Fpt University

TRƯỜNG ĐẠI HỌC FPT

CAPSTONE PROJECT REPORT

Report 2 – Project Management Plan

- Hanoi, July 02, 2023 –

Table of Contents

I. Project Report

1. Status Report

#	Work Item	Status	Notes (Work Item in Details)
1	Overview	Completed	
2	Management Approach	Completed	
3	Master Schedule	Completed	
4	Project Organization	Completed	
5	Project Communication	Completed	
6	Configuration Management	Completed	

2. Team Involvements

#	Task	Member	Notes (Task Details, etc.)
1	Overview	KhaNM	
2	Management Approach	HungNM	
3	Master Schedule	ThaiLT	
4	Project Organization	DungNM	
5	Project Communication	NguyenNK	
6	Configuration Management	NguyenNK	

3. Issues/Suggestions

#	Issue	Status	Notes (Solution, Suggestion, etc.)
1		Pending	
2		In Progress	
3		Completed	

II. Project Management Plan

1. Overview

1.1 WBS & Estimation

WBS ID	WBS Item	Complexity	Est. Effort (man-days)
1	**Project Initiating**		**15**
1.1	Determine project scope	Medium	3
1.2	Select project manager	Simple	0.5
1.3	Kick-off meeting	Simple	1
1.4	List up requirements	Complex	5
1.5	Create report 1 (Project Introduction)	Medium	5
1.6	Finish project initiating	Simple	0.5
2	**Project Planning**		**25**
2.1	Create report 2 (Project Management Plan)	Complex	5
2.2	Training technical	Complex	15
2.3	Meet instructor	Simple	1
2.4	Team meeting	Simple	3
2.5	Finish Project planning	Simple	1
3	**Project Executing**		**304**
3.1	**Iteration 1**		**91**
3.1.1	**Requirement & Design**		**35**
3.1.1.1	Define requirements	Complex	7.5
3.1.1.2	Analysis requirements	Complex	7.5
3.1.1.3	Define main use cases	Medium	5
3.1.1.4	Define & analyze the main business flow	Complex	10
3.1.1.5	Design mockup screen	Medium	5
3.1.2	**Code & Implementation**		**19**
3.1.2.1	**Back-end**		**14**
3.1.2.1.1	Configuration & Setup environment	Simple	4
3.1.2.1.2	Create base project	Medium	5
3.1.2.2	**Front-end**		**21**
3.1.2.2.1	Configuration & Setup environment	Medium	5
3.1.2.2.2	Create base project	Medium	5
3.1.2.2.3	**Admin screen**		**11**
3.1.2.2.3.1	Dashboard	Medium	3
3.1.2.2.3.2	Manage template card	Simple	1
3.1.2.2.3.3	Manage user	Simple	1
3.1.2.2.3.4	Manage report	Simple	1
3.1.2.2.3.5	Manage finance	Simple	1
3.1.2.2.3.6	Manage news	Simple	1
3.1.2.2.3.7	Manage discount	Simple	1
3.1.2.2.3.8	Manage premium	Simple	1
3.1.2.2.3.9	Login	Simple	1
3.1.3	**Document**		**10**
3.1.3.1	Create report 3 (SRS)	Medium	10

