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COSC 412

**Software Project Management Plan: “Fit4Any1”**

Version Release 0.1: Preliminary SPMP documentation.

Version Release 0.2: Changes to the WBS, Gantt Chart and tools selection were made.

Version Release 0.3: Changes made to the tools used and evolution of the SPMP. Additional deliverables and features were also added to the Gantt Chart and WBS.

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1. **Introduction**
   1. **Project Overview**

Fit4Any1 is a website that serves to provide people of all skill levels with free information about fitness and nutrition, along with workout plans to follow along with. Users must first create an account to access the majority of the website’s content, including weight tracking, “build-your-own” workout plans, a daily caloric intake calculator, and daily meal tracking. Each of these features are tailored to the user’s inputted bodyweight goals and strength-based goals.

* 1. Project Deliverables

Communication:

* Project Proposal – 9/6
* Requirements Plan – 10/2

Planning:

* SPMP – 10/2
* Tools Selection – 10/2
* WBS – 9/25
* Use Cases – 9/21
* Gantt Chart – 10/2

Model:

* Home Page Design – 10/24
* Nutrition Page Design – 10/30
* Home Workout Page Design – 11/6
* Gym Workout Page Design – 11/6

Construction:

* Weight Tracking Implementation – 11/16
* User Login Implementation – 11/9
* Meal Tracking Implementation – 11/16
* Home Workout Plan Forum – 11/16
* Gym Workout Plan Forum – 11/16
* Calorie Calculator Forum – 11/16

Deployment:

* Testing Plan – 11/20
* Deployment Plan – 11/20
* Conduct Testing – 11/29
* Finalized Website ready for Release – 11/29
  1. Evolution of the SPMP

The first change made in this project is the removal of membership payments. The purpose of the site is to make workout plans and nutrition information accessible to everyone and requiring a membership fee contradicts the overall goal of the project.

Additionally, as I began developing this website, the tools I used changed significantly. I began doing extensive research about the best tools for a health and fitness website and discovered more useful tools than those I had originally planned on using. At my skill level, I also found it more beneficial to develop the site on WordPress, where I could edit the visual aspects of the website and test different website components as I was developing.

In the future, I hope to implement new features such as video demonstrations for each exercise, as well as a log where users will be able to record their workouts each day. I also hope to include weight progress and workout challenges which would reward users with badges for completing the challenges. This could potentially be extended even further to allow users to compete with one another and play with friends on the website. The website could also be improved further by including calculations of the recommended intake of carbohydrates and fats. This would give the user their full macro intake recommendations for each day. Finally, I hope to include even more workout guides for those with cardio and endurance-based goals rather than strength alone.

* 1. Reference Materials

COSC 412 Week 4 slides

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* 1. Definitions and Acronyms
* Macros: this is short for “Macronutrient”. The three primary macros are carbohydrates, fats, and proteins.
* WBS: Work breakdown structure

1. **Project Organization**
   1. Process Model

To best organize this process, I have chosen to follow the waterfall model. This allows me to divide the project up into different phases which occur in chronological order. These phases include communication, planning, modelling, construction and finally deployment. As you can see in the Gantt chart below, the deadlines for each aspect of the process cascade in a waterfall-like pattern.

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* 1. Organizational Interfaces

This website will primarily be managed and developed by me. I do not have clients for this project, so reviews and feedback of my website will be given by my peers. This will allow me to identify aspects of my website that are beneficial to end-users, while also gaining a stronger understanding of changes that should be made and features that could be added to improve the website further. I will also include on my website a page to allow users to contact me and give feedback or ask questions about the finalized website.

1. **Managerial Process**
   1. Management Objectives and Priorities

* Documentation of all tools, requirements, planning, costs, risks, changes and scheduling of the project.
* Following the established schedule to release all aspects of the project in a timely manner.
* Ensure that the project meets all requirements.
* Conducting thorough website testing regularly to ensure the software is functioning appropriately.
* Designing the visual UI of the website.
* Developing all website functionality to satisfy the given requirements and use cases.
* Ensuring that the website is properly secured. This is important for features such as user accounts and login information.
* Deploying the website.
  1. Assumptions, Dependencies and Constraints

Constraints:

* The project must be completed and functioning by the given deadline (12/7)

Contingency:

* Set a clear schedule (see 1.2) to ensure the project is completed, tested thoroughly, and functioning properly by the given deadline.

Constraint:

* There is no expected funding toward the implementation of this project, and all tool costs must be paid for out of pocket.

Contingency:

* The development of this project will require utilizing open-source software and finding discounts for students to make the project tools more affordable.

Constraint:

* I do not have a strong background in coding and developing a website from scratch.

Contingency:

* I have thoroughly researched the necessary steps to developing a website. Additionally, I will be using WordPress to help me develop the site without extensive coding, which also allows me to test and preview the site as I am developing it.

