<Group13-LB>

<Book Management System>
Software Development Plan (Small Project)
Version <4.0>

Revision History

Date	Version	Description	Author
<10/Oct/24>	<1.0>	Introduction, Project Overview	<Group13>
<17/Oct/24>	<2.0>	Project Organization, 4.2 Project Plan, 4.3 Monitoring and Control	<Group13>
<19/Oct/24>	<3.0>	Management Process, 4.1 , 4.2 (add Gantt Chart)	<Group13>
<24/Oct/24>	<4.0>	Revision History, fix (Project Estimates,Total Estimated Cost**)**	<Group13>

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Software Development Plan (Small Project)

1. Introduction

The purpose of the document is to provide an overview of the entire Software Development Plan. It includes the following sections:

- Purpose: Explains why this document is created and what it aims to achieve during the software development process.
- Scope: Defines the boundaries and the extent of the document's applicability, including the software and processes it covers.
- Definitions, Acronyms, and Abbreviations: Lists and explains any specific terms or abbreviations used within the document.
- References: Provides sources or documents that are referred to within the Software Development Plan.
- Overview: Gives a summary of the structure and content of the plan, providing insight into how the development process will be managed.

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 *Book Management System* project, including deployment of the product.

The plans as 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

The topic "Book Management System" was chosen for the website because of its high practical applicability, addressing the need for efficient book information management in libraries and bookstores. The system helps optimize the processes of storing, searching, and tracking books, enhancing the user experience while promoting digitalization and management efforts.

2.2 Assumptions and Constraints

- **Assumptions**:
  - The book management system will support multiple users simultaneously without any performance issues.
  - Security: The book management system will be constructed with robust security measures, ensuring that user and book data are encrypted and protected from unauthorized access.
- **Constraints**:
  - The project must be completed within the approved budget limits.
  - The project needs to be completed according to the plan (within 4 months).
  - Personnel: There is only a limited team of engineers and administrators to develop and maintain the system.

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

The project team is composed of students, structured for efficient collaboration. The Project Manager oversees the project, ensuring tasks stay on track. The Development Team handles platform functionality and integrations, while UI/UX Designers focus on user interface design and experience. Regular meetings are held to review progress and address any risks.

3.2 Roles and Responsibilities

Person	Role
Đặng Ngọc Quốc Đạt (PM)	Back-end, Leader, Tester
Nguyễn Tấn Đạt (Dev)	Back-end, Tester
Nguyễn Việt Hoàng (Dev)	Back-end, Data Engineer
Đỗ Quốc Cườm (Dev)	Front-end, Designer
Phạm Gia Khiêm (Dev)	Front-end. Designer

4. Management Process

4.1 Project Estimates

1. **Estimated Cost**:
   - **Domain:** Free
   - **Hosting**: Shared hosting: 2 - 15 USD/month.
   - **Development Cost**: Free
   - **Database Cost**: Free (Database costs on MongoDB ; however, a free tier can be utilized for educational purposes).
   - **Third-Party Services** (ex: email, file storage, Cloudinary)
   - **Maintenance & Updates**: Free (Only includes necessary bug fixes and feature updates; leverages the user community and free resources to reduce costs).

1. **Estimated Schedule**:
    - **Planning and Requirement Analysis**: 2 weeks
      (Includes gathering detailed requirements and project scoping)
    - **Design Phase**: 2 weeks
      (Creating UI/UX wireframes, database design, and system architecture)
    - **Development Phase**: 4 - 6 weeks
      (Frontend, backend development, and integration of features such as user registration, book management, rental services, etc.)
    - **Testing and QA**: 2 weeks
      (Functional testing, load testing, and bug fixing)
    - **Post-Launch Maintenance**: 4 weeks
2. **Total Estimated Duration**: 14 - 16 weeks

Basis for Estimates:

