T-2HAND

Software Development Plan

(Small Project)

Version <1.0>

Revision History

| **Date** | **Version** | **Description** | **Author** |
| --- | --- | --- | --- |
| 03/11/2024 | 1.0 | Basic plan for the product | Trần Đan Huy |
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Software Development Plan (Small Project)

# 

# Introduction

## Purpose

This Software Development Plan document provides an overview of the entire software development process, including project objectives, scope, and the steps required to complete the project. The document details technical requirements, development approach, and implementation roadmap to ensure the quality and efficiency of the software. This plan serves as a guiding foundation for the development team and as a basis to ensure that the final product meets user needs and adheres to the specified technical standards.

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

## Scope

This Software Development Plan describes the overall plan to be used by the T-2hand project including deployment of the product. The details of the individual interactions 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

## 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.

# Project Overview

## Project Purpose, Scope, and Objectives

The T-2Hand project builds a web platform that enables users to buy and sell second-hand items, helping to reduce waste and save costs while creating a safe and convenient trading environment. The goal is to support sustainable consumption by encouraging product reuse, making it easy for sellers to list items and for buyers to find suitable options.

The T-2Hand project will deliver a complete web application that allows users to register and log in according to their roles (Admin, Seller, Buyer). The user management system will include account registration, role assignment, and profile management. The online marketplace platform will provide features for sellers to list products, manage their listings, and directly message buyers, as well as enable buyers to search for, filter products, add items to their cart, and proceed to checkout. The Admin dashboard will assist in monitoring user accounts, approving listings, and handling complaints. Additionally, the system will provide real-time notifications about transactions and include a detailed transaction statistics table for Admins to track transactions.

## Assumptions and Constraints

### Assumptions

* **User Needs:** Users require an easy-to-use platform for buying and selling second-hand items while saving costs, and they also wish for a convenient platform to facilitate these transactions.
* **Technology:** The project will utilize modern web technologies, including React.js for the user interface and Express.js for the backend, with the assumption that team members possess the necessary skills and experience to work with these technologies.
* **User Base:** It is expected that there will be sufficient users aged 18 and older participating on the platform, including both sellers and buyers.
* **Data Privacy:** Users trust the platform to protect their personal information.
* **Feature Requirements:** The core features of the platform, such as account registration, product management, direct messaging between buyers and sellers, and a complaint management system, will be developed and function smoothly as planned, without significant changes in user requirements.

### Constraints

* **Project Timeline:** The project is expected to be completed within a fixed timeframe of 12 weeks, including the development, testing, and deployment phases.
* **Budget Limitations:** The project operates on a limited budget, restricting costs for resources or additional features that may arise during development.
* **Regulatory Compliance:** The project must comply with data privacy regulations and e-commerce laws to ensure user trust and legal compliance, which may restrict some features or data handling methods.
* **Scope:** The project scope will be limited to building essential functions to meet the basic requirements for the product launch. Additional features will not be included in the initial plan but will be considered for development in future updates after the product has been released.
* **Quality Assurance:** All functions must pass thorough testing phases, including unit testing, integration testing, and user acceptance testing before deployment.
* **Technical Limitations:** The project relies on specific technologies (React.js and Express.js), which may impose limits on the features and functionalities that can be implemented if team members face challenges with these technologies.

## Project Deliverables

* Software Development Plan
* Software Architecture Document
* Vision Document
* User Interface Design
* Testing Report: Test reports include unit reports and overall reports
* Web Application Source Code
* Analysis and Design Document
* Use Case Diagrams
* Use Case Specifications
* Design Model
* Implementation Subsystem
* Software Requirements Specification
* Change Request

