Group 08: Super Idol

SIBOOKS WEB
Software Development Plan (Small Project)

Version 1.6

Revision History

Date	Version	Description	Author
03/06/2024	1.0	Writing and updating the project introduction and project purpose, scope, and objectives.	Thái Huyễn Tùng
05/06/2024	1.1	Writing and updating project assumptions, constraints, and project deliverables.	Bùi Lê Khôi
07/06/2024	1.2	Drawing organizational structure. Writing roles and responsibilities of each team member.	Tô Quốc Thanh
10/06/2024	1.3	Writing and updating project estimation. Writing and updating the project plan. Drawing the Gantt chart management.	Lê Phước Phát
12/06/2024	1.4	Writing project monitoring and control. - Requirements management. - Reporting and measurement. - Risk management. - Configuration management.	Ngô Văn Khải
13/06/2024	1.5	Checking and reviewing some errors. Fixing all errors and updating the project plan. Formatting the font and size of words.	Lê Phước Phát
14/06/2024	1.6	Checking and fixing some errors in the project plan.	Thái Huyễn Tùng

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Software Development Plan (Small Project)

1. Introduction

The introduction of the Software Development Plan provides an overview of the entire document. It includes the purpose, scope, definitions, acronyms, abbreviations, references, and overview of this Software Development Plan.

1.1 Purpose

The purpose of the Software Development Plan is to gather all information necessary to control the project. It describes the approach to the development of the software and is the top-level plan generated and used by managers to direct the development effort.

The following people use the Software Development Plan:

- The project manager uses it to plan the project schedule and resource needs and to track progress against the schedule.
- Project team members use it to understand what they need to do when they need to do it, and what other activities they are dependent upon.

1.2 Scope

This Software Development Plan describes the overall plan to be used by the SIBOOKS WEB project, including deployment of the product.

The plans outlined in this document are based upon the product requirements as defined in the Vision Document.

1.3 Overview

This Software Development Plan contains the following information:

Project Overview — provides a description of the project's purpose, scope, and objectives. It also defines the deliverables that the project is expected to deliver.

Project Organization — describes the organizational structure of the project team.

2. Project Overview

2.1 Project Purpose, Scope, and Objectives

- Purposes: to meet high demands for convenience and reflexibility, especially solving the problem of saving time compared to traditional bookstores. SIBooks is suitable for students and youth or maybe adults, who are used to the Internet and don’t want to spend time going to the bookstore.
- Scope: This website is currently used for managing one online bookstore (can not be appropriate for the shop which has multiple branches).
- Objectives:
    - Appropriate for people of all ages.
    - Creating a comfortable and convenient environment for people when they decide to visit or buy books on our website. (Besides buying books, users now can know the book’s rating, and comments to ensure that they like it or not)
    - Simplify the buying and selling process.

2.2 Assumptions and Constraints

- Budget:
    - Every staff member will receive an average salary which is about 250.000 VND per hour (approximately $10 per hour). However, the Project Manager will receive a higher salary which is about 500.000 VND (approximately $20 per hour).
    - Project fund: approximately $42.400.

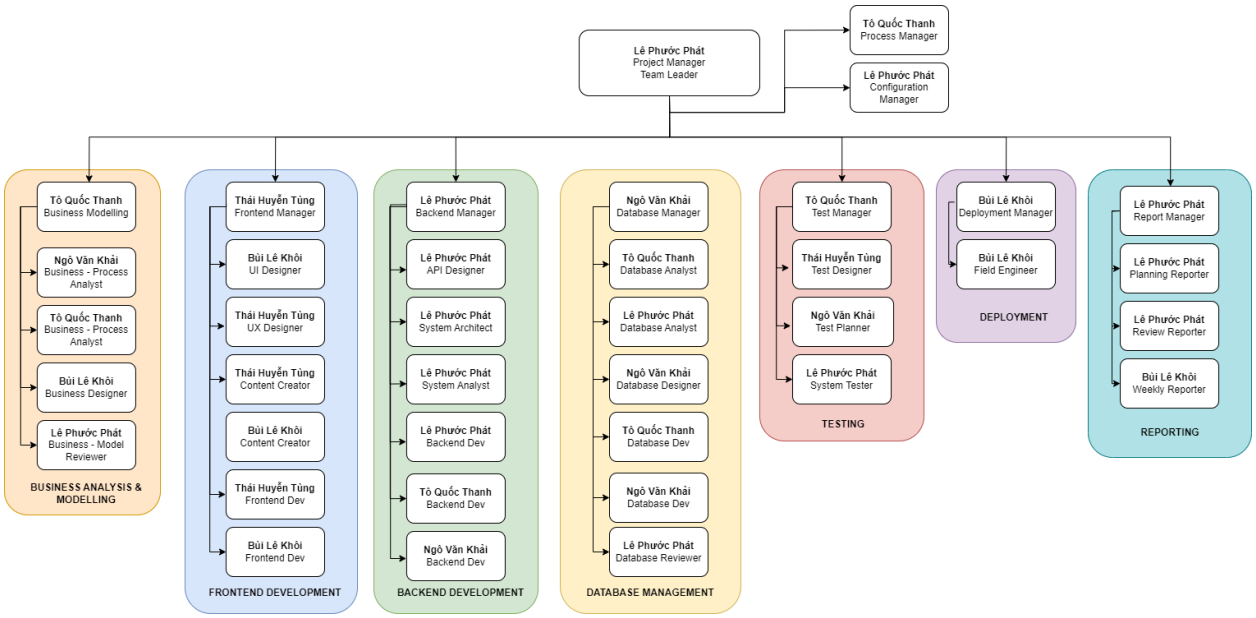
- Staff: The project needs 5 staff members (including one Project Manager and four Members).
- Equipment:
  - Devices: Personal laptop of each member.
  - Skills:
    - Design UI: Figma.
    - Management: Trello, Toggl, Google Drive, Github,...
    - Front-end: HTML, CSS, SCSS, ReactJS, JavaScript.
    - Back-end: Python.
    - Database: PostgreSQL.
- Schedule: every Monday all team members will have a regular meeting on Zoom.
- Time: The project lasts for 14 weeks (including 11 weeks in the course and 3 weeks for school vacation).

