

PotPal
Software Development Plan
Version 1.4

PotPal	Version: 1.4
Software Development Plan	Date: 10/11/24
SDPLNDM	

Revision History

Date	Version	Description	Author
24/10/24	0.1	Added Introduction, Project Purpose, Scope, and Objectives	Phạm Minh Mẫn
24/10/24	0.2	Added Assumption, Constraint and Project Deliverables	Nguyễn Khánh Toàn
25/10/24	0.3	Added Project Organization	Lê Thanh Minh Trí
25/10/24	0.4	Added Project Estimate, Phase and Iteration Plan	Cao Hoàng Lộc
26/10/24	0.5	Added Releases	Phạm Anh Văn
26/10/24	0.6	Added Project Schedule	Lê Thanh Minh Trí
27/10/24	0.7	Added Reporting and Configuration Management	Phạm Anh Văn
27/10/24	1.0	Initial Version	Lê Thanh Minh Trí
08/11/24	1.1	Added Risk Management	Nguyễn Khánh Toàn
10/11/24	1.2	Revise and update Project Deliverables	Cao Hoàng Lộc
10/11/24	1.3	Update Project Schedule	Phạm Anh Văn
10/11/24	1.4	Update Project Configuration and Proof	Phạm Anh Văn

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Software Development Plan

1. Introduction

The main purpose of this Software Development Plan (SDP) is to outline overall the application and the management process for the development of the [Potpal] software.

2. Project Overview

2.1 Project Purpose, Scope, and Objectives

- + **Purpose:** This project is a part of Intro to Software Engineer course, aims to provide practical experience in designing, developing, and testing a software application. Specifically, the project involves creating a game that demonstrates core principles of software engineering, including requirements gathering, system design, implementation, and testing.
- + **Scope:** The scope of this project includes the development of a fully functional Ecommerce website. The website will be implemented, and tested within a predefined timeline, following the structured phases of the software development lifecycle
- + **Objectives:** The objective of this project is to demonstrate the application of software engineering principles, showcasing the students' understanding of the software development process.

2.2 Assumptions and Constraints

- The team consists of 5 people and there will be no more people added during the project.
- The project runs on a low budget.
- Project has a development time of around 10 weeks.

2.3 Project Deliverables

Week	Artifacts	Description
1	Project Proposal	Outlining project's objectives, key elements and functionalities of the laptop shopping website, focusing on creating a user-friendly platform for users.
2	Software Development Plan	Detailing the software development lifecycle including timelines, resource allocation, risk management and project monitoring.
	Vision Document	Provides a foundational overview of the project's vision, highlighting the core issues it aims to solve, the main features required, and how it will deliver value to users through a smooth shopping experience.
	Use-case Document	Detailed descriptions of how users will interact with the system, including specific flows, outcomes and user actions.

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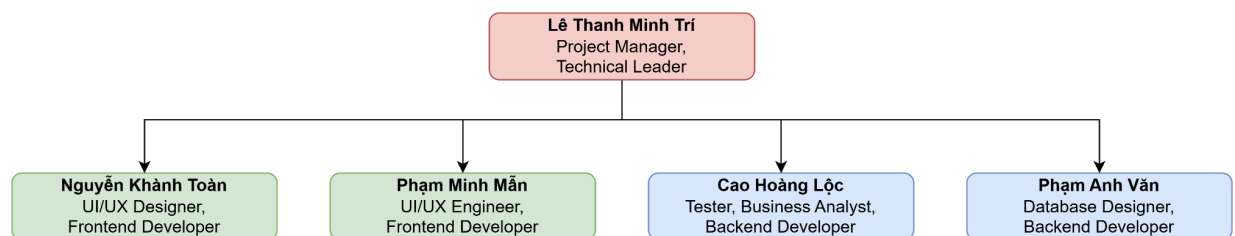
3	Detailed Requirements	Specifying the functional and nonfunctional requirements of the system. It outlines user needs, system features, and expected behavior, creating the basis for the system's design and implementation.
	Initial Design	Specify functional and non-functional requirements.
4	Software Architecture Document	Create detailed software architecture diagrams, showing system components and their interactions.
	UML Models	Develop comprehensive UML models to represent the system's design.
	UI Design	Design user interface mockups and wireframes
5	Testing Plan	A comprehensive testing plan to validate the functionalities and performance of the system.
	Database Design	A document or diagram illustrating the structure of the database, including tables, relationships and data types, to ensure effective data storage and retrieval.
6-7	Front-end Development	Implementation for UI/UX and API calling.
	Back-end Development	Detailed design and development of the backend system, including database setup, API development and integration with the frontend, ensuring the system runs smoothly and can handle user requests.
8-9	First Demo Product	Initial release for testing system and functionalities.
	Testing	Test and create testing reports.

