
Coding Kittens

BuyMee
Software Development Plan (Small Project)
Version 1.4.1

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| BuyMee | Version: 1.4.1 |
| Software Development Plan (Small Project) | Date: 24/08/2023 |
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Revision History

| Date | Version | Description | Author |
|------------|---------|--|------------------|
| 20/06/2023 | 1.0 | Introduction and Project Overview | Đinh Hoàng Duy |
| 07/07/2023 | 1.1 | Document completion an update phase plan PA2 | Nguyễn Thế Thiện |
| 22/07/2023 | 1.2 | Update phase plan PA3 | Nguyễn Thế Thiện |
| 05/08/2023 | 1.3 | Update phase plan PA4 | Nguyễn Thế Thiện |
| 20/08/2023 | 1.4 | Update phase plan PA5 | Nguyễn Thế Thiện |
| 24/08/2023 | 1.4.1 | Small adjustments and reviews | Nguyễn Thế Thiện |

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Software Development Plan (Small Project)

1.

2. Introduction

2.1 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.

2.2 Scope

This *Software Development Plan* describes the overall plan to be used by the BuyMee project, including deployment of the product. The details of the individual iterations will be described in the Iteration Plans.

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

2.3 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.

3. Project Overview

3.1 Project Purpose, Scope, and Objectives

The purpose of this project is to develop an e-commerce website that serves as a marketplace for pet-related products and services. The project aims to provide a convenient platform for buyers and sellers to connect, browse, and purchase products, as well as adopt or sell pets. The deliverables of the project include the fully functional e-commerce website, product listings, user management system, payment gateway integration, and educational resources on pet care.

3.2 Assumptions and Constraints

Assumptions:

- The project team has the necessary technical skills and expertise to develop the e-commerce website.
- The project has access to the required hardware and software resources.
- The project will receive timely feedback and support from stakeholders.

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Constraints:

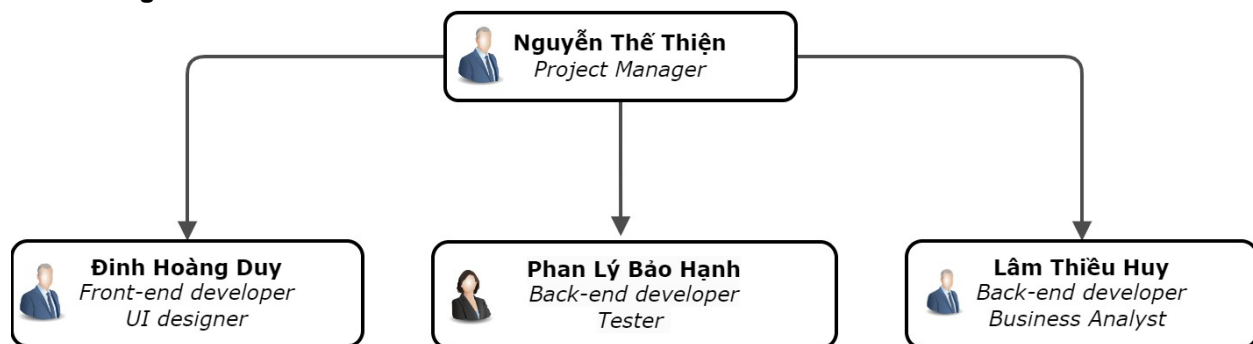
- Budget: The project budget is limited to 20.000.000 VND .
- Time: The project must be completed within 2 months.
- Staff: The project team consists of four members: Duy, Thiện, Hạnh, and Huy.
- Equipment: The project team will utilize the existing hardware and software resources.

3.3 Project Deliverables

Deliverables for each project phase are defined in the Development Case. Deliverables are delivered towards the end of the iteration, as specified in section 4.2.4 Project Schedule.