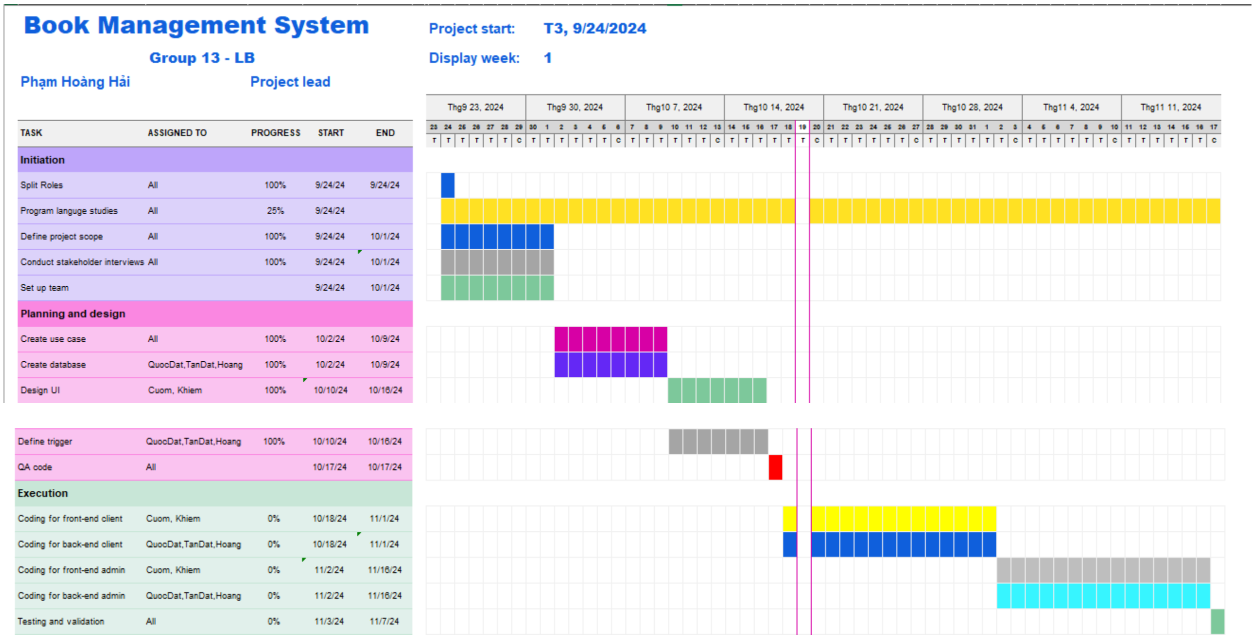
- The cost is based on typical rates for a small to mid-sized development team.
- The schedule is derived from the scope of features required for the system (user roles, book transactions, rentals, inventory management, etc.).
- These estimates account for complexities like secure payments, real-time inventory management, and multi-role functionality (admin, buyer, seller).

4.2 Project Plan

- PA0:
    - Start: 22/09/2024.
    - End: 05/10/2024.
    - Task:
        - Report: Team Contract, Proposal, Development Tool.
        - Coding: HTML, CSS, JS..
        - Target: Static website.
- PA1:
    - Start: 5/10/2024.
    - End: 26/10/2024
    - Task:
        - Report: Project Plan, Vision Document…
        - Coding: Git, Github, Database
        - Target: Use Git for source code management and develop a database schema.
- PA2:
    - Start: 26/10/2024
    - End: 16/11/2024
    - Task:
        - Report: Use-case specification.
        - Coding: Front-end Frameworks (React.js) và Back-end (Node.js và Express.js)
        - Target: Develop a basic interface and set up functions such as login and logout.
- PA3:
    - Start: 16/11/2024
    - End: 7/12/2024
    - Task:
        - Report: Class diagram
        - Coding:Front-end Frameworks (React.js) và Back-end (Node.js và Express.js).
        - Target: Build the admin page layout; Fetch API; Set up the database and connect with the API; Features to add, delete, and edit objects.
- PA4:

    - Start: 7/12/2024
    - End: 28/12/2024
    - Task:
        - Report: Revise SAD, UI prototype.
        - Coding: Database, Front-end Frameworks (React.js) và Back-end (Node.js và Express.js).
        - Target: Display product data on the interface; Develop product search features + 1 Release.
- PA5:
    - Start: 28/12/2024
    - End: 18/1/2025
    - Task:
        - Report: Test plan and test cases, Project presentation
        - Target: Deploy the website on Vercel + 1 Release.

