Project Proposal

FitSage is an exercise and nutrition app that helps users achieve their personal fitness goals from their own home

Project Name: FitSage

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Problem Statement:

Personal fitness and body image are important to many people, especially college students. They want to exercise and become involved in personal fitness, but are scared to go out to a gym due to insecurities or social anxiety. Also, the Embry-Riddle campus gym can become over-crowded and many students prefer exercising in the comfort of their own rooms rather than finding a time when the gym isn't crowded. Because of this, many students fail to meet their fitness goals and/or become unhealthy.

Stakeholders:

The primary stakeholders are the developers and people who want to keep track of their exercise and nutrition routines at home.

Secondary stakeholders include gym members who will be able to use more equipment due to the increase of people exercising at home, and personal trainers who work in person.

Proposed Solution:

We plan to develop an exercise and nutrition tracking app that will help users achieve their personal fitness goals using their own body weight, whenever and wherever they want. This app will utilize a UI to help the user track their progress over time, with a calendar to show their daily workouts, calorie intake, and calorie burn. This app will also help the user work out in the comfort of their own home by showing the user workouts tailored towards the specific muscle group they would like to work on. The workouts will be limited to calisthenics and body-weight exercises, and will not include weight training exercises.

The user will also be recommended to input nutrition information, such as the total calories they consumed each day. The app will help them track their nutrition based on whatever goal they would like to follow (lose, gain, or maintain weight) and give them feedback at the end of each day related to their daily adherence towards their goal. This app will have a basic understanding of nutrition, with the majority of it being focused towards the basics of calorie intake and burn.

This way, college students, anxious or body-conscious people, or generally just people who do not want to go to the gym but want to keep up their fitness have a way to exercise within the comfort of their own home.

Proposed method to solve the problem:

The proposed method is to create an easy-to-access mobile application which allows people to perform simple yet effective workout exercises and routines. We will develop BMI (Body Mass Index) and body fat percentage calculators given the user's age, height, and weight information. The user will then be able to select their preferred fitness goal. The available goals are: Lose weight, Maintain Weight, and Gain Weight.

Once the user has selected their fitness goal, the app will generate a calorie range that best suits their goal and body type. If the user consumes more or less calories than the app recommends, then the app will give the user constructive feedback (e.g "Try to eat less sugar tomorrow/Make sure to eat the recommended amount of calories"). The user will receive a "Well done" message if their calorie intake falls within the recommended range.

To keep the user's nutrition on track towards their goal, the app will be able to scan images of Nutrition Facts labels from the user's food. The app will use OCR (Optical Character Recognition) to interpret the total calories and sugar content of the food. The food calories will count towards a daily total, which the app will use to determine whether or not the user has met their goal for the day.

The user will also be able to create and log workout routines with the app. To create a workout, the user will select the muscle groups they want to train and the app will give a list of recommended workouts to choose from. The user will select a workout and record how long they exercised for and how many repetitions (reps) they completed. This data will be used to calculate the total calories burned from working out. The calories burned from working out will then be subtracted from the daily total.

If the user meets their fitness goal for two consecutive days, then they will accrue a "streak". The purpose of streaks is to encourage the user to meet their goal. The user will be able to see a calendar with the daily total calories and streak information for each day they used the app. Days with higher streaks will be displayed in brighter colors to show the user's progress and to encourage the user to achieve high streaks.