



CAPSTONE PROJECT REPORT

Report 2 – Project Management Plan

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I. Record of Changes

Date	A* M, D	In charge	Change Description
22/5/2023	A	HungLM	Overview, Management Approach, Project deliverable
23/5/2023	A	HungLM	Project Organization, Project Communications, Configuration Management
24/5/2023	M	QuocTK	Overview, Project Organization
24/5/2023	M	HungLM	Configuration Management
25/5/2023	M	HungLM	Overview
26/5/2023	M	HungLM	Overview
28/5/2023	M	HungLM	Management Approach

*A - Added M - Modified D - Deleted

II. Project Management Plan

1. Overview

1.1 Scope & Estimation

#	WBS Item	Complexity	Est. Effort (man-days)
1	<i>Authentication and Authorization</i>		15
1.1	(Guest)Register	Simple	2
1.2	Forgot password	Simple	2
1.3	Change password	Simple	2
1.4	Login with email & password	Complex	5
1.5	Logout	Simple	2
1.6	Email verification	Medium	2
2	<i>Category Management</i>		12
2.1	Create category	Simple	3
2.2	View category	Simple	3
2.3	Update category	Simple	3
2.4	Delete category	Simple	3
3	<i>SubCategory Management</i>		11
3.1	Create subcategory	Simple	3
3.2	View subcategory	Simple	2
3.3	Update subcategory	Simple	3
3.4	Delete category	Simple	3
4	<i>Product Management</i>		42
4.1	Create product	Complex	12
4.2	View product	Simple	4
4.3	Product Details	Simple	4
4.4	Update product	Complex	12
4.5	Dashboard	Medium	10
5	<i>Manage order</i>		36
5.1	Create order	Complex	12
5.2	View order	Medium	7

5.3	Update order status	Complex	10
5.4	View order history	Complex	7
6	<i>Manage purchase order</i>		36
6.1	View purchase order	Medium	5
6.2	Create purchase order	Complex	12
6.3	Update purchase status	Medium	9
6.4	Edit purchase order	Complex	10
7	<i>(Customer)Buy products</i>		30
7.1	Search, Sort and filter products	Medium	8
7.2	View product details	Medium	5
7.3	Add product to cart	Complex	10
7.4	Create a order	Medium	7
8	<i>User management</i>		16
8.1	View profile	Medium	5
8.2	Update profile	Medium	5
8.3	(Customer)View customer order	Medium	3
8.4	(Customer)Update order status	Medium	3
9	<i>Manage author</i>		6
9.1	View author	Simple	2
9.2	Create author	Simple	2
9.3	Update author	Simple	2
10	<i>Manager Staff Account</i>		17
10.1	Create staff	Medium	4
10.2	Edit staff	Medium	3
10.3	View staff	Simple	3
10.4	Update staff	Medium	7
11	<i>Manager supplier</i>		17
11.1	Create supplier	Medium	6
11.2	Edit supplier	Medium	7
11.3	View supplier	Simple	4
12	<i>Customer management</i>		22
12.1	View list customer	Medium	5

12.2	View detail customer	Medium	4
12.3	Update customer	Medium	4
12.4	Delete customer 's shipping information	Medium	3
12.5	Add customer 's shipping information	Medium	3
12.6	Update customer 's shipping information	Medium	3
13	<i>Shipping information management</i>		9
13.1	View list shipping information	Medium	3
13.2	Create shipping information	Medium	2
13.3	Update shipping information	Medium	2
13.4	Delete shipping information	Medium	2
14	<i>(Customer)Manage Order</i>		6
14.1	View order list	Medium	2
14.2	View order details	Medium	2
14.3	Update order status	Medium	2

Total Estimated Effort (man-days) 275

1.2 Project Objectives

- Objectives:

- The project must be completed before 20th August 2023
- All team members must be informed about all the information of schedule, documentations or tasks.
- Team members must follow tasks assigned to them by leaders.

