College of Computing

Computer Science Department

CS3141 Team Software Project

Fall 2023

Activity Tracker

Section: R02

Team #: 4

Name	Role
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Instructor:

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Abstract

(***Abstract*** *is one paragraph that summarizes your project, and describes the content and scope of the project objective, methodology, findings, and conclusion. So, you need to write one paragraph that gives an abstract idea about the entire project, the aim of the project, the process model you used, the tools, what you have done, the results, and your conclusion. If you think the project is worth extending to a Final Year Project (FYP) by you or other students or can be adopted and extended by industry/market, then mention that here and add it also as future work.)*

In this project an activity tracker web application for those who are interested in becoming more active, those who are already active, or for those who simply are curious to see their activity on a day-to-day basis. The system will only have one module that will present a log-in page for the user. Users can create an account then sign in/out, log data, delete data, and modify their data. The scrum agile process model is followed during project development and the implementation was realized by the use of object-oriented HTML, MYSQL, and other technologies.

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Specification

1.1 Introduction

(Write an introduction includes an overview of the concepts, terms and issues involved with your project, describe the purpose motivation for your project.

It should include:

- Overview of topic
- Description of project.
- Describe the solution you plan to explore
- The important of the project
- Expected result)

The purpose of our project is to develop a fitness tracker that can keep track of your calories consumed, steps taken, heart rate, and how many hours you have stood for. Once we get the basis for our project we want to then add more features to it to have it track workouts that the consumer is doing. Some issues we may face where the app may not be precise enough as the user would have to enter some of the data on their own. We also need people that we can test our project on.

Our software product is a generic product as it is designed to be used by many different people and would be available on an app store for public use. This also allows us to collect more data and therefore improve our product. The type of application that we want to make is an mobile application. This is so that our application can be used by as many people as possible for more data.

1.2 Problem Statement

(A proposal should address three primary questions in relation to the project objective: *What, Why, and How*. This section should describe ***What*** and ***Why*** of your project.

Projects are usually targeted to solve existing problems or issues, here you need to identify the problems or explain the current problem or issue, write a description of existing situation/case where the problem occurs and what impacts it has on users, and why it's a problem in the first place. Provide a reason why the problem needs to be understood, outline the negative points of the current situation, and explain why these matters. At the end of the project, this section is revisited to confirm the implemented solution indeed solves the problem).

The problem we are trying to solve is to make it easier for people to track their physical activity and their health. Many people often struggle to get into physical activity as they do not know how much they need or should do, as well as for the number of calories they may need to consume daily. People overeat and undereat every day and using an application like this could help them to keep track of healthy amount of calories.

We plan to solve this problem with our application by helping our users to keep track of their physical activities, health, and the amount of calories they consume. This will be able to help the user get an idea of what areas they may need to work on for themselves, as they will be able to see in real time their problem areas (where they are lacking).

1.3 Aim and Objectives

(**Aim** is the purpose of a project, the broad goals that you hope to conquer, it is a statement of overall intention written in general term, what you hope to achieve at the end of the project.
Objectives are the actions you will take in order to achieve the aim, steps that are taking by an individual or a group of people that lead to the completion of the goal and particular aim and the desired outcome.

Aim:

The aim of this project is to develop a web application to track and manage physical activities for our users and create a customized workout plans based on the users activity type. It will store the data in a user database.

Objectives:

- To allow the user to create an account.
- To allow the user to choose their activity type, (can be changed later).
- To allow users to track their physical activity.
- To display their daily data in a user friendly format.
- To display their weekly data in a user friendly format.
- To display their monthly data in a user friendly format.
- To offer customized workouts based on the user's activity level.
- To motivate the user to be more active.

1.4 Stakeholders

Customers would be one of the stakeholders. Their personal data would be stored and used to personalize the experience. Input from healthcare professionals, possibly using data from them. The companies of vital trackers. Another stakeholder would be the people working on the project, the members of team 4.

1.5 Methodology

(Describe the software process your team follows, the method used along the project activities. In other words, describe the flow of activities from the beginning until the end and we need to thoroughly explain the involved steps in the activities, add model/diagram for your software process)

The software process that our team is following is the agile process. We are using incremental planning to build our project so that it is easier to change any designs if needed. So far we have written out the requirements for our activity tracker that we would like it to be able to do for our users. We then have tried to decide how we plan to accomplish these ideas and what type of classes and sub classes may be needed for the code (what may inherit from another). We decided that we will use object oriented programming which has led to discussions about the type of objects we want to use to make our program as efficient as possible.

1.6 Tools

(Mention the Software and/or hardware you will need to develop your project)

Front-End: ReactJs, CSS.