3.1.4	**System Test**		
3.1.4.1	Create Test case	Medium	10
3.1.5	**Summary & Evaluation Iteration 1**	**Simple**	**1**
3.2	**Iteration 2**		**137**
3.2.1	**Requirement & Design**		**50**
3.2.1.1	Define & analyze requirement again	Medium	5
3.2.1.2	Update requirement	Medium	5
3.2.1.3	Design system architecture	Complex	10
3.2.1.4	Design back-end architecture	Complex	10
3.2.1.5	Design front-end architecture	Complex	10
3.2.1.6	Design database	Complex	10
3.2.2	**Code & Implementation**		**50**
3.2.2.1	**Back-end**		**6**
3.2.2.2	**Front-end**		**44**
3.2.2.2.1	**User Screen**		**44**
3.2.2.2.1.1	Logout	Simple	2
3.2.2.2.1.2	Sign up	Simple	2
3.2.2.2.1.3	Change password	Medium	3
3.2.2.2.1.4	Forgot password	Medium	3
3.2.2.2.1.5	Manage card	Medium	3
3.2.2.2.1.6	Manage profile	Medium	3
3.2.2.2.1.7	Manage list	Medium	3
3.2.2.2.1.8	Manage group	Medium	3
3.2.2.2.1.9	View theme	Medium	3
3.2.2.2.1.10	Scan card	Medium	3
3.2.2.2.1.11	Share card	Medium	3
3.2.2.2.1.12	Manage history	Medium	3
3.2.2.2.1.13	Send report	Simple	2
3.2.2.2.1.14	Buy Theme	Medium	3
3.2.2.2.1.15	Upgrade Premium	Medium	3
3.2.2.2.1.16	Change Language	Simple	2
3.2.3	**Testing**		**26**
3.2.3.1	Create test plan	Simple	1
3.2.3.2	Create unit test case	Medium	5
3.2.3.3	Create test case iteration 2	Medium	5
3.2.3.4	Test iteration 2	Simple	5
3.2.3.5	Verify test iteration 2	Simple	5
3.2.3.6	Fix bug iteration 2	Medium	5
3.2.4	**Document**		**10**
3.2.4.1	Create report 4 (Software Design)	Medium	10
3.2.5	**Summary & Evaluation Iteration 2**	**Simple**	**1**
3.3	**Iteration 3**		**70**
3.3.1	**Requirement & Design**		**15**
3.3.1.1	Update requirement	Medium	5
3.3.1.2	Update use case	Medium	5

3.3.1.3	Update database design	Medium	5
3.3.2	**Code & Implementation**		**25**
3.3.2.1	**Back-end**		**5**
3.3.2.1.1			**5**
3.3.2.2	**Front-end**		**10**
3.3.2.2.1	**Payment screen**		**10**
3.3.2.2.1.1	Payment screen	Complex	10
3.3.2.3	**Deployment**		**10**
3.3.2.3.1	Deploy	Complex	10
3.3.3	**Testing**		**20**
3.3.3.1	Create test case iteration 3	Medium	5
3.3.3.2	Test iteration 3	Simple	5
3.3.3.3	Verify test iteration 3	Simple	5
3.3.3.4	Fix bug iteration 3	Medium	5
3.3.4	**Document**		**10**
3.3.4.1	Create report 5 (Test Document)	Medium	10
4	**Project Monitoring and Controlling**		**25**
4.1	Create report 6 (Software User Guides)	Complex	5
4.2	Perform project communication	Medium	5
4.3	Monitor and control scope	Medium	5
4.4	Monitor and control risk	Medium	5
4.5	Tracking progress	Medium	5
5	**Project Closing**		**10**
5.1	Create final report	Medium	2
5.2	Team meeting	Simple	2
5.3	UAT	Complex	5
5.4	Close Project	Medium	1
	Total Estimated Effort (man-days)		**403**

1.2 Project Objectives

- Timeliness: The project must be finished before August 18, 2023
- Allocated Effort (man-days): 403
- Defect Distribution:

#	Quantity Stage	No. of Defects	% of Defects	Notes
1	Reviewing			Technical leader reviews code of members before merging
2	Unit Test			Developer creates and tests
3	Integration Test			The tester creates and tests
4	System Test			The tester creates and tests
5	User Acceptance Test			Customer verifies system
	Total		**100%**	