2.3 Project Deliverables

Deliverables for each project phase are identified in the Development Case. Deliverables are delivered towards the end of the iteration, as specified in section 4.2 Project Plan.

3. Project Organization

3.1 Organizational Structure



3.2 Roles and Responsibilities

Person	Roles
Bùi Lê Khôi	Business Designer, Content Creator, UI Designer, Frontend Dev, Deployment Manager, Field Engineer, and Weekly Reporter.
Ngô Văn Khải	Business - Process Analyst, Database Manager, Database Designer, Database Dev, Backend Dev, Test Planner.
Lê Phước Phát	Project Manager, Report Manager, Planning Reporter, Review Reporter, Configuration Manager, Backend

	Manager, Backend Dev, API Designer, System Analyst, System Architect, System Tester, Business - Model Reviewer, and Database Reviewer.
Tô Quốc Thanh	Process Manager, Business - Process Manager, Backend Dev, Database Analyst, Database Dev, Test Manager.
Thái Huyễn Tùng	Frontend Manager, UX Designer, Content Creator, Frontend Dev, Test Designer.

4. Management Process

4.1 Project Estimates

- Project duration (Including days off, training and implementation time)
  - Start date: May 25th, 2024
  - End date: August 24th, 2024
  - Time estimate: 3.5 months (approximately 14 weeks - including 11 main weeks and 3 sub weeks because of school vacation)
    - The schedule will be re-estimated if any change occurs to the project.
  - Detailed schedule: see more at 4.2. Project Plan
- Estimated project cost
  - Our team has 5 members who will work 8 hours daily. Besides, we will work only from Monday to Friday, so he or she needs to work about 40 hours per week.
  - Estimated personnel cost
    - Project manager: will receive **$20** per hour (approximately 500.000 VNĐ per hour) ⇒ The salary of the project manager for this project will be: 40×14 (weeks) $\times \ \$20 \ = \$11.200$ (approximately 284.520.360 VNĐ)
    - Remaining job positions: will receive **$10** per hour (approximately 250.000 VNĐ per hour) ⇒ The salary of the remaining job positions for this project will be: 40×14 (weeks) $\times \ \$10 \ = \ \$5600$ (approximately 142.699.380 VNĐ)
      Total estimated personnel cost: $\$5600 \times 4 + \$11.200 = \$33.600$
  - Estimated tools and software costs
    - Project management tools (like JIRA, Trello, …) costs will be **$500** (approximately 12.721.500 VNĐ)
    - Development software (like IDEs, Figma, Adobe, Visual Studio Code, …) will be **$1.000** (approximately 25.443.000 VNĐ)
    - Testing software (like Selenium, Postman, and JMeter) will be **$500** (approximately 12.721.500 VNĐ)
    - CI / CD Tools (like Github, Jenkins, GitLab, …) will be **$300** (approximately 7.632.900 VNĐ)
    - Configuration Management Software (like Ansible, Chef, Puppet) will be **$200** (approximately 5.088.600 VNĐ)
      Total estimated tools and software costs:
      $\$500 + \$1000 + \$500 + \$300 \ + \$200 = \$2500$
  - Estimated hosting and server costs
    - Web hosting: costs for hosting, VPS, or cloud services (AWS, Google Cloud, Azure) will be **$1.000** (approximately 25.443.000 VNĐ)
    - Domain name: costs for registering a domain name will be **$100** (approximately 2.544.300 VNĐ)
    - SSL Certificates: costs for ensuring website security will be **$200** (approximately 5.088.600 VNĐ)
    - **Total Estimated hosting and server costs:** $\$1.000 + \$100 + \$200 = \$1.300$

- Estimated project management costs
  - Training costs: costs for training staff on new technologies and tools will be **$1.000** (approximately 25.443.000 VNĐ)
- Estimated development and maintenance costs will be **$1.000** (approximately 25.443.000 VNĐ)
- The contingency fund will be **$3.000** (approximately 50.886.000 VNĐ)

Items	Total Costs ($)
Estimated personnel cost	$33.600
Estimated tools and software costs	$2.500
Estimated hosting and server costs	$1.300
Estimated project management costs	$1.000
Estimated development and maintenance costs	$1.000
Contingency Fund	$3.000
Total Costs	**$42.400**

- If our project has unforeseen problems and obstacles, the project cost will be re-estimated.

