TUS (Tutors of University of Science)

TUS
Software Development Plan (Small Project)
Version 1.2

Revision History

Date	Version	Description	Author
28/10/2023	1.0	Overview and fulfill some parts of document	Lý Nhật Hào
02/11/2023	1.1	Update information in estimation part	Lý Nhật Hào
04/11/2023	1.2	Review and update content	All team

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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 plan to be used by the **TUS** 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*.

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

- Project Purpose: is an e-commercial platform where HCMUS students can search for tutors to support them in school subjects. The platform also allows students who want to become tutors to post personal information, schedule, courses, academic qualifications and tuition fees so that students who need help can contact them.
- Project Scope: A Website for students and admin.
- Objectives: We want to open a platform which is useful and easy for HCMUS students to earn extra money through tutoring or search for tutors to improve study results.

2.2 Assumptions and Constraints

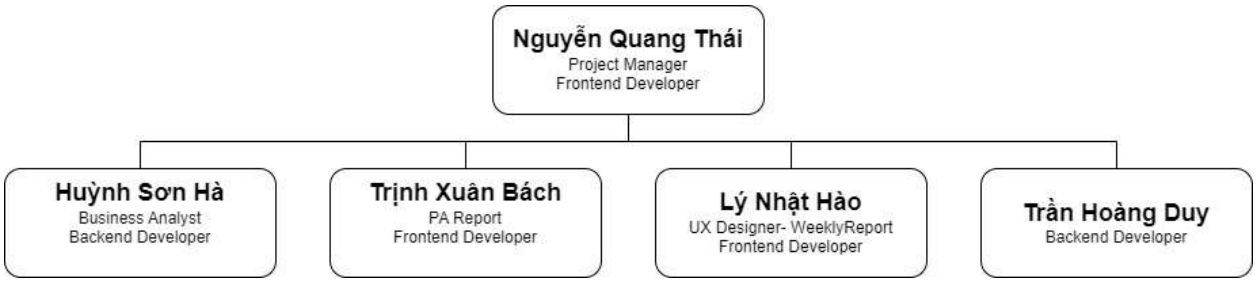
- Budget: $100 included
  - Hosting server (Azure Virtual Machine) (free 100$ for student account)
  - Storage (AWS S3)
  - Domain for Web Admin (https://tus.website/)
  - Learning courses on technology applied (use Udemy)
- Staff: 4 members
  - Backend Developer: 2 person
  - Frontend Developer: 3 person (Website)
- Equipment:
  - 5 laptops (for development and test product)
  - 2 mobile phones (for frontend dev test product)

2.3 Project Deliverables

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

3. Project Organization

3.1 Organizational Structure



3.2 Roles and Responsibilities

Person (**Name**, roles)	Role
Nguyễn Quang Thái Project Manager, Frontend Developer	Manage projects and assign work to members, support developer team. Responsible for development of UI home page.
Huỳnh Sơn Hà Backend Developer, Business Analyst	Collects customer requirements and connects the development team with the customer. Responsible for development of Web API and database.
Trịnh Xuân Bách Frontend Developer, PA Report	Responsible for writing Project Assignment, and developing the UI course page.
Lý Nhật Hào UX Designer, Weekly Report, Frontend Developer	Responsible for designing UX, writing Weekly Report and developing the website for Admin.
Trần Hoàng Duy Backend Developer	Responsible for development of Web API and database.

4. Management Process

4.1 Project Estimates

- Estimated costs: $100 included
  - Hosting server (Azure Virtual Machine) (free 100$ for student account)
  - Storage (AWS S3)
  - Domain for Web Admin (https://tus.website/)
  - Learning courses on technology applied (use Udemy)