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10-11	Second Demo Product	Second release for testing with users and get feedback for improvement.
	User Feedback Analysis	Collecting and analyzing user feedback.
12	Final Product	Final release of the shopping platform after detailed testing and improvement from user feedback.

3. Project Organization

3.1 Organizational Structure



3.2 Roles and Responsibilities

Person	Role	Description
Lê Thanh Minh Trí	Project Manager, Technical Leader	<ul style="list-style-type: none"> • Make project plan • Roles assignment and tasks distribution • Weekly report • Organize meetings • Validate codebase before deployment • Coordinate backend and frontend • Dev support
Nguyễn Khánh Toàn	UI/UX Designer, Frontend Developer	<ul style="list-style-type: none"> • Design the user interface • Implement UI/UX design to codebase • Create Software Architecture Document • Cooperate with UI/UX Engineer to ensure user friendly interface • Write source code • Perform unit test • Communicate with backend devs
Phạm Minh Mẫn	UI/UX Engineer, Frontend Developer	<ul style="list-style-type: none"> • Design UI/UX system • Implement the UX system • Cooperate with UI/UX Designer to ensure user-friendly and quality interface • Write source code • Perform unit test • Communicate with backend devs • Review source code

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Cao Hoàng Lộc	Tester, Business Analyst, Backend Developer	<ul style="list-style-type: none"> • Prepare and conduct test plan, test case and test report • Document requirements (interview customers, etc.) • Communicate with team members about the requirements • Coordinate to review requirements • Cooperate with Database Designer on implementing classes, components, etc. • Write source code • Perform unit test
Phạm Anh Văn	Database Designer, Backend Developer	<ul style="list-style-type: none"> • Design the backend system (components, classes, databases, etc.) • Create Software Architecture Document • Cooperate with Business Analyst to implement backend design • Write source code • Perform unit test • Communicate with frontend devs • Review source code

4. Management Process

4.1 Project Estimates

- **Cost:** The cost varies depending on chosen domain and hosting service, commercial service, technologies and tool services.

- **Time:** Each team member is expected to spend approximately 21 hours per week over a 10 week period. With a team of 5 members, this amounts to 1050 hours total for the project.

- **Re-estimation points, circumstances:** After each sprint/phase or the previous estimation is not close.

- **Infrastructure:** The project will be developed, tested and deployed on personal computers of each member of the group then pushed and managed on GitHub.

4.2 Project Plan

4.2.1 Phase and Iteration Plan

Phase	Sprint	Start day	End day	Main objectives
Inception	1	14/10	27/10	Project proposal, initial requirements
Elaboration	2	28/10	10/11	Detailed requirements and initial design
	3	11/11	24/11	Detailed design and test planning
Construction	4	25/11	8/12	Implementation and testing
	5	9/12	22/12	Implementation and testing

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4.2.2 Releases

- **Demo:** First 3 versions are intended for demonstration purposes, allow the project manager to visualize the progress and give feedback.
- **Product release:** This is where the website goes online for all users, requiring thorough testing and validation to ensure a smooth user experience.

4.2.3 Project Schedule

- Sprint 1:

Title ▾	Assignment ▾	Start date ▾	Due date ▾	↑ Bucket ▾	Progress ▾	Priority ▾
Discuss Initial Project Proposal	NT CL L +2	10/15/2024	10/17/2024	Sprint 1	Completed	Medium
Write Project Description	CL CAO HOÀNG LỘC	10/15/2024	10/23/2024	Sprint 1	Completed	Medium
Survey Suitable Framework	NT CL L +2	10/23/2024	10/26/2024	Sprint 1	Completed	Medium
Write SDP Document	L LÊ THANH MINH T	10/15/2024	10/26/2024	Sprint 1	Completed	Medium
Role Assignment	L LÊ THANH MINH T	10/23/2024	10/26/2024	Sprint 1	Completed	Medium
Setup Project Tools	L LÊ THANH MINH T	10/17/2024	10/26/2024	Sprint 1	Completed	Medium
Project Scheduling on MS Planner	PM PHẠM MINH MẮN	10/23/2024	10/26/2024	Sprint 1	Completed	Medium
Discuss Detailed Project Proposal	NT CL L +2	10/21/2024	10/23/2024	Sprint 1	Completed	Medium

