jcxdc

CaRe
Software Development Plan (Small Project)
Version 1.0

Revision History

Date	Version	Description	Author
31/10/2023	1.0	Initial version	Triệu Nhật Minh

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Software Development Plan (Small Project)

1. Introduction

1.1 Purpose

This *Software Development Plan* is used to gain insight into each separate part of the project. This document provides all members with the easiest way to approach this project. By reading this file, they will find out how much it costs, how they can implement the entire project, what the delivery days, and much more useful information will be included in this document. Based on this information, the managers can choose an appropriate development plan for the project.

The following people use the *Software Development Plan*:

- Project manager: The manager can use this document to determine the timeline of each stage in this project. He or she can ensure work progresses on time and the resources do not exceed the set plan.
- Project team members: They can use this document to determine what they need to do, when they should complete their tasks, and what standards or plans they need to follow. By using this document, they can keep their work moving in the right direction and follow the set plan.

1.2 Scope

This *Software Development Plan* describes the overall plan to be used by the <project name> 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*.
- The design of the entire project, including UML and each separate part of the website, is placed in *Figma*.

1.3 Overview

This *Software Development Plan* provides the following information:

- Project Overview: This part provides the simplest information on the project's purpose, scope and objectives. Besides, assumptions and constraints affected this project will be listed such as budget, staff, equipment, etc. During the project, a list of artifacts is created and completed and, all of them go with the defined delivery day.
- Project Organization: This part shows the information of all members who participated in this project. To clarify, there is an organizational structure to illustrate the role of each member and what they do in the entire project.
- Management Process: This part indicates the plan for the project and is split into three smaller parts. First, all costs as well as the schedule for the project will be estimated, and when the re-estimation occurs should be determined in this section. In the following part, the timeline for the project will be determined. To be specific, each phrase plan, lists of objectives accomplished in each iteration, schedule and resources used in this project should be included. Finally, it is the section for project monitoring and control which provides information on requirements, reporting, risk and configuration management.

2. Project Overview

2.1 Project Purpose, Scope, and Objectives

Project Purpose:

- CaRe is designed to be a comprehensive tool for coffee enthusiasts. It provides a dynamic and user-friendly environment where individuals can not only find cafes that align with their specific tastes and needs, but also gives them the opportunity to review these establishments, sharing their experiences with others and booking a table.
- For café owners, CaRe allows them to advertise their businesses to a targeted audience, thereby increasing their visibility and reach in an efficient manner. Furthermore, CaRe allows these business owners to receive direct feedback from customers, providing critical insights that can be used to improve their services and offerings.

Project Scope:

- Allow users to discover new cafés, review their experiences and reserve a table.
- Provide a platform for café owners to increase their market visibility and attract a larger customer base.
- Incorporation of a feedback system for café owners to receive valuable insights from customers.

Project Objectives:

- Personalize the café discovery process based on user preferences and needs.
- Bridge the gap between café lovers and café owners.
- Facilitate improvements in café services and offerings based on user feedback.
- Promote businesses more efficiently and far-reaching.

2.2 Assumptions and Constraints

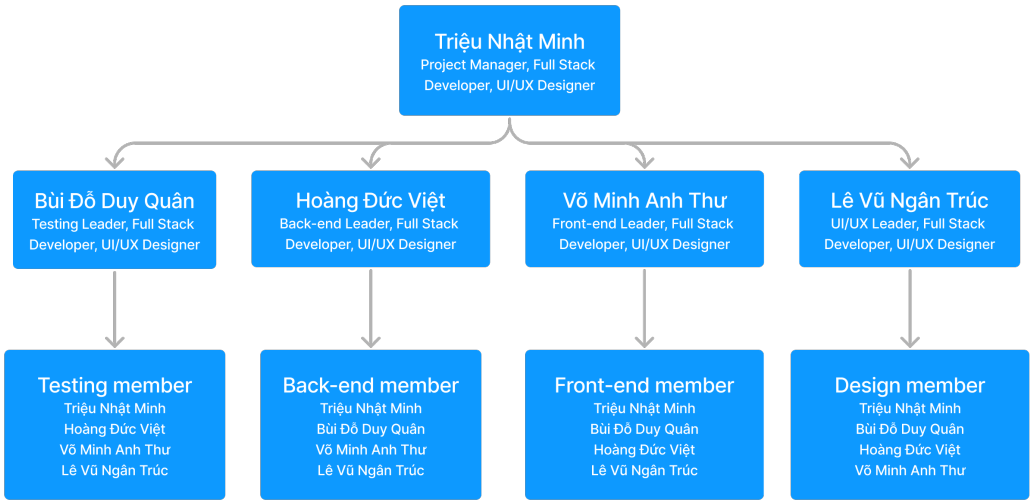
- The project must be delivered within 12 weeks.
- Project's team has 5 people and will remain unchanged throughout the progress.
- The project has zero-budget.
- The project team members have the required skills to perform their assigned roles effectively.

