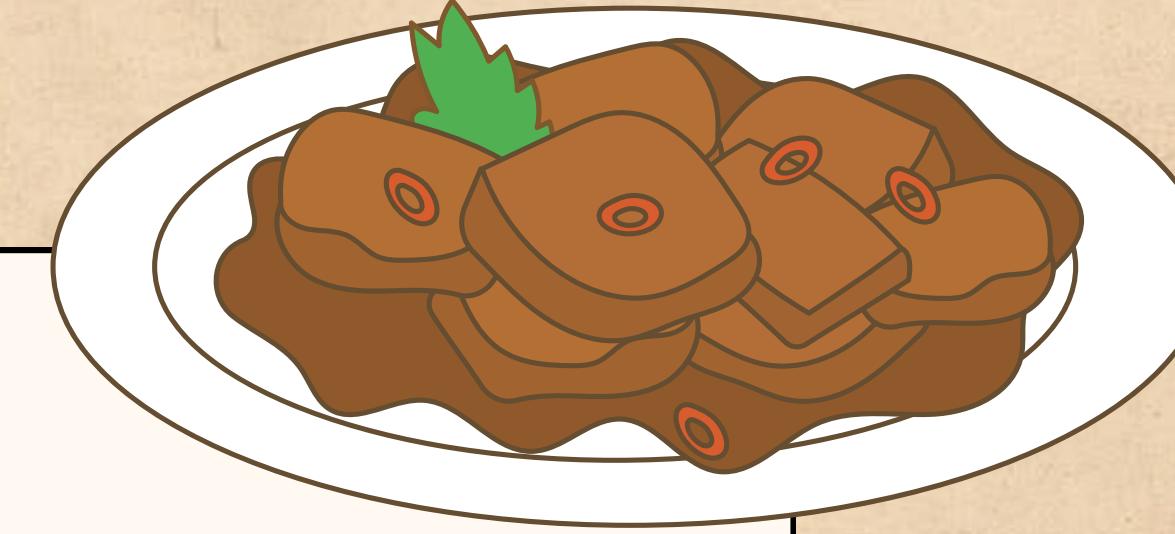
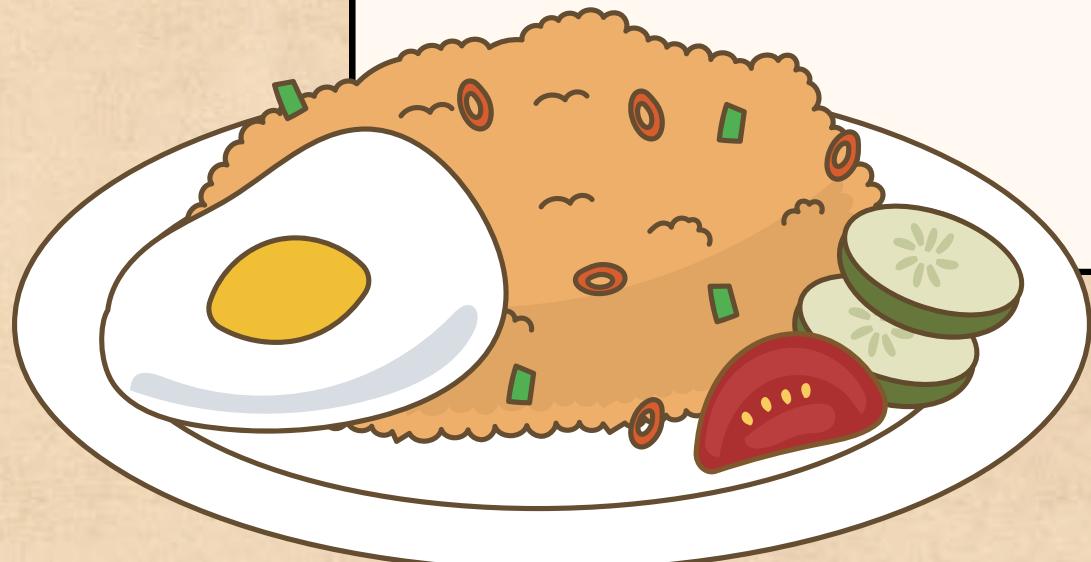




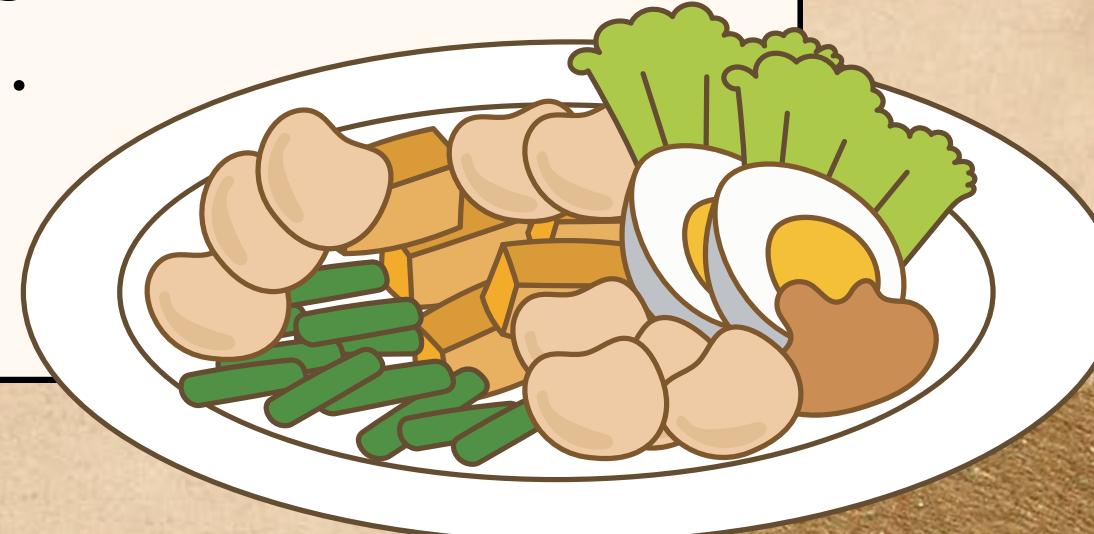