- Sprint 2:

Title ▾	Assignment ▾	Start date ▾	Due date ▾	↑ Bucket ▾	Progress ▾	Priority ▾
Decide on frameworks and setup	NT CL L +2	10/28/2024	10/29/2024	Sprint 2	Completed	Medium
Initial design (Use case diagram)	L LÊ THANH MINH T	10/28/2024	11/3/2024	Sprint 2	Completed	Medium
Detail Admin Requirement (Item Management and Cu...	NT NGUYỄN KHÁNH T	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Detailed Customer Requirement (Register and Login; ...	PM PHẠM MINH MẮN	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Detailed Requirement (Coupon & Discount System)	PV PHẠM ANH VÂN	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Detailed Customer Requirement (Products, Cart, Orde...	PM PHẠM MINH MẮN	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Detailed Customer Requirement (Payment Process, Pa...	CL CAO HOÀNG LỘC	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Initial website design	NT NGUYỄN KHÁNH T	10/28/2024	11/4/2024	Sprint 2	Completed	Medium
Revise Software Development Plan Document	CL CAO HOÀNG LỘC	11/4/2024	11/15/2024	Sprint 2	Completed	Medium
Revise Vision Document	L LÊ THANH MINH T	11/4/2024	11/15/2024	Sprint 2	Completed	Medium

- Sprint 3:

Title ▾	Assignment ▾	Start date ▾	Due date ▾	↑ Bucket ▾	Progress ▾	Priority ▾
Detailed Design (Relationship diagram, Database sche...	CL CAO HOÀNG LỘC	11/12/2024	11/17/2024	Sprint 3	Not started	Medium
Detailed Design (Create Website Layout and Structure)	NT NGUYỄN KHÁNH T	10/12/2024	11/17/2024	Sprint 3	Not started	Medium
Detailed Design (Client, Server, Infrastructure)	CL CAO HOÀNG LỘC	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
Test Planning (FE-BE communication)	L LÊ THANH MINH T	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
Test Planning (Performance test)	L LÊ THANH MINH T	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
Detailed Design (Administrator)	NT NGUYỄN KHÁNH T	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
Test Planning (Functional test)	PV PHẠM ANH VÂN	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
UML diagram	PV PHẠM ANH VÂN	11/11/2024	11/20/2024	Sprint 3	Not started	Medium
Detailed Design (Customer)	PM PHẠM MINH MẮN	11/4/2024	11/20/2024	Sprint 3	Not started	Medium
SAD Document	CL CAO HOÀNG LỘC	11/11/2024	11/29/2024	Sprint 3	Not started	Medium

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- **Sprint 4:**

Title ▾	Assignment ▾	Start date ▾	Due date ▾	↑ Bucket ▾	Progress ▾	Priority ▾
○ Testing (Test User Registration and Login)	L LÊ THANH MINH T		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Frontend Implementation (Payment and Checkout Co...	NT NGUYỄN KHÁNH T		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Frontend Implementation (Homepage Component)	NT NGUYỄN KHÁNH T		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Frontend Implementation (Product page and Product ...	NT NGUYỄN KHÁNH T		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Frontend Implementation (Login and Register Compo...	PM PHẠM MINH MÃN		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Frontend Implementation (Orders, Cart Component)	PM PHẠM MINH MÃN		12/1/2024	Sprint 4	○ Not started	■ Medium
○ Backend Implementaion (Implement Controller)	CL CAO HOÀNG LỘC		12/8/2024	Sprint 4	○ Not started	■ Medium
○ Backend Implementation (Create Server)	CL CAO HOÀNG LỘC		12/8/2024	Sprint 4	○ Not started	■ Medium
○ Backend Implementation (Create database, create tabl...	PV PHẠM ANH VÂN	11/25/2024	12/8/2024	Sprint 4	○ Not started	■ Medium
○ Backend Implementation (Create User, Product, Order)	PV PHẠM ANH VÂN		12/8/2024	Sprint 4	○ Not started	■ Medium
○ Testing (Client-Server Communication)	L LÊ THANH MINH T			Sprint 4	○ Not started	■ Medium
○ Testing (Order and Cart)	PM PHẠM MINH MÃN			Sprint 4	○ Not started	■ Medium

