

# Workshop in Databases:

# Final Project User Manual

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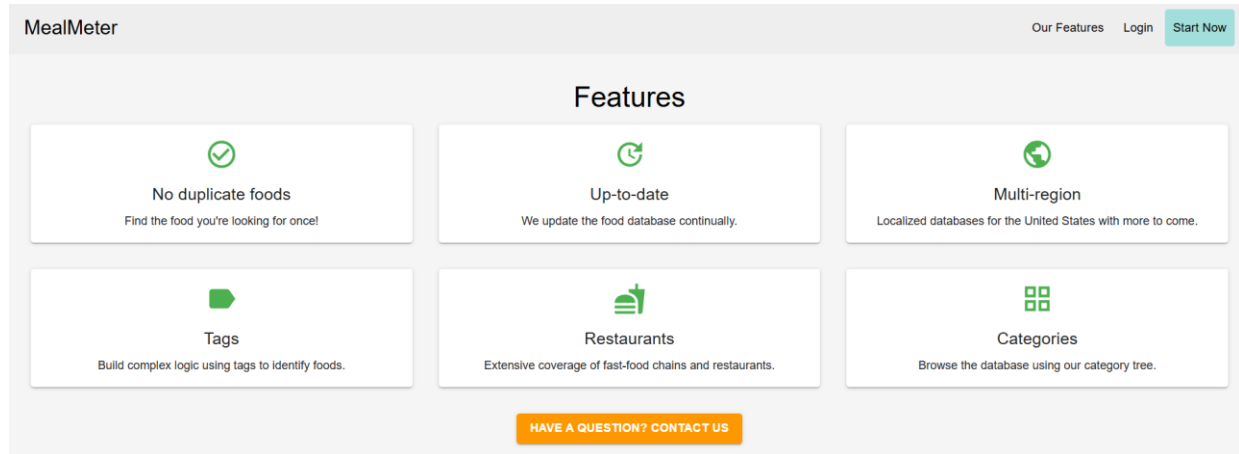
# Our Application (MealMeter)

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## Overview

MealMeter is a comprehensive food and nutrition tracking application built with React for its frontend, and Flask for its backend. It provides users with detailed nutritional information, health scores, and meal tracking capabilities.

## Key Benefits



**Figure 1.** Features section.

- Detailed nutritional information for foods and beverages
- Personal meal tracking and history
- Health score calculations
- Activity recommendations for calorie management
- Comparative health analytics

# Application Configuration

## Client Side

1. **Environment Configuration** – In order to run the application, you must run the server script found in the app directory (app/app.py). Then, the client side of the application will be accessible on localhost, using port 5000 (we are serving a static build of the application, using the build directory).

Name	Date modified	Type	Size
public	19.01.2025 13:14	File folder	
ActivitiesConnection.py	22.01.2025 14:49	Python	2 KB
app.py	22.01.2025 14:49	Python	5 KB
FBConnection.py	22.01.2025 14:49	Python	9 KB
fbValues.py	22.01.2025 14:49	Python	1 KB
requirements.txt	22.01.2025 14:49	Text Document	1 KB
search.py	22.01.2025 14:49	Python	1 KB
test.py	22.01.2025 14:49	Python	1 KB
user.py	22.01.2025 14:49	Python	2 KB
UserConnection.py	22.01.2025 14:49	Python	9 KB
utilities.py	22.01.2025 14:49	Python	4 KB

**Figure 2.** The app subdirectory within the project root.

## Server Side

### 1. Prerequisites

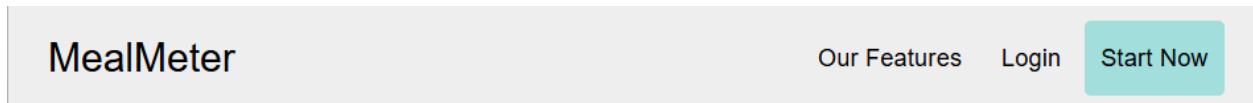
- Python
- pip package manager

### 2. Installation Steps

```
cd app
py -m pip install -r requirements.txt
py app.py
```

# Application Usage

## Navigation Bar



**Figure 3.** Navigation bar, not logged in.



**Figure 4.** Navigation bar, logged in.

The navigation bar is located at the top of the page and contains the following options:

- **“MealMeter”** (*Home Page*) - takes the user to the home page.
- **“Our Features”** (*About Page*) - takes the user to the features page.
- **“Login”** (*Login Page, only if not logged in*) - allows the user to login to their account.
- **“Start Now”** (*Registration Page, only if not logged in*) - allows the user to register for an account.
- **“Profile”** (*Profile Page, only if logged in*) - takes the user to the profile page.
- **“Logout”** (*Logout Page, only if logged in*) - logs the user out of their account.

