Figure 1. The Welcome Page

Figure 1 shows the welcome page that pops up when the user opens the application. The page displays the name of the application 'DIET PAL' and a button at the bottom that states "Get Started." Clicking on this button with take the user to the registration page. There is also a small Log In button for Existing users if they want to directly Log in.

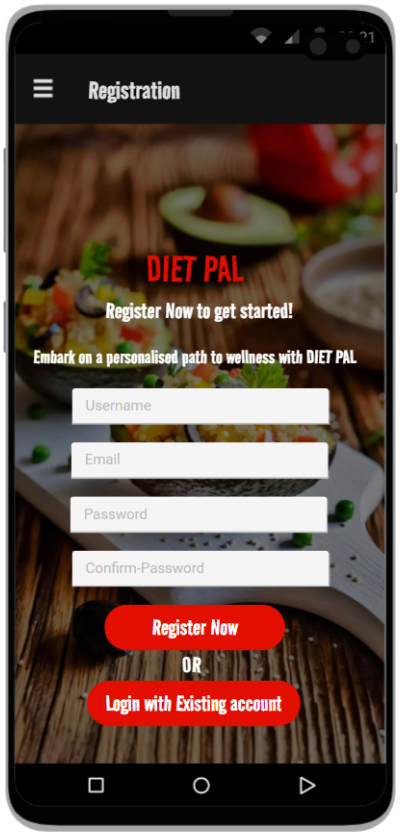

Figure 2. The Registration Page

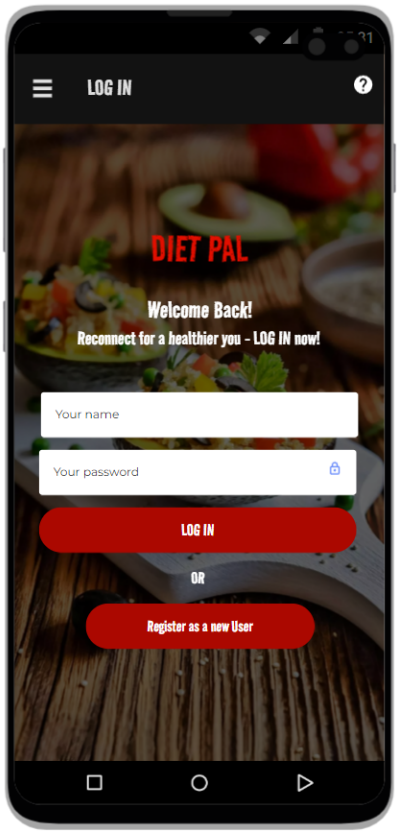

Figure 3. Log In Page

Figure 2 shows the registration page of the application 'DIET PAL'. The new users can not access the application's services without having an account, The Register page allows for the new user to set up their account. This includes them filling out the necessary fields which in this case are username, email, password, confirm password and they can click at 'Register now' after agreeing to the terms and conditions. Also, there is another button at the bottom which redirects you to the login page in case you're an existing user.

Figure 3 represents the login page of the 'Diet Pal' app. This page's function is to enable the existing users to Log in to their accounts using their Username and Password.
The Username and Password is checked from the from the existing records from the database and if the data matches, then the user will be logged in.
There is also another button at the bottom which will redirect the user to the Registration page upon click. So that if a new user wants to register, they can easily go back to the Registration page.

