Software Project Management Plan

Tan D. Duong - Breathalyser Project

COSC 412

04/29/2020 (Updated)

Revision Sheet

04/29/2020: SPMP Updated: Summary milestones.

04/11/2020: SPMP First Updated: Fixed Tools Used and plan of building website

03/08: SPMP First Draft

02/09: Topic Proposal Approved

Preface

Increasing population density means road traffic is becoming more and more complex. Unlike the early 20th century, today's traffic accidents are devastating and always leave unpredictable consequences (Imagine the difference between being hit by a horse cart and being hit by a BMW). One of the common causes of this issue in recent years is drunk driving, which took away 10,000 lives from 2006 to 2016, whose ages ranged between 21 and 24. An estimated 1 million people were arrested for allegedly drinking alcohol while driving in the same year. Though the number of deaths and casualties has declined recently, this is still a painful problem that needs immediate and also long-term solutions. An author decided to implement The Breathalyser Project to help drivers in the US in particular and around the world, in general, to make wise decisions before participating on the roads.

With all of the effort, knowledge, and respect for the users and as the developer, the author truly hopes this project will benefit the community and also offload a part of pressure to the authorities.

Scope

This document contains a plan for the successful execution goals that are listed by the author in the Goals section.

Purpose

This document includes the roles, responsibilities, process, and schedule designed for the whole project. Beside, tools, methods, and summary drafts used will be contained in this SPMP.

Table of Contents

(Last update 04/29/2020)

1 - Introduction

This is the Software Project Management Plan (SPMP) for the Breathalyser Project - The non-profit project developed by Tan D. Duong.

The project's author, Tan D. Duong, is an undergraduate student, majoring in Computer Science at Towson University (TU). Duong enrolled in the three - month project required of all students in the Software Engineering course (COSC 412). Successful completion, deliveries and working software are the goals for the developer in this project to meet the requirement of the course.

1.1 Overview

This section describes the current result of the project which is clearly stated. The process of evaluating as well as the improvement of this SPMP during the working of the project.

1.2 Project Summary

The goal of this project is to implement the website application that will deliver the result of the Blood Content Alcohol (BAC) of the users based on the input data. The website would be responsive in both desktop and mobile visuals. To achieve that goal, the developer will have to work efficiently with the prepared schedule and will meet the advisor faculty to discuss and figure the troubles out weekly (if possible). Finally, the finished project will be presented to the advisor by the developers and the advisor also receives source code and the complete SPMP.

1.3 Evolution of the SPMP

During the process of working on the project, some new information and the unwanted issues may show up to the author and it needs to be investigated and debugged respectively. To deal with this problem, the developer should do more research and should meet the advisor faculty in need to overcome the challenge. Changes of schedule may be considered to solve the problems.

1.4 Reference Materials

[1] “Use Cases Analysis”, Tan D. Duong, last updated 04/26/2020

1.5 Acronyms and Definitions

Application Programming Interfaces: a set of functions and procedures allowing the creation of applications that access the features or data of an operating system, application, or other service.

Cascading Style Sheets (CSS): a style sheet language used for describing the presentation of a document written in a markup language like HTML.

FileZilla: One of the most popular FTP clients. The main purpose of Filezilla is to make it easy for you to upload and download files from your web hosting server**.**

GitHub: GitHub provides a Web-based graphical interface. It also provides access control and several collaboration features, such as a wikis and basic task management tools for every project.

HostGator: A Houston-based provider of shared, reseller, virtual private server, and dedicated web hosting

Hypertext Markup Language (HTML): is the most basic building block of the Web. It defines the meaning and structure of web content.

JavaScript: high-level programming language developed to be embedded into a web browser and automate things on the client side.

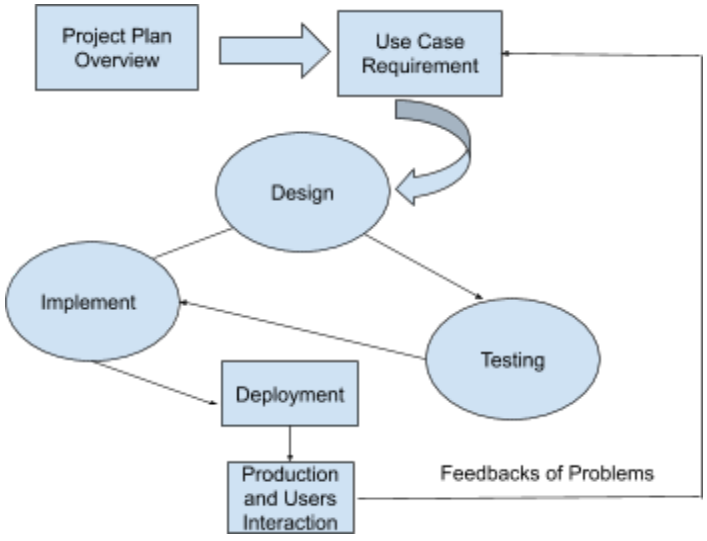
Use Cases: Algorithmic description of users' interaction of the application.