4.2 Project Plan

Our team's projects will be planned according to the RUP (Rational Unified Process) and Scrum models. It will have 3 phases (Inception, Elaboration, and Construction) and 5 main sprints (each sprint will have 2 weeks, but especially sprint 4 will have only 1 week and sprint 2 will have 5 weeks because of school vacation ⇒ Sprint 2 will be divided into 2 sub-sprint(2.1 and 2.2)).

Because this is just our initial plan and we do not know all the circumstances, the plan may be reviewed and revised after some milestones. However, we estimate that our plan will have 3 release versions:

- **Alpha version**: our team will list all general tasks for this project, and our plan will adjust slowly.
- **Belta version**: this is the detailed project plan with all the detailed tasks for each team member.
- **Final version**: this is the final version after correcting all errors.

About this project version, our team will release 2 versions:

- **Demo version**: All the main features of the web application. This version will be released at the end of sprint 04.
- **Final version**: Feature-complete version for some external user testing. We will run a demo so that all users can use it and from there we can analyze the market and update errors. This version will be released at the end of sprint 05.

About the project resourcing, it will be listed in part 2.2.

4.2.1 Inception Phase Plan

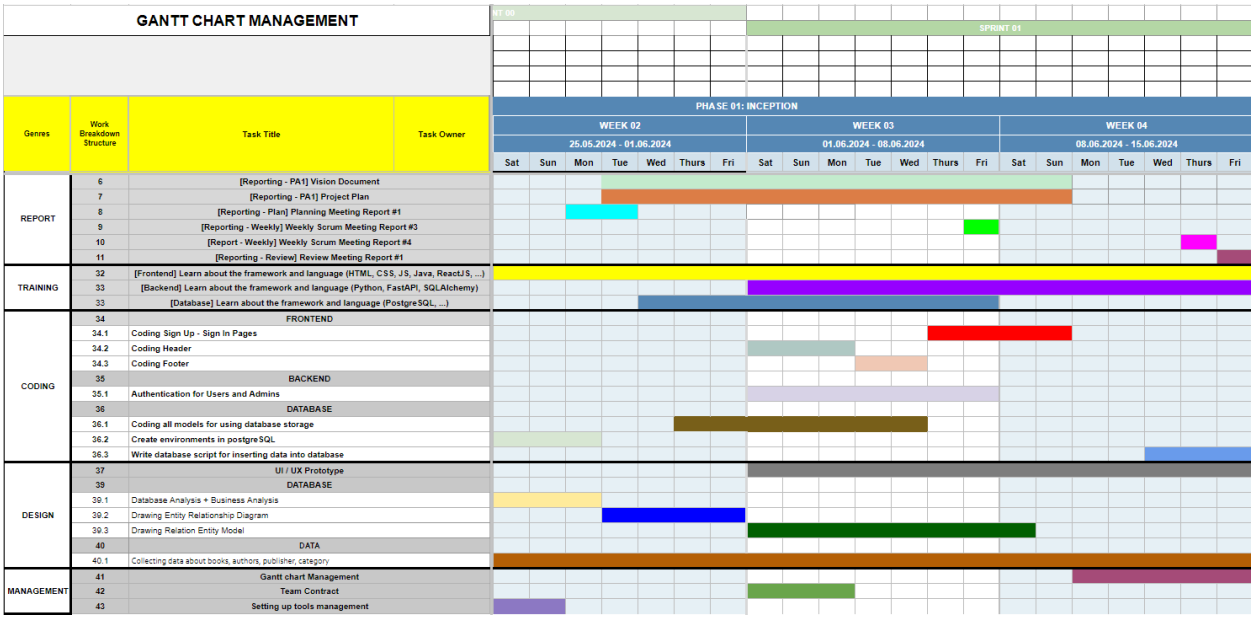
- **Sprint 01 (25.05.2024 - 15.06.2024): 3 weeks**

Tasks		Task Owner	Output
Genres	**Description**		
Training	**[Frontend]** Learn about the framework and languages ● Framework: ReactJS	All members	x