Table 1.2.1: Project objectives

#	Testing Stage	Test Coverage	No. of Defects	% of Defect	Notes
1	Reviewing	100%	20	45%	Before closing the issue, the tester and the leader will review
2	Unit Test	100%	9	20.5%	Developer creates and tests
3	Integration Test	100%	9	20.5%	The tester creates and test
4	System Test	100%	3	7%	The tester creates and tests
5	Acceptance Test	100%	3	7%	Customer verifies system

1.3 Project Risks

#	Risk Description	Impact	Possibility	Response Plans
1	Incorrect estimates break the project plan	High	High	<ul style="list-style-type: none">• Create a schedule carefully• Start early• Add backup time (or backup schedule)• Focus on close targets
2	Source Code Conflicted	Medium	Medium	<ul style="list-style-type: none">• Test carefully before push. Back-up code regularly
3	Team members do not clearly understand the requirements	High	Medium	<ul style="list-style-type: none">• BA hold meetings to clarify their requirements
4	Internet connection issue in Capstone project defence	High	Medium	<ul style="list-style-type: none">• Prepare personal wireless internet connection• Record demo video before the Capstone project defence
5	Server failure	High	Medium	<ul style="list-style-type: none">• Use paid and certified servers• Use a different server

2. Management Approach

2.1 Project Process

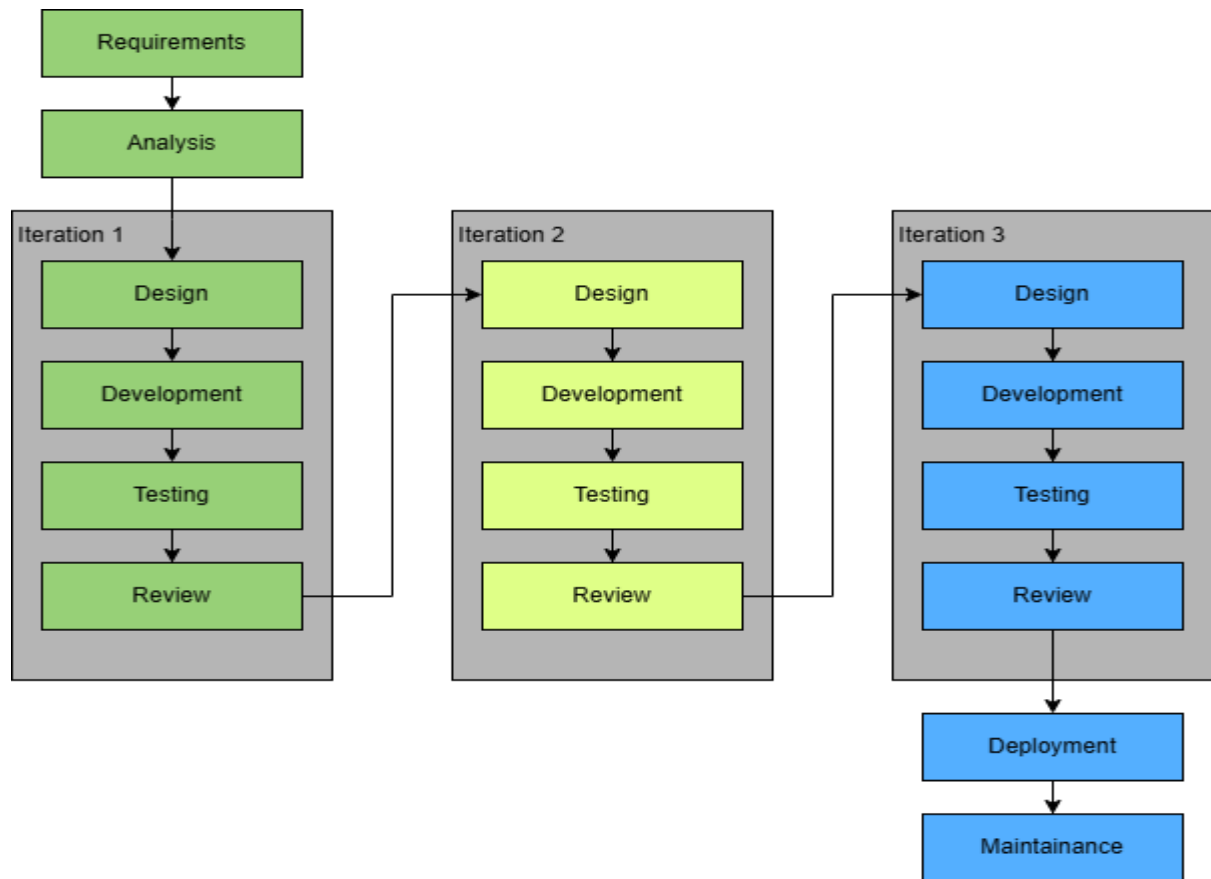


Figure 2.1.1: Iterative Software Process Model

An iterative model involves a repetitive cycle from the start to completing the full specification. This process is then repeated, generating a new version of the software at the end of each iteration of the model. Instead of developing software from a complete specification and then starting execution, this model allows for gradual refinement to reach the final requirements. It has these advantages:

- Builds and refines product components step by step.
- Documentation time will be lesser compared to design time.
- Certain working features can be rapidly developed and incorporated early in the lifecycle.
- Less costly when scope or requirements change.
- Easy risk management.
- Throughout the lifecycle, software is produced early to enable customer evaluation and feedback.

2.2 Quality Management

2.2.1 Code Review

- Any contribution of team members will be reviewed by team leader before merging into main branch.
- If team leader finds any defect or ambiguity in code or document, he will discuss directly with the author to clarify problems and give instructions on how to fix them.
- Team leader also checks if the added code follows code convention. If not, the executor will be assigned to fix it.

