CSE370 : Database Systems
Project Report
Project Title : CalFit+

Group No : _5_, CSE370 Lab Section : _01_, Fall 2024		
ID	**Name**	**Contribution**
22201424	Kaif Hasan	Update User Routine View User Routine
24341246	Ahmmed Shadeed	Index, User Sign Up/Login User Dashboard, BMR Calculation. Edit Current Weight
22201998	MD. TAZBID HASAN	Trainer Login/SignUp, Trainer Dashboard, Trainer Appointment, Admin Login, Admin Dashboard

Table of Contents

Section No	Content	Page No
1	Introduction	3
2	Project Features	4-5
3	ER/EER Diagram	6
4	Schema Diagram	7
5	Frontend Development	8-15
6	Backend Development	16-21
7	Source Code Repository	22
8	Conclusion	23
9	References	24-25

Introduction

We have come up with the idea **CalFit+** which is a web-based dietary management system designed to assist individuals in achieving their health and wellness objectives through personalized nutrition plaaning and progress tracking. This platform serves as a comprehensive tool for users seeking structured guidance in maintaining a healthy lifestyle by offering customized dietary recommendations based on scientifically calculated metrics.

The primary objective of **CalFit+** is to promote a data-given approach to personal health management by enabling users to make informed dietary choices. The platform calculates each user's **Basal Metabolic Rate (BMR)** using standard health metrics such as age, gender, height, and weight. Based on the calculated BMR, **CalFit+** generates personalized diet plans to help users reach their target weight effectively and efficiently.

This project aims to address the need for a user-friendly, customizable health management platform where individuals can monitor their nutritional intake, track their progress, and make informed adjustments to their dietary habits. Additionally, the inclusion of a trainer management feature allows certified professionals to offer expert guidance, enhancing the platform's credibility and effectiveness.

Project Features

Key-Features

☐ **User Registration and Personalization:**

- Users can create accounts by providing basic details such as full name, username and password
- After registration, users can input personal metrics like gender, age, height, current weight, and target weight for a personalized experience.

☐ **BMR Calculation:**

- The platform calculates the user's Basal Metabolic Rate (BMR) based on the provided details.
- The BMR helps determine the user's daily caloric needs for effective meal planning.

☐ **Diet Plan Recommendations:**

- Users can receive diet plans based on their calculated BMR.
- Each plan includes calorie type, food recommendation, and daily calorie intake suggestions.

☐ **Progress Tracking:**

- Users can track their current weight, target weight, and BMR.
- The dashboard visually displays progress with the option to update current weight. This automatically updates the BMR shown on the dashboard.

☐ **User-Friendly Dashboard:**

- A modern, clean dashboard where users can view their:
    1. BMR
    2. Weight Progress Table
    3. Update Weight Feature
    4. View Routine
    5. Select Routine

☐ **Select Diet Routine:**

- Users can choose from a range of designed Diet plans according to their BMR for each day of the week. The plan includes :
    1. Breakfast
    2. Lunch
    3. Dinner
- The chosen Diet plan updates the routine for particular chosen days.

☐ **Trainer Integration:**

- Trainers can sign up and log in separately to provide professional insights and diet recommendations for users.
- Trainers can check on user appointments.

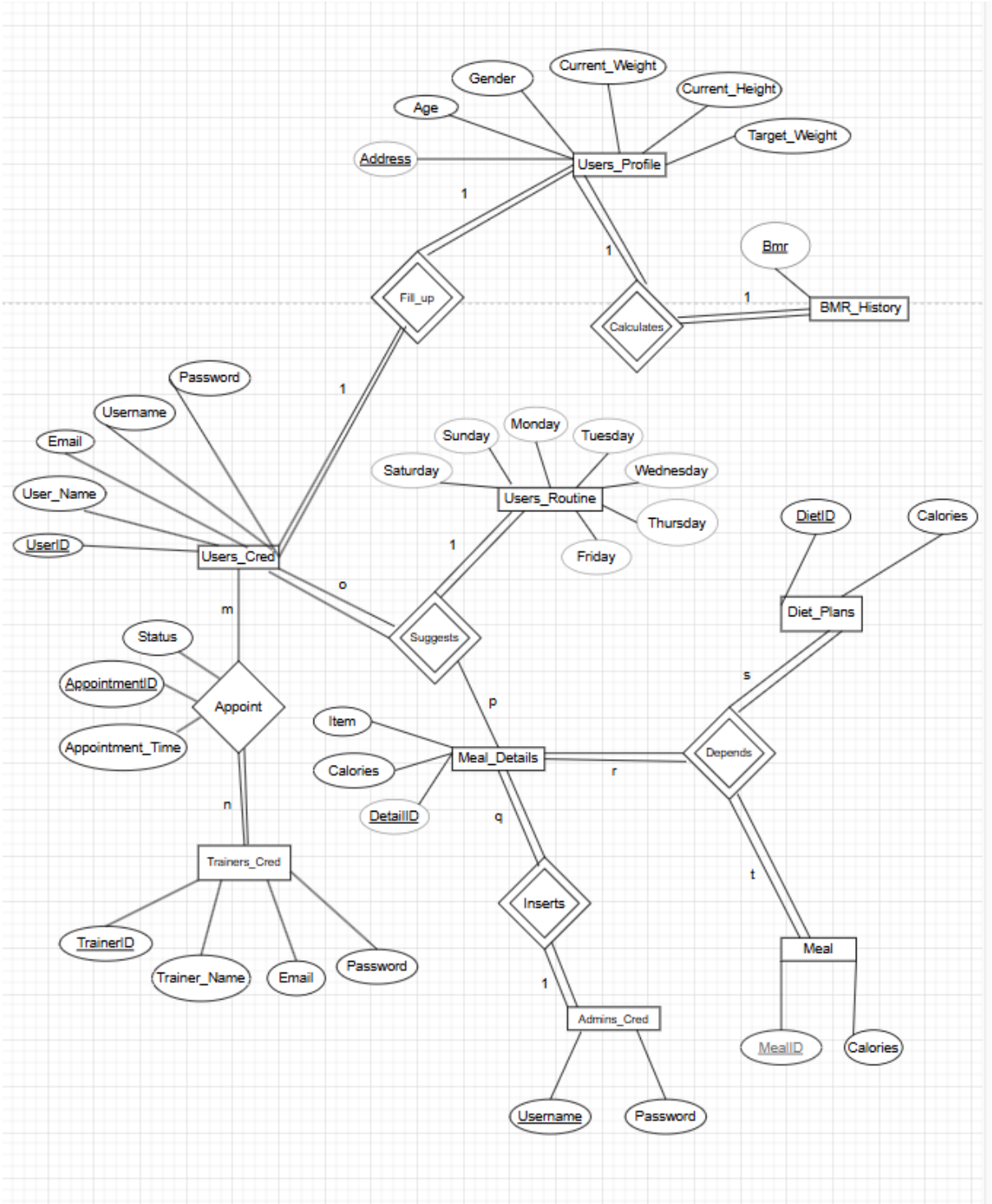
☐ **Secure Account Management:**

- Users can log in, log out, and manage their profiles securely.
- Passwords are encrypted for user protection.

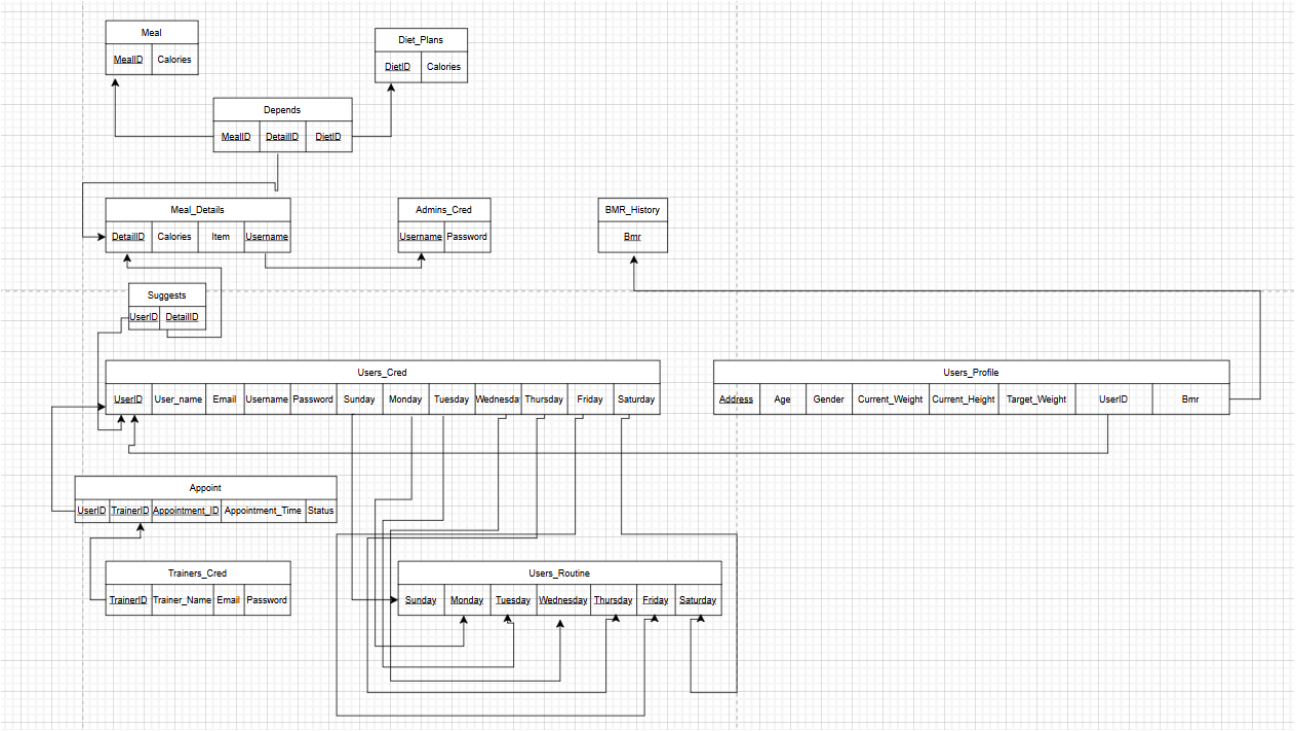
☐ **Administrator:**

- Admin Dashboard exists solely for administrators.
- Administrators can update, add, delete Meal items.