	• Language: JavaScript, Java, CSS, SCSS, HTML Learn how to use Figma to design UI Prototype (optional)		
	[Backend] Learn about the framework and languages • Framework: FastAPI • Language: Python	All members	x
	[Database] Learn about the framework and languages • Framework: PostgreSQL • Language: SQL, SQLAlchemy	All members	x
Coding	**[Frontend]** Coding Pages • Sign Up Page • Sign In Page • Header • Footer • Home Page • Contact Us Page • About Us Page	Thái Huyễn Tùng	Code in GitHub
	[Backend] Creating • API for signing up a user account • API for signing in user account • API for singing in admin account • API for signing in GOOGLE account • API for resetting passwords and email authentication Coding about functions to create access and refresh tokens.	Lê Phước Phát	Code in Github
	[Database] • Create all models in code python (backend) to link to database storage. • Create environments in postgreSQL • Write a database script for inserting data into the database.	Tô Quốc Thanh	Code in Github
Report	**[Vision Doc]** • Learn about positioning (problems statement and product position statement) • Researching stakeholder and user description • Researching product perspectives • Summary of capabilities • Assumptions and Dependencies • Product Features • Non - functional requirements	All members	Vision Document
	[Project Plan] • Project purpose, scope, overview • Project Overview • Project Organization • Management Process	All members	Project Plan

	[Plan Meet] ● Planning Meeting Information ● Planning Meeting Description ● Summary	Lê Phước Phát	Planning Meeting Report
	[Review Meet] ● Review Meeting Information ● Review Meeting Description ● Summary	All members	Review Meeting Report
	[Weekly Meet] ● Work done ● Problems and issues ● Next week goals ● Summary	Bùi Lê Khôi	Weekly Meeting Report
Design	**[Frontend]** Common components ● Sign Up - Sign In Pages ● Header / Footer ● Notification Customer App ● Home Page ● Contact page ● About Us Page ● Shop Books Pages ● Product Detail Page ● Cart Page ● Chat with admin ● User profile Page ● Delivery Process Page Admin App ● Dashboard Page ● Book Settings Page ● Order Settings Page ● User Management Page ● Notification Page (for admin to post notification)	Thái Huyễn Tùng Bùi Lê Khôi	Figma Design
	[Database] Database Analysis + Business Analysis Drawing ERD Drawing Relation Entity Model	Tô Quốc Thanh Ngô Văn Khải	ERD + Database schema
	[Data] Collecting data about books, authors, publishers, categories	Bùi Lê Khôi	Data Collection in Excel
Management	Gantt Chart Management	Lê Phước Phát	Gantt Chart Excel
	Writing team contract	Lê Phước	Team

		Phát	contract docs
	[Tools] Setting up all tools management ● Google Drive: manage all documents, resources, reports, and schedules, … ● Toggl: manage the task time of each member ● Trello: manage all tasks that each member needs to do ● Discord or Zalo: discuss or chat with each other ● Github: manage the source code of this project	All members	x



Gantt chart for Sprint 01

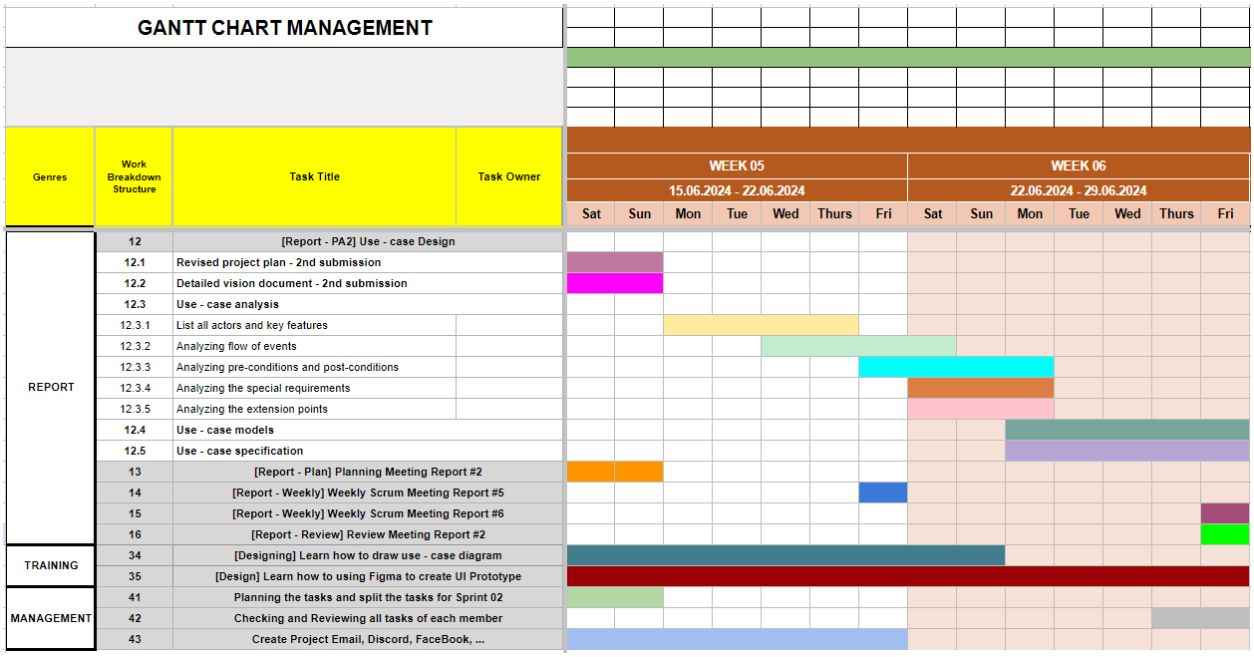
- **Sprint 02 (15.06.2024 - 20.07.2024) : 5 weeks**