1.3 Project Risks

#	Risk Description	Impact	Possibility	Prevention	Correction
1	Requirement changes.	Medium	Medium	All members discuss carefully the project requirements before starting implementation.	Ensure resources are appropriately allocated to accommodate new requirements.
2	Members have argued, conflicted with others, leads to stressful working environments.	Medium	High	Define clear tasks for each member and agree on ideas before starting work.	All members discuss to resolve the conflict. Voting.
3	Illness or absence of team members so that they cannot complete tasks under deadline.	Low	Medium	Members have to notify the team about illness or absence period and the plan of how to keep up with the work process.	Ensure that the absence of a member won't affect others and always have plans to deal with this problem.
4	Members lack the knowledge and skills to complete a particular task.	High	Medium	Training all members before starting the project.	Members inform about their lack of skills, other team member's support.
5	The library used in the project is no longer supported	Low	Low	Choose a reputable library with active maintenance on GitHub.	Choose alternative libraries or code.
6	Internet connection is down and team members cannot submit work or merge code.	Low	Medium	All developers have to set up the isolated development environment and have an offline copy of the documentation.	Use alternative ways to connect to the internet such as 3G, 4G.

2. Management Approach

2.1 Project Process

After researching the software development model carefully, the project will use the Iterative and Incremental Software Process Model. In an Iterative & Incremental model, initially, a partial implementation of a total system is constructed so that it will be in a deliverable state. The Iterative & Incremental model is mostly used when the scope of the project is big, the major requirements are defined clearly, some more details will be added later in software development. By using this software process model, we break down the developing system task into a series of smaller tasks which will be completed separately, allowing us to take advantage of what was learned during the development of earlier parts of the system. The reasons for the project to choose this model are:

- You can develop some main functions that prioritize requirements first.
- Requirements changes can be easily accommodated.
- Testing and debugging during smaller iteration is easy.
- Easier to manage risk easier because risk segments are identified and dealt with during its iteration.
- Customers can provide feedback to each product increment, thus avoiding surprises at the end of development.
- Customers get important functionality early.

2.2 Quality Management

2.2.1 Defect Prevention:

- If any defect is found, the related person must be notified immediately at that time.

- Defects must be carefully evaluated such as "How bad is the defect and can it damage the system?", "How long is the time to fix that defect?".
- The deadline for fixing the defect must be specified clearly.
- There is always a plan to prepare for what could happen at any time.

2.2.2 Reviewing:

- The curator must be honest and not biased towards any of the project members. If there is an error, the person must immediately notify the person responsible for the defect.
- Defects should be recorded on the Bug Tracking software with details such as priority.
- The person responsible for defects found must-have solutions to fix the defect as quickly as possible.

2.2.3 Unit Testing:

- The curator must prepare the test cases carefully and accurately and must not ignore any cases. Test cases should be appropriate for the functionality of the system.
- Defects should be recorded on the Bug Tracking software with details such as priority.
- The person responsible for defects found must-have solutions to fix the defect as quickly as possible.

2.2.4 Integration Testing:

- The curator must prepare the test cases carefully and accurately and must not ignore any cases. Test cases should be appropriate for the functionality of the system.
- Defects should be recorded on the Bug Tracking software with details such as priority.
- The person responsible for defects found must-have solutions to fix the defect as quickly as possible.
- Internal modules within the system work smoothly.

2.2.5 System Testing:

- The curator must prepare test cases carefully and accurately. The test cases must match well with the system and system and architecture design.
- Defects should be recorded on the Bug Tracking software with details such as priority.
- The person responsible for defects found must-have solutions to fix the defect as quickly as possible.
- System testing test cases cover the entire system functionality and the communication under development with external systems.

2.2.6 Acceptance Testing:

- The curator must prepare test cases carefully and accurately. The test cases must match well with the system and system and architecture design.
- Defects should be recorded on the Bug Tracking software with details such as priority.
- The person responsible for defects found must-have solutions to fix the defect as quickly as possible.

The test should cover non-functional issues such as load and performance defects.