ER Diagram


Gender
Current_Weight
Current_Height
Age
Target_Weight
Address
Users_Profile
1
1
Bmr
Fill_up
Calculates
1
BMR_History
Password
1
Username
Email
Sunday
Monday
Tuesday
Saturday
Wednesday
User_Name
Users_Routine
Thursday
DietID
Calories
UserID
Users_Cred
1
Friday
o
Diet_Plans
m
Status
Suggests
s
AppointmentID
Appoint
p
Item
Appointment_Time
Meal_Details
Depends
Calories
r
n
DetailID
q
Trainers_Cred
t
Inserts
TrainerID
Meal
Trainer_Name
Email
Password
1
Admins_Cred
MealID
Calories
Username
Password

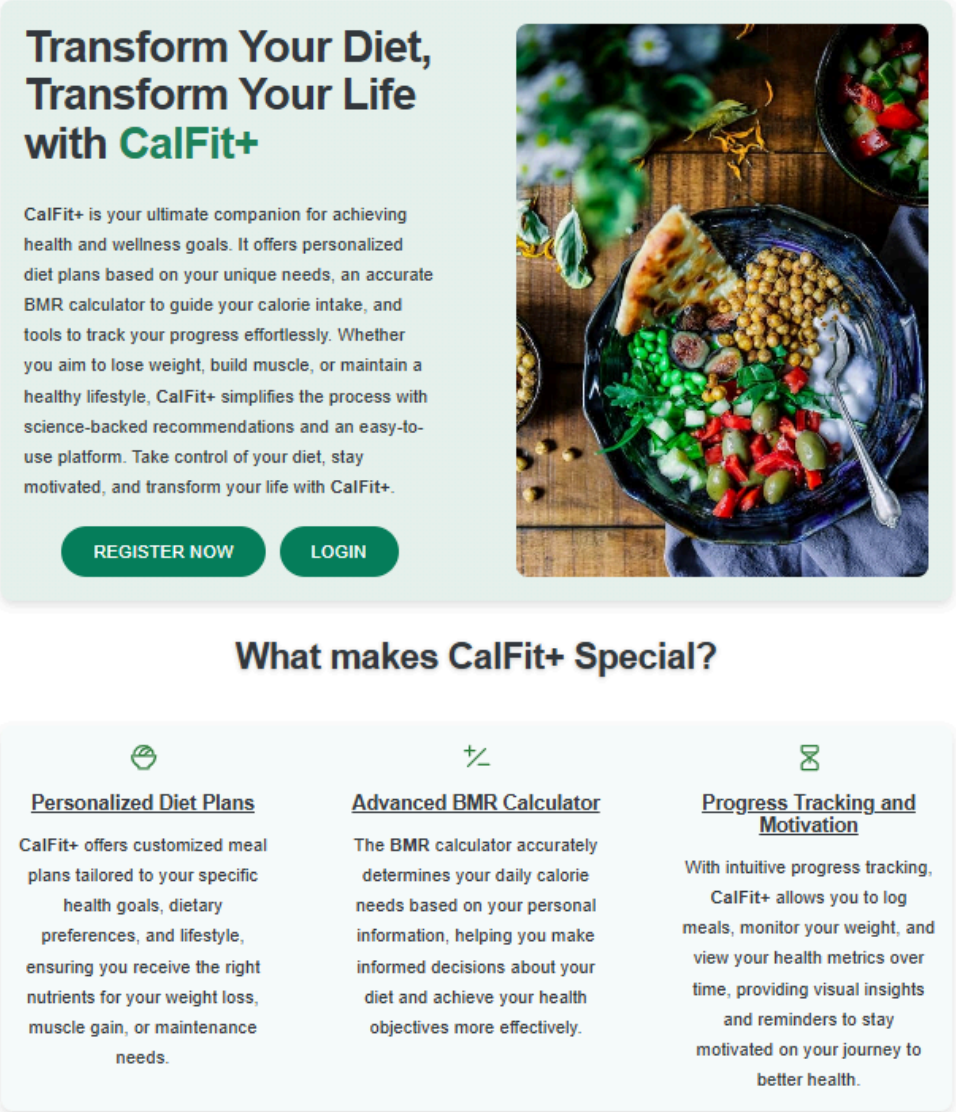
Schema Diagram



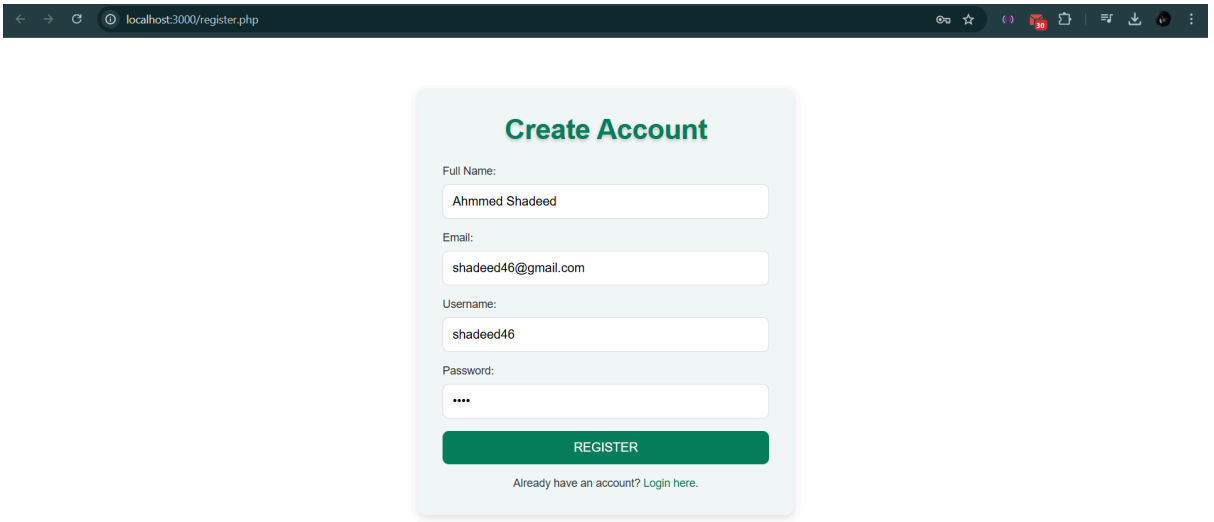
Frontend Development

Contribution of ID : 24341246, Name : Ahmmed Shadeed

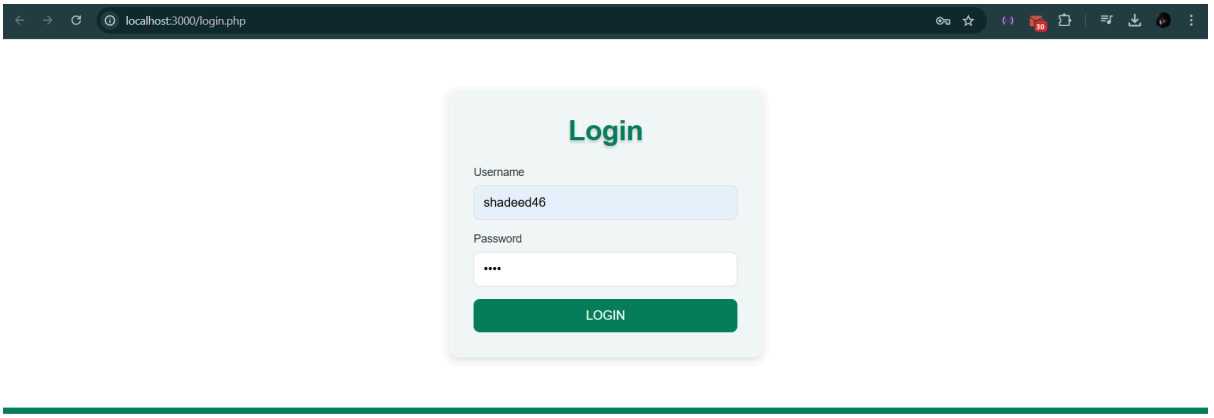
- **Clean, modern-looking frontend which grabs users attention towards the concept of CalFit+**