2.2.2 Unit Testing

- As each team member will be not only a developer but also a tester, each person will be testing for what part they code.
- Any defects found will be recorded on GitHub Issues as a bug tracking software, with details and images for evidence.
- That team member will then be responsible for repairing those defects.

2.2.3 Integration Testing

- All Integration test cases will be recorded into a spreadsheet, divided by feature. The team member who developed the feature will perform an Integration test for that feature.
- Any defects found will also be recorded on GitHub Issues and will be fixed by that team member.

2.2.4 System Testing

- In the team meeting at the end of each Iteration, all team members will discuss writing some system test cases that can cover all features.
- Any defects found will also be recorded on GitHub Issues and will be fixed by the team member who is responsible for the feature to which it belongs

2.2.5 Acceptance Testing

- Reasonable test fields should fit well with the system and architectural design according to user specification requirements. The person who commits the bug found must have a solution to the bug as quickly as possible.

2.3 Training Plan

Training Area	Participants	Duration	Waiver Criteria
Unit Test	TungLM, QuocTK, HungLM, ChinhK	30/5/2023 - 10/6/2023	Mandatory
Git, Github	All Team member	30/5/2023 - 10/6/2023	Mandatory

Asp.Net	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory
Coding Convention	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory
Azure	QuocTK, HungLM, ChinhLK	30/5/2023 - 10/6/2023	Mandatory

3. Project deliverable

#	Deliverable	Start Date	End Date	Note
1	Project Idea	10/5/2023	14/05/2023	
2	Report 1 – Project Introduction	15/05/2023	21/05/2023	<ul style="list-style-type: none"> • Product background • Existing systems Business • opportunity • Product vision • Project scope & limitations
3	Report 2 – Project Management Plan	22/05/2023	28/05/2023	<ul style="list-style-type: none"> • WBS Project process • Plan and schedule Project organisation • Project communication • Configuration management
4	Report 3 – SRS v1	29/05/2023	07/06/2023	<ul style="list-style-type: none"> • Business rules Use case diagram • Use case Functional requirements • Non-functional requirements
5	Report 4 – Software Design v1	02/06/2023	10/06/2023	<ul style="list-style-type: none"> • System architecture • Back-end • Database design
6	Report 5 - Test Document v1	06/06/2023	10/06/2023	<ul style="list-style-type: none"> • Create test case for iteration 1