Visual Studio Code (VS Code): a source-code editor developed by Microsoft for Windows, Linux and macOS.

2 - Project Organization

This section includes: Process Model, Organization Structure, Organization Interfaces, and Project Responsibilities.

2.1 Process Model



After the Use Case Requirement well - defined, the project will be started with the cycle of Implement - Design - Testing. Based on the feedback of users, the use case could be fixed.

2.2 Organization Structure/Interfaces

Roles and Responsibilities of the Developer

Web Design Sketch

Researching: Use Case, Risk Management, Programming

Coding: Web Design, Effects, Responsive, Programming

Testing: Along with Coding and Researching. Test the responsive and the workflow of the app.

Deploying

Launching

2.3 Organization Responsibilities

Web Design Sketch Phase	- Outline the drafts for the website (Visuals, Effects, etc).
Planning Phase	- Create Gantt Chart to follow tasks easily - Chart may change during the work
Requirement Analysis Phase	- Make paperwork well - organized - Break the contents into smaller parts
Researching Phase	- Find credibility sources for each section in need - Read carefully to avoid risk and misinformation
Coding and Testing Phase	- Use VS Code as IDE (free) - Develop based on what were researched - Test the app occasionally to ensure it works well - Meet the advisor in need
Deploying and	- Get the property domain name

Launching Phase	- Make sure to finish on time. Avoiding late
Documentation	- Add every update on SPMP

3 - Managerial Process

3.1 Project Management Objectives and Priorities

Based on the developer's vision, the project is to make a simple, friendly interface with less unimportant functions. Basically, there are two main functions in this project: The calculate function and the login/logout function. The goal is to make the front-end simple to save time for building the back-end. Privacy of the users is considered as the first priority of the project. Meetings with advisors are also the key to improve programming skills and paperwork.

Updated (04/29/2020): The login/logout function was decided to temporarily set aside by a developer due to the due date issue.

Individual Research: Most important

Advisor Meeting: The developer could schedule the meeting with the advisor faculty (online or in person) to discuss the project and get help providing any unwanted issues during work.

Updated (04/29/2020): The Developer met the Advisor in 04/11/2020 to discuss the tools used in the project.

3.2 Assumption, Dependencies and Constraints

- The project is web-based
- Time limit is three months

- Valid data input is required for the working of application
- Clients are able to use the app anywhere and do not worry about leaking data
- The system is allowed for future extension and update

3.3 Risk Management

1 Lack of Backend Experience: The Developer does not have high-quality skill in building the Backend system. It may affect the plan and lead to missed deadlines.
Updated (04/29/2020): Developer had to change the plan of building the backend database by connecting it with Firebase instead.

2 Workload: In some cases, the required work suddenly increases due to the unwanted bugs or any trouble the developer could face → Could be prevented by making an extra meeting with the faculty/tutor. But it could affect the plan.

3 Law Changes: This is rare, but somehow the law changes may affect what was built in the app. For example, the law fixes the standard of BAC required higher or lower the recent one, the app must be fixed based on the law.

4 Budgets: This is a non-profit project, so the budget is not the case to worry much here. However, the developer may find the sponsor in the middle of the process if the required budget goes beyond the limit. Every update for that case will be reported in this SPMP.
Updated (04/29/2020): The developer spent small budgets on domain name and host server ($11/ month) to maintain a website → It was not considered as a big deal.

4 - Technical Process

4.1 Methods, Tools and Techniques

This project will be an application (web-based) that is built from scratch (HTML, CSS, JavaScript), React.js may be considered to be used for some framework. The website will be hosted and got the domain name from HostGator and will be kept track of by FileZilla (update, fix, etc.). The calculation of BAC is coded by JavaScript and should return the correct value. The backend for the data storing tools will be UPDATED based on what the developer researched. Responsive websites are required.

Updated (04/29/2020): Backend of this project (from the contact form) will be temporarily stored in Firebase database. Developer will keep researching to publish the new plan for a backend.