2.3 Training Plan

Training Area	Participants	When Duration	Waiver Criteria
SpringBoot, Thymeleaf	All team members	08/05/2023- 13/05/2023	Mandatory
Html, Css , JavaScrip	All team members	13/05/2023- 19/05/2023	Mandatory
Coding Convention & Bug Logging Convention	All team members	20/05/2023- 01/06/2023	Mandatory
Github	All team members	08/05/2023- 10/05/2023	Mandatory

a3. Master Schedule

#	Deliverable	Due Date	Deliverable Scope
1	Project Idea	08/05/2023	
2	Report 1 – Project Introduction	13/05/2023	Product Background, Existing Systems, Business Opportunity, Product Vision, Project Scope & Limitations
3	Report 2 – Project Management Plan	03/06/2023	WBS, Project Process, Plan and Schedule, Project Organization, Project Communication, and Configuration Management
4	Report 3 – SRS	03/06/2023	Business Rules, Use Case Diagram & Use Case Description, Functional Requirements, and Non-Functional Requirements
5	Report 4 – Software Design	03/06/2023	System Architecture, Back-end Architecture, Front-end and Architecture Database design
6	Code & Implement Iteration 1	13/06/2023	Detailed Design Code & Unit test Integration & System test cases
7	Code & Implement Iteration 2	18/06/2023	Detailed Design Code & Unit test Integration & System test cases
8	Report 5 – Test Document	23/06/2023	Test Model, Test Plan, Test Cases, and Test Reports
9	Report 6 – Software Guides	28/06/2023	Deliverable Package Installation Guides User Manual
10	Code & Implement Iteration 3	15/07/2023	Detailed Design Code & Unit test Integration & System test cases
11	Final Code and Report	23/07/2023	Final Codes & documents, User manual

4. Project Organization

4.1 Team & Structures

4.2 Roles & Responsibilities

Role	Responsibility
Project Manager	• Planning, developing schedules, coordinating communication, responsible for keeping the team's focus on the main goal.
BA Leader	• Analyze requirements. • Define scope and create an SRS document. • Design entity relationship diagram.
BA Member	• Define business process flow and object state. • Capture and specifically describe the use case.
Technical Leader	• Define high-level architecture based on SRS. • Implement configuration and web server. • Research and implement UX design for front-end.

Developer	• Involve in coding the product and reviewing the code of other developers.
Test Leader	• Create a template testing document. • Define test strategy, create a test plan, and defect log template.
Test Member	• Create test cases. • Implement test case and log defect.

5. Project Communication

5.1 Communication Plan

Communication Item	Who/ Target	Purpose	When Frequency	Type, Tool, Method(s)
Team weekly meeting	All team members	Review plan, schedule, members' work achievements during the week and report the project's progress and status	8:00 pm every Friday	Offline, online through Facebook, Google Meet
Daily Meeting	Team members	Report the progress that members achieved each day	Daily	Facebook, Messenger, Meet, Gmail
Unscheduled meeting	All team members	When there's a critical problem that needs to be resolved immediately, discuss then solve that problem	When member find important problems	Online through Facebook, Google Meet

5.2 External Interface

a. FU Contacts

Function	Contact Person (name, position)	Contact address (email, telephone)	Responsibility
Supervisor	Pham Ngoc Ha	hapn10@fe.edu.vn , 0988623000	- Provide document template - Instruct the project team - Review deliverables - Supervise project status - Receive report project

b. Customer Contacts

Function	Contact Person (name, position)	Contact address (email, telephone)	Responsibility
Supervisor	Pham Ngoc Ha	hapn10@fe.edu.vn , 0988623000	- Provide document template - Instruct the project team - Review deliverables - Supervise project status - Receive report project

6. Configuration Management

6.1 Tools & Infrastructures

Category	Tools & Techniques
Programming languages	Java, Html ,Css , JavaScrip
Framework	SpringBoot
DBMS	MySQL
IDEs/Editors	Visual Studio Code
UML tools	Draw.io
Version Control	GitHub

6.2 Document Management

- Document tools: Microsoft Office 2020, Microsoft Excel 2020
- File management: Google Docs

6.3 Source Code Management

Source code is managed by Git on github.com