SOFTWARE PROJECT MANAGEMENT PLAN

for

HEALTHKARD

Group ID: 3

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Contents

1 Introduction

1.1 Product Overview

Currently, there is no unified framework in India that facilitates the storage of health records of all citizens. Although private companies/hospitals do solve this problem to some extent by providing e-health record services, they only cater to their own patients/-customers. Therefore, there is a need to develop the foundations necessary for supporting digital health infrastructure to maintain health data in a decentralized and secure way. A few major advantages to this project will be ease of access, user consent for every sophisticated transaction, and portability across national borders.

HealthKard aims to implement the following modules:

- Creation of a unique Health ID using Aadhaar Number
- Storage of Electronic Health Records (EHRs) mapped to Health Identity in the blockchain
- Integration of different sectors in the medical industry
- Encourage better administration of the health sector by utilizing health data analytics

1.2 Project Deliverables

After 12 weeks from the start of the project, the first module will be delivered. The entire product will be delivered within 7 months. The following are the project deliverables: Software Requirements Specification (SRS), Software Project Management Plan (SPMP), Software Design Document (SDD), Working Software Product with User Interface and Functions, DVD, and Black Book Report.

1.3 Project Organization

1.3.1 Software Process Model

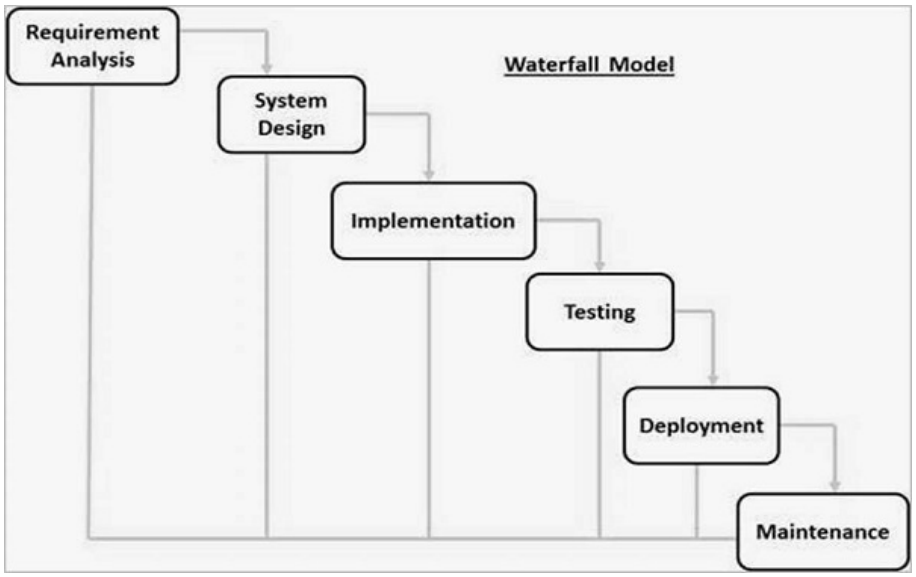
The waterfall model depicts the software development process in a linear sequential flow. Due to this, it is also referred to as a linear-sequential life cycle model, which indicates that any development process steps can start after the previous one has finished. The stages are always done in this order. The model is called a waterfall because it progresses from one phase to the next logically.
In our project, we will first develop a unique health identity will be generated via Smart

Figure 1.1: Deliverables

DELIVERABLES	DATE
SOFTWARE REQUIREMENT SPECIFICATION & SOFTWARE PROJECT MANAGEMENT PLAN	26-10-2022
SOFTWARE DESIGN DOCUMENT & SOFTWARE TEST DOCUMENT	5-11-2022
IMPLEMENTATION OF SMART CONTRACTS	21-11-2022
END-TO-END USER INTERFACE	24-02-2023
END-TO-END BACKEND TESTING	06-03-2023
COMPLETE INTEGRATION OF UI WITH BACKEND & RISK MANAGEMENT AND MITIGATION PLAN	27-03-2023
DEPLOYMENT	07-04-2023
FINAL PROJECT REPORT	25-04-2023

Contracts, in the form of an NFT that will store the user's personal as well as health-related information, which is constant throughout to maintain the non-fungible nature of NFTs since we cannot have a functional UI without this implementations. Then we will develop static webpages in React.js. And in final build phase we will integrate all. In our project, software requirements and technology stack is already decided, it will suitable to follow Waterfall model.

Figure 1.2: Waterfall Model



1.3.2 Tools and techniques

1. SRS, SPMP, SDD, and STD Document: Overleaf
2. Blockchain: Solidity and Metamask

3. Back End: Django REST Framework
4. Database: PostgreSQL
5. Front End: React.js and Tailwind CSS

1.3.3 Roles and Responsibilities

Figure 1.3: Roles and Responsibilities

Group Member (Roll No.)	Roles and Responsibilities
Umang Chander Thadani (1914061)	Blockchain (Web3) Developer, Backend Developer
Anurag Sanjay Singh (1914058)	Blockchain (Web3) Developer, Frontend Developer
Dhruv Rakesh Solanki (1914059)	Backend Developer, Frontend Developer
Aayush Vivek Kapoor - (1914066)	Frontend Developer, UI/UX Developer

2 Project Management Plan

2.1 Tasks

2.1.1 1. Requirement Anaylsis

Description

Following elicitation, requirement analysis is an important and necessary activity. To create consistent and unambiguous requirements, we analyse, refine, and scrutinise the gathered requirements. This activity goes over all of the requirements and may show a graphical representation of the entire system. The project's understandability is expected to improve significantly following the completion of the analysis. We can also use the customer interaction to clear up any points of confusion and determine which requirements are more important than others.

