Functional Requirements:

1. The app shall allow the user to manage their personal information.
   1.1. The app shall accept basic information about the user.
      1.1.1. The app shall request for the user's height.
      1.1.2. The app shall request for the user's weight.
      1.1.3. The app shall request for the user's age.
      1.1.4. The app shall request for the user's gender.
   1.2. The app shall request for the user's medical conditions.
      1.2.1. The app shall request for the user's allergies and intolerances.
         1.2.1.1. The app shall allow the user to indicate the severity of their allergies and intolerances.
            1.2.1.1.1. The app shall allow the user to select the option of mild.
            1.2.1.1.2. The app shall allow the user to select the option of moderate.
            1.2.1.1.3. The app shall allow the user to select the option of severe.
      1.2.2. The app shall display a disclaimer advising users to consult healthcare professionals for personalized advice.
   1.3. The app shall allow the user to select their activity level.
      1.3.1. The app shall allow the user to select the option of sedentary.
      1.3.2. The app shall allow the user to select the option of lightly active.
      1.3.3. The app shall allow the user to select the option of moderately active.
      1.3.4. The app shall allow the user to select the option of very active.
   1.4. The app shall accept dietary plans from the user.
      1.4.1. The app shall request for the user to select their preferred diet plan.
         1.4.1.1. The app shall allow the user to select the option of Mediterranean Diet.
         1.4.1.2. The app shall allow the user to select the option of Low-Carb Diet.
         1.4.1.3. The app shall allow the user to select the option of Vegan Diet.

1.4.1.4. The app shall allow the user to select the option of Vegetarian Diet.

1.4.1.5. The app shall allow the user to select the option of Intermittent Fasting

1.4.2. The app shall request for the user's cuisine preferences.

1.4.2.1. The app shall allow the user to select the option of Mediterranean Cuisine.

1.4.2.2. The app shall allow the user to select the option of Italian Cuisine.

1.4.2.3. The app shall allow the user to select the option of French Cuisine.

1.4.2.4. The app shall allow the user to select the option of Chinese Cuisine.

1.4.2.5. The app shall allow the user to select the option of Indian Cuisine.

1.4.2.6. The app shall allow the user to select the option of Malay Cuisine.

1.4.2.7. The app shall allow the user to select the option of Thai Cuisine.

1.4.2.8. The app shall allow the user to select the option of Japanese Cuisine.

1.4.2.9. The app shall allow the user to select the option of Korean Cuisine.

1.4.3. The app shall request for the user's dietary preference.

1.4.3.1. The app shall allow the user to select the option of Omnivorous.

1.4.3.2. The app shall allow the user to select the option of Vegetarian.

1.4.3.3. The app shall allow the user to select the option of Veganism.

1.5. The app shall allow the user to indicate their favourites.

1.5.1. The app shall allow the user to indicate their favourite foods.

1.5.2. The app shall allow the user to indicate their favourite meals.

1.5.3. The app shall allow the user to indicate their favourite cuisines.

1.6. The app shall allow the user to input their health goals.

1.6.1. The app shall allow the user to select the option of Lose Weight.

      1.6.2. The app shall allow the user to select the option of Gain Weight.

1.7. The app shall request for the user's typical mealtimes.

1.8. The app shall permit the user to edit their personal information; medical conditions; activity level; dietary plans; cuisine preferences; dietary preferences; favourites.

      1.8.1. The app shall allow the user to edit each individual section without having to re-enter every other section.

      1.8.2. The app shall provide immediate feedback in the form of a confirmation step for changes to prevent accidental edits.

2. The app shall allow the user to manage their settings.

2.1. The app shall provide profile management functionality.

2.2. The app shall provide the option for users to upload or change their profile picture.

2.3. The app shall allow the user to input their preferred action plan.

      2.3.1. If the user requests for the app to only show nutritional information, then the app will only show the nutritional information of the scanned food items.

      2.3.2. If the user requests for the app to provide recommended changes to their diet, then the app will provide recommendations based on what food items the user scanned.

