Moneytor

Software Development Plan

Version 1.0

Revision History

| **Date** | **Version** | **Description** | **Author** |
| --- | --- | --- | --- |
| 24/10/2021 | 1.0 | Initial version | Team |
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Software Development Plan

# 

# Introduction

The introduction of the **Software Development Plan** provides an overview of the entire document. It includes the purpose, scope, definitions 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 Moneytor project, including deployment of the product. The details of the individual iterations will be described in the Iteration Plans.

## 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.

Management Process — explains the estimated cost and schedule, defines the major phases and milestones for the project, and describes how the project will be monitored.

Applicable Plans and Guidelines — provides an overview of the software development process, including methods, tools and techniques to be followed.

# Project Overview

## Project Purpose, Scope, and Objectives

A brief description of the purpose and objectives of this project and a brief description of what deliverables the project is expected to deliver.

### **2.1.1. Purpose**

An application on mobile phones that helps users to manage and track their spending by day, week, month, quarter, year. The application is aimed at convenience for all user types and promises to be an effective tool to help users easily control spending, build healthy spending habits.

### **2.1.2. Main features**

* Make specific notes for spending activity (borrow, spend, income).
* View spending history by different time period
* View spending history on different groups (eating, traveling, studying, ...).
* Spending limit, notification when limit is exceeded.
* Spending reminder, spending chart.
* Share spending bills between many people.
* The widget window in the main screen makes it easier to view and enter spending data.
* Management on money lent to others users and loan due reminder
* Create a new user account easily with Google authentication
* Link account to user e-wallet and bank account.

## Assumptions and Constraints

### **2.2.1. Budget assumption (time per person \* number of people)**

* Design UI. **estimate budget:** **24 hours x 5**
* Design database. **estimate budget:** **12 hours x 3**
* Make specific notes for spending activity (borrow, spend, income). **estimate budget: 6 hours x 2**
* Spending reminder. **estimate budget: 3 hours x 1**
* Spending chart. **estimate budget: 10 hours x 2**
* Spending limit, notification when limit is exceeded. **estimate budget: 3 hours x 1**
* View spending history by different time periods. **estimate budget: 12 hours x 3**
* View spending history on different groups (eating, traveling, studying, ...). **estimate budget: 12 hours x 3**
* Debt management: recording and reminding loans, shortcuts to contacts. **estimate budget: 8 hours x 2**
* Sharing spending, a spending bill can be shared by many people. **estimate budget: 12 hours x 2**
* The widget window in the main screen makes it easier to view and enter spending data. **estimate budget: 8 hours x 1**
* Google authentication. **estimate budget: 6 hours x 2**
* Linked with e-wallets (Momo, ZaloPay,...), bank accounts. **estimate budget: 6 hours x 2**

### **2.2.2. Staff**

* Assumption: Five core members. All members can access group resources (github, drive, slack, trello)
* Constraints: There will be no new members during the project and no member will leave the project.

### **2.2.3. Deadline**

* Assumption: this project will be completed by the beginning of January 2022.
* Constraints: No new requirements.

## 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 4.2.4 Project Schedule.

Final deliverables will be:

* A mobile app (for Android 5.0+) with the features mentioned above
* Documents (Software development plan, Vision document, user manual)
* Presentation slides

# Project Organization

## Organizational Structure

## Roles and Responsibilities

| ***Person*** | ***Role*** | ***Responsibility*** |
| --- | --- | --- |
| **Tiến Thành** | *Project Manager* | Managing overall Project Management discipline |
| **Tiến Thành** | *Software Engineering Team Lead* | Lead the developer team, primarily responsible for the Implementation disciplines |
| **Minh Uyên** | *Test Manager* | Leading the testing activities, evaluation of test execution |
| **Công Bình** | *Technical Architecture* | Lead and coordinate technical activities throughout the project, establishes the overall architecture structure for the project |
| **Duy Hoàng** | *Deployment Engineering Team Lead* | Leading the team responsible for installation activities in the end-user environment |
| **Trung Hiếu** | *UI Design Team Lead* | Lead and coordinate the prototyping and design of the MoneyTor graphic user interface |
| **Minh Uyên** (primary),   **Trung Hiếu** | *Business Analyst* | Coordinates business use-case modeling, research and analysis data related to users |
| **Duy Hoàng** (primary)*,*  **Tiến Thành** | *Database Designer* | Define the database-specific constructs needed to store, retrieve, delete data for the application |
| **Minh Uyên,**  **Công Bình** | *UI/UX Designer* | Responsible for design UI prototype under UI Design Team Lead (Hiếu) coordinates |
| **All members** | *Developer* | Responsible for implementing subsystems under Software Engineering Team Lead (Thành) coordinates |
| **All members** | *Tester* | Responsible for executing testing under Test Manager (Uyên) coordinates |

*Note*: If a new task unexpectedly shows up, Project Manager shall assign it to any member. Each member should understand each other's tasks.