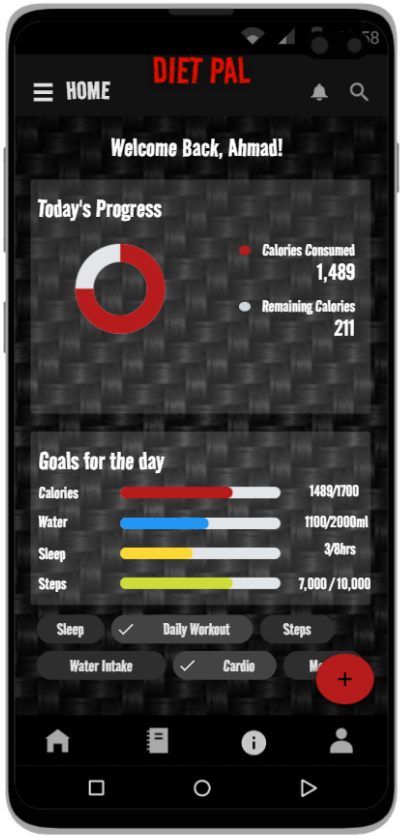

Figure 4. The Home Page

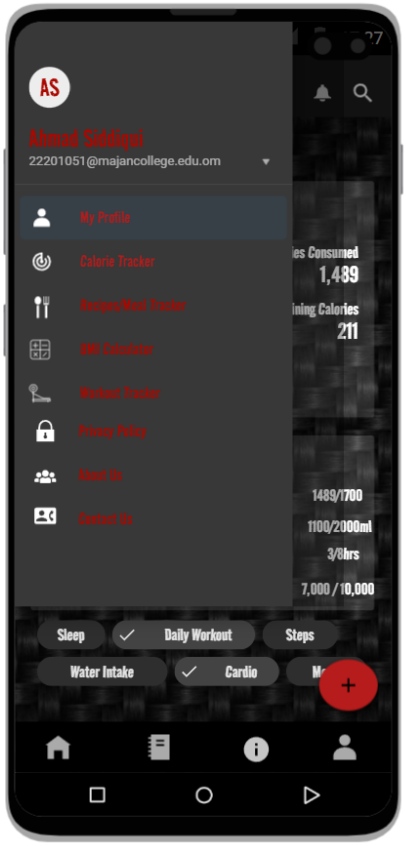

Figure 5. Navigation Bar/Menu

Figure 4 represents Home Page of the 'Diet Pal' app. The Home page is the page that will show up after the user has logged in. Here they will see their progress for the day, their calorie progress and the goals set for them for that specific day, along with that they will be able to see a navigation Tab below which they can use to easily redirect themselves to different screens.

Figure 5 shows the Navigation Bar/Menu of the 'Diet Pal' application. When the navigation button is clicked on the top left side, It opens this dropdown list which assists the user in navigation from one screen to another. On the top, the user's information is displayed along with the bunch of screens that they can redirect themselves to. This prevents the user from getting stranded on one screen and saves time by making it easier for the user to switch screens only in one tap. Also, the log out option is provided at the bottom incase the user may need to log out.

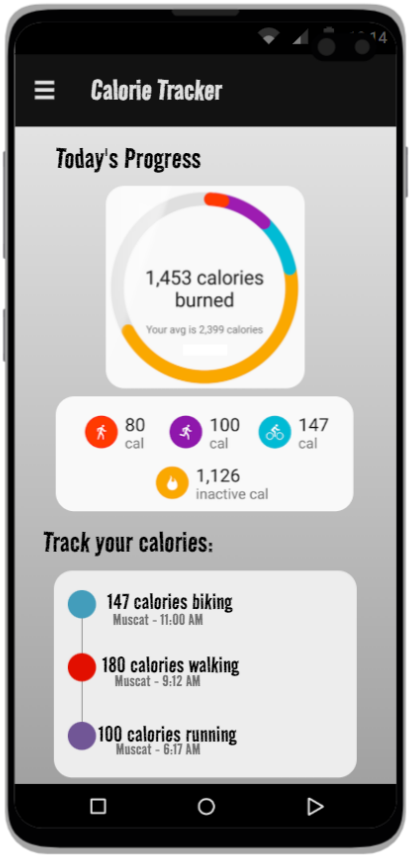

Figure 6. The Calorie Tracker

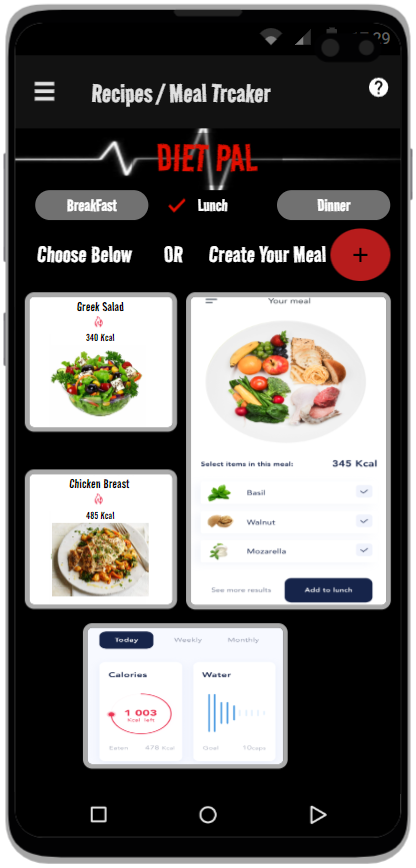

Figure 7. Recipes/Meal Tracker

Figure 6 represents **Calorie Tracker Page** of the 'Diet Pal' application.
This Calorie Tracker Page as the name indicated helps the users track their everyday calories. The calories are tracked against the daily goal set for the user according to their body. Through Visual representation the progress is showed in the circular graph as shown in the figure. This makes it even easier for the user to track their progress. Also, the calories burnt by user in their workout are also displayed so that, they can keep track of how much is being consumed and how much is being burnt.

Figure 7 shows the **Recipes/Meal Tracker** of the 'Diet Pal' application. This page enables the user to select their meals and know the number of calories it contains. Making it easier for the user to track each meal. It gives the user options to choose from depending upon the which meal they are having during the day. It also allows the user to create their own meal.