- **Sprint 5:**

Title ▾	Assignment ▾	Start date ▾	Due date ▾	↑ Bucket ▾	Progress ▾	Priority ▾
○ Testing (Beta test 3, accept feedback)	CL CAO HOÀNG LỘC			Sprint 5	○ Not started	■ Medium
○ Testing (Beta test 1, Functional test)	L LÊ THANH MINH T			Sprint 5	○ Not started	■ Medium
○ Testing (Beta test 2, Performance test)	L LÊ THANH MINH T			Sprint 5	○ Not started	■ Medium
○ Final release	NT CL L +2			Sprint 5	○ Not started	■ Medium
○ Implementation (Fix bug, issues)	NT CL L +2			Sprint 5	○ Not started	■ Medium
○ Implementation (Update, improve Performance)	NT CL L +2			Sprint 5	○ Not started	■ Medium
○ Testing (Final testing)	NT CL L +2			Sprint 5	○ Not started	■ Medium

4.3 Project Monitoring and Control

4.3.1 Reporting

- **Weekly meeting:**
 - Time: Saturday every week.
 - Method: Online meeting on Discord or Google Meet.
 - Participants: All team members.
 - Purpose: Review project progress, address challenges encountered, plan tasks and objectives for the upcoming week.
 - Documentation: The meeting result will be recorded, summarizing information and decisions made.
- **Weekly status report:**
 - Time: Once every week
 - Method: Project manager will write the documentation report.
 - Content: Summary of progress as well as project milestones and objectives, overview completed tasks and upcoming tasks, identification of any risks or issues that need attention, Updates on any changes to the project timeline or scope.
- **Informal chats:**
 - Participants: All team members.
 - Method: Messenger, Discord (and Zalo for emergency).
 - Purpose: Provide a channel for team members to discuss, share and resolve issues.