7	Code & Implement Iteration 1, UT, IT (Authen & Manage Products & Customer Shopping)	12/06/2023	18/06/2023	<ul style="list-style-type: none"> • Detail design Code & Unit test • Integration & System test cases
	Report 3 – SRS v2	19/06/2023	29/06/2023	<ul style="list-style-type: none"> • Business rules Use case diagram • Use case Functional • Requirements Non-functional • requirements
	Report 4 – Software Design v2	23/06/2023	30/06/2023	<ul style="list-style-type: none"> • System architecture • Database design
	Report 5 - Test Document v2	25/06/2023	30/06/2023	<ul style="list-style-type: none"> • Create test case for iteration 2
	Code & Implement Iteration 2 (Import/export products)	01/07/2023	9/07/2023	<ul style="list-style-type: none"> • Detail design Code & Unit test • Integration & System test cases
	Report 3 – SRS v3	10/07/2023	18/07/2023	<ul style="list-style-type: none"> • Business rules Use case diagram • Use case Functional • Requirements Non-functional • requirements
	Report 4 – Software Design v3	13/07/2023	19/07/2023	<ul style="list-style-type: none"> • System Architecture • Back-end Architecture • Front-end Architecture • Database design
	Report 5 - Test Document v3	15/07/2023	20/07/2023	<ul style="list-style-type: none"> • Create test case for iteration • Execute test iteration 3
	Code & Implement Iteration 3 (User Management)	21/07/2023	06/08/2023	<ul style="list-style-type: none"> • Detail design Code & Unit test • Integration & System test cases
	Report 6 - Software User Guides	07/08/2023	13/08/2023	<ul style="list-style-type: none"> • Deliverable package • Installation guides • User manual
	Final Code, Test, Docs and Report 7	14/08/2023	20/08/2023	<ul style="list-style-type: none"> • All reports • Presentation slide • Source code