On top of that an infographic box is displayed at the bottom of the page which shows the current calorie and water intake progress. So that the user can have their next meal keeping their progress in mind.

Figure 8. Workouts Page

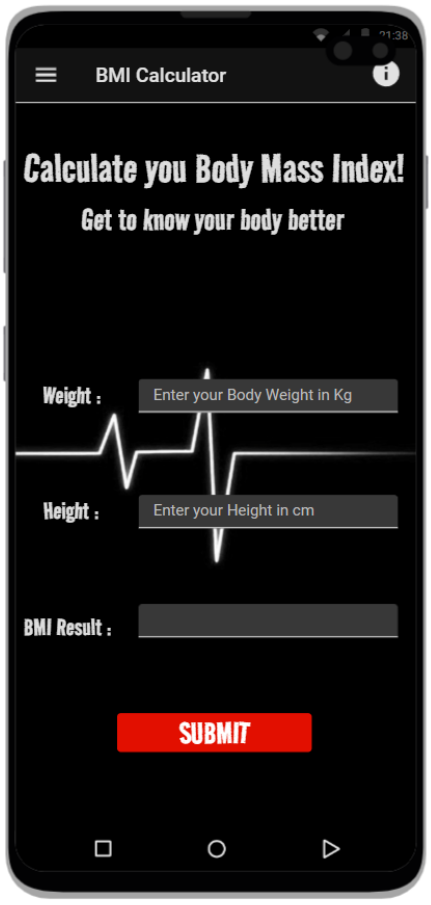

Figure 9. BMI Calculator

Figure 8 represents **Workouts Page** of the 'Diet Pal' application.
Here the user can record the kind of workouts they are performing throughout the day. Also, some goals are set for them according to their body type and physique targets. It helps in tracking your workouts.
The top has 3 boxes that display information regarding the completed workouts and how many are in progress along with the time spent on workouts in total. At the bottom are options to choose from depending upon the workouts being performed so that it may be easy for the user to track their workout sessions

Figure 9 shows the **BMI Calculator Page** of the 'Diet Pal' application. This allows the user to calculate their Body Mass Index to know themselves better. Also, to recognize where in the weight classes they belong. In order to do so, the user must enter their weight in Kilograms and height in Centimeters. The BMI calculator will execute upon clicking of the submit button and return the value back according to the inputs given. Also, it will give some remarks such as, "Little overweight". This will further help the user to know their body better.

Database Schema:

A database schema is a blueprint that represents the architecture of the relational database. It shows how the data will be organized, and what will be the relationship between the tables existing in that database. Database schemas are the visual representation of the database by using entity-relationship diagram which reflects how the values will be stored in relation to one another and the rules that govern them.

The process that takes place in designing database schemas is called data modeling and is usually performed by data professionals which may be data scientists, data analysts and data architects.

In short database schema is the blueprint and it is designed by data professionals so that the database can be referenced by administrators, programmers, and users such that its integrity increases. (Coursera, 2023)