# Project Organization

## Organizational Structure

A diagram of software engineering

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## Roles and Responsibilities

| **Person** | **Role** |
| --- | --- |
| **Lâm Sỹ Tân**  **(Leader)** | * **Project Manager:** Manages the entire project. * **Business Process Analyst:** Analyzes business processes. * **Requirements Specifier:** Specifies software requirements. * **System Test Designer:** Designs system test cases. * **System Tester:** Executes integration and system tests. * **UI Designer:** Designs the user interface. * **Developer:** Codes the software. * **Unit Test Analyst:** Analyzes and executes unit tests. * **Unit Tester:** Executes software unit tests. |
| **Ôn Gia Bảo** | * **System Engineering Leader:** Leads the systems engineering team. * **System Integrator:** Integrates systems and components. * **System Test Designer:** Designs system test cases. * **System Test Analyst:** Analyzes and executes system tests. * **System Tester:** Executes integration and system tests. * **UI Designer:** Designs the user interface. * **Developer:** Codes the software. * **Unit Test Analyst:** Analyzes and executes unit tests. * **Unit Tester:** Executes software unit tests |
| **Võ Hoàng Đức** | * **Systems Analyst:** Analyzes systems and requirements. * **System Integrator:** Integrates systems and components. * **System Tester:** Executes integration and system tests. * **Software Engineering Leader:** Leads the software development team. * **Software Architect:** Designs the software architecture. * **Developer:** Codes the software. * **Unit Test Designer:** Designs unit test cases. * **Unit Test Analyst:** Analyzes and executes unit tests. * **Unit Tester:** Executes software unit tests |
| **Trần Đan Huy** | * **Business Modelling Leader:** Leads the business modeling team. * **Business Designer:** Designs business solutions. * **Requirements Specifier:** Specifies software requirements. * **Systems Analyst:** Analyzes systems and requirements. * **System Test Manager:** Manages integration and system testing. * **System Test Analyst:** Analyzes and executes system tests. * **System Tester:** Executes integration and system tests. * **Developer:** Codes the software. * **Unit Test Analyst:** Analyzes and executes unit tests. * **Unit Tester:** Executes software unit tests |
| **Trần Thị Cát Tường** | * **Business Process Analyst:** Analyzes business processes. * **Requirements Specifier:** Specifies software requirements. * **System Tester:** Executes integration and system tests. * **Software Architect:** Designs the software architecture. * **UI Designer:** Designs the user interface. * **Developer:** Codes the software. * **Unit Test Manager:** Manages unit testing. * **Unit Test Analyst:** Analyzes and executes unit tests. * **Unit Tester:** Executes software unit tests |

# Management Process

## Project Estimates

* Estimated cost:
* Domain name: $10 - $15/ year
* Shared Hosting: $3 - $10/month

**→**  Our website needs only one domain name. In addition, our project will be built in over 1 month after releasing for testing and adjusting in the real environment, so last month we needed to purchase one package of shared hosting. For other costs, we try to use free services and if any cost arises in the development process, the total cost may increase. **Total initial estimated cost will be: $13 - $25.**

* Estimated schedule:
* Start at: 25/10/2024
* Finish at: 26/12/2024

**→ 2 months lasting**

## Project Plan

### Phase and Iteration Plan

| **Phase** | **Sprints** | **Start date** | **Finish date** |
| --- | --- | --- | --- |
| **Inception** | 2 | 10/10/2024 | 6/11/2024 |
| **Elaboration** | 2 | 7/11/2024 | 20/11/2024 |
| **Construction** | 3 | 21/11/2024 | 25/12/2024 |

* **WBS:**

**A diagram of a software development

Description automatically generated**

* **Gantt chart:**

**A screenshot of a graph

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### Releases

| **Version** | **Date** | **Sprint release** |
| --- | --- | --- |
| 1.0 | 11/12/2024 | 5 |
| 1.1 | 25/12/2024 | 6 |

### Project Schedule

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## Project Monitoring and Control

### Reporting

The project status will be reported weekly through:

* Weekly meeting report: including the revision of the last work, the discussion of the meeting, and incoming tasks.
* Weekly status report: show the progress of the project.
* Weekly planning report: plan with detailed work and deadlines for each team member.

### Configuration Management

* The reports, comments in written form, sharing documents, and text files are stored in Google Drive in each folder corresponding to each stage of the project.
* Jira for assigning work and tracking the work of each team member.
* Source code for the project and related files are managed in GitHub.