Deliverables and Milestones

Completion of SRS Document and Synopsis

Resources and Dependencies

Stakeholders must be present to give inputs in order to obtain desired results, Whitepapers and websites.

Risks and Contingencies

Absence of stakeholders may lead to ambiguity in requirements.

2.1.2 2. Identification of Tasks and Subtasks

Description

Project management is heavily reliant on tasks. It is critical to know how to manage tasks effectively and efficiently if you want to complete your project efficiently and effectively.

Deliverables and Milestones

Tasks and subtasks identified and Risks evaluated with Task Sheet

Resources and Dependencies

SRS Document.

Risks and Contingencies

We must ensure that no tasks are left behind unidentified.

2.1.3 3. Schedule Preparation

Description

Another important aspect of project management is scheduling. Scheduling is important when it comes to all of the tasks and activities that make up the project as a whole. Project management can be done in a variety of ways, ranging from the more traditional to the most cutting-edge software. The goal of project management is to achieve the project's goals successfully, on time and on budget, whether internally or externally for a client.

Deliverables and Milestones

Completion of SPMP Document and Gantt chart

Resources and Dependencies

SRS and Task Sheet

Risks and Contingencies

We must ensure that schedule is foolproof.

2.1.4 4. Identifying Goals and Priorities

Description

We can handle a small problem at a time, but for a larger problem, divide the problems and conquer the problem means breaking the problem down into smaller pieces and capturing each piece separately.

Deliverables and Milestones

Basis for SDD is ready

Resources and Dependencies

SRS and SPMP Document

2.1.5 5. Constructing Designs

Description

The first step in the SDLC (Software Design Life Cycle) is software design, which shifts the focus from the problem domain to the solution domain. It tries to specify how to meet the requirements outlined in the SRS.

Deliverables and Milestones

Completion of SDD

Resources and Dependencies

SRS and SPMP Document, and Goals must be identified

Risks and Contingencies

We must ensure that all designs are constructed carefully.

2.1.6 6. UI Development

Description

This task involves creation of different modules for different webpages along with the styles and UX so that the UI looks clean and user friendly

Deliverables and Milestones

Complete Front End is ready

Resources and Dependencies

1. React.js
2. SRS, SPMP and SDD Document

Risks and Contingencies

There may be some instances where the UI crashes or has a loophole for unauthorized data access

2.1.7 7. UI Testing

Description

Testing the user interface (UI) is an important part of the software testing process. To ensure that applications have the desired functionalities and are user-friendly, they must be tested.

Deliverables and Milestones

Testing is completed on the UI part.

Resources and Dependencies

UI must be ready.

Risks and Contingencies

We must ensure that all test cases are considered.

2.1.8 8. Functional Development

Description

All requirements as mentioned in the SRS Document are implemented.

Deliverables and Milestones

Software Development is completed.

Resources and Dependencies

1. Django REST Framework
2. PostgreSQL
3. SRS, SPMP and SDD Document

Risks and Contingencies

There might be times when the product fails to deliver its purpose. The solution is to try and make the software fail-proof

2.1.9 9. Functional Testing

Description

The last step involved in wrapping up the Software is testing all of its functionality.

Deliverables and Milestones

Testing is completed on the entire product.

Resources and Dependencies

1. Software Development must be completed.
2. pytest: Testing framework

Risks and Contingencies

We must ensure that all test cases are considered.

2.2 Assignments

Figure 2.1: Assignments

TASK NAME	ASSIGNED TO	DATE
Requirement Specification		
• Requirement Gathering	Umang Thadani	20/10/2022
• Requirement Analysis	Anurag Singh	23/10/2022
Project Planning		
• Identifying tasks and subtasks	Dhruv Solanki	26/10/2022
• Schedule Preparation	Aayush Kapoor	27/10/2022
Software Design		
• Identifying Goals and Priorities	Anurag Singh & Dhruv Solanki	29/10/2022
• Constructing Designs	Umang Thadani & Aayush Kapoor	30/10/2022
Development and Testing		
• UI Development	Anurag Singh	21/02/2023
• UI Testing	Umang Thadani	01/03/2023
• Functional Development	Umang Thadani	10/03/2023
• Functional Testing	Anurag Singh	15/03/2023
User Guide	Umang Thadani & Anurag Singh	21/03/2023
Paper Writing	Umang Thadani & Anurag Singh	03/04/2023
Project Report	Umang Thadani & Anurag Singh	17/04/2023