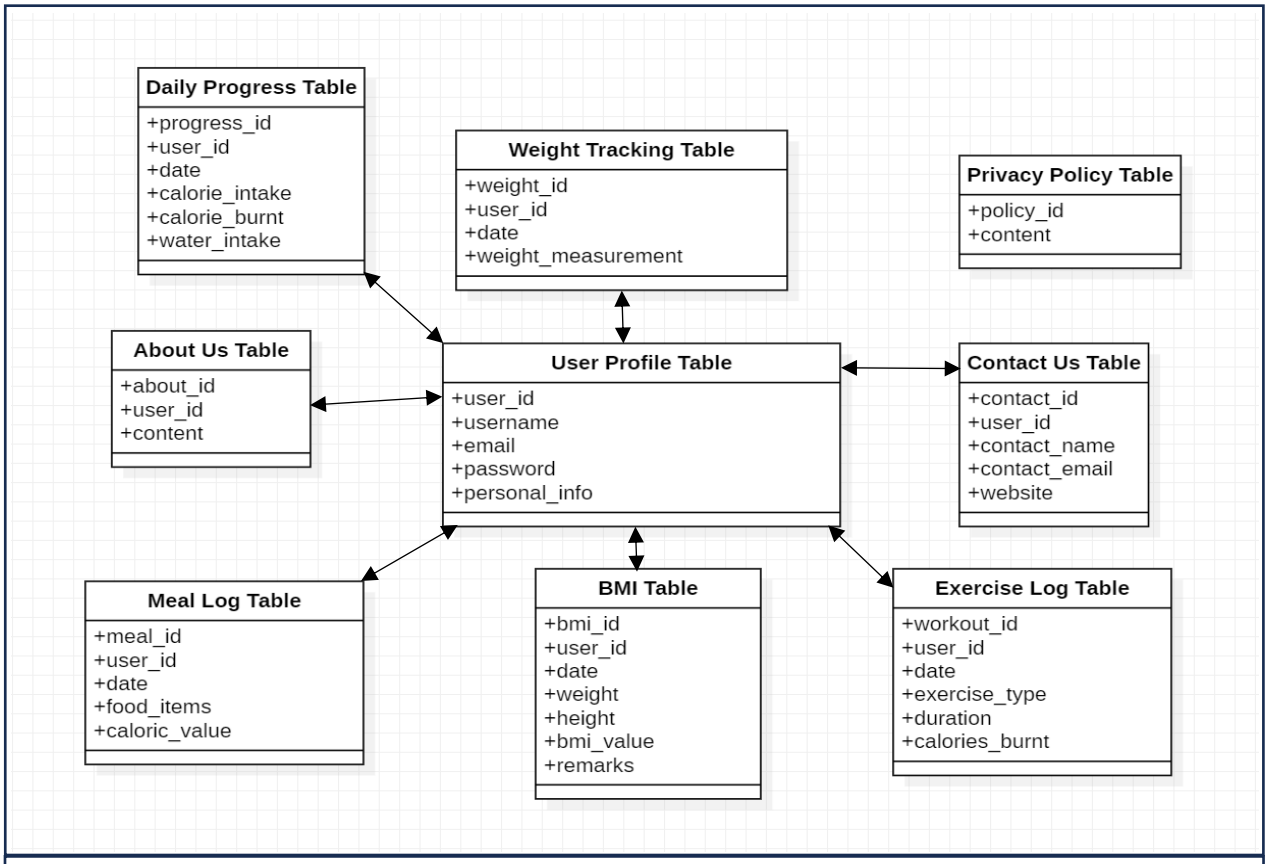

Figure 10. Database Schema for Diet Pal

Database Entities:

- **User Profile Table:** The User Profile Table stores the information of the user. "User_id" is the Primary Key or PK and it serves as a unique identifier for each user. This table stores the user_id, their username, email on which their account is registered, along with the password and personal information which may include some user preferences along with additional information that may be related to their health and fitness.

- **Daily Progress Table:** The daily progress table is unique for each user and stores the data that is needed to track the daily progress. It has several attributes explained below:

Progress_id: Primary Key.
User_id: Foreign Key which links it to the users table so that each day's progress can be tracked for a particular user.
Date: records the date for which the progress is being tracked.
Calorie Intake: The number of calories consumed by the user on that day.
Calorie Burnt: The number of calories burnt by the user on that day.
Water Intake: Stores the value for water drank by the user on that day.

- **Meal Log Table:** The meal log table keeps tracks of the user's meals throughout the day.

Meal_id: Primary Key.
User_id: Foreign Key.
Date: records the date for which the meal is being logged.
Meal_type: Stores the name of the type of meal you're having such as breakfast, lunch, dinner, snacks, etc.
Meal_name: stores the name and description of each meal.
Calories: Stores the calorie content of each meal.

- **Exercise Log Table:** Keeps track of the exercises done by the user on a particular day.

Workout_id: Primary Key.
User_id: Foreign Key.
Date: records the date for which the meal is being logged.
Exercise_type: specifies the type of exercise the user is performing.
Duration: Amount of time spent on the exercise/workout.
Calories_burnt: Number of calories burnt by doing this exercise.
Status: Indicates if the workout/exercise has been completed or in progress.

- **BMI Table:** stores the data needed to calculate the user's Body Mass Index.

Bmi_id: Primary Key.
User_id: Foreign Key.
Date: records the date for which the BMI is being logged.
Weight: Stores the weight of the user in Kilograms
Height: Stores the height of the user in Centimeters.

BMI_value: Represents the calculated BMI according to the values taken from the user.
Remarks: Stores additional remarks based on the BMI Value.

- **Privacy Policy Table:** Stores the data that represents the privacy and policy statements of the application.

Policy_id: Primary key for the Privacy Policy table.
Content: Stores the text content of the privacy policy table.

- **About Us Table:** Stores information regarding the Diet Pal application and the mission vision.

About_id: Primary key for the About Us table.
User_id (Optional Foreign Key): Optional link to the Users table if specific information is to be associated with individual users.
Content: Stores the content of About Us Table.

- **Contact Us Table:** Stores the contact information for Diet Pal Application Incase

Contact_id: Primary key for the Contact Us table.
User_id (Optional Foreign Key): Optional link to the Users table if you want to associate contact information with individual users.
Contact_name: Stores the name associated with the contact information.
Contact_email: Stores the email associated with the contact information.
Website: Stores the website associated with the contact information.