4. Project Organization

4.1 Organizational Structure



4.2 Roles and Responsibilities

| Person | Role |
|--|--|
| Nguyễn Thế Thiện - Project Manager | Responsible for project management, coordinating activities, and making decisions in the project. He is accountable for project planning, scheduling, and resource management. The Project Manager's tasks include project planning, monitoring progress, and ensuring the successful implementation of the project. |
| Đinh Hoàng Duy - Front-end Developer / UI Designer | Responsible for developing the user interface and designing visually appealing interfaces for the application. The tasks of the Front-end Developer/UI Designer include building attractive and interactive user interfaces, ensuring a good user experience, and integrating design |

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| | requirements into the product. |
| Phan Lý Bảo Hạnh - Back-end Developer / Tester | Responsible for developing the server-side software (back-end) and performing testing to ensure the quality and performance of the application. The tasks of the Back-end Developer/Tester include building the database, implementing server-side logic, and conducting functional and performance testing of the application. |
| Lâm Thiều Huy - Back-end Developer / Business Analyst | Responsible for developing the server-side software (back-end) and working as a business analyst in the project. The tasks of the Back-end Developer/Business Analyst include analyzing business requirements, building server-side logic, and ensuring that the application meets the customer's needs. |

5. Management Process

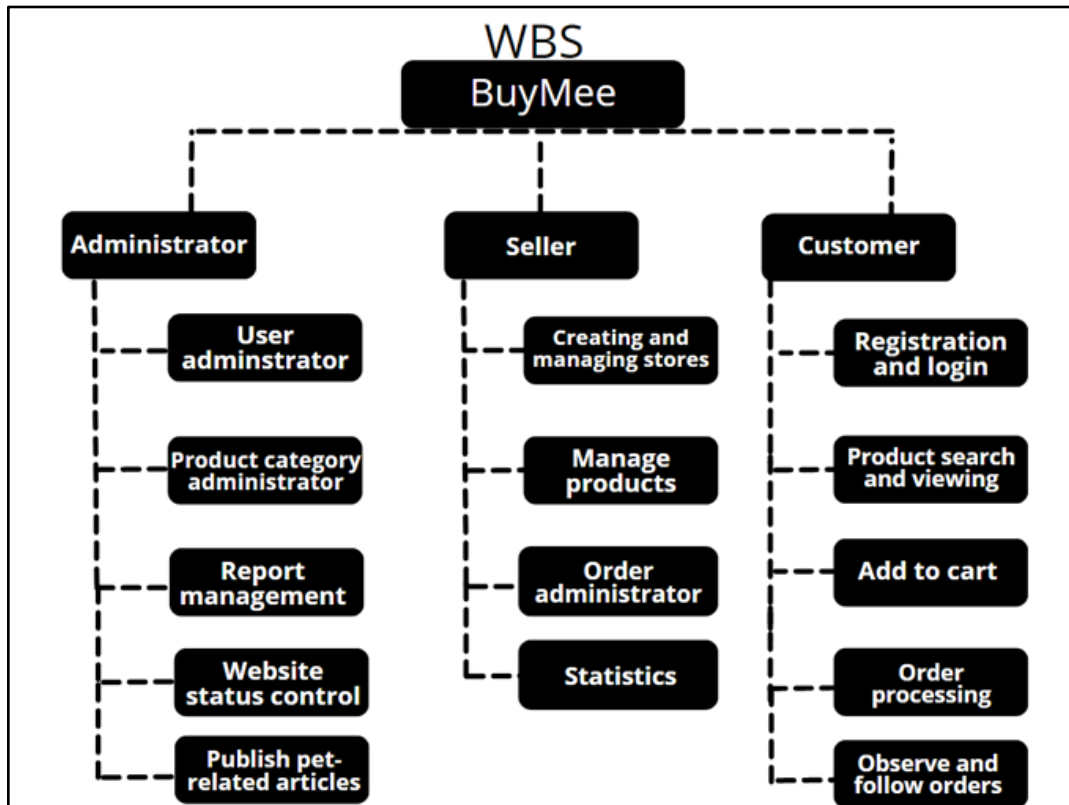
5.1 Project Estimates

This project will take the team about 8 to 10 weeks to complete, as expected. Because this is completely new knowledge that requires extensive learning, it will take longer than an expert to create a simple web. In the first 1-2 weeks, the team is expected to learn and expand their understanding of web coding before beginning work on a specialized coding project in the following weeks. The problem of repetition can be caused by a lack of understanding of the code, which requires more time to learn, but everything will still be in progress and the next code return will be completed. If a specific function is requested for the project, project estimates may be calculated and changed.