Because of the school's vacation (22.06.2024 - 13.07.2024), this sprint will have approximately 5 weeks. This is why this sprint is so long, so we will divide it into 2 sub-sprints:

1. Sub-sprint 2.1 (15.06.2024 - 29.06.2024): 2 weeks

Tasks		**Task Owners**	**Output**
Genres	**Description**		
Report	**[Revision]** Revised project plan - 2nd submission ● Project Plan - PA2 ● File readme.txt	Lê Phước Phát Thái Huyễn Tùng	Revised Project Plan
	[Revision] Detailed vision document - 2nd submission	Tô Quốc Thanh	Revised Vision Docs

Tasks		Task Owners	Output
Genres	**Description**		
	● Vision Docs - PA2 ● File readme.txt	Bùi Lê Khôi	
	[PA2 - Use-case] Use-case Analysis ● List all actors and key features ● Analyzing the flow of events ● Analyzing pre-conditions and post-conditions ● Analyzing the special requirements ● Analyzing the extension points	All members	Use-case Analysis Docs
	[PA2 - Use-case] Based on the requirements documented in the vision document, model use cases of the system in the form of use-case diagrams (one or several diagrams).	All members	Use - case Diagrams
	[PA2 - Use-case] Detail each use-case in the use-case diagram by filling in the use-case specification document.	All members	rup_ucspec
	[Plan Meet] ● Planning Meeting Information ● Planning Meeting Description ● Summary	Lê Phước Phát	Planning Meeting Report
	[Review Meet] ● Review Meeting Information ● Review Meeting Description ● Summary	All members	Review Meeting Report
	[Weekly Meet] ● Work done ● Problems and issues ● Next week goals ● Summary	Bùi Lê Khôi	Weekly Meeting Report
Training	**[Design]** Learn how to draw use-case diagrams	All members	x
	[Design] Learn how to use Figma to design a UI prototype	All members	x
Management	Planning the tasks and split the tasks for Sprint 02	Lê Phước Phát	x
	Checking and reviewing all tasks of each member	Lê Phước Phát	x
	Create project email, discord, facebook, …	Bùi Lê Khôi	x

