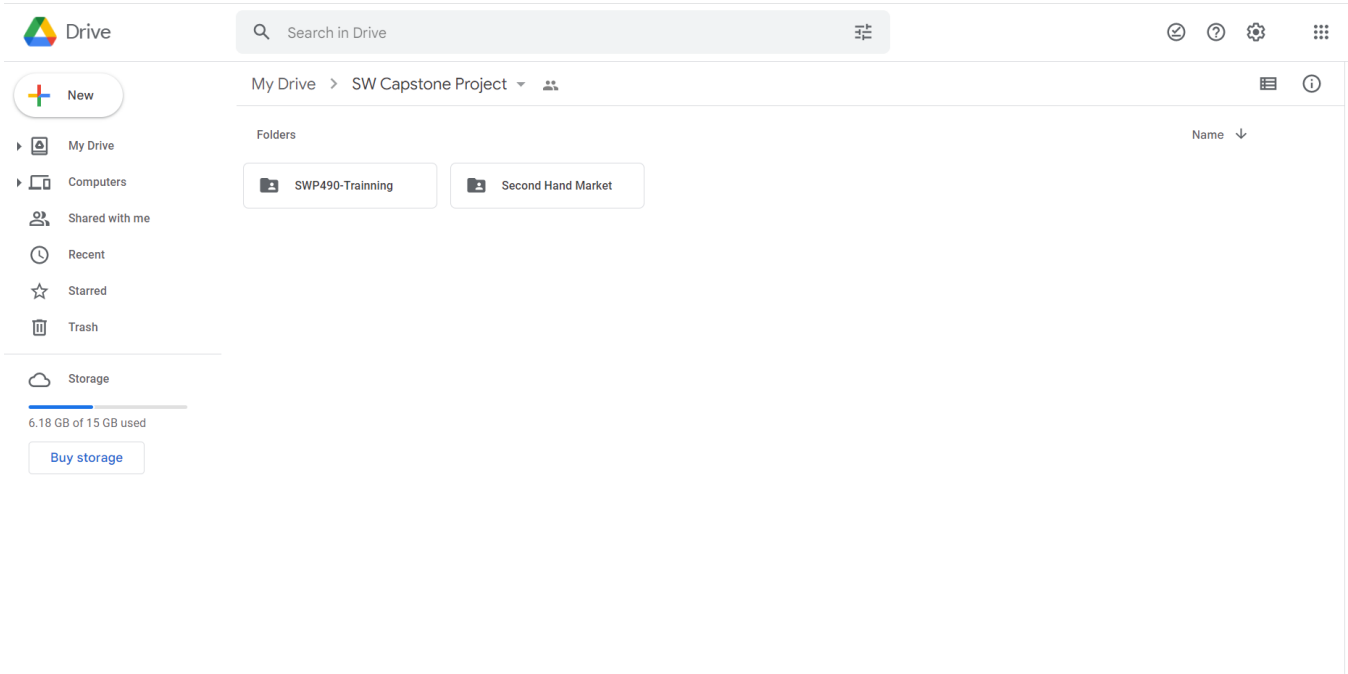

Figure 6: Document Management 2

Folder	Description
Second Hand Market	Store all documents of the Second Hand Market project.
WIP	Store documents are in progress.
Report	Store reports.
Diagram	Store diagrams.
Release	Store completed documents.
References	Store all resources used as references.
Template	Stores template of all documents.
SWP490-Training	Store all documents of the mock project.
Implementation	Store all documents about implementation.
Back End	Store all documents about back-end implementation.
Front End	Store all documents about front-end implementation.

Table 7: Document Management

6.2 Source Code Management

6.2.1. Convention

- All coding branches must be reviewed by leader before merging to default branch.
- There is only one person who can merge branches to default branch.
- All developers must implement unit test and review code before create merge request.

6.2.2. Management

- All source code will be stored on Github.
- Only team members can access the repository on Github.

6.3 Tools & Infrastructures

Category	Tools / Infrastructure
Development process	Agile methodology
Programming languages	Javascript
Framework/Library	ReactJS, Sequelize
Software architecture	MVC
Version control	Git, Github
IDEs/Editors	Visual Studio Code, Postman
UML tools	Draw.io, Visual Paradigm Online
Design UX/UI	Figma
Web server	NodeJs
DBMS	MySQL
Deployment server	Amazon Web Services
Project management tool	Google Sheets
Communication	Discord, Google Meet, Messenger, Gmail

Table 8: Tools & Infrastructures