4. Project Organization

4.1 Team & Structure

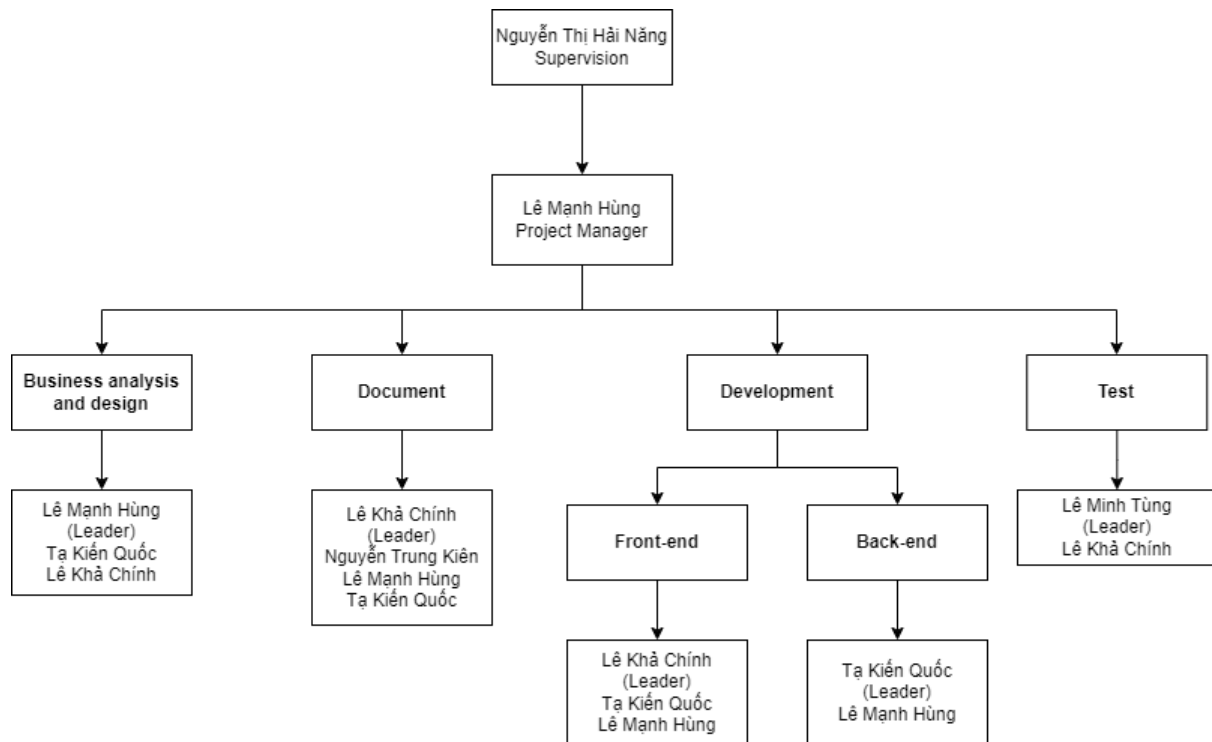


Figure 4.1.1: Team & Structure

4.2 Responsibility Assignments

Role	Responsibility
Project Manager	<ul style="list-style-type: none">+ Responsible for planning, creating schedules, coordinating communication of team members.+ Monitor the progress of the project and keep the project in the direct target.
Business Analysis and Design	<ul style="list-style-type: none">+ Analyse project requirement+ Define project scope, create SRS document+ Review SRS created by analysis members
Document	<ul style="list-style-type: none">+ Define requirements: functional and non-functional requirements+ Keep track and contribute to SRS document+ Define detailed flow of features+ Participating in research into other systems
Frontend Developer	<ul style="list-style-type: none">+ Define screens, flow between screens+ Design UI, UX for application+ Initial and develop frontend+ Review code for each other
Backend Developer	<ul style="list-style-type: none">+ Design database+ Initial and develop backend server+ Review code for each other+ Fix bugs+ Deploy code to server

Test	+ Responsible for test execution, including test set-up and test run, evaluation of test run, error recovery, and test results recording.
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4.3 Responsibility Assignments

D~Do; R~Review; S~Support; I~Informed

Table 4.3.1. Responsibility Assignments

Responsibility	HungLM	ChinhLK	QuocTK	TungLM	KienNT
Project Planning & Tracking	D	I	R	I	I
Prepare Project Introduction Document	D	R	S	I	I
Gathering Requirements	D	S	S	S	I
Prepare SRS Document	R	D	R	I	S
Prepare SDD Document	R	S	S	I	S
Prepare Test Document	I	S	I	D	I
Implement Front-end	S	D	S	I	I
Implement Back-end	D	S	D	I	I
Execute Test	S	D	I	S	I
Prepare Deployment Environment	S	D	S	I	I

Prepare Presentation	D	D	D	D	D
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5. Project Communications

Communication Item	Who/ Target	Purpose	When, Frequency	Type, Tool, Method(s)
Weekly meeting with supervisor	All members, supervisor	Report project status, discuss problems	Weekly	GoogleMeet, Offline AL-R201
Daily discussion with team member	All members	Discuss problems and report progress	Daily	Google meet, Facebook , Messenger, Zalo
Urgent meeting	All members	Fix bugs and support about technical issues	When any member has issues	GoogleMeet, Messenger

6. Configuration Management

6.1 Document Management

- Documents are stored on Google Drive

6.2 Source Code Management

- We manage our source code through GitHub

6.3 Tools & Infrastructures

Category	Tools / Infrastructure
Technology	ASP.NET CORE, Bootstrap 5.0
Database	Microsoft SQL Server
IDEs/Editors	Visual Studio, Visual Studio Code
Diagramming	StarUML, DrawIO
Documentation	Google Docs/Sheets/Slides
Version Control	GitHub (Source Codes), Google Drive (Documents)
Deployment server	Azure
Project management	Google Drive