4.2 Project Plan

4.2.1 *Phase plan and iteration objectives*

Phases	Sprint	Start-End	Task	Objectives
Inception	Sprint 1	8/10/23 - 21/10/23	● Idea for the project. ● Discuss the environment to develop project, programming languages, technology, … ● Assign roles for each team member. ● Write Weekly Report and the description of project. ● Project Description	● Project plan ● Work division ● PA0 ● Weekly Report 1 ● Weekly Report 2
Elaboration	Sprint 2	22/10/23 - 4/11/23	● Learning and training technology: API, Server, HTML, CSS, Javascript, Figma,, … ● Design of project: Homepage, Login. ● Frontend start coding in design finished. ● Write Weekly Report and Project Assignment. ● Project Plan ● Vision Document	● Have basic knowledge to start a project. ● Design of project on Figma. ● Finish Homepage, login. ● PA1 ● Weekly Report 1. ● Weekly Report 2.
	Sprint 3	5/11/23 – 18/11-23	● Learning technology. ● Design of project: Web Admin. ● Revised project plan. ● Detailed vision document. ● Use-case model. ● Use-case specification. ● Weekly report.	● PA2. ● Weekly Report 1. ● Weekly Report 2. ● Design of project: Web Admin.
	Sprint 4	19/11/23 – 2/12/23	● Learning technology and generating code. ● Use-case specification. ● Define software architecture. ● Class diagrams. ● Weekly report.	● PA3. ● Weekly Report 1. ● Weekly Report 2.
Construction	Sprint 5	3/12/23 – 16/12/23	● Learning technology and generating code. ● Revise the Software Architecture Document. ● UI prototype. ● Weekly report.	● PA4. ● Weekly Report 1. ● Weekly Report 2.
	Sprint 6	17/12/23 – 30/12/23	● Prepare test plan and test cases. ● Prepare project presentation.	● PA5 ● Final submission. ● Presentation before class.

4.2.2 *Releases*

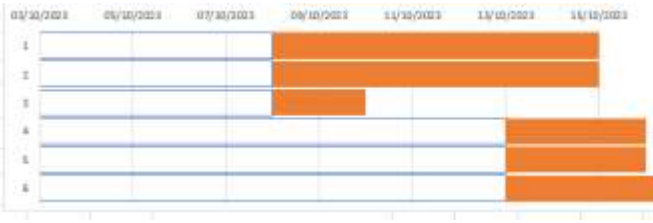
Beta releases on 14/12/2023: Include all features, maybe some bugs. The purpose is to get feedbacks from customers, and improve for the next version

· *Alpha releases on 25/12/2023: The latest version, include all features, clear bugs of the last version, ready to submit.*

4.2.3 *Project schedule:*

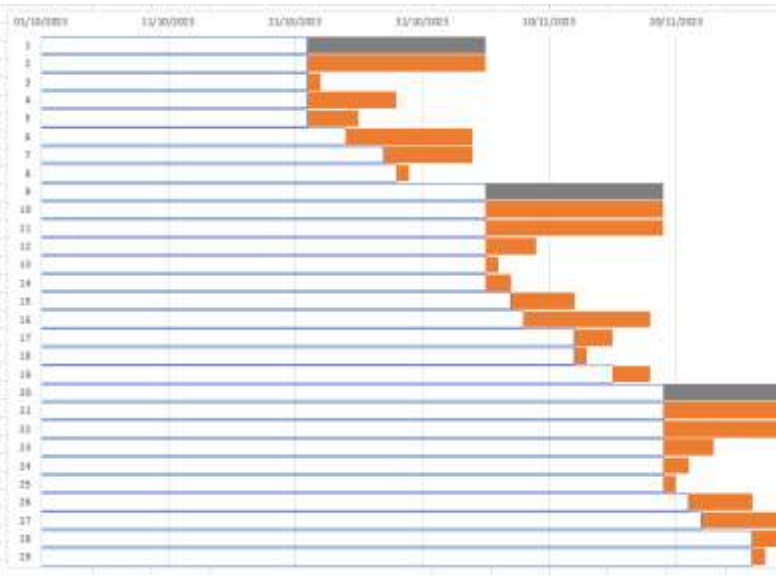
- *Inception phase:*

		Phân công	Start	Duration
1	Idea for project	Lý Nhật Hào	08/10/2023	7.00
2	Discuss environment to develop project	Nguyễn Quang Thái	08/10/2023	7.00
3	Assign role to each member	Nguyễn Quang Thái	08/10/2023	2.00
4	Write PA0: introduction	Trịnh Xuân Bách	13/10/2023	3.00
5	Write PA0: target user and environment	Trần Hoàng Duy	13/10/2023	3.00
6	Write PA0: key features	Huỳnh Sơn Hà	13/10/2023	5.00