2.3 Project Deliverables

Sprint	Deliverables
Sprint 1	Vision Document, Software Development Plan
Sprint 2	Use-case Document, Software Architecture Document
Sprint 3	User Interface Prototype
Sprint 4	Test Plan, Test Cases
Sprint 5	Test Report
Sprint 6	Product Releases

3. Project Organization

3.1 Organizational Structure



3.2 Roles and Responsibilities

Person	Role
Minh, Project Manager	Responsible for planning, executing and monitoring a project from start to finish. Defining the scope, budget, and schedule of the project, and coordinating the work of different team members and stakeholders. Responsible for managing risks, ssues and changes, and ensuring the quality and delivery of the project outcomes.
Quân, Tester	Responsible for verifying and validating the functionality, usability and performance of a software product. Designing, executing test cases, scenarios and scripts, and report defects and bugs, if any. Ensuring the quality and reliability of the software.
Việt, Back-end Leader	Responsible for developing and maintaining the server-side logic, data and services of the product. Designing, implementing and testing the back-end architecture, APIs and databases, and ensure the security, scalability and performance of the product, mentoring and guiding other back-end developers in the team.

Thư, Front-end Leader	Responsible for overseeing the development and maintenance of the user interface of a web application. Collaborating with other developers, designers, and stakeholders to deliver high-quality products that meet the client's requirements and expectations.
Trúc, UI/UX Leader	Responsible for feedbacking the user interface and user experience of a software product. Researching, analyzing the needs and preferences of the users, and creating wireframes. Implementing and testing the UI/UX elements, and ensuring the usability, accessibility and aesthetics of the software.

4. Management Process

4.1 Project Estimates

The project will be released by the end of December. The project will be estimated again when releasing the first version of the application.

4.2 Project Plan

4.2.1 Phase Plan

Phase	Overall Objectives	No. of iterations	Start date	End date
Inception	The Inception Phase will define the product requirements and establish the business case for the project. The major use cases will be developed as well as the high-level Project Plan.	1	19/10/2023	01/11/2023
Elaboration	The Elaboration Phase will examine the project's requirements and necessary architecture, design the project plan and architect, and remove the high-risk aspects from the project.	1	02/11/2023	15/11/2023
Construction	The complete software system is developed during the Rational Unified Process building phase. The focus is on the creation of system components and other features. Additionally, the bulk of coding occurs at this time.	3	16/11/2023	27/12/2023
Transition	In the transition phase, testing is conducted on the software, defects are removed, and the software is released. The software is published and distributed to customers or end-users during this phase. The product will be updated or altered based on input from end users.	1	28/12/2023	10/1/2024

4.2.2 Iteration Objectives

Phase	Iteration	Description	Associated Milestones
Inception	Preliminary iteration	Defines business model, product requirements, project plan, and business case.	Business Case Review
Elaboration	Use-case model and develop Architectural Prototype	Completes analysis & design for all use cases Develops the architectural prototype and define class diagram with all available information you have	Use-case specifications Architectural Prototype
Construction	Revised Architectural Prototype	Complete the UI prototype for development. Database system has to be ready at this iteration.	UI design prototype
	Develop initial Release	Implement and test use cases. Incorporate feedback to change use cases. Develops the initial system.	Software
	Develop full Release	Implement remaining use cases. Incorporate enhancements and defects from initial release. Develop the full system.	Software
Transition	Release beta version	Test features and deploy the software.	Beta version

4.2.3 Releases

No	Description	Sprint – Date
1	Test build for **Coffee shop review** feature	4 – 12/11/23
2	Test build for **Booking management** feature	4 – 15/11/23
3	Release MVP version	4 – 15/11/23
4	Test build for **Admin portal** feature	5 – 23/12/23
5	Release beta version	6 – 10/1/24

4.2.4 Project Schedule

No	Description	Sprint - Date
1	Finish Inception phase	01/11/2023
2	Finish Elaboration phase	15/11/2023
3	Finish Construction phase	27/12/2023
4	Finish Transition phase	10/1/2024
5	Release the final version	10/1/2024

More detailed project schedule is represented as a Gantt chart, view at this link.