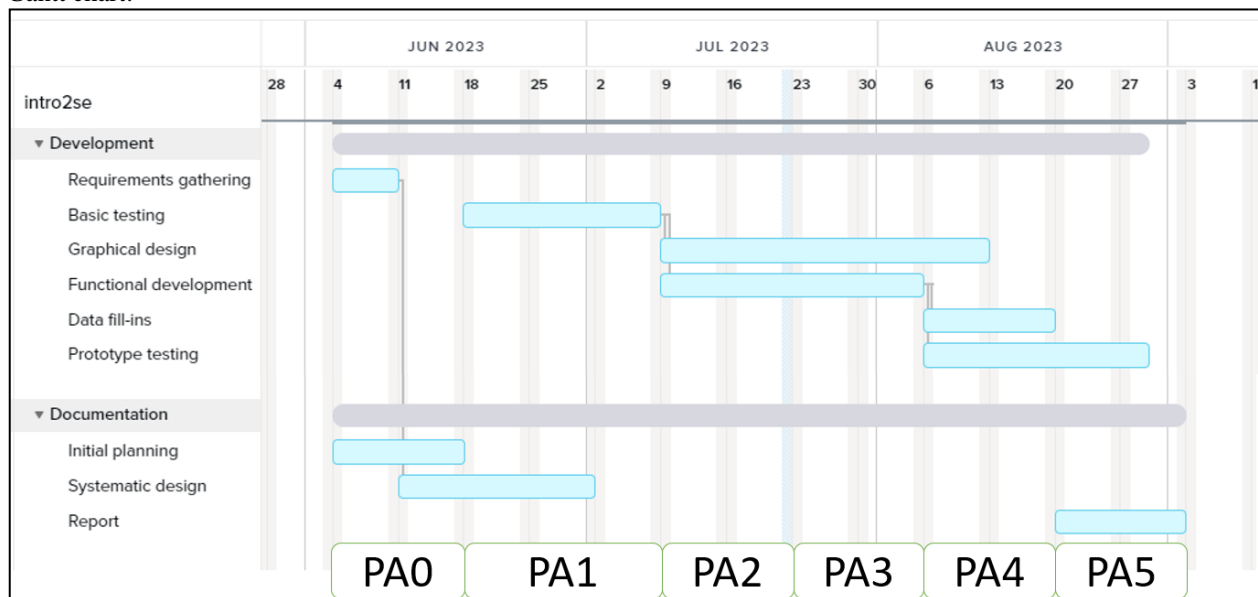
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5.2 Project Plan

5.2.1 Phase Plan



Gantt chart:



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5.2.2 Iteration Objectives

We intend for the functionality and the project to grow slightly after each iteration. The application has three distinct roles, but they will be developed in parallel and progressed together.

For Duy, the front-end designer, the goal of each iteration will be to gradually improve the site's look and feel. According to Duy's plan, he should complete basic steps such as system login images or purchase and sale homepages during the first iterations. Duy will gradually improve the website with more elaborate images and services, and the operations will become more professional.

Hanh, on the other hand, is in charge of storing data on the website. The goal of each iteration can be to improve the web's data storage process in terms of simplicity and efficiency; specifically, during the first iteration, Hanh should have a basic view of the database and store data in any way. However, in the next iteration, Hanh should learn how to optimize storage and apply it to her web in order to handle the web's massive data store when it is released to the market. In addition, we must ensure the dependability and data processing of our website.

Finally, Huy and Thien are in charge of the server, which can be thought of as the website's brain. Each iteration's goal is for the server to be logically created and management controls to become increasingly tight. The first iterations, in particular, can both create an easy-to-use, easy-to-understand server that can provide a brief understanding of how the server works for the site. However, in subsequent iterations, the website's server should be changed and refined to make the website run more efficiently and without errors during use.

5.2.3 Releases

Our plan was to create an e-commerce website that would function as a marketplace for pet-related products and services. Our platform will not only facilitate the buying and selling of pets and pet-related items, but it will also provide valuable pet information and resources. Once we finish the code and develop the app, we will release demos. We will continue to receive customer feedback and update the software until the application is fully functional. At that point, we will make the beta version available for users to test. Here are the detailed releases that have been up-to-date.

PA0: We started to research

- Explore new tools and how they work, how they would contribute to the project.
- Do review report, weekly report template, planning report, project proposal, document design, and weekly meeting report.

PA1: We started to make a work plan.

- Draw a UML diagram of the system.
- Do vision document and project plan.
- Review all works completed and improved.

PA2: We started to make detailed system designs and take a step further into the development.

- Draw a use-case diagram and specify clearly what is in each use-case and its work flows (use-case specifications)
- Update vision document and project plan.
- Basic software system experimenting.

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PA3: We slowed down the development process on hold to deal with more important and sooner deadlines.

- Software Architecture Document (SAD): design the website structures and components to indicate how system development and testing phases work.