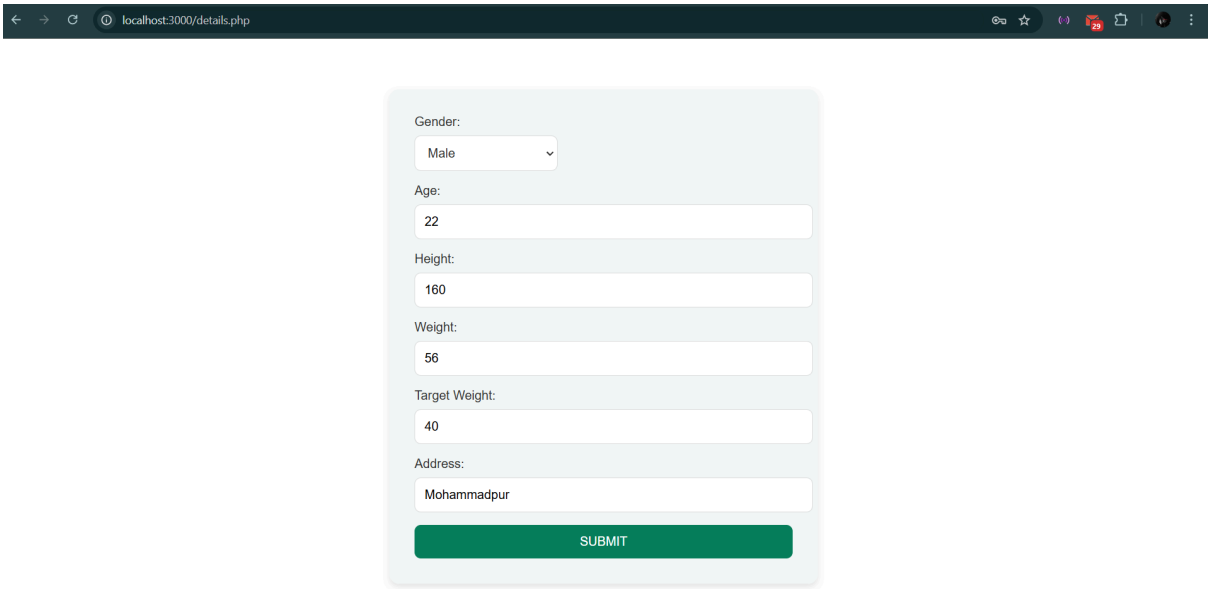
- **Users can create account from Register page**



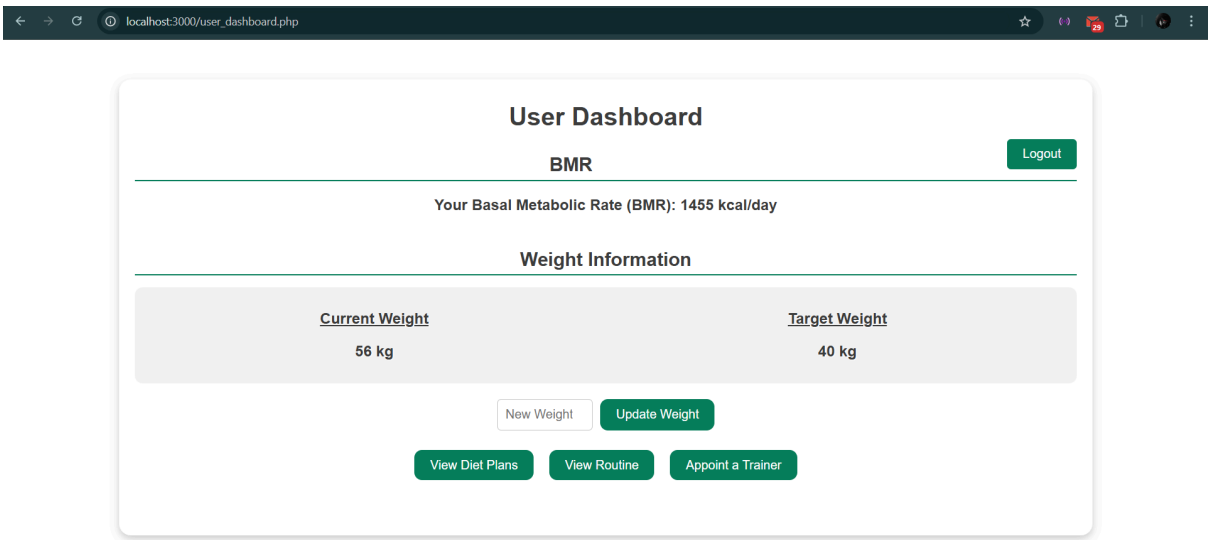
- **Existing Users can login from Login page**



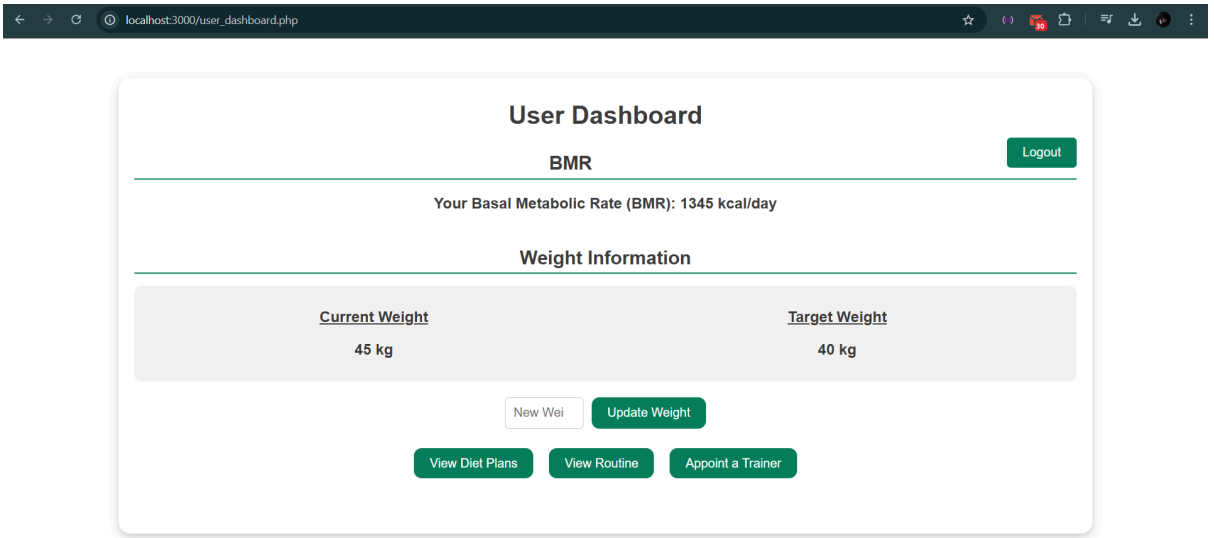
- **Users can calculate their BMR by filling out their profile details**



- **Users can view their current weight, BMR, target weight from their dashboard**

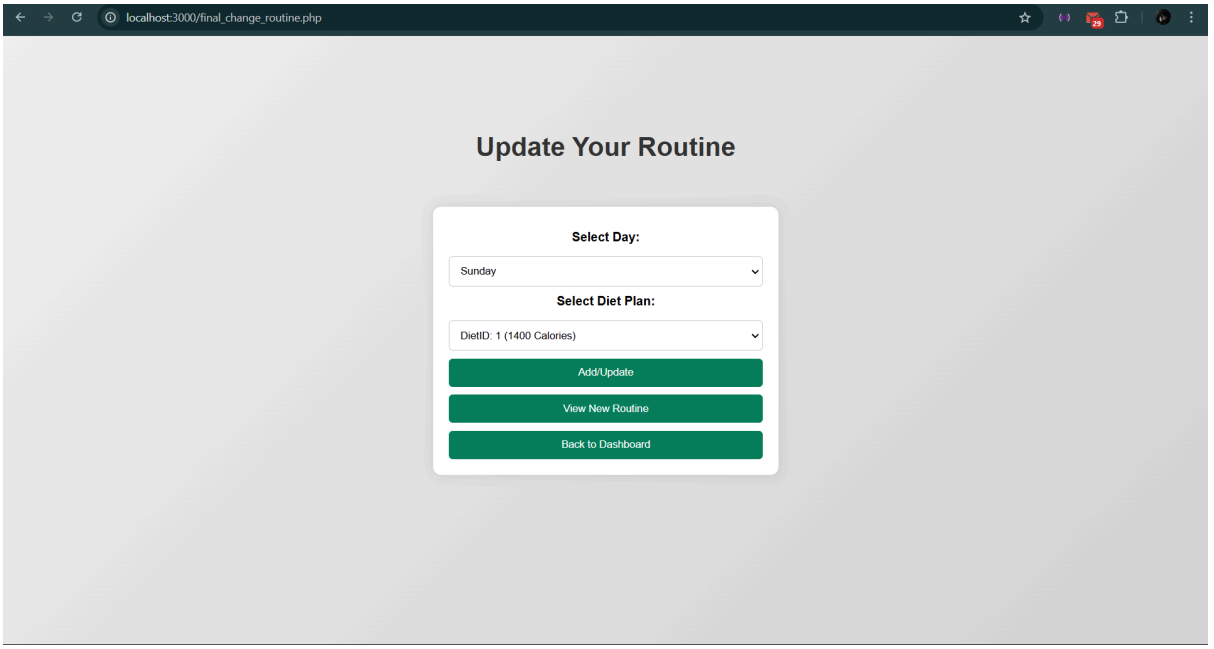


- **Users can edit their weight and get updated BMR and Current Weight from dashboard**