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4.3.2 Risk Management

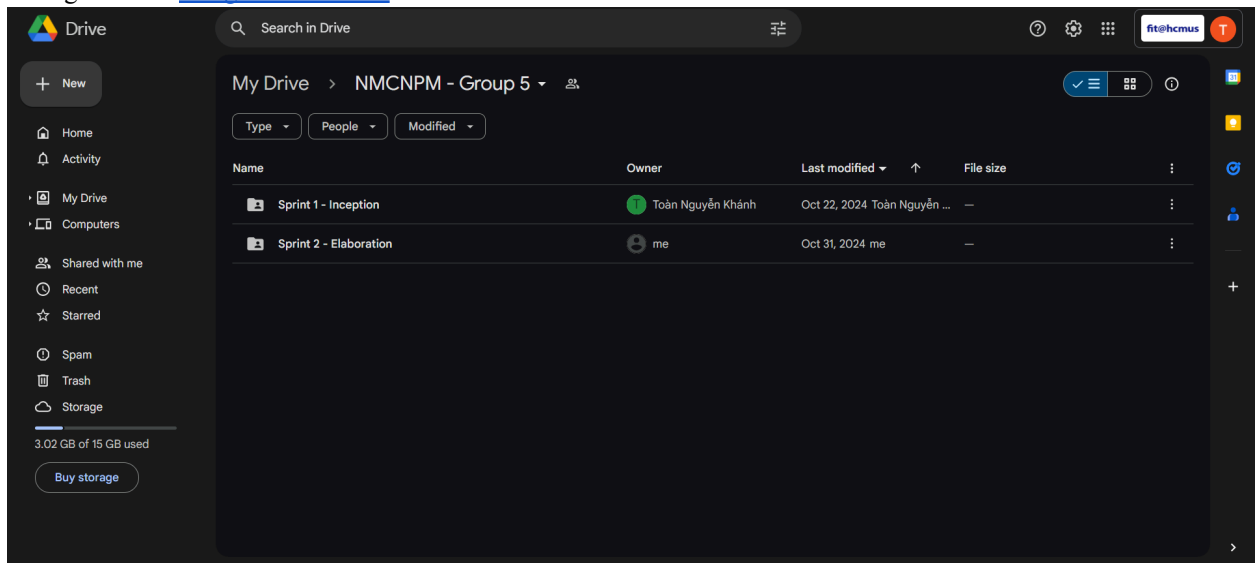
Risk ID	Risk Description	Probability	Impact	Risk Exposure	Priority	Mitigation Strategy or Contingency Plan
S3	Poor time management	Likely	Serious	5625	1	<ul style="list-style-type: none"> Can lead to catastrophe if neglected. Members may change their priority to the closest problem to get the project's progress back on track. Project Manager must be agile on noticing bad time management and notify the entire team to react and resolve as soon as possible
M2	Deadline changes	Frequently	Moderate	4500	2	<ul style="list-style-type: none"> Project Manager adjusts plans to fit the new deadline. Worst case scenario, the entire team shifts focus to finish the deadline as fast as possible.
S4	Poor tasks distribution	Likely	Moderate	3750	3	<ul style="list-style-type: none"> Project Manager re-evaluate if assigned tasks are already fair or not, then re-assign tasks if necessary. Tasks distribution must be accepted by ALL members.
S1	Staffs are unavailable during critical times	Occasional	Serious	3750	4	<ul style="list-style-type: none"> Emergency contact (Direct call) to discuss with the unavailable staff. Project Manager overtake the task and split it for the entire team to handle. In case Project Manager is unavailable, select a Co-Manager to overtake the project temporarily.
S2	Lack of experiences	Occasional	Moderate	2500	5	<ul style="list-style-type: none"> The member may ask Project Manager, AI assistant or any friends with experiences for help and support. Members must be proactive to avoid wasting time. If no choices are available, the member and Project Manager work with TA to find alternative solutions.
T1	Data loss without backup	Seldom	Moderate	1250	6	<ul style="list-style-type: none"> Cloud experiment data: Project Manager helps create new data to replace lost data. Codebase on GitHub: GitHub codebase must be splitted into branches. Must be reviewed and updated regularly. If any branch is lost or any member lost their in-progress code, that segment should only be for one specific task, simplifying the recovery process. Documentation: Upload all documents on Drive and the finalized version on GitHub to prevent loss.
T3	Technologies changes	Seldom	Moderate	1250	7	<ul style="list-style-type: none"> Must carefully study and research the newly chosen technology or tool. ALL members must agree on the changes. Otherwise the member(s) that performs the change have to take responsibility and resolve in case conflicts arise.
T2	Lack of technologies	Seldom	Moderate	1250	8	<ul style="list-style-type: none"> The Project Manager should reconsider the tasks or the technologies supporting the project. Either restart, replace, upgrade or refer to TA for guidance.

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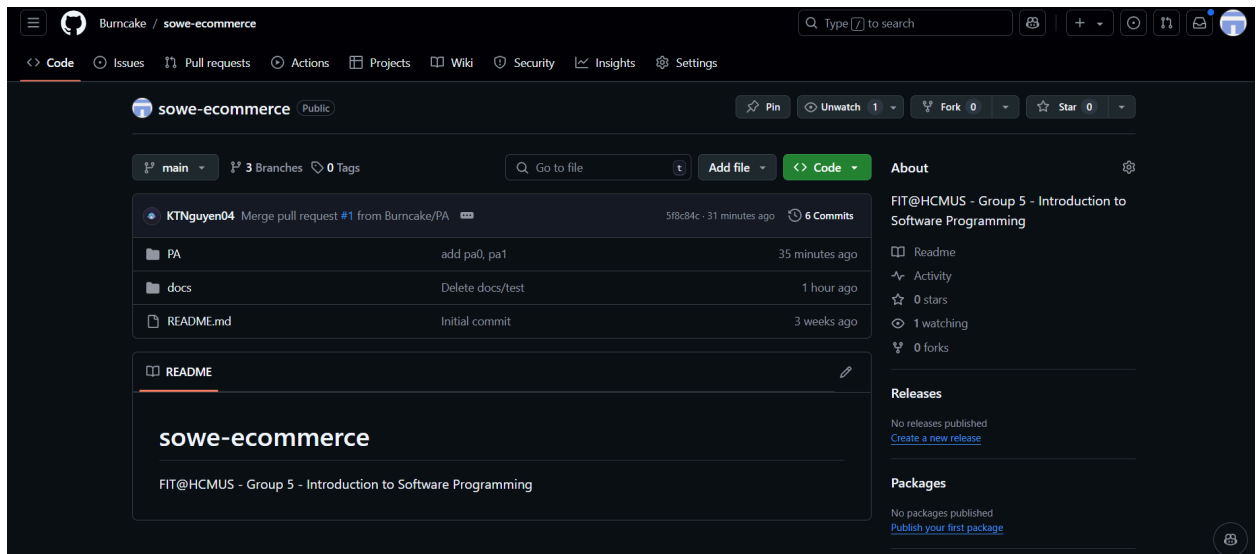
Risk ID	Risk Description	Probability	Impact	Risk Exposure	Priority	Mitigation Strategy or Contingency Plan
M3	Natural disaster	Unlikely	Catastrophic	900	9	<ul style="list-style-type: none"> Might lead to members being unavailable. Project Manager and/or TA must be notified immediately if members would have to be unresponsive for days.
M1	Requirement changes	Seldom	Insignificant	625	10	Project Manager minimizes time loss by proactively handling changes on their own if possible.