PA4: We went back to and sped up the development process to make up for the time lost.

- UI prototypes and designs.
- Additional SAD document updates and changes.
- Finish the most basic features and data for prototype release and testing.

PA5: We prepared for the scheduled project release.

- Final rush of website development for submission and reporting.
- Document updates, synchronizations and reviews.
- Total project report preparation.

5.2.4 Project Schedule

| Untitled - TextEdit | | |
|---|--|--|
| File Edit View Help | | |
| 17 June <ul style="list-style-type: none"> • Unifying code language • Learn new software | 8 July <ul style="list-style-type: none"> • Create work plan • Draft an initial version | 22 July <ul style="list-style-type: none"> • Update project plan • Improve the issues • Functional requirements • Alternatives and competitors • User environments |
| 6 Aug <ul style="list-style-type: none"> • Revise the use-case model and specifications • Draft the software architecture document | 20 Aug <ul style="list-style-type: none"> • Revise the Software Architecture Document • Sketch the user interface | 11 Sep <ul style="list-style-type: none"> • Prepare a test plan • Design test cases • Execute test cases • Summarize and report test results |

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5.2.5 Project Resourcing

There will be three main roles, as we define them: front end designer, database manager, and server controller. At the same time, a Project Manager is required to assign and coordinate team tasks in a reasonable and consistent manner.

We decided to look at each person's personality and skills to determine the respective role after searching and seeing who is compatible with each role. Huy, Duy, Hanh, and Thien make up our group of four.

- Duy is a fashionista who cares about his appearance, so he will be ideal for designing the front end of this application. We are confident that Duy will complete the front end design in an eye-catching manner that will catch the attention of customers.
- Moving on to data storage, Hanh used to be an experienced and skilled person in the database section, so assigning her to handle this part was extremely reasonable. We believe she will take on and complete the assigned work with her solid background knowledge and inherent experience.
- The server control role is difficult to master and necessitates extensive knowledge. Thien and Huy are people who have no prior experience or knowledge of the subject matter but are eager to learn and explore new things. Thien is also a person who has a good overview of the project and makes good decisions, so we give Thien an important role as project manager. At the same time, Thien assisted Huy in learning how to control the server and perform well in this assigned task.

5.3 Project Monitoring and Control

5.3.1 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.