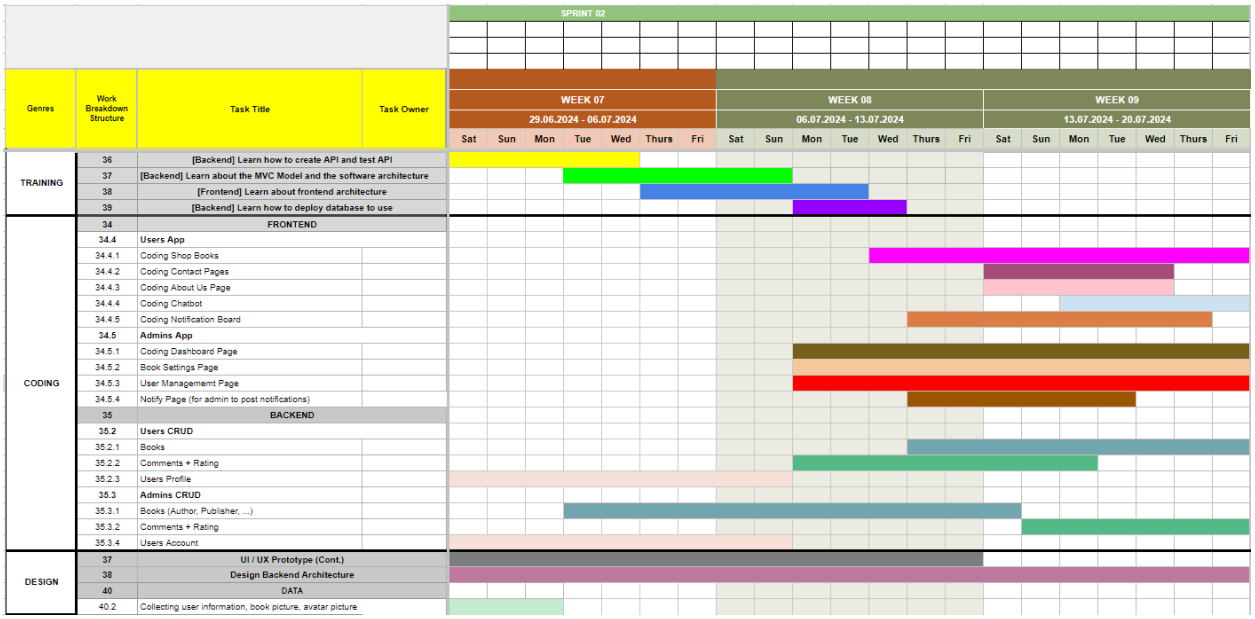


Gantt chart for sub-sprint 2.1

2. Sub - sprint 2.2 (29.06.2024 - 20.07.2024) : 3 weeks

Tasks		Task Owners	Output
Genres	**Description**		
Training	**[Backend]** Learn how to create API and test API	All members	x
	[Backend] Learn about the MVC model and software architecture	All members	x
	[Frontend] Learn about frontend architecture	All members	x
	[Database] Learn how to deploy the database to use	All members	x
Coding	**[Frontend]** ● User App ○ Coding Shop Books Pages ○ Coding Contact Pages ○ Coding About Us Pages ○ Coding Chatbot ○ Coding Notification Board ● Admin App ○ Coding Dashboard Pages ○ Coding Book Settings Page ○ Coding User Management Page ○ Coding Notification Page (for admin to post notifications)	All members	Code in GitHub

	[Backend] ● Users CRUD ○ Books ○ Comments + Ratings ○ Users Profile ● Admins CRUD ○ Books (Author, Publisher, …) ○ Comments + Ratings ○ Users Account	All members	Code in GitHub
Design	**[Frontend]** UI / UX Prototype (Cont.) ● The remaining pages will be designed in this sprint.	Thái Huyễn Tùng Bùi Lê Khôi	Figma Design
	[Backend] Design Backend Architecture	Lê Phước Phát Tô Quốc Thanh	Backend Diagram
	[Data] Collecting user information, book pictures, avatar, …	Bùi Lê Khôi	Data in Excel



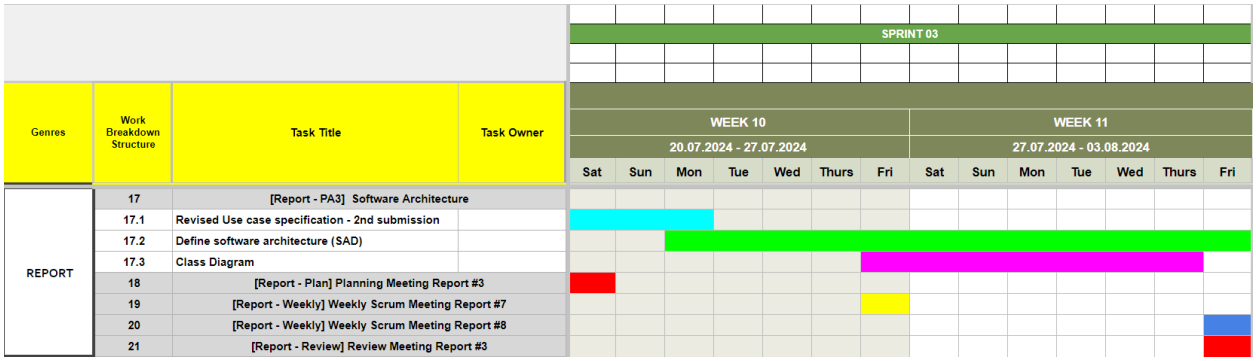
Gantt chart for sub-sprint 2.2

4.2.2 Elaboration Phase Plan

- **Sprint 03 (20.07.2024 - 03.08.2024) : 2 weeks**

Tasks		**Task Owners**	**Output**
Genres	**Description**		

	[Revision] Revised use-case specifications - 2nd submission	All members	PA3
	[PA3] Define software architecture • Fill the required sections in the document using the template provided with this assignment. • Introduction • Architecture Goals and Constraints • Use-case Models • Logical View (components,...)	All members	Choose the software models
	[PA3] Drawing backend and frontend architecture based on the MVC model	All members	Software System Design
	[PA3] Drawing the class diagram (OOP) based on each component	All members	Class diagrams
	[Plan Meet] • Planning Meeting Information • Planning Meeting Description • Summary	Lê Phước Phát	Planning Meeting Report
	[Review Meet] • Review Meeting Information • Review Meeting Description • Summary	All members	Review Meeting Report
Report	**[Weekly Meet]** • Work done • Problems and issues • Next week goals • Summary	Bùi Lê Khôi	Weekly Meeting Report

