

Fitness and Nutrition Buddy Database Connection Scenario

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The Fitness and Nutrition Buddy provides the user with a list of restaurant options by tracking their fitness and nutrition goals. Based on each user's profile, the application can search for restaurants nearby. For the second scenario, the GUI will be connected to the database. The GUI can retrieve the profile data about each user from the user database and search in the restaurant database. The application will compare the user profile with the restaurant profile to determine a match between the dietary restrictions. The restaurant list will be displayed on screen for the user. The key feature of the application is to retrieve information from the user to provide appropriate results. The application is very flexible and constantly updates the results based on changes from the user.

Scenario "Data Saved"

The user launches the application with the "start" button and if the user is launching the application for the first time, the system displays a welcome screen with a brief description of the application. Then they are taken to a sign up page to create an account. The sign up page requires the user to select from the different types of nutritional goals and set their goal for the system to follow. On the second launch, the user is prompted to log into their pre-existing account.

The system is able to query through the database and retrieve user information. If the login information doesn't match any of the data in the user database, the user is prompted to re-enter the username and password. When there is a match in the data from the user and the database, the system then displays the main screen. The user can choose multiple different options of functionality from the application. The options include: Nutrition Plan, Meal Plan, Calories, Change Goal, Map, and Restaurant Search.

The Nutrition Plan option displays a screen with an intricate plan created by the system based on the nutritional goals in the Nutrition database for the specific user. The plan would consist of the maximum number of calories to be consumed by the user throughout the day. It would also include the protein, fat, and carbohydrate levels to be achieved in a day.

The Meal Plan option allows the users to upload their meals into the application throughout the day and get feedback on them. The Meal Plan screen would display nutritional information about their meals and match the information to the information in the Nutrition Plan. The carbohydrate, fat, and protein levels in the food entered will be compared to the limitations in the Nutrition Plan. If any of the nutrient levels are over the recommended, the user is notified. The data entered in the Meal Plan is stored and saved in the Nutrition database for future reference.

The Calories option tracks the users calorie intake from the information retrieved through the Meal Plan option and stored in the Nutrition database. It displays the current data and updates as the user enters more information about their calorie intake throughout the day. The application would notify the user if the calorie intake is over the amount recommended. The Calorie option would also allow the user to track the calories burned. The application would read from a data file the number of steps taken by the user and calculate the number of calories burned according to the current number of steps.

Change Goal option would display the current goals as set by the user and allow the user to change these goals. The system would query the database for the specified users goals stored in the Nutrition database and update these as required by the user. If the user wants to change their goals, they would select the type of goals they want to change; protein levels, carbohydrates levels, fats levels, and calorie intake. Data will be entered through a textbox that only accepts integers. The user will also be able to choose the type of diet with a scroll down of options like low carb or low fat. This data then will be updated in the Nutrition database.

The Map option displays the location of the user along with the different restaurants nearby that fit the nutritional goals' criteria. The system tracks the user's location and stores it in the user database. The Map then queries the user database to find the current location, city, of the user, then queries the Restaurant database to find all the restaurants that fit the nutritional goals' criteria in the specified city. The data retrieved is then displayed to the user using Google Maps like functionality with drop pins on each of the restaurant locations.

Restaurant Search allows for the user to search the location of the user for restaurants that match the dietary restrictions specified by the user. It displays all the restaurants in the user's current location in a list and orders them alphabetically. The user can also look up the different restaurants in the area by location and food criteria. This is done simply by either clicking on "Search by Location" or "Search by food". The "Search by Location" option would prompt the user to enter a city and then the system would query the Restaurants database for the restaurants in the specified city. The "Search by food" option would prompt the user to select between different dietary options such as vegan or gluten free or low carb, then the system would query the Restaurants database for all the restaurants with the specified food criteria. If either of the queries turn up empty, the user is notified.

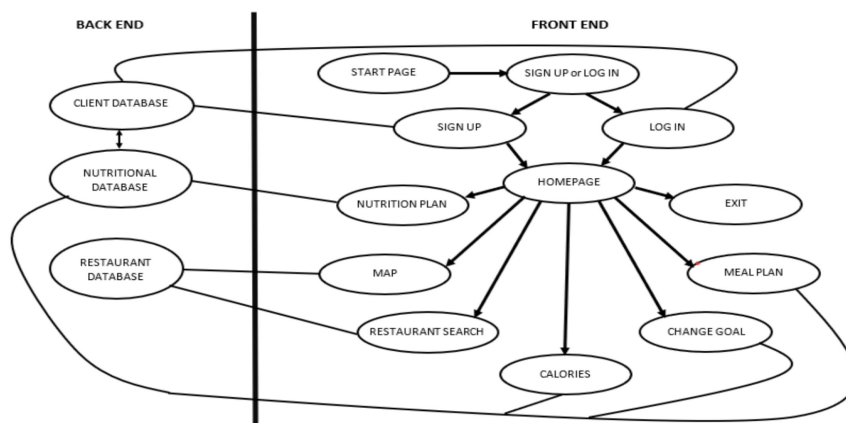


Figure 1. Connection Diagram