4.3.3 Configuration Management

- Google Drive: [Google Drive Proof](#)

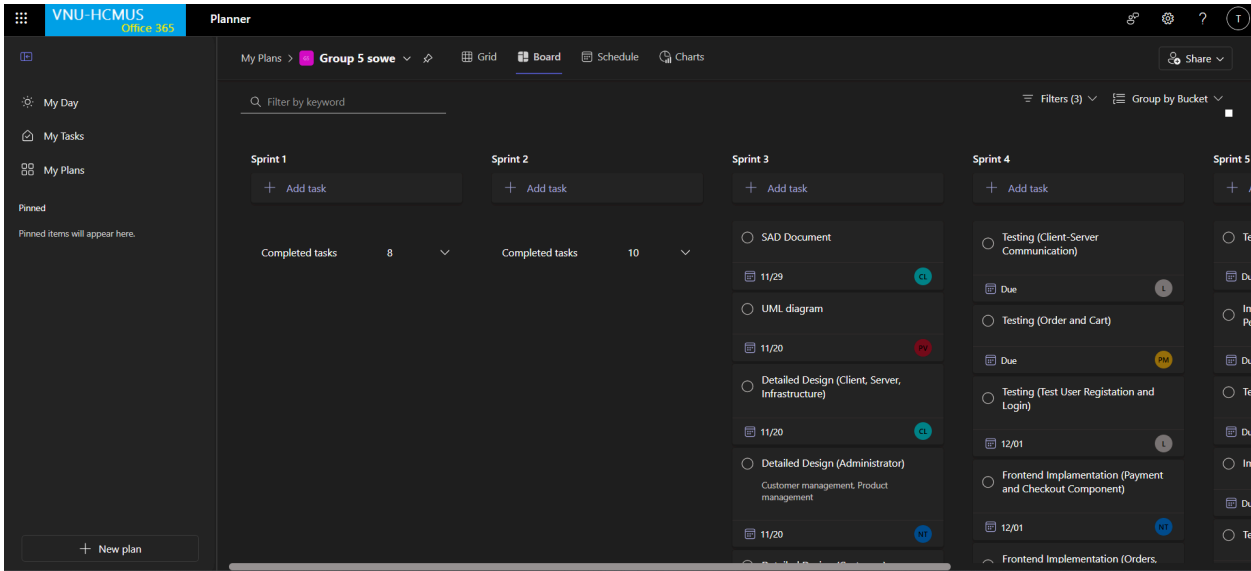


- GitHub: [Github Proof](#)