- *Elaboration phase:*

		Phân công	Start	Duration
1	Sprint 2	All	22/10/2023	14.00
2	Learning and training technology	All	22/10/2023	14.00
3	Write Weekly Report week 1	Lý Nhật Hào	22/10/2023	1.00
4	Write Project Plan	Hà, Duy, Hào	22/10/2023	7.00
5	Design of project: Login, Forget Password, Create Account	Lý Nhật Hào	22/10/2023	4.00
6	Frontend coding: Login, Forget Password, Create Account	Thái, Bách, Hào	25/10/2023	10.00
7	Write Vision Document	Thái, Bách	28/10/2023	7.00
8	Write Weekly Report week 2	Lý Nhật Hào	29/10/2023	1.00
9	Sprint 3	All	05/11/2023	14.00
10	Learning technology and generating code	All	05/11/2023	14.00
11	Backend coding	Hà, Duy	05/11/2023	14.00
12	Design of project: Home Page	Lý Nhật Hào	05/11/2023	4.00
13	Write Weekly Report week 1	Lý Nhật Hào	05/11/2023	1.00
14	Revised project plan	All	05/11/2023	2.00
15	Write Detailed vision document	Bách, Thái	07/11/2023	5.00
16	Frontend coding: Home Page	Thái, Bách, Hào	08/11/2023	10.00
17	Draw Use-case model	Bách, Thái	12/11/2023	3.00
18	Write Weekly Report week 2	Lý Nhật Hào	12/11/2023	1.00
19	Draw Use-case specification	Hà, Duy, Hào	15/11/2023	3.00
20	Sprint 4	All	19/11/2023	14.00
21	Learning technology and generating code	All	19/11/2023	14.00
22	Backend coding	Hà, Duy	19/11/2023	14.00
23	Design of project: Web Admin	Lý Nhật Hào	19/11/2023	4.00
24	Revised Use-case specification	Lý Nhật Hào	19/11/2023	2.00
25	Write Weekly Report week 1	Lý Nhật Hào	19/11/2023	1.00
26	Define software architecture	Thái, Bách	21/11/2023	5.00
27	Frontend coding: Web Admin	Thái, Bách, Hào	22/11/2023	10.00
28	Draw class diagram	Hà, Duy	26/11/2023	6.00
29	Write Weekly Report week 2	Lý Nhật Hào	26/11/2023	1.00



- *Construction phase:*

		Phân công	Start	Duration
1	Sprint 5	All	03/12/2023	14
2	Learning technology and generating code	All	03/12/2023	14
3	Backend coding	Hà, Duy	03/12/2023	14
4	Design of project: Post information tutor	Lý Nhật Hào	03/12/2023	4
5	Revised Software Architecture Document	Nguyễn Quang Thái	03/12/2023	2
6	Write Weekly Report week 1	Lý Nhật Hào	03/12/2023	1
7	Draw Detailed UI prototype	Hà, Duy	05/12/2023	5
8	Frontend coding: Post information tutor	Thái, Bách, Hào	06/12/2023	10
9	Write Weekly Report week 2	Lý Nhật Hào	10/12/2023	1
10	Sprint 6	All	17/12/2023	14
11	Prepare test cases	Thái, Hào	17/12/2023	3
12	Test and Write test report	Bách, Hà, Duy	19/12/2023	5
13	Prepare project presentation	All	24/12/2023	7

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 the need for scope changes.

Total defects open and close – 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 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
Low	Team member is busy or cannot work in small amount of time (have flu, have family work, …)	Project manager can discuss and update to them later, team member can do another time when they are free which does not affect to the project
Medium	Do not have enough money to run project	Basically, project needs money for technical parts, we should consider which part should minimize money or in worst case team members are responsible for contributing money
Medium	The time planned is not enough to complete the task	Adjust the timeline (minimize the tasks which we could reduce time and increase) or other members can support
High	Intensive and new knowledge to learn at the same time	Try to consider and divide hard knowledge into smaller parts for others
High	Not identify the right scope of project	The team could review and adjust the project plan and schedule to accommodate the additional work. The team could also conduct a root cause analysis to identify the reasons for the scope and take corrective actions to prevent it.
High	Team member turnover	If key team members leave the project unexpectedly, the team could conduct a knowledge transfer session and document critical information and skills. Or team must adjust timeline and divide jobs again to minimize the bad effects to project
High	Change in project requirements (it is too difficult to work)	The team must conduct impact assessments and risk analyses for change to evaluate its feasibility and consequences. Then, we find way to adjust but still maintain main features

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.