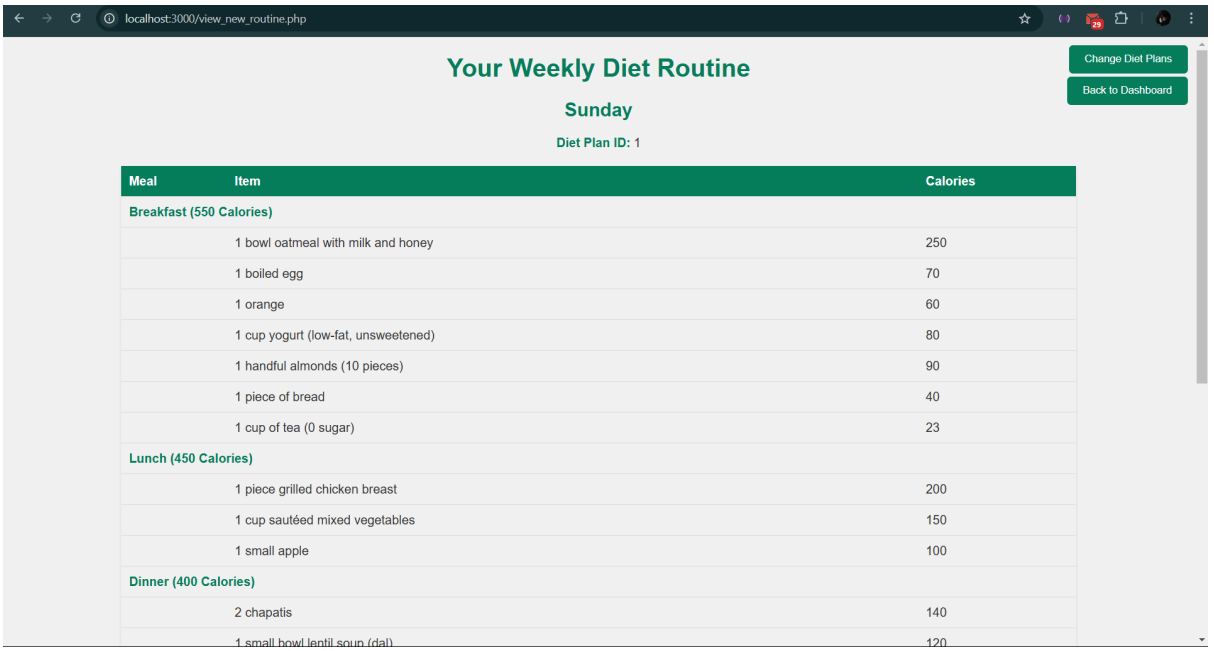


Contribution of ID : 22201424, Name : Kaif Hasan

- **Users can create a custom diet plan for each day based on their calorie needs**