## Creating an Account (Optional)

This step is optional, but recommended for a more personalised experience. In the case that you do not wish to create an account, you can still use the application, but you will not be able to save your meal history or view your personal health score, or compare your health score to other users.

### MAKE. IT. EASIER.

Access all of your meals  
in one place available.

Create a healthy lifestyle  
or meet specific dietary goals.

Already have an account?

LOG IN

## CREATE YOUR ACCOUNT

Email \*  
example@example.com  
Enter email address

Enter your birth date  
02/21/1999  
Enter your birth date

First Name \*  
example  
Enter your first name

Last Name \*  
example  
Enter your last name

Password \*  
.....  
Enter password

Confirm Password \*  
.....  
Enter password again

Weight \*  
80  
Enter your weight

Male  
Enter your gender

SIGN UP

Figure 5. Sign-up page.

**NOTE:** You may use the example account provided by us, with the email “example@example.com” and the password “password”.

1. Visit the MealMeter homepage
2. Click “Start Now” in the navigation bar
3. Fill in the registration form with:
  - First and last name
  - Email address
  - Password (minimum 8 characters)
  - Date of birth
  - Gender
  - Current weight

# MAKE. IT. EASIER.

Keep all your meals and sports activities  
information in one place for an easy checkout.

The log-in form consists of two light blue input fields and a teal button. The first field is labeled 'email \*' and contains the text 'example@example.com'. Below it is a placeholder text 'Enter email address'. The second field is labeled 'password \*' and contains seven dots. Below it is a placeholder text 'Enter password'. At the bottom is a large teal button with the text 'LOG IN' in white capital letters.

email \*

example@example.com

Enter email address

password \*

•••••••

Enter password

LOG IN

**Figure 6.** Log-in page.

1. Click “Login” in the navigation bar
2. Enter your email and password
3. Click “LOG IN”

## Home Page

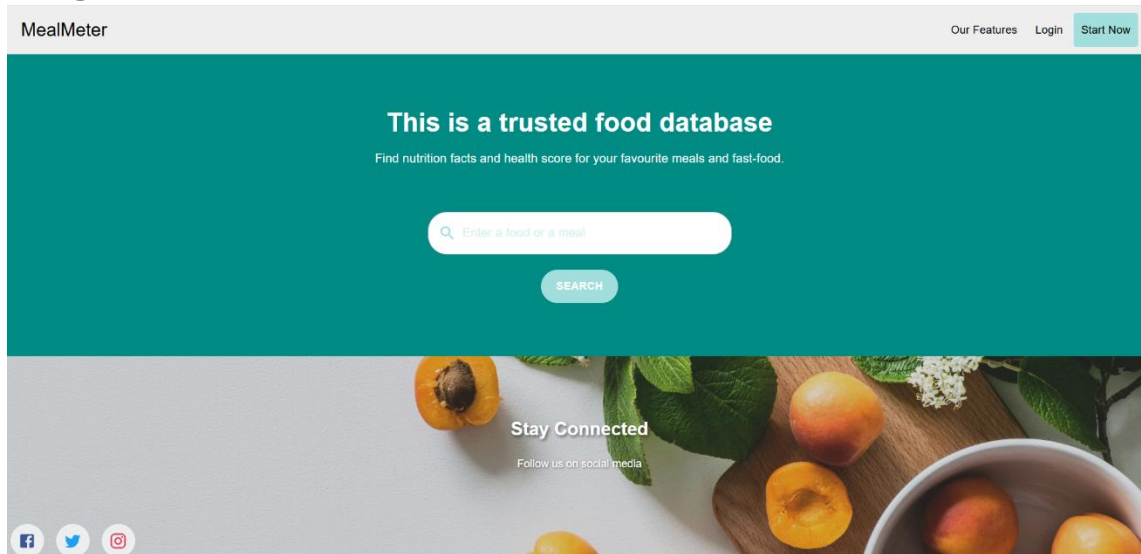


Figure 7. Home page.