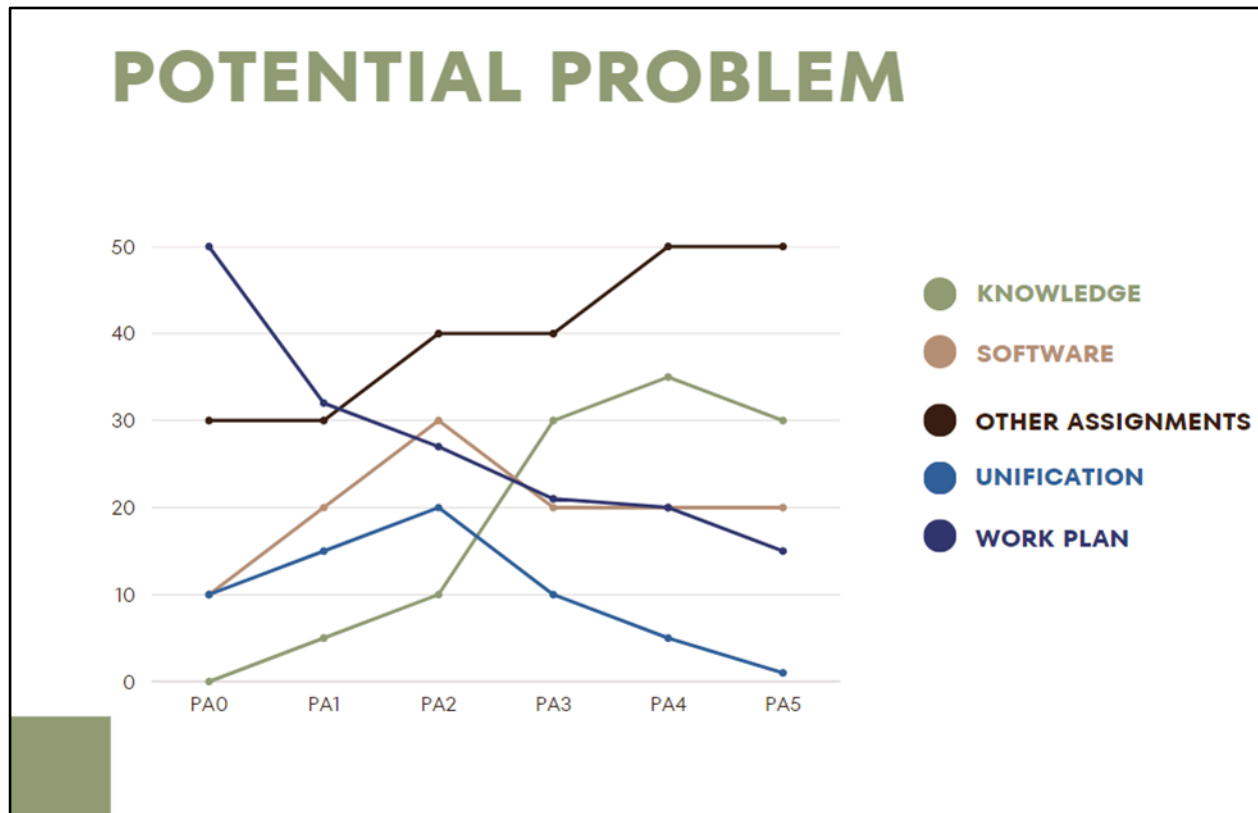
5.3.2 Reporting and Measurement

From the start of the project to the present, the team has had approximately 4-5 weeks to deploy and research the project. Almost every mission and each PA is completed on a weekly basis. Despite the fact that the team and each individual faced new challenges, the tasks were completed, bringing understanding and a common path for the group's development. This project has about 8 weeks left, and the team anticipates that the schedule will still adhere to the plan and that the project will be completed quickly.

My team discovered numerous potential risks and costs in terms of knowledge, software, other projects, team cohesion, and time constraints. The are five concerning specifics:

- At first, the group's knowledge was hazy and uncertain, but after learning and researching thoroughly about the PAs and projects, the knowledge gap was closed. However, in the middle of the project, more in-depth knowledge is required, and it is necessary to review and research again in order to fully understand this project; the team then minimized this problem.

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- Secondly, the issue of software used in the project is somewhat difficult because PA3 or PA4 requires advanced and extensive knowledge. As a result, good software that meets the needs of the group is required. However, in the absence of software to solve this problem, my team minimizes the problem by coding and learning on our own.

- On the other hand, we ran into difficulties due to a heavy workload of classroom assignments, which left us with insufficient time to complete project tasks as planned. This had a direct impact on our project, causing task completion to be delayed and overall efficiency to be reduced. To address this issue, we propose the following solutions: prioritizing project tasks and effectively managing time, delegating tasks based on availability and expertise, encouraging effective communication and collaboration within the team, and considering project deadline adjustments in consultation with our project supervisor. These measures are intended to overcome the challenge, reduce the impact of the challenge, and ensure smoother project progress.

- The group's unity is also a problem that the PAs present, but the group argues and finds a common solution, so this may not be a major issue.

- The final issue is the group's work plan, or the group's agreed-upon direction. Even if it has been agreed upon and carefully chosen, it will be impossible to avoid the risks and costs that may remain in the process. The project requirements are not too high in the early stages, so it can still be solved thoroughly and rationally. However, as time passes, the requirements become more difficult, and the group work plan becomes less effective. and fully resolving the request will be difficult. In this regard, the team is still attempting to solve and successfully complete the project-proposed PAs and/or to identify need for scope changes.

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5.3.3 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 | Team members are not yet proficient in web development skills. Takes time to learn. Select and install appropriate tools. | The group members are encouraged to learn and practice the necessary technologies for the project. Recommend reliable sources of skill learning. |
| High | The estimated time to complete the software is not accurate. Extend project development time. Change plans several times. Some members have to work harder than others. | Motivate team members to complete basic functions as soon as possible. Support each other when programming. Apply code pairing to minimize errors when programming, reduce time when testing and debugging. The group prioritizes complex tasks. Do a search for more information and re-estimate the time it will take to get the job done. |
| Medium | Productivity of team members is low due to unreasonable time distribution of subjects. Slow down software development. | The group reallocates the time of each task in accordance with the individual's time. The project manager needs to be involved in interacting with the team members to identify the problem as soon as possible. |
| Low | Change of personnel in the group. Causing an imbalance in the amount of work assigned, there is a high probability that the previous estimate has to change the software development plan to be more suitable for human resources. | Reallocate resources, work items with members. Re-estimate the project plan. |

5.3.4 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.