      2.3.3. If the user requests for the app to show recommended meal plans, then the app will show recommended meal plans based on what it has scanned.

2.4. The app shall offer customizable notification settings.

      2.4.1. The app shall allow users to customize push notification preferences.

            2.4.1.1. The app shall allow the user to select the option of Meal Reminders.

            2.4.1.2. The app shall allow the user to select the option of Goal Achievements.

            2.4.1.3. The app shall allow the user to select the option of Log Meal Reminders.

2.5. The app shall allow the user to change their unit of measurements.

      2.5.1. If the user selects metric system, all units will be displayed in accordance with the International System of Units (SI).

      2.5.2.   If the user selects imperial system, all units will be displayed in accordance with the British Imperial System.

2.6.   The app shall allow the user to change text sizes.

2.7.   The app shall allow the user to reset settings to default.

3.   Tne app shall provide responses to the user.

    3.1.   The app shall provide a recommended calorie intake for the user in accordance with their health goals.

      3.1.1.   If the user wants to lose weight, the app shall recommend that the user consume 500 less calories.

      3.1.2.   If the user wants to gain weight, the app shall recommend that the user consume 500 more calories.

    3.2.   The app shall provide a recommended water intake for the user in accordance with their health goals.

      3.2.1.   The app shall take into consideration the activity level of the user.

    3.3.   The app shall provide a recommended step count for the user.

    3.4.   The app shall recommend food options to the users.

      3.4.1.   If the user has difficulty curbing their hunger, the app shall recommend that the user consume more fibre in their diet to maintain satiety.

      3.4.2.   If the user has difficulty putting on muscle mass, the app shall recommend that the user consume more protein in their diet to aid muscle growth and recovery.

      3.4.3.   If the user has low energy levels throughout the day, the app shall recommend that the user consumer more carbohydrates in their diet to maintain energy levels.

4.   The app shall capture food images.

    4.1.   The app shall request permission to access the user's camera and photo gallery.

    4.2.   The app shall provide tools to crop, rotate, and adjust images.

    4.3.   The app shall allow the user to upload an image of a food item from their gallery or capture an image of their food item in real-time using their camera.

      4.3.1.   The app shall scan and process the uploaded image.

        4.3.1.1.   While the image is that of a food item, the app shall identify the food present in the image.

        4.3.1.2.   If the image is blurry, the app shall prompt the user to reupload another image.

4.3.1.3. If the image is not of a "jpg" or "png" file type, the app shall prompt the user to reupload another image in the above-mentioned file types.

4.3.1.4. If the app cannot recognize the food item present in the uploaded image, the app shall prompt the user to reupload another image.

5. The app shall provide nutritional information of the captured food images.

5.1. While the app recognises the scanned food item, it shall display the nutritional information of the items in terms of calories and macros, in accordance with the units of measurements selected by the user.

5.1.1. The app shall allow the user to customize the nutritional information based on serving size.

6. The app shall allow modifications to meal entries.

6.1. The app shall allow the user to modify their meal entries.

6.1.1. The app shall allow the user to modify their meal entries before it is logged into their history.

6.1.1.1. The app shall allow the user to modify portion sizes.

6.1.1.2. The app shall allow the user to search the food items and manually add it into their existing meal entry.

6.1.1.3. If the app failed to recognize a food item, then the app shall prompt the user to manually key in the food entry.

6.1.2. If the app recognized a wrong food item, then it shall allow the user to manually delete food items from the meal entry.

6.1.3. The app shall provide immediate feedback in the form of a confirmation step before logging meal entry into the user's history.

7. The app shall present a history of meal entries.

7.1. The app shall provide a history of all past meal entries confirmed by the user

7.1.1. The app shall present the past meal entries in reverse chronological order.

7.1.2. The app shall present the macros nutritional information of the past meal entries.

       7.1.3.   The app shall display a report of the macros, nutrition and weight changes across the week

7.2.   The app shall allow the user to modify individual meal entries.