4.2 Software Documentation

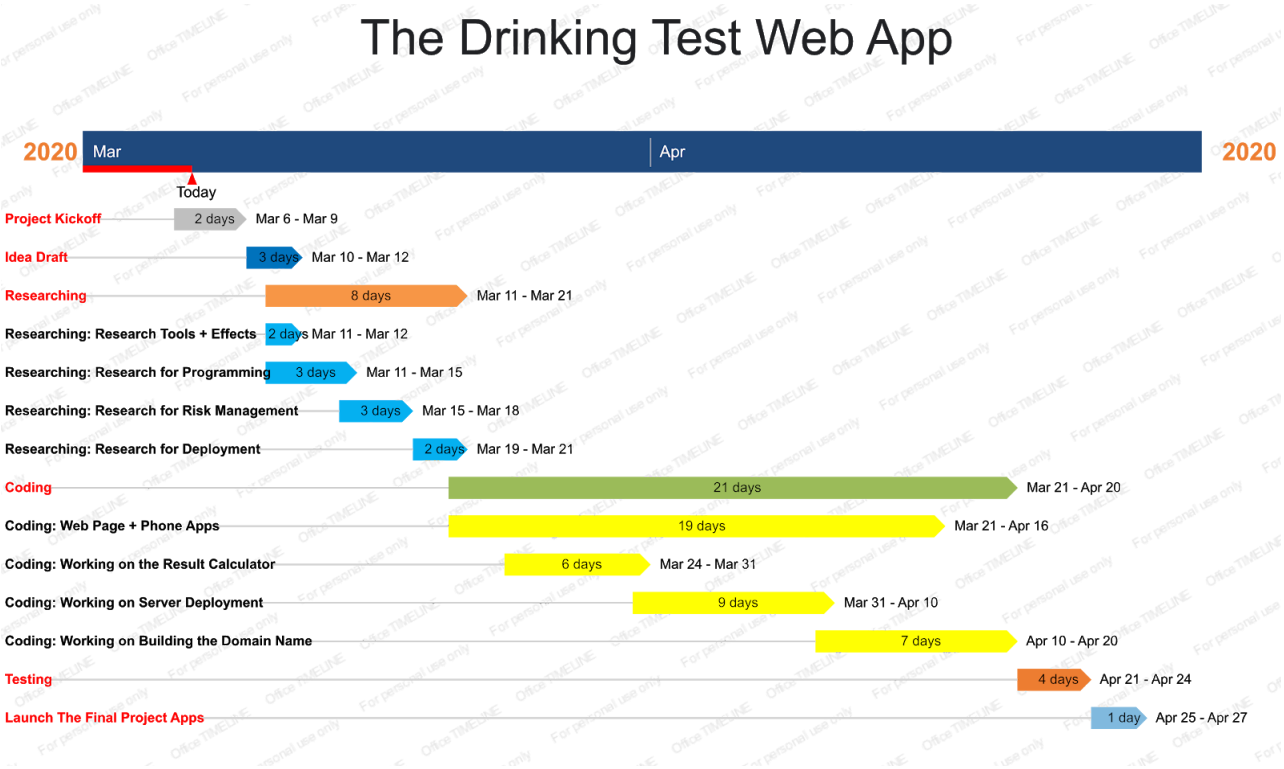
The plan is to make at least three updates on the paperwork before the final copy. The date and time will be UPDATED soon.

First Updated (04/11/2020): Fixed the tools used.

Second Updated (04/29/2020): Summary the milestone and plans.

5 Gantt Chart

Tasks and works breakdown shown in the Chart below



6 Milestones Review

The Spreadsheet below shows which milestones the developer have completed and which ones have not yet been done.

Milestones	Date Finished	Reasons (if not yet completed)
Topic Approved	02/09/2020	
Idea Sketched	03/10/2020	
Tools Used Approved	04/11/2020	
Website Template Built	04/01/2020	
BAC Tools Built	04/14/2020	

Responsiveness	04/20/2020	
Statistics	04/05/2020	
Contact Form Database	04/21/2020	
Backend Built	Not Finished Yet	Lack of Backend Experience
Testing + Updating	04/22/2020	
Domain Name Purchase	04/24/2020	
Hosting Server Setup	04/24/2020	
Deploy Website	04/24/2020	
Testing (After Deploy)	04/25/2020	
Update SPMP	04/29/2020	
Test Procedure Update	04/27/2020	
Launch App	Not Yet	Need Some Tests and Updates
Presentation	Not Yet	In Progress