# Management Process

## Project Estimates

The duration of the project is estimated to be 10 weeks, however it may change should the progress of the project be postponed or slowed. For instance:

* Lack of professional knowledge (about the development model, about technology,...)
* Insufficient training
* Team members’ absence (for any objective or subjective reasons)

## Project Plan

### Phase and Iteration Plan

| **Phase** | **Iteration** | **Milestone** | **Start** | **End** |
| --- | --- | --- | --- | --- |
| **Inception** | Sprint 1 | Business case review, Software Development Plan, Vision Document | 02/10/2021 | 30/10/2021 |
| **Elaboration** | Sprint 2 | Use-case model and specification document | 30/10/2021 | 13/11//2021 |
| Sprint 3 | Software Architecture | 13/11/2021 | 27/11/2021 |
| **Construction** | Sprint 4 | UI prototype | 27/11/2021 | 11/12/2021 |
| Sprint 5 | Release 1 | 11/12/2021 | 25/12/2021 |
| Sprint 6 | Release 2 | 25/12/2021 | 08/01/2022 |

### Releases

The MoneyTor will be released for general use through 2 main releases at the iteration 5 and 6

Release 1 must contains the basic functionality as listed below:

* Make specific notes for spending activity
* Spending chart visualization
* View spending history on different time
* View spending history on different groups (eating, studying, travelling, …)
* Notification when limit is exceeded
* Debt management: recording and reminding loans

Release 2 should include all of the remaining features:

* Spending notes reminder
* The widget window for easier access
* Linked with e-wallets
* Fix some bugs found in Release 1

### Project Schedule

| **Task name** | **Start** | **Finish** | **Responsibility** |
| --- | --- | --- | --- |
| **Milestones** |  |  |  |
| Start | 02/10/2021 | 02/10/2021 |  |
| Project Plan and Vision Document Review Milestone | 30/10/2021 | 30/10/2021 |  |
| Use-case model and specification document | 13/11/2021 | 13/11/2021 |  |
| Software Architecture | 27/11/2021 | 27/11/2021 |  |
| UI prototype | 11/12/2021 | 11/12/2021 |  |
| Product Release 1 Milestone | 25/12/2021 | 25/12/2021 |  |
| Product Release 2 Milestone | 01/01/2022 | 01/01/2022 |  |
| Presentation | 08/01/2022 | 08//01/2022 |  |
|  |  |  |  |
| **Sprint 1** | **02/10/2021** | **30/10/2021** |  |
| Business Modeling | 02/10/2021 | 15/10/2021 | Uyên, Hiếu |
| Write Software Development Plan | 15/10/2021 | 29/10/2021 | Thành, Hiếu, Hoàng |
| Write Vision Document | 15/10/2021 | 24/10/2021 | Uyên, Bình |
| **Sprint 2** | **30/10/2021** | **13/11//2021** |  |
| Training use-case diagram | 30/10/2021 | 30/10/2021 | Bình, Thành |
| Training UML class diagram | 31/10/2021 | 31/10/2021 | Thành |
| Model use-cases of the system | 1/11/2021 | 10/11/2021 | Team |
| Write use-case specification document | 8/11/2021 | 13/11/2021 | Team |
| **Sprint 3** | **13/11/2021** | **27/11/2021** |  |
| Define software architecture | 13/11/2021 | 17/11/2021 | Thành, Bình |
| Design class diagrams | 17/11/2021 | 27/11/2021 | Team |
| Design Database | 17/11/2021 | 20/11/2021 | Team  (Hoàng lead) |
| Training UI design | 20/11/2021 | 20/11/2021 | Hiếu |
| **Sprint 4** | **27/11/2021** | **11/12/2021** |  |
| Draw deployment diagram | 27/11/2021 | 30/11/2021 | Hoàng |
| Sketch UI | 27/11/2021 | 04/12/2021 | Team  (Hiếu lead) |
| Training Github | 06/12/2021 | 06/12/2021 | Bình |
| Implementation | 05/12/2021 | 11/12/2021 | Team |
| Training test | 11/12/2021 | 11/12/2021 | Uyên |
| **Sprint 5** | **11/12/2021** | **25/12/2021** |  |
| Implementation | 11/12/2021 | 20/12/2021 | Team |
| Test planning | 12/12/2021 | 12/12/2021 | Uyên |
| Test | 20/12/2021 | 24/12/2021 | Team |
| Write Test report | 22/12/2021 | 25/12/2021 | Team |
| Release 1 | 25/12/2021 | 25/12/2021 |  |
| **Sprint 6** | **25/12/2021** | **08/01/2022** |  |
| Implementation | 25/12/2021 | 30/12/2021 | Team |
| Test | 30/12/2021 | 01/01/2022 | Team |
| Release 2 | 01/01/2022 | 01/01/2022 |  |
| Presentation | 08/01/2022 | 08/01/2022 | Team |

## Project Monitoring and Control

### Reporting

* Weekly meeting through Zoom on Friday every week (scheduled at 8pm)
* Weekly status report (Shared status report on Google Drive)
* Progress will be noted on Trello
* Informal chats (through Facebook chat group or Slack)

### Risk Management

| Risk ID | Risk Description | Probability | Impact | Priority | Mitigation Strategy or Contingency Plan |
| --- | --- | --- | --- | --- | --- |
| 1 | The project will not meet the performance and timing requirements. The performance and loading tests performed on the Architectural Prototype and Beta Release did NOT meet the specified requirements. | ~10% | Catastrophic | Very high | Speed up the process and/or omit currently removable requirements, functionalities... |
| 2 | Releases may slip and not be available at the start of the Registration Period. | ~10% | Catastrophic | High | Monitor progress against the schedule & milestones.  Update effort to complete and time to complete on a regular basis. |
| 3 | The data of the project is partially or completely lost | ~5% | Insignificant to catastrophic, depending on what has been lost | High | Have a primary and secondary backup to prevent or mitigate complete loss.  Update the backups frequently. |
| 4 | A position remains unfilled | ~20% | Detrimental | High | Continue the project and have specific training at the same time. |
| 5 | A member (or more) cannot fulfill the task(s) due to clinical reasons or other unavoidable events | ~30% | Insignificant to significant, depending on the duration of absence and the importance of the task(s) | High | Temporarily re-assign the tasks among other members of the team until the absent members are able to get back on track. |