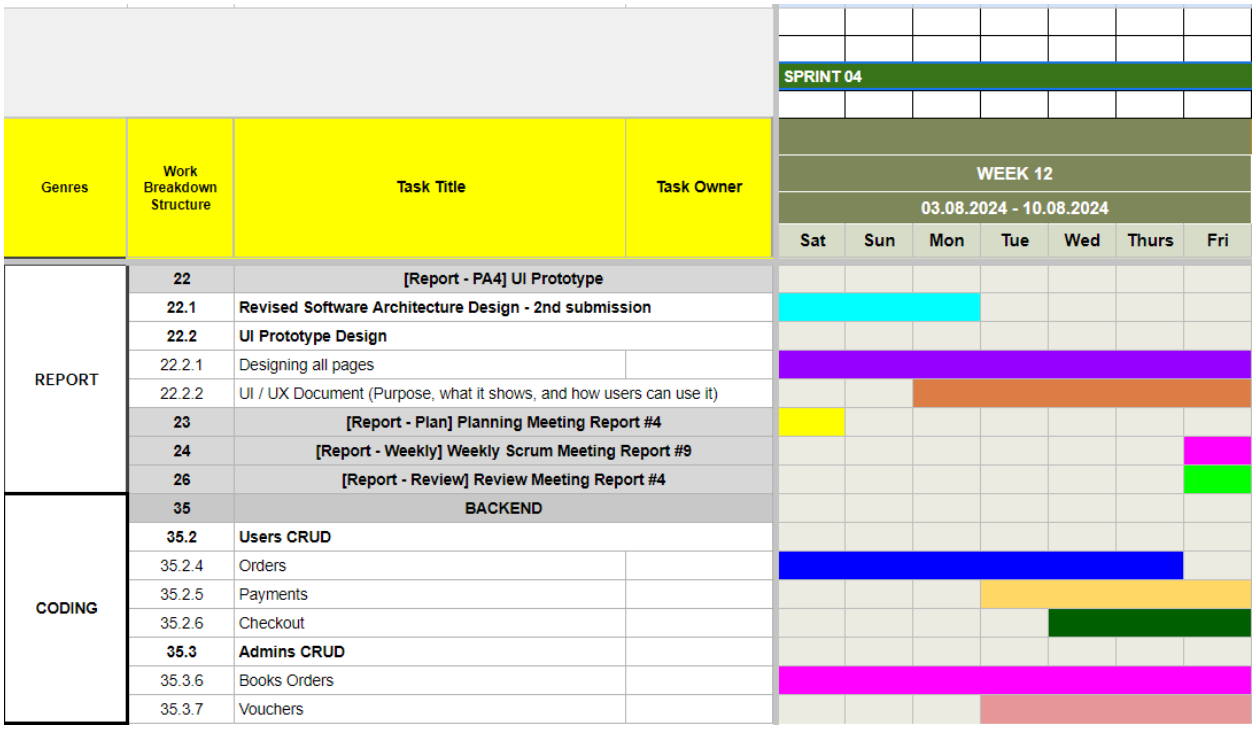


Gantt chart for Sprint 03

4.2.3 Construction Phase Plan

- **Sprint 04 (03.08.2024 - 10.08.2024) : 1 week**

Tasks		Task Owners	Output
Genres	**Description**		
Coding	**[Backend]** Users CRUD ● Orders ● Payments ● Checkout	Tô Quốc Thanh Lê Phước Phát Ngô Văn Khải	Code in GitHub
	[Backend] Admins CRUD ● Books Orders ● Vouchers	Lê Phước Phát Ngô Văn Khải	Code in GitHub
Report	**[Revision]** Revised Software Architecture Design ● Updating Sections 1-4 ● Filling the content for Sections 5 and 6 based on the feedback PA3	All members	PA3
	[PA4] UI Prototype ● Designing all pages ● UI / UX Documents (purpose, what it shows, how users can use it)	All members	PA4
	[Plan Meet] ● Planning Meeting Information ● Planning Meeting Description ● Summary	Lê Phước Phát	Planning Meeting Report
	[Review Meet] ● Review Meeting Information ● Review Meeting Description ● Summary	Lê Phước Phát	Review Meeting Report
	[Weekly Meet] ● Work done ● Problems and issues ● Next week goals ● Summary	Bùi Lê Khôi	Weekly Meeting Report