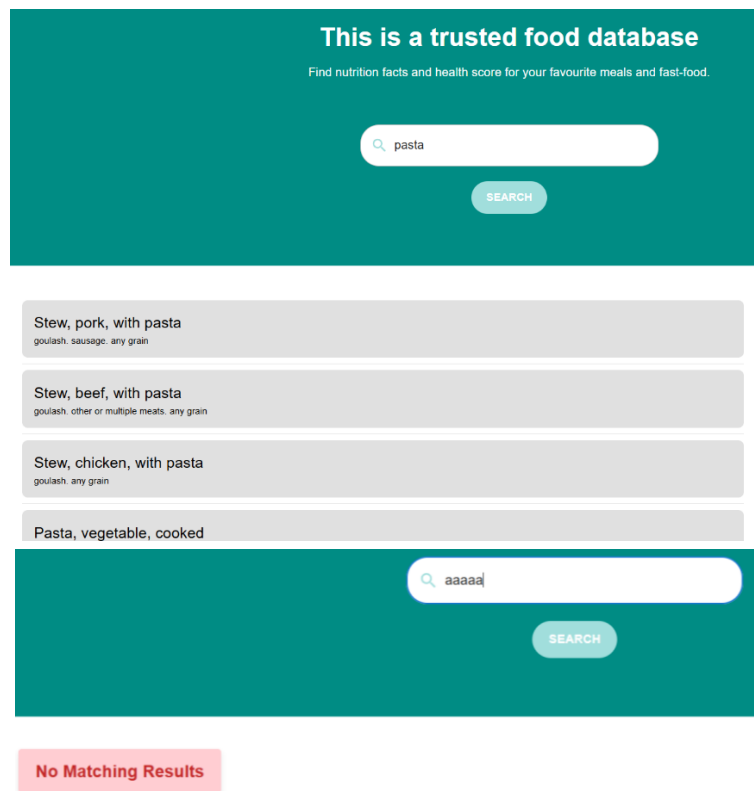


Figure 8. Search example, raises error when no foods are found.

1. Use the search bar on the homepage
2. Enter food name or description
3. Click “Search” or press Enter
4. Browse through the results list
5. Click on any item for detailed information


# Food Item Page

The food item page is divided into 3 tabs:

1. The first tab contains detailed information about the food item, including its ingredients, nutritional information, and suggested workout activities in order to burn off the calories in the food – all calculated based on the portion size selected by the user.

MealMeter

Our FeaturesLoginStart Now



Macaroni or pasta salad with chicken

Pasta mixed dishes, excludes macaroni and cheese

INFORMATION

NUTRITION RESULTS

HEALTH SCORE

434.52 Calories

Choose your portion size:

Serving

1 cup / 204

Calorie Burn Time

How to burn off 434.52 calories in one hour activity?

Running, 10.9 mph  
(5.5 min mile)

297 calories burned

Cross country  
skiing, uphill

272 calories burned

Running, 10 mph  
(6 min mile)

264 calories burned

Cycling, >20 mph,  
racing

264 calories burned

Based on weight of 80 kg.

Nutritional Values

NUTRIENT	VALUE
Energy	213 kcal
Water	60 g
Carbohydrate	21 g
Total Fat	11 g
Protein	8 g