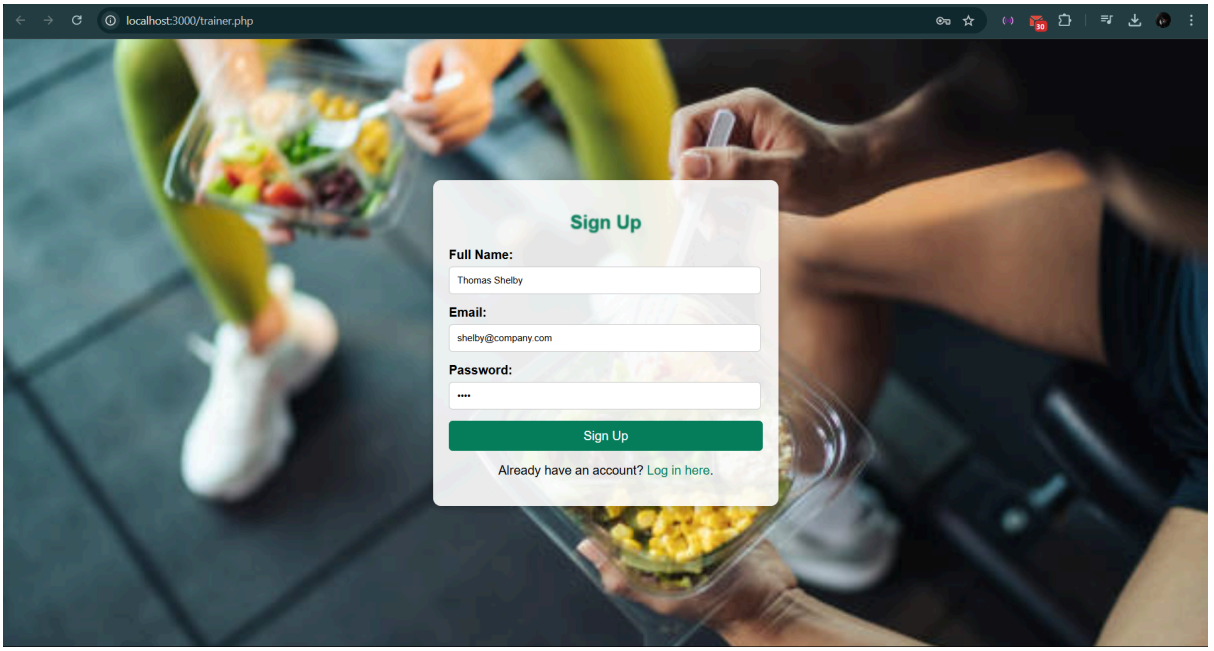


- **Users can view their weekly diet plan**

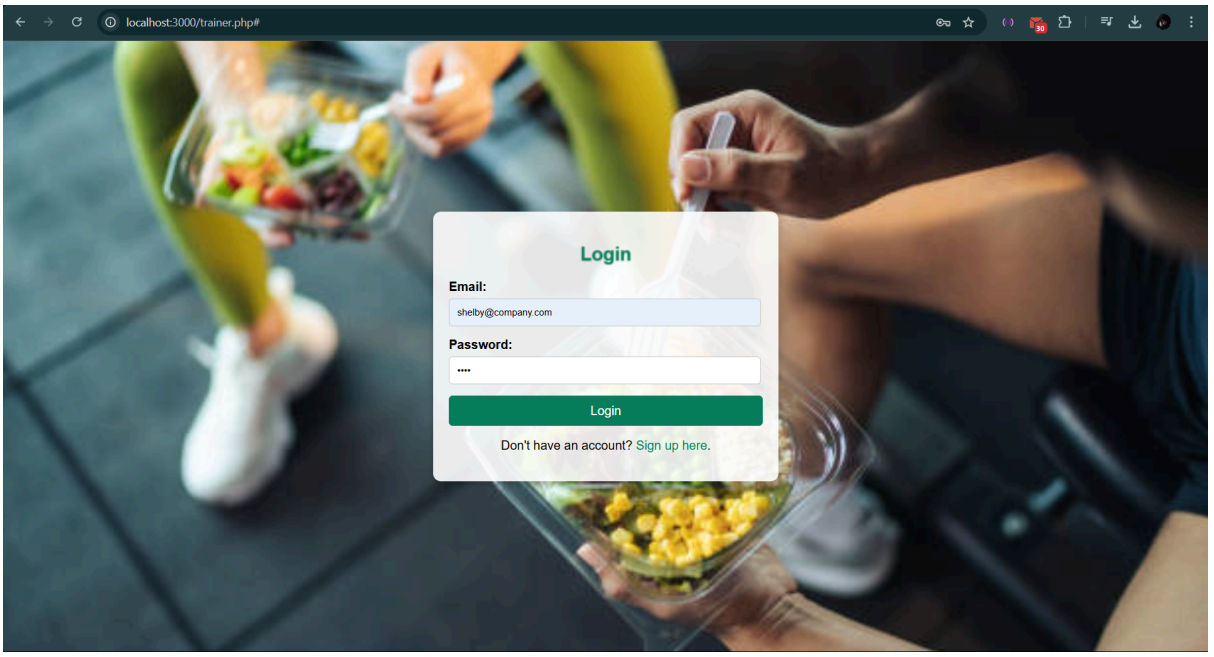


Contribution of ID : 22201998, Name : MD. TAZBID HASAN

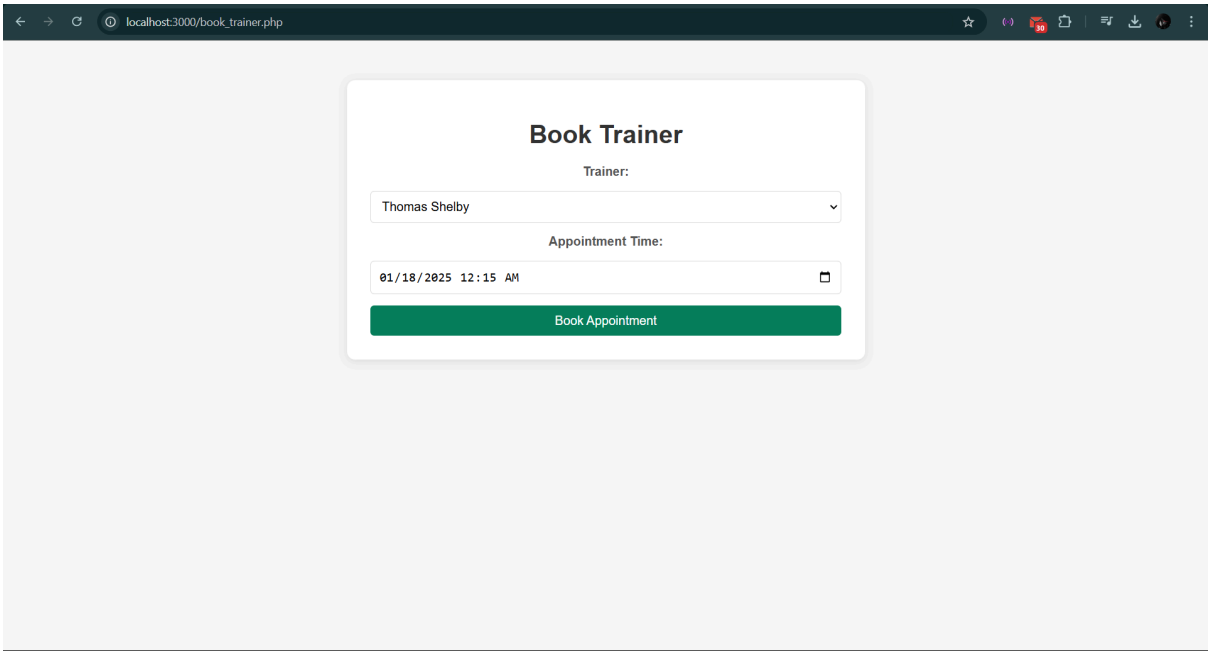
- **Trainers can Sign Up to our website as a Trainer from Trainer Sign Up page**



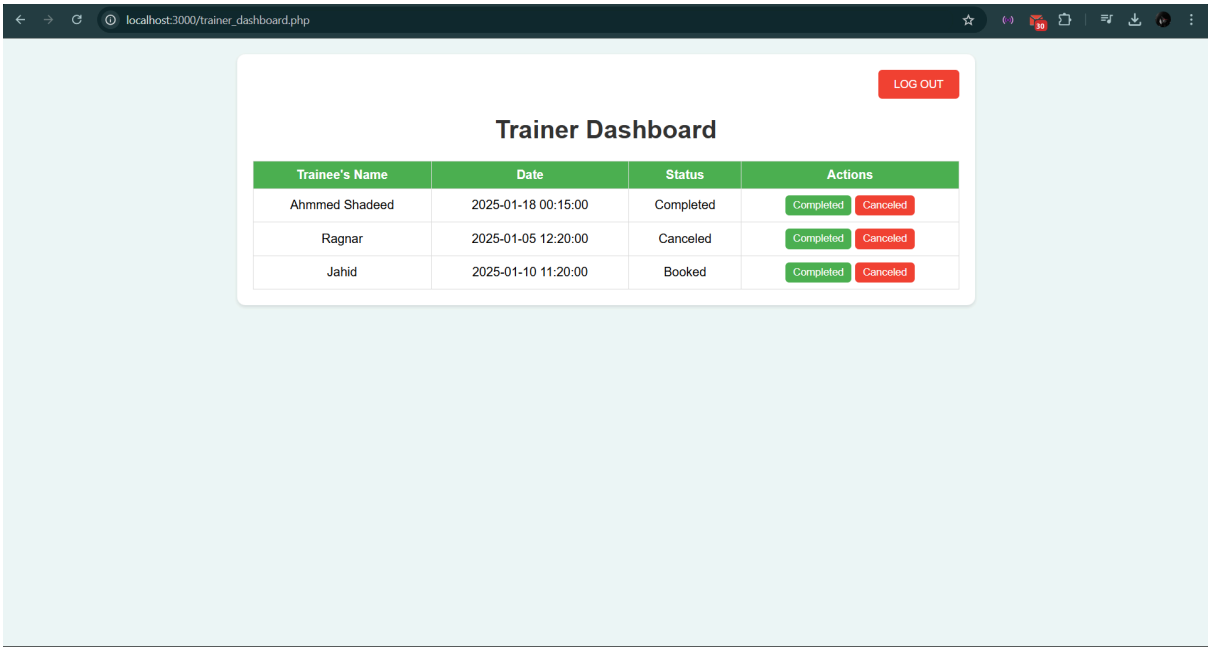
- **Existing users can login to view their Trainer Dashboard from Trainer Login Page**



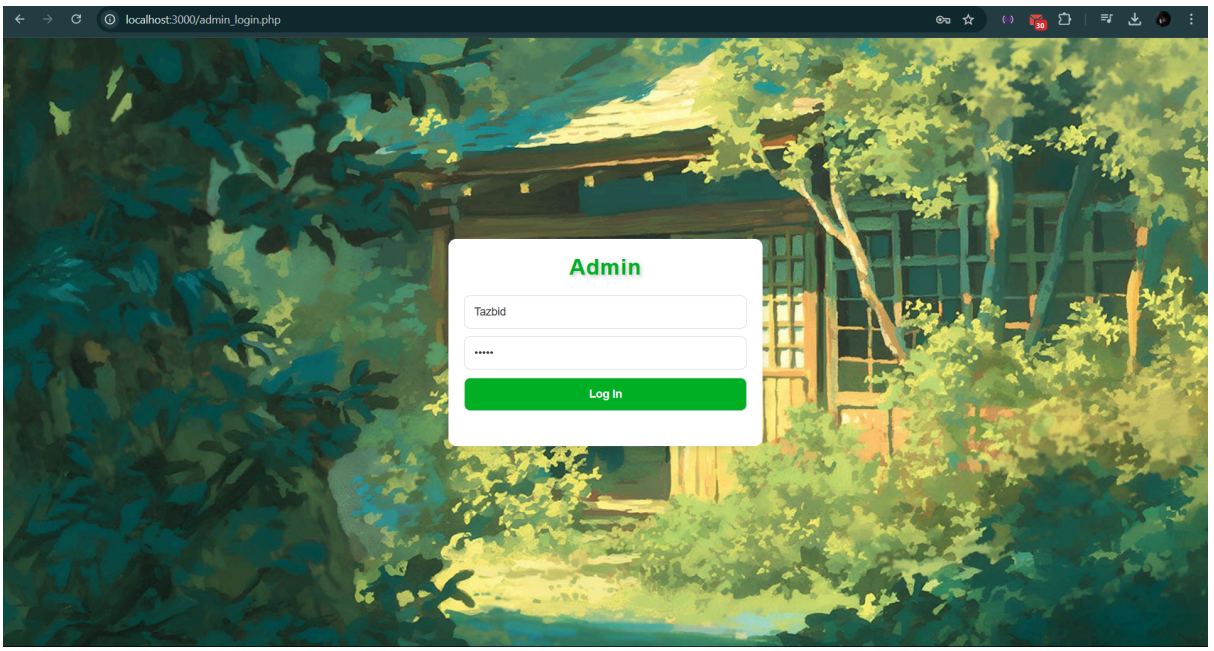
- **Normal users can book appointments with any of our signed up trainers at their preferred time**



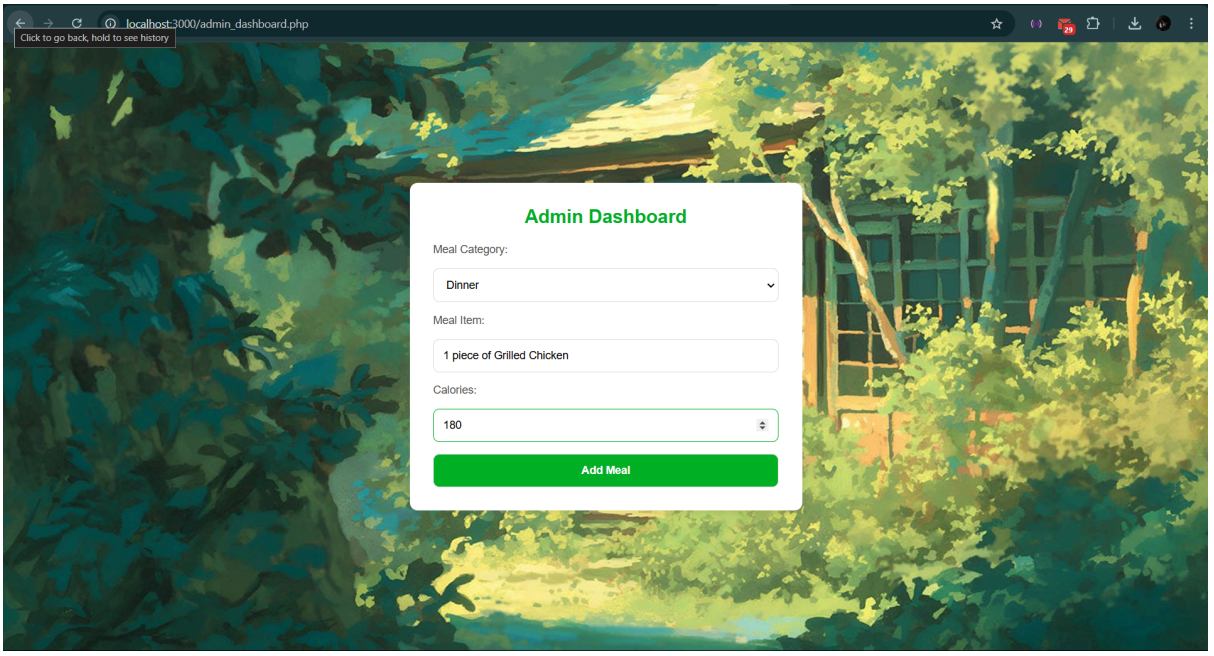
- **A trainer can view a trainee's name, appointment time, and update the appointment status to either 'Completed' or 'Canceled**