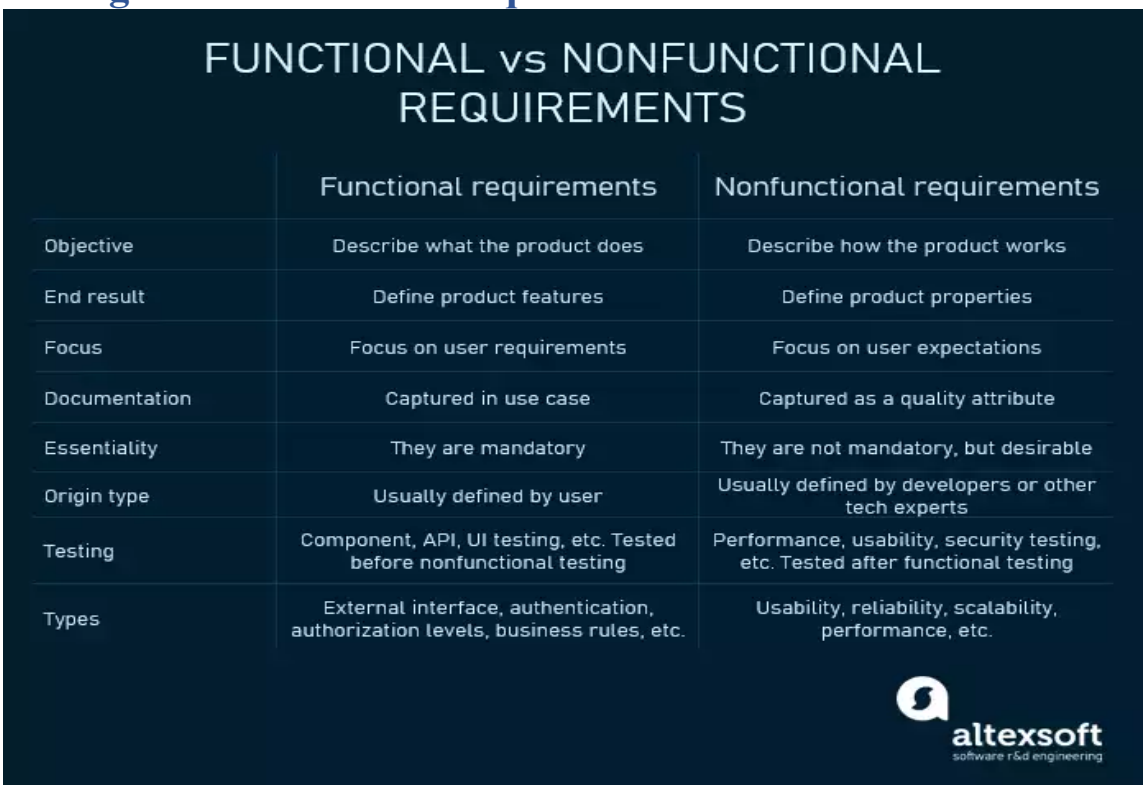
Back-End: JavaScript/TypeScript, Python.

Database: To decide.

Version Control: Jira.

Hardware: Smart Phones and/or Smart Watches.

1.7 High-Level Business Requirements



· Functional Requirements

(The services the proposed system should provide)

- Send an email confirmation to the user when creating an account.
- User can insert, delete, and modify data
- Data will be displayed on a bar chart
- Data can be selected from the chart
- Connect and share workouts and results with friends

· Non-functional requirements

(The constraints)

- Security for user data
- Intuitive user interface
- Website is usable across multiple different specs.

1.8 Product backlog

(List of Prioritized user requirements written in user story format.)

You can use the following table:

Priority	User Story	Tasks	Estimated effort	Sprint
*****	**As a User, I want to be able to log my physical activity so that I can track it more efficiently.**	**Design and implement the interface**	**5 H**	**1**
		Add data	**1.5 H**	
		Update/delete the data	**1 H**	
***	**As a User, I want to be given customized workout plans based on my activity level.**	**Design and implement interface**	**1 H**	**2**
		Pick an activity level	**1 H**	
		Give customized workout plans	**3 H**	
**	**As a User, I want to track my workouts while knowing my personal information is secure.**	**Two-step verification**	**3 H**	**3**
		Uppercase, lowercase characters with numbers and special characters	**3 H**	
		Individualized usernames	**3 H**	
*****	**As a User, I want to be able to create an account so my data is saved.**	**Create user account**	**2H**	**1**
		User information database	**3H**	
		Data updates when activity logs are entered	**2H**	
**	**As a User, I want to be able to change my login information**	**Send user email**	**1 H**	**3**

	so I can access my account if I forget my login.	Create login change interface	1 H	
		Update user database	1 H	

1.8 Security Requirements engineering practice(s)

[you can apply one or more of the following practices]

1. Establish Security and Privacy Requirements
   - Identify key milestones and deliverables
   - Assign security experts
   - Define minimum security and privacy criteria for an application
   - Deploying a security vulnerability tracking system
2. Create Quality Gates/Bug Bars
   - Define minimum acceptable levels of security and privacy quality
3. Perform Security and Privacy Risk Assessments
   - Identify the need for threat modeling and security design reviews

Chapter 2

Analysis and Design