Rows per page: 5 1–5 of 38 < >

Meal Ingredients

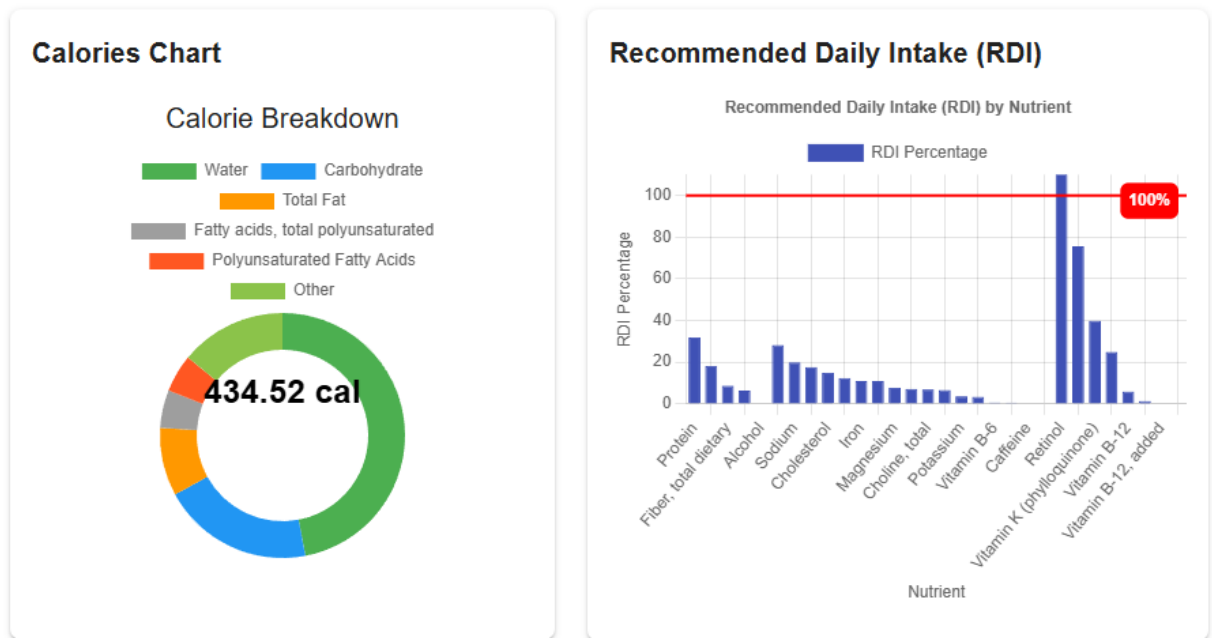
INGREDIENT	WEIGHT (G)
Pasta, cooked, enriched, without added salt	127
Chicken, NS as to part, rotisserie, skin not eaten	31
Salad dressing, mayonnaise, regular	25
Lemon juice, raw	7
Pickle relish, sweet	7

Rows per page: 5 1–5 of 7 < >



2. The second tab contains an interactive pie chart of the top 5 nutrients in the food, and a chart of the recommended daily intake (RDI).

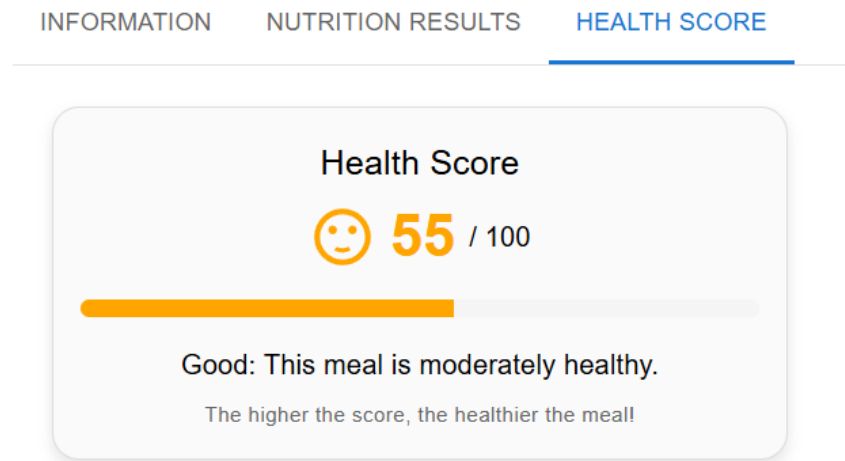
INFORMATION   **NUTRITION RESULTS**   HEALTH SCORE



**Figure 9.** Second tab of the food-item page.

- On hover, the pie chart will show the percentage of the nutrient in the food. The RDI chart shows:
  - Percentage of daily recommended intake
  - Red line indicates 100% RDI
  - Hover over bars for exact percentages
  - Nutrients sorted by importance

- The third tab contains the food item's health score (0-100), where 0 is the worst possible score, and 100 is the best possible score. This score is calculated based on the food item's nutritional information.



**Figure 10.** Third tab of the food-item page.

## Profile Page

The profile page is divided into 2 tabs.

1. The first tab contains three sections:

The screenshot displays the MealMeter application interface. At the top, a navigation bar includes the 'MealMeter' logo, a 'Our Features' link, and a user profile icon with 'Profile' and 'Logout' options. Below this, a tabbed interface shows the 'PROFILE' tab selected, with 'HEALTH SCORE' as an alternative. The main content area is divided into three sections: 1. 'Update Your Profile' with input fields for 'First Name', 'Last Name', and 'Weight (kg)', and an 'UPDATE PROFILE' button. 2. 'Input Your Meal' with a 'Search Meal' dropdown, a 'Meal Weight (grams)' input, a 'Date and Time' selector, and an 'ADD MEAL' button. 3. 'Your Meal History' showing a list of meals: 'Cheese, NFS' (200 grams, 4/14/2025) and 'Hot chocolate / cocoa, reduced sugar, made with lowfat (1%) or fat free (skim) milk' (100 grams, 1/14/2025). A pagination indicator at the bottom shows '1' of 1 items.