- **The website administrators can log in through the Admin Login to view the Admin Dashboard**



- **The database administrator can insert meal items into the database table 'Meal_Details' from the admin dashboard**

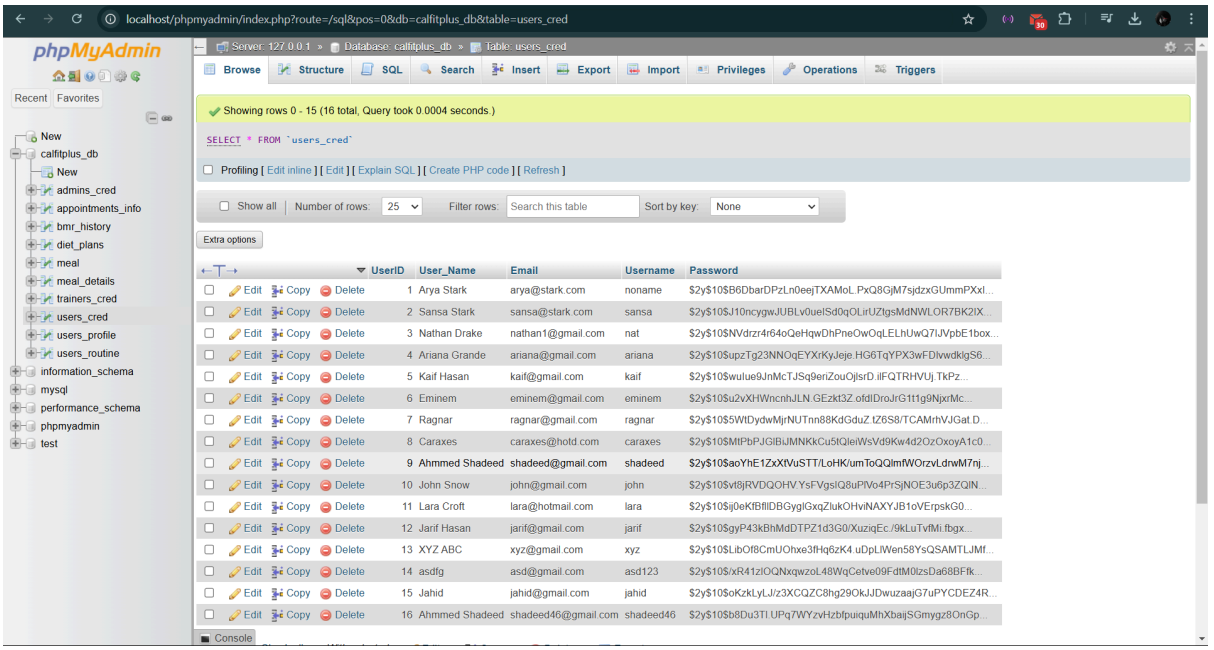


Backend Development

Contribution of ID : 24341246, Name : Ahmmed Shadeed

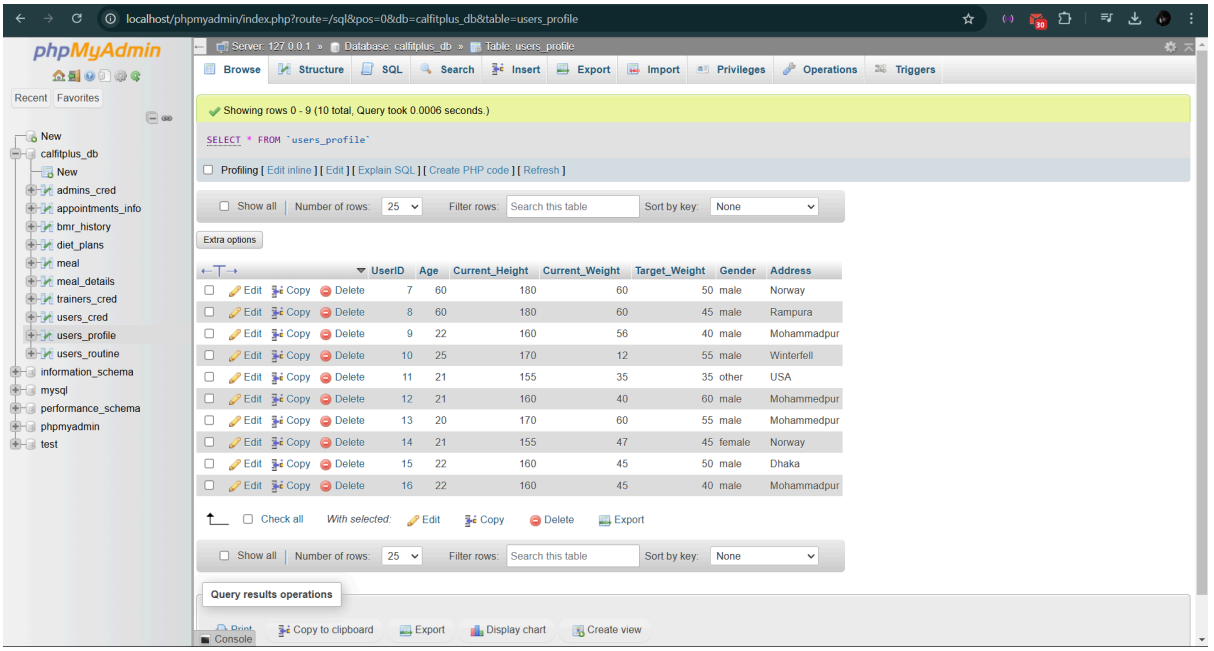
- **When a user registers on our website, their 'Full Name,' 'Email,' 'Username,' and 'Password' are inserted into the 'Users_Cred' table. The user's password is encrypted as a hashed password before insertion to ensure the security of their account.**

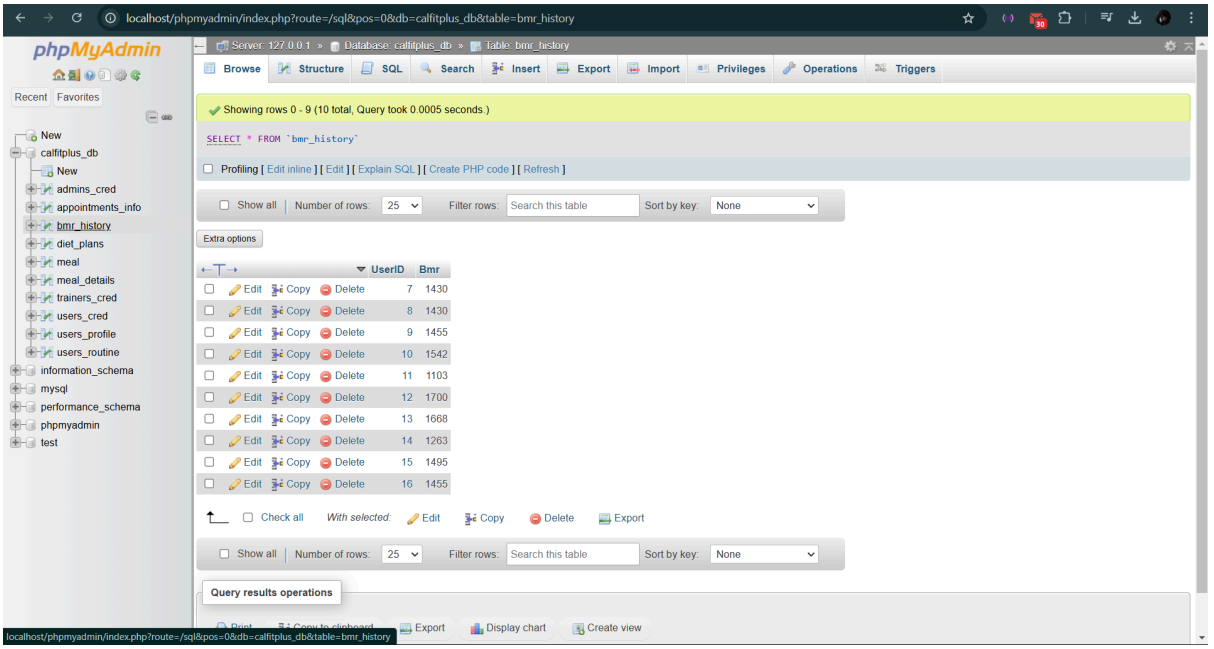
  Similarly, when a user attempts to log in to our website, the system first checks if the username exists in the 'Username' column. If the credentials are valid, the user is redirected to their dashboard.