Constraint:

* Different people have different strength and nutrition goals.

Contingency:

* Allow users to “build their own” workout plans by giving them a structured workout setup and allowing them to choose the exercises that they would like to do. This setup is divided into “Push”, “Pull” and “Leg” workouts for both home and gym workout plans. Each plan is further split into compound exercises, accessory exercises, and cardio or core finishing exercises.
* The user is also able to track their nutrition based on their own goal bodyweight. They input this value and the website will provide them with a recommended daily caloric intake and protein intake.

Constraint:

* I have to develop the site entirely on my own.

Contingency:

* I will do extensive research and have my peers review my work to get outside thoughts and suggestions regarding how my website could be improved.
  1. Risk Management

Risk: Users must have login information to access their membership including a username and password.

Contingency: Tools for securely storing user login information should be used to avoid hacking.

Risk: The user could input an extremely low or high goal bodyweight. This would output an extremely low or high daily caloric recommendation for the user, which could be harmful if followed.

Contingency: Users should be advised to set realistic, healthy, and attainable goals.

Risk: The user may wish for their weight and calorie information to be private.

Contingency: This information will be protected by a user login.

Risk: Users should not be able to access the WordPress dashboard of the website to make any changes to it.

Contingency: User permissions will be changed to prevent any users from accessing the WordPress admin of the website to make changes to the site. This should be set to “subscriber”, so that the end-user is only able to view published content and edit their profiles.

Risk: Users will attempt to access the website on a mobile device or tablet.

Contingency: Elementor and WordPress allow me to preview the site as it would appear on a desktop, mobile device or tablet. I can edit the appearance to tailor to any device that the user may be accessing the site on.

Risk: Some of the desired features for the website may not be offered as WordPress plugins.

Contingency: I have conducted extensive research about the plugin options available and reviewed the documentation of these plugins to determine which plugins would be most beneficial to my website. I ensured that all used plugins have been updated recently and tested prior to incorporating them into my site.

* 1. Monitoring and Controlling Mechanisms

Because I am working on this project individually, I will be utilizing a handwritten calendar alongside of Google Calendar to ensure that all steps of the project are completed in a timely manner. This allows me to not only track when each step of the project should be completed, but it also allows me to set reminders and alerts to begin working on each part prior to the deadline. This is the most efficient way for me, alone to meet a given deadline (See 1.2 for tentative schedule).

I have also developed a Gantt chart which specifies each deliverable aspect of my website, as well as the due dates of each aspect. It also displays the level of importance of each step, the chronological order in which the steps must be completed, and the dependencies between different steps of the project.

1. **Technical Process**
   1. Methods, Tools and Techniques

* This website will be written using Wordpress.
* Elementor will be used to develop the website interface.
* Popup Maker will be used to implement website pop up notifications.
* Ultimate Member will be used to allow for user registration and login features.
* Meal Tracker will be used to allow users to log their meals and daily caloric intake.
* Weight Tracker will be used to allow users to track their weight in a graphical representation and set a goal bodyweight for themselves.
* Calculated Fields Form will be used to develop the workout builder feature as well as the recommended caloric and protein intake calculators.
* UI mockups will be designed using Figma.
* I will be using phpMyAdmin for my database for this website.
* Hosting will be done using SiteGround.
* Unsplash was used for access to free, usable images for my website.
  1. Software Documentation

The software documentation for my website will first include a Work Breakdown Structure of the project (see section 5). This will demonstrate each of the necessary components that will go into developing my website. The WBS will be broken down into 4 primary stages. These include requirement planning, research, design and development, and testing/deployment. Each of these major stages can be broken down further into the smaller aspects of the project necessary for its completion.

The next necessary document in my software documentation is the requirement overview. This document is necessary for all of the project’s development. It is important to understand what the website must include prior to constructing it. These requirements will cover all of the security, functionality, and visual aspects of the website.

Use cases are also part of the software documentation. The use cases will highlight how the software should function under differing circumstances. For instance, the use cases should explain how the software functions when a user is logged in as compared to when they are not logged in.

Next, the tools document will describe all of the tools used in the development of the project, and what each of those tools does. My project was primarily developed via WordPress, and many plugin tools were used to give my website greater functionality. I also had to use tools for a website database, hosting, and more. These are all documented in my tool selection plan.

Finally, testing and deployment planning documentation will be written to explain how the website functionality will be tested. Features such as the user login, meal tracking, workout forums, weight tracking and calorie calculator must all be tested prior to deployment. This will be explained in detail in the software testing plan. The deployment plan will highlight how the finalized software will be deployed and made accessible to end-users.

1. **Work Breakdown Structure (WBS)**

Graphical user interface, diagram

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