- GANTT CHART



Book Management System

Group 13 - LB

Phạm Hoàng Hải Project lead

Project start: T3, 9/24/2024

Display week: 1

TASK	ASSIGNED TO	PROGRESS	START	END
Initiation				
Split Roles	All	100%	9/24/24	9/24/24
Program languge studies	All	25%	9/24/24	
Define project scope	All	100%	9/24/24	10/1/24
Conduct stakeholder interviews	All	100%	9/24/24	10/1/24
Set up team			9/24/24	10/1/24
Planning and design				
Create use case	All	100%	10/2/24	10/9/24
Create database	QuocDat,TanDat,Hoang	100%	10/2/24	10/9/24
Design UI	Cuom, Khiem	100%	10/10/24	10/16/24
Define trigger	QuocDat,TanDat,Hoang	100%	10/10/24	10/16/24
QA code	All		10/17/24	10/17/24
Execution				
Coding for front-end client	Cuom, Khiem	0%	10/18/24	11/1/24
Coding for back-end client	QuocDat,TanDat,Hoang	0%	10/18/24	11/1/24
Coding for front-end admin	Cuom, Khiem	0%	11/2/24	11/16/24
Coding for back-end admin	QuocDat,TanDat,Hoang	0%	11/2/24	11/16/24
Testing and validation	All	0%	11/3/24	11/7/24

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

Updated cost and schedule estimates, and metrics summary reports, will be generated at the end of each iteration.

The Minimal Set of Metrics, as described in the RUP Guidelines: Metrics, will be gathered on a weekly basis. These include:

Earned value for completed tasks. This is used to re-estimate the schedule and budget for the remainder of the project, and/or to identify need for scope changes.

Total defects open and closed – shown as a trend graph. This is used to help estimate the effort remaining to correct defects.

Acceptance test cases passing – shown as a trend graph. This is used to demonstrate progress to stakeholders.

In addition, overall costs will be monitored against the project budget.

4.3.3 Risk Management

Risks will be identified in the Inception Phase using the steps identified in the RUP for Small Projects activity “Identify and Assess Risks”. Project risk is evaluated at least once per iteration and documented in this table. The risks of the greatest magnitude are listed first in the table.

Risk Ranking (High, Medium, Low)	**Risk Description and Impact**	**Mitigation Strategy and/or Contingency Plan**
High	Inadequate time estimation, leading to project delays.	Break tasks into smaller, manageable parts and track progress closely to adjust the schedule as needed.
High	Insufficient testing leading to bugs or defects in the final product, impacting user experience.	Allocate sufficient time and resources for testing to ensure thorough coverage and efficiency. Perform multiple testing cycles, including user acceptance testing.
High	The sudden out of a team member, leading to bottlenecks in the workflow. The remaining team members may face increased workload	Redistribute tasks based on priority, ensuring that critical items are completed first. Adjust the project scope if needed to prevent overwhelming the remaining team members.
Medium	Requirements from stakeholders are unclear or change frequently, leading to scope creep and rework.	Regularly hold meetings with stakeholders to clarify requirements. Implement a change management process to handle changes systematically.
Medium	Poor communication between team members, leading to misunderstandings and inefficiencies.	Implement regular check-ins and use collaboration tools (e.g., Slack, Jira) to ensure all team members are updated on project status. Promote open communication and feedback within the team.
Low	Team members may have conflicting schedules or varying availability	Establish a clear communication schedule. Ensure tasks are distributed according to team availability.

4.3.4 Configuration Management

Appropriate tools will be selected which provide a database of Change Requests and a controlled versioned repository of project artifacts.

All source code, test scripts, and data files are included in baselines. Documentation related to the source code is also included in the baseline, such as design documentation. All customer deliverable artifacts are included in the final baseline of the iteration, including executables.