4.2.5 Project Resourcing

Type of staff	Number of staffs	Approach
Project manager	1	Define the project manager role and responsibilities, conduct interviews with the selected candidates and assess their fit for the project
UI/UX designer	5	Interviewing people who are interested in designing. They should have creativity and know how to use applications to support their work.
Front-end developer	5	Interviewing people having fundamental coding skills related to front-end development. Some basic skills are required such as: HTML, CSS, JavaScript, and library of JavaScript: React, ...
Back-end developer	5	Interviewing people having fundamental knowledge related to back-end development: database, NodeJs, ExpressJS. DevOps skills are a big bonus.
Tester	5	Able to comprehend the business and function requirements, and have knowledge to write test case, test plan, test report, and judge the risk in test processing.

4.3 Project Monitoring and Control

4.3.1 Requirements Management

a. Requirements

- User requirements:
  - Customer role:
    - Creating their own account to access the application.
    - Giving vote the coffee shops.
    - Viewing all the most favorite coffee shops in the front of the web page.
    - Viewing some pictures of coffee shops and reading other's comments about the shops.
    - Searching for names of coffee shops that they want to visit.
    - Booking the table in advance.
  - Shop role:
    - Creating their own account for their shops.
    - Posting information of their shops (pictures, menus, …).
    - Accepting or declining the booking of customers.
    - Reporting uncivil comments.

b. Requested change:

When there is a change of requirement, before making decisions to the change of requirement, team should follow this flow:

- **Change request initiation**: A team member who wishes to make a change should submit one via a change form.
- **Change request assessment**: Reviewing basic information of the change, for example: the impact of request, and who the request should be passed to.
- **Change request analysis**: Making a final decision on whether the request is approved or denied. It is better to get the official approval from the leader as well. If an approved change request is signed off, there will be communication between all members of the team. It also should be documented on the change log or anywhere else of project communication to ensure all members and clients understand the shifts needed. If the change request is denied, it should be documented on the change log and the communication related to this request may not be necessary since it could be helpful in order to prevent confusion.
- **Change request implementation**: If the change request is approved, the next step is implementation. It usually consists of updating the project timeline and deliverables, as well as informing the project team.
- **Change request closure**: Once the request has been documented, and implemented, the request is ready to be closed. Any documentation, change logs, and communications should be stored in a shared space that can be accessed later on.

c. Reporting

- Weekly meeting
- Jira update
- Review sprint meeting & Planning Sprint Meeting.

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 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	Requirement creep: During the work process, many additional functions will be created and if this continues, the new functions may affect the old functions and the product cannot be completed on time.	1. Team has to list all the requirements and get a confirmation of the customers/clients (in this project, the customers are all the members of the team). 2. If there is a change of requirement, it must be applied by the **change request process**
High	**Technical creep: This is related to new technology that team has to apply for the productions.**	1. Team should identify what the technology is, and which knowledge is required. 2. Team also identifies the member that has experience on this technology. 3. Then, team can estimate the feasibility for applying new technology to the production. For example, team can create a simple project and apply new technology to understand clearly. This is called **proof of concept (POC)**
Medium	Human resources: Teammates may have health problems. They cannot join in the developing process making production growth slow.	1. The task should be detailed and small so member can comprehend all. 2. Cross-training about the features in the task for all members, so it makes sure that the owner of the task should write down the documents of that task. All members should be ready for OT working (commitment) 3. All the members are ready to OT working. (commitment)
Medium	The time required to finish one task is underestimated. This can affect the timeline of all the tasks behind be delayed and cannot guarantee to finish the production in time.	1. Make sure the requirement is clear and all the members can understand. 2. The requirement must be transformed and broken down to small technical solutions. 3. Team can apply planning poker process (Fibonacci numbers) to estimate the time finish the task properly.

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.