- **After successful registration, the user is redirected to another form where they enter relevant data to calculate their BMR. The calculated BMR, current weight,**

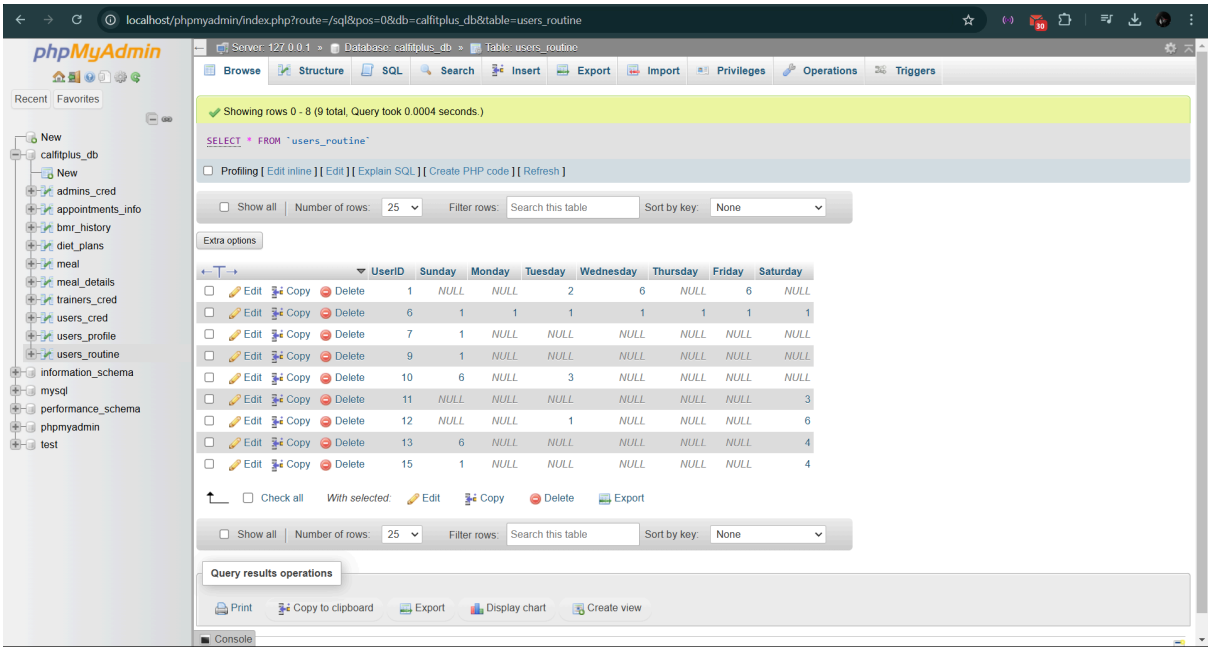
and target weight are displayed on the user's dashboard. The user can update their current weight, which recalculates their BMR and updates the BMR value in both the database table and on the user's dashboard.

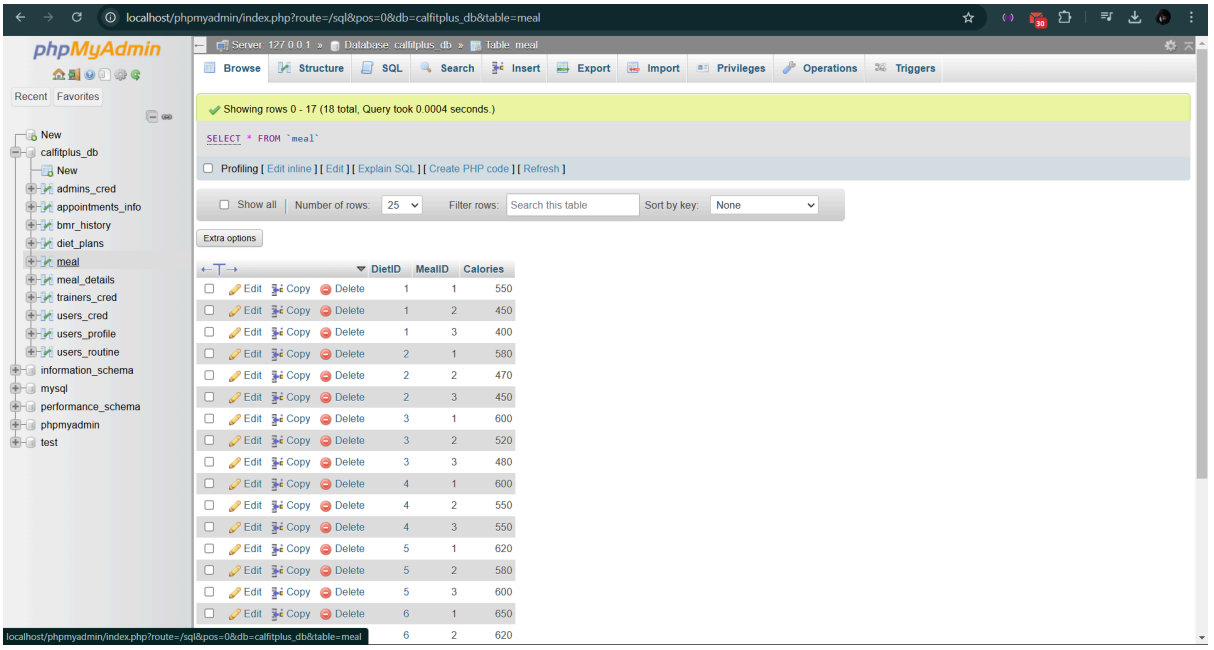




Contribution of ID : 22201424, Name : Kaif Hasan

- **Users can create a custom diet plan based on their daily calorie needs for each day of the week. They can view their routine on the 'View Routine' page of our website. Additionally, they can update their routine from the 'Update Routine' page by selecting any day and choosing a diet plan of their choice which will also be updated in the database.**