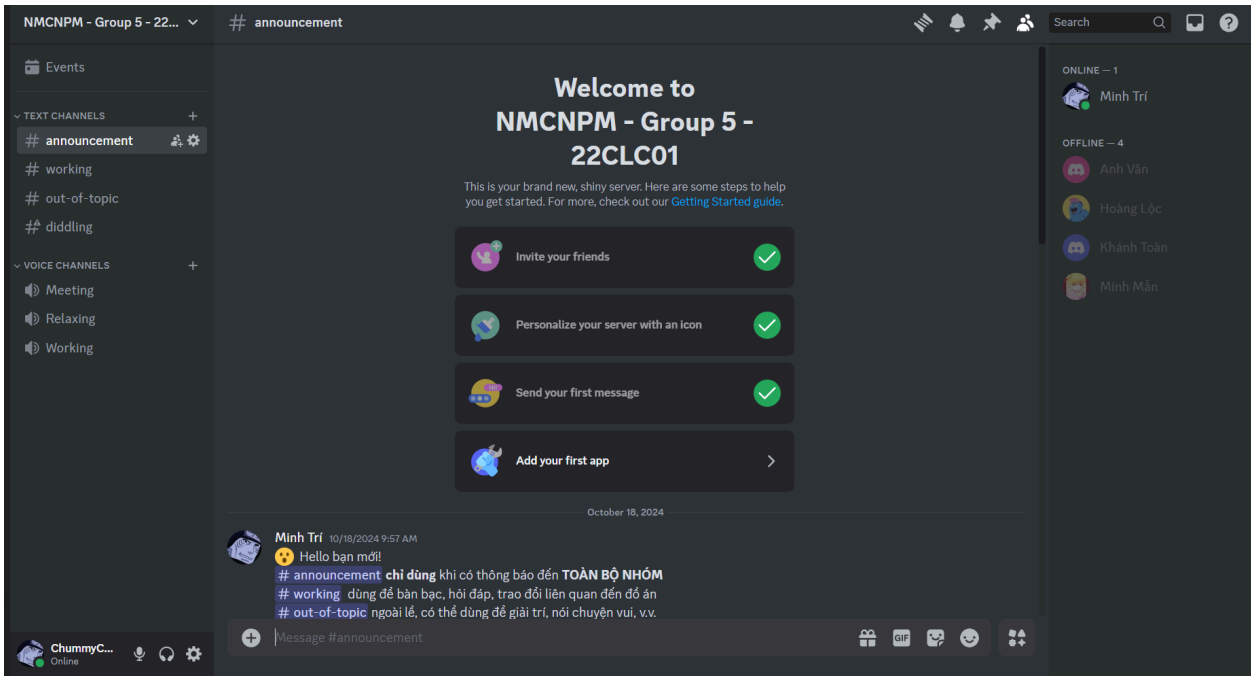


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- MS Planner: [Link to MS Planner](#)



- Discord: [Link to Discord](#)



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- Jira: [Link to Jira](#)

Projects / PotPal

Backlog

TM PV L TN Epic Type Import work Insights View settings

☐ Sprint 2 28 Oct – 10 Nov (20 issues)

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Start sprint

<input checked="" type="checkbox"/> SCRUM-24	Revising Software Development Plan Document	TO DO	L
<input checked="" type="checkbox"/> SCRUM-19	Revising Vision Document	TO DO	TM
<input checked="" type="checkbox"/> SCRUM-16	Detail plan for the sprints	TO DO	TM
<input checked="" type="checkbox"/> SCRUM-18	Revising the current sprint	TO DO	PV
<input checked="" type="checkbox"/> SCRUM-21	System use cases	TO DO	TM
<input checked="" type="checkbox"/> SCRUM-26	Admin use cases	TO DO	PV
<input checked="" type="checkbox"/> SCRUM-27	Customer use cases	TO DO	
<input checked="" type="checkbox"/> SCRUM-15	Draw use cases diagram	TO DO	TM
<input checked="" type="checkbox"/> SCRUM-20	Filling use case specification (2.1 - 2.8)	TO DO	TN
<input checked="" type="checkbox"/> SCRUM-28	Filling use case specification (2.9 - 2.15)	TO DO	
<input checked="" type="checkbox"/> SCRUM-29	Filling use case specification (2.16 - 2.21)	TO DO	PV

- Slack: [Link to Slack](#)

Search Software Engineering

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Threads

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Trí Lê Thanh Minh you

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Apps

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You created this channel on October 29th. It's private, and can only be joined by invitation. [Add description](#)

Add coworkers

Tuesday, October 29th

Trí Lê Thanh Minh 10:44 AM

joined 2022clc01_software_engineering_team_05. Also, Toan NGuyen and 2 others joined.

Trí Lê Thanh Minh 10:48 AM

Các tool như Jira, Discord, GitHub có cần add các thầy TA vào ko ạ?

Trí Lê Thanh Minh 11:07 AM

Vision document mình dùng bản Tiếng Anh hay Tiếng Việt ạ? Em thấy 2 file cấu trúc khác nhau (Tiếng Anh có Stakeholder mà Tiếng Việt không có)

Message @2022clc01_software_engineering_team_05

+ Add coworkers