**Figure 11.** First tab of the user profile page.

1. **“Update Your Profile”** - allows the user to update their first name, last name, and weight.
2. **“Input Your Meal”** - allows the user to input a meal and add it to their meal history.
3. **“Your Meal History”** - displays a list of the user’s meal history.

2. The second tab contains two health scores:

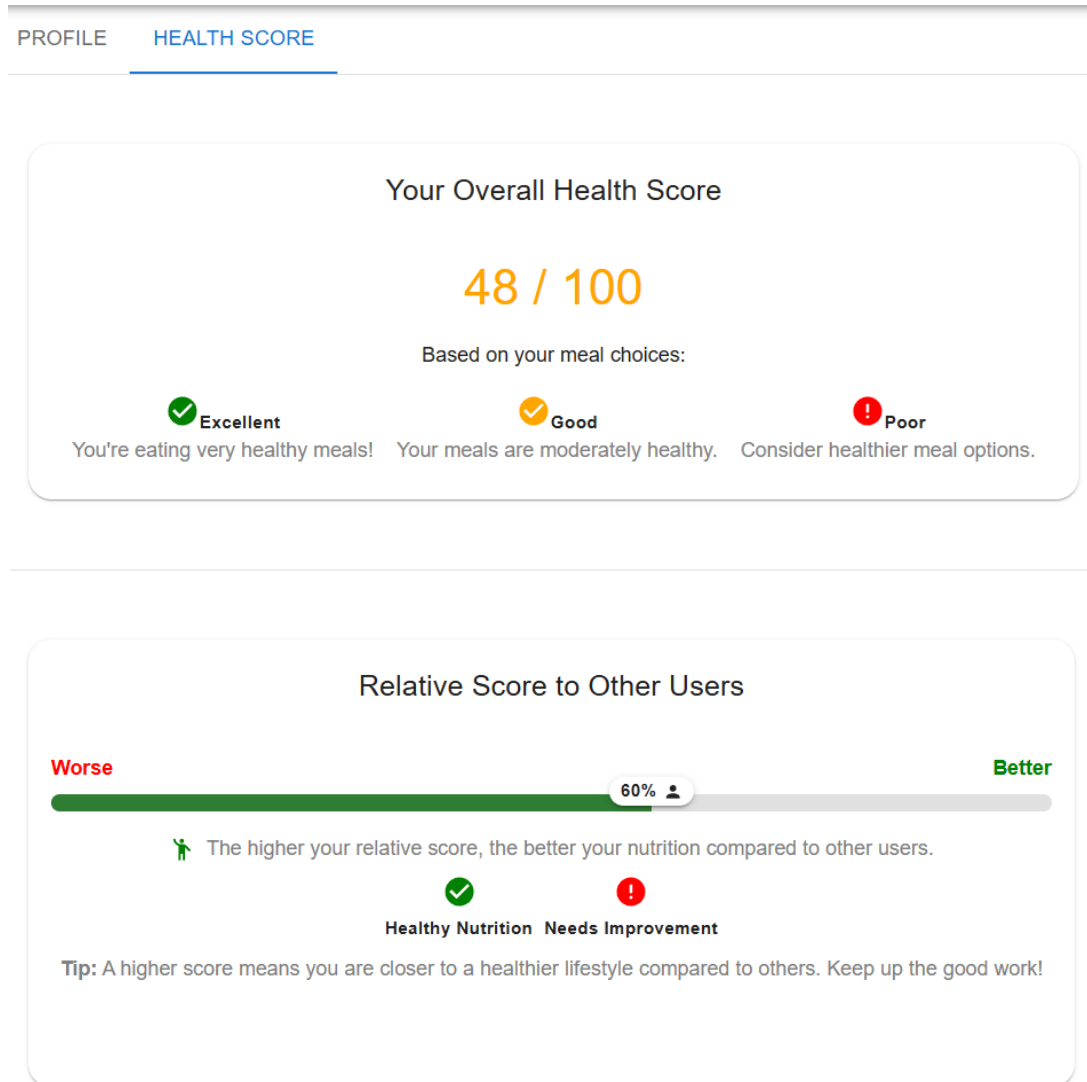


Figure 12. Second tab of the user profile page.

1. **“Personal Health Score”** - based on the user’s meal history, and updated as the user inputs meals.
2. **“Relative Health Score”** - compares the user’s health score to the health scores of other users, shown as a percentile ranking.