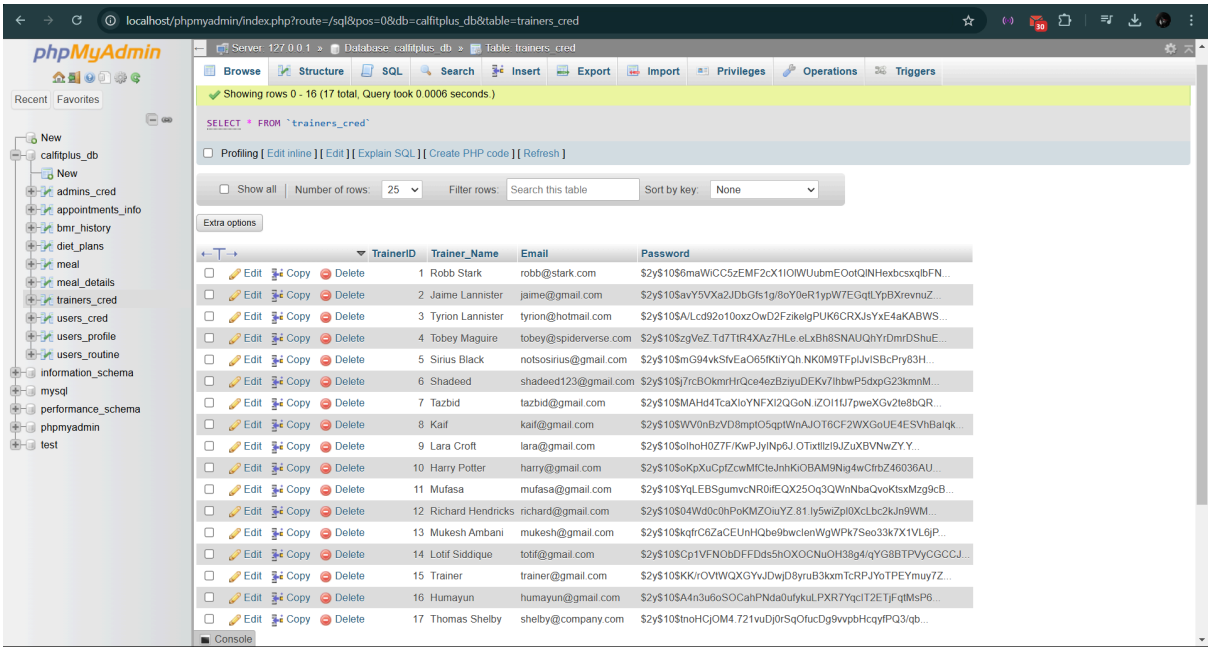




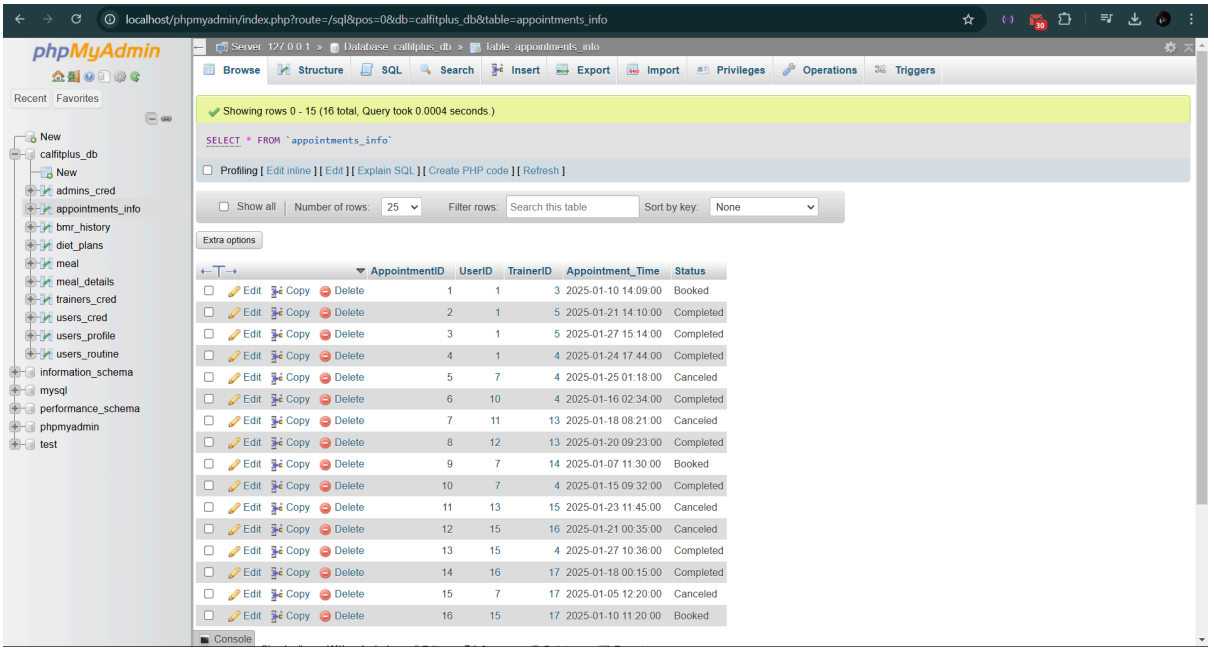
Contribution of ID : 22201998, Name : MD. TAZBID HASAN

- **Any professional trainer can easily sign up on our website as a trainer by entering their Full Name, Email, and Password. The credentials are saved into the 'Trainers_Cred' table. The password is encrypted as a hashed password before being inserted into the table to ensure the security of the account.**

  Similarly, when an already existing trainer attempts to log in to view their dashboard, the system first checks if the trainer's entered email exists in the 'Trainers_Cred' table. If the email exists and the entered credentials are correct then the trainer is redirected to their dashboard.

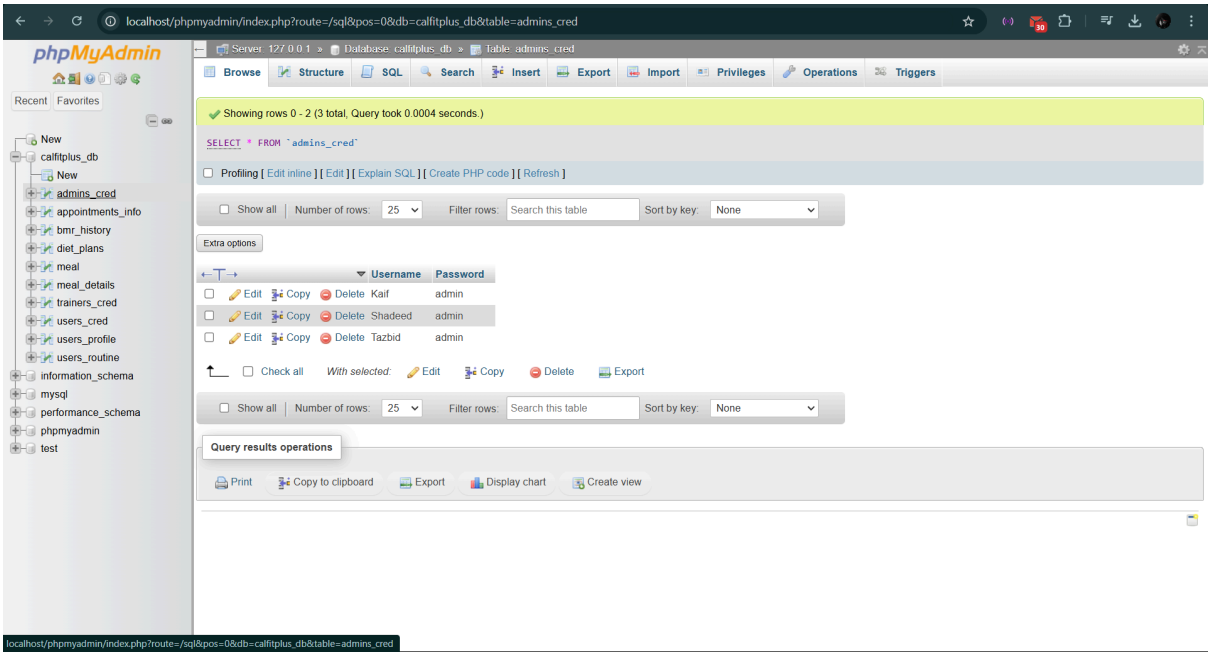


- **Any normal user can book appointments with existing trainers at their preferred time from the Book Trainer page. The appointment information is saved into the 'Appointments_Info' table.**

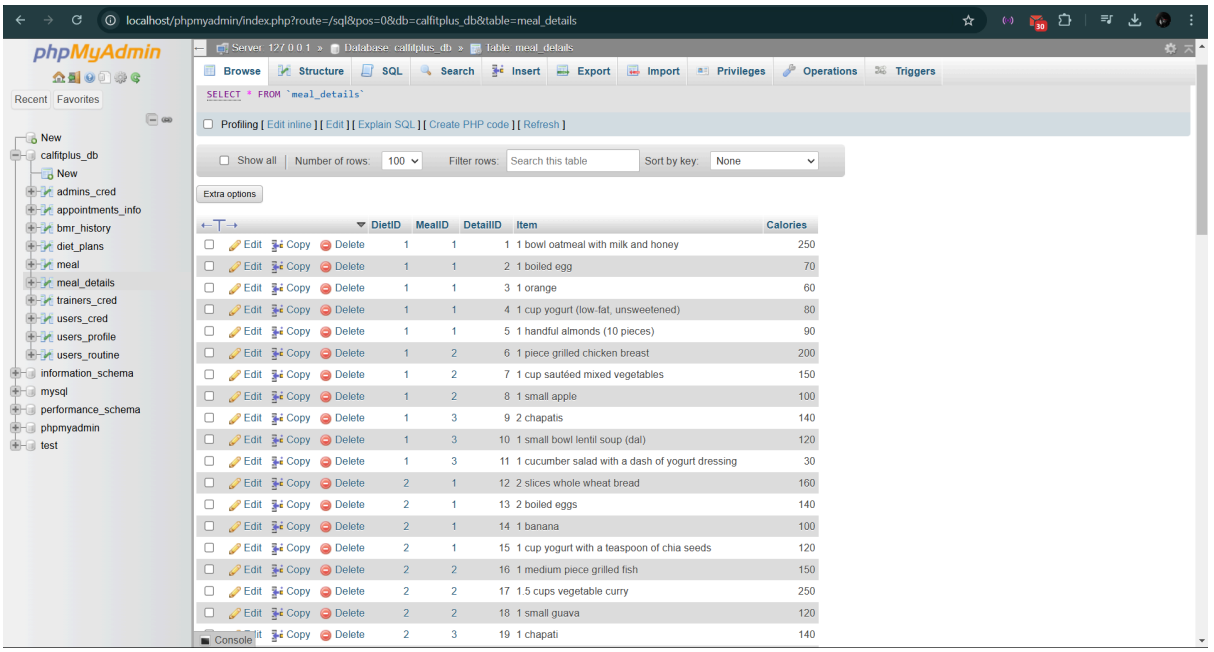


The trainer can view the trainee's name and appointment time from their dashboard. The status is initially set as 'Booked' and the trainer can update the status to either 'Completed' or 'Canceled'. The updated status is shown on both the trainer's dashboard and the database table.

- **The admin's credentials are saved in the 'Admins_Cred' table. An admin can log in to access the Admin Dashboard by entering the correct credentials set for them in the database.**



- **Admins can add meal items to the database from the Admin Dashboard.**



Source Code Repository

https://github.com/git-tazbid/CSE370_Project-CalFitPlus

Conclusion

CalFit+ serves as a comprehensive platform for personalized dietary control and progress tracking, providing users with the tools necessary to manage their health effectively. Through features like BMR calculation, dynamic diet plans, and progress monitoring, the platform encourages informed decision-making for healthier lifestyle choices. By integrating secure database management and a user-friendly design, this project successfully demonstrates the application of web development principles in a real-world health management context.

References

Dave Hollingworth. (2022, March 15). ***Save HTML Form Data to a MySQL Database using PHP*** **[Video]. YouTube.** https://www.youtube.com/watch?v=Y9yE98etanU

GeeksforGeeks. (2020, November 2). ***PHP Database connection*****. GeeksforGeeks.** https://www.geeksforgeeks.org/php-database-connection/

Insert form data into MySQL database table**. (n.d.). Stack Overflow.** https://stackoverflow.com/questions/32429963/insert-form-data-into-mysql-database-table

Mbbs, K. K. (2021, February 4). ***What is the formula to calculate BMR?*** **MedicineNet.** https://www.medicinenet.com/what_is_the_formula_to_calculate_bmr/article.htm

***making multiple separate sessions for php login*. (n.d.). DaniWeb.**

https://www.daniweb.com/programming/web-development/threads/375968/making-multiple-separate-sessions-for-php-login

PB Web Solutions. (2022, September 6). *Login and logout in PHP using session* [Video]. YouTube. https://www.youtube.com/watch?v=BNjWLfEHGqY