GHULAM ISHAQ KHAN INSTITUTE OF ENGINEERING SCIENCES AND TECHNOLOGY, SWABI, KPK

Project Name: GYMKI

Topic: SEMESTER PROJECT PROPOSAL

Subject: CS101

Sec: A

Project by:

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PROJECT PROPOSAL

➔ <u>INTRODUCTION:</u>

I am Developing a Fitness Tracker software/app for workouts and macro calculations.

➔ <u>MOTIVATION:</u>

My motivation towards is a need of my own. I go to gym and use my phone notepad to write down what I did that day in the particular workout and that is a manual and a hectic process. However, I thought of the app to be the one people like me want which is easily accessible and user friendly.

➔ <u>PROBLEM STATEMENT:</u>

The problem statement speaks for itself and that is my motivation towards this. There are a lot people who find it hard to keep a record of their nutrition, calories, protein, and especially workouts. That is why my software comes in and solves the problem. Moreover,

- There is a lack of computer-based Fitness trackers and a user-friendly system to give easy and free access to a user to make changes and access the exercises as well as calculators.
- The purpose of GYMKI is to allow users to store details like the biodata and analyze where their body stands people mostly find it hectic to go to different sources and calculate their progress, therefore, GYMKI has it all in one place

➔ <u>SCOPE OF THE PROJECT:</u>

1. To make your workouts easily trackable
2. To calculate your macros like protein
3. To track your calories throughout the day
4. Minimizing the need to use multiple resources/apps.
5. A free fitness app or at least a reasonable one

➔ <u>SALIENT FEATURES:</u>

You have access to 5 different operations on the menu in one place.

1. **Calorie Calculator:** Depending on the demographics of your body that you provided, my software will automatically calculate the calories the user's body requires and will give the answer in cases: Maintenance calories, Weight loss, and Mild Weight Loss.

2. **Calorie Tracker:** This feature lets the user input the calories of the meals they had throughout the day and at the end shows how many calories they have consumed and left to consume depending on their preferences and fitness goals.

3. **Protein Calculator:** A simple feature that tells the user their required protein consumption by using their weight.

4. **Protein Tracker:** This lets the user calculate how much protein they consumed throughout the day

5. **New Workout Session:** This is the main and highlighted feature of this program as this feature lets the user track their whole strength training workout session and offers the user a lot of features.

   ⇒ Add a new exercise name or create your own exercise.

   ⇒ Add the weight lifted.

   ⇒ Add reps done.

   ⇒ Add sets.

   ⇒ Calculate and display the total volume lifted .

   ⇒ At the end of the session shows the whole summary of the workout

➔ <u>EXISTING SYSTEMS:</u>

1 MENU:

```
*********************************************************************
************************* GYMKI *************************************
*********************************************************************
******************** 1. Calorie Calculator  ********************
******************** 2. Calorie Tracker     ********************
******************** 3. Protein Calculator  ********************
******************** 4. Protein Tracker     ********************
******************** 5. New Workout Session ********************
******************** 6. Exit                ********************
*********************************************************************
```

2. USER PROMPT FOR DEMOGRAPHICS:

```
Enter your name: Moti
Enter your age: 20
Enter your height (in meters): 183
Enter your weight (in kilograms): 87
Enter your activity level (1- Sedentary, 2- Lightly active, 3- Moderately active, 4- Very active, 5- Extra active): 4
```

3. ENTER INFORMATION FROM USER FOR CHOICE 5:

```
Enter your choice: 5
Enter exercise name: Lat PullDown
Enter the weight (in kgs): 30
Enter reps: 12
Enter sets: 3
Do you want to add another exercise? (y/n): n
```
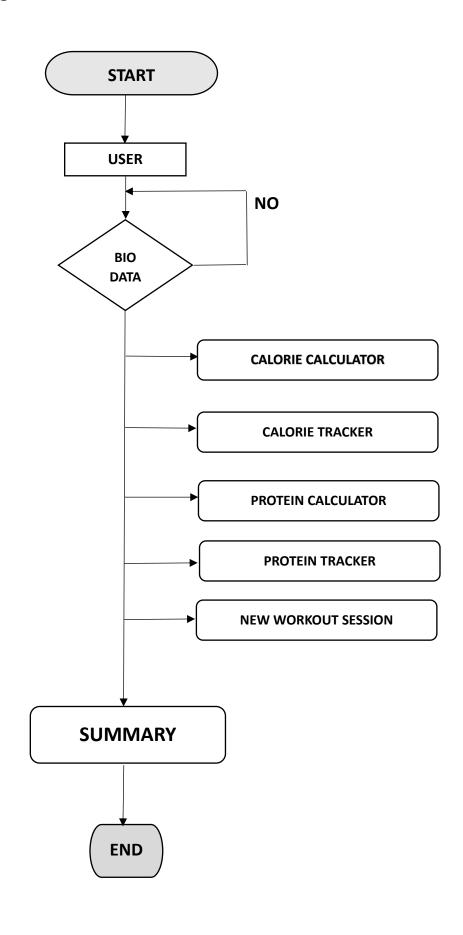
4.WORKOUT SUMMARY:

```
Workout Summary:
Exercise        Reps    Sets    Weight Lifted (Kgs)
Lat Pulldown    12      3       30
Deadlifts       6       3       100
Barbell Rows    12      3       30
Bicep Curls     12      4       14
Total Volume Lifted: 4632 Kgs
Do you want to continue? (1 for yes, 0 for no):
Summary of the session:
PS C:\Users\hamza\Desktop\Codes\CS101\Final project>
```

➔ TOOLS AND TECHNOLOGIES:

- **Programming Language:** C++
- **Operating System:** WINDOWS
- **Compiler:** VS CODE

➔ FLOWCHARTS

```
                    ┌─────────────┐
                    │    START    │
                    └──────┬──────┘
                           │
                    ┌──────▼──────┐
                    │    USER     │
                    └──────┬──────┘
                           │         NO
                         ◆ │
                      ╱ BIO  ╲ ─────────┐
                     ◆  DATA  ◆─────────┘
                      ╲      ╱
                         ◆
                         │
                         ├──────────►  CALORIE CALCULATOR
                         │
                         ├──────────►  CALORIE TRACKER
                         │
                         ├──────────►  PROTEIN CALCULATOR
                         │
                         ├──────────►  PROTEIN TRACKER
                         │
                         ├──────────►  NEW WORKOUT SESSION
                         │
                    ┌────▼────────┐
                    │   SUMMARY   │
                    └──────┬──────┘
                           │
                    ┌──────▼──────┐
                    │     END     │
                    └─────────────┘
```

➔ **ALGORITHM:**

1. START

2. ENTER BIODATA/CEDENTIALS

3. DISPLAY MENU

4. USER PROMPT FOR DESIRED OPERATION

5. IF THE PROMPT IS WRONG CODE ENDS

6. IF THE PROMT IS CORRECT

7. SWITCH CASE STATEMENT WORKS AND PROCESSES THE OPERATION REQUIRED

8. ONCE THE DESIRED OPERATION IS DONE THE COMPILER ASKS USER FOR A CONTINUE PROMPT

9. IF USERS SAYS 1, IT CONTINUE AND IF THE USER INPUTS 0 THE PROGRMS ENDS,

10. WHEN INPUT IS 1, THE MENU POPS UP AGAIN AND THIS GOES ON UNTIL THE USER EXITS