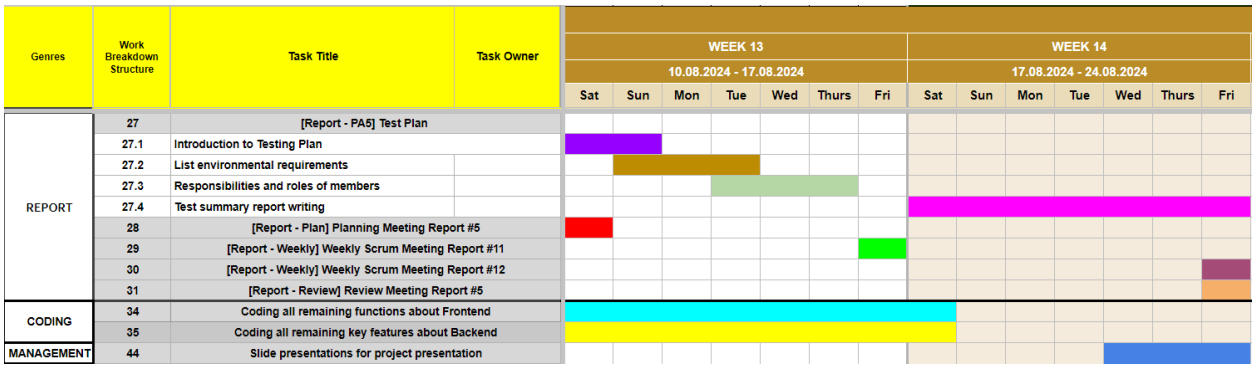
Genres	Work Breakdown Structure	Task Title	Task Owner
REPORT	22	[Report - PA4] UI Prototype	
	22.1	Revised Software Architecture Design - 2nd submission	
	22.2	UI Prototype Design	
	22.2.1	Designing all pages	
	22.2.2	UI / UX Document (Purpose, what it shows, and how users can use it)	
	23	[Report - Plan] Planning Meeting Report #4	
	24	[Report - Weekly] Weekly Scrum Meeting Report #9	
	26	[Report - Review] Review Meeting Report #4	
CODING	35	BACKEND	
	35.2	Users CRUD	
	35.2.4	Orders	
	35.2.5	Payments	
	35.2.6	Checkout	
	35.3	Admins CRUD	
	35.3.6	Books Orders	
	35.3.7	Vouchers	

Gantt chart for Sprint 04

- **Sprint 05 (10.08.2024 - 24.08.2024) : 2 weeks**

Tasks		Task Owners	Output
Genres	**Description**		
Coding	**[Frontend]** Coding all remaining functions of the frontend	All members	Code in GitHub
	[Backend] Coding all remaining functions of the backend	All members	Code in GitHub
Report	**[PA5]** Test Plan • Introduction to Testing Plan • List environmental requirements • Responsibilities and roles of members • Test summary report writing	All members	PA5
	[Plan Meet] • Planning Meeting Information • Planning Meeting Description • Summary	Lê Phước Phát	Planning Meeting Report
	[Review Meet] • Review Meeting Information • Review Meeting Description • Summary	All members	Review Meeting Report

	[Weekly Meet] • Work done • Problems and issues • Next week goals • Summary		Weekly Meeting Report
Management	Doing slide representation for project representation	All members	Slide



Gantt chart for Sprint 05

4.3 Project Monitoring and Control

4.3.1 Requirements Management

The requirements for this system are captured in the Vision document. Requested changes to requirements are captured in Change Requests and are approved as part of the Configuration Management process.

4.3.2 Reporting and Measurement

At the end of each iteration, updated cost and schedule estimates along with a metrics summary report will be generated. The weekly report will include the following:

- Earned Value for Completed Tasks: This metric is used to re-estimate the schedule and budget for the remainder of the project and to identify any need for scope changes.
- Total Defects (Open and Closed): Presented as a trend graph, this metric helps estimate the effort remaining to correct defects.
- Acceptance Test Cases Passing: Displayed as a trend graph, this metric demonstrates progress to stakeholders.
- Overall Costs Monitoring: Costs will be continuously monitored against the project budget to ensure financial control.

4.3.3 Risk Management

Risk Ranking (High, Medium, Low)	**Risk Description and Impact**	**Mitigation Strategy and/or Contingency Plan**
High	If the customer opts to discontinue the project, possibly due to changing priorities, dissatisfaction, or other unforeseen circumstances, the project will be canceled	We can not solve this risk by ourselves: Negotiation with the client is necessary to persuade continuation or compensation per contract.
High	Lack of project development knowledge can lead to	We can solve this risk: By preparing thoroughly before the project by briefly watching overview

	quality issues, schedule delays, increased costs, risk of failure, and diminished stakeholder confidence.	videos. Seek guidance to identify any knowledge or skill gaps and promptly address them by watching YouTube videos or purchasing courses.
Medium	Inappropriate task allocation is relative to team members' abilities. The project may not be completed in the best possible state.	We can solve this risk: By allocating tasks according to members' abilities for optimal performance, fostering efficiency, morale, and successful project completion.
Medium	Poor communication causes team members to potentially misunderstand each other, leading to conflicts, reduced productivity and decreased work quality.	We can solve this risk: By attempting to interact more, fostering better understanding and increasing team cohesion.
Low	Slow customer feedback during project development can result in minor delays in designing some features.	We cannot solve this risk, but it is not worth worrying about. It does not have a significant impact on the project.

4.3.3.1 Configuration Management

The combination of tools like Trello for change request management, Google Drive for document management and Git-based systems (GitHub) for version control will provide a comprehensive solution for managing project artefacts and changes. These tools ensure that all source code, test scripts, data files, and documentation are included in baselines and versioned appropriately, thereby maintaining a controlled and traceable project environment.

Repositories links: Github, Trello, Google Drive (Please use an email with the domain “fit.hcmus.edu.vn” or “clc.fitus.edu.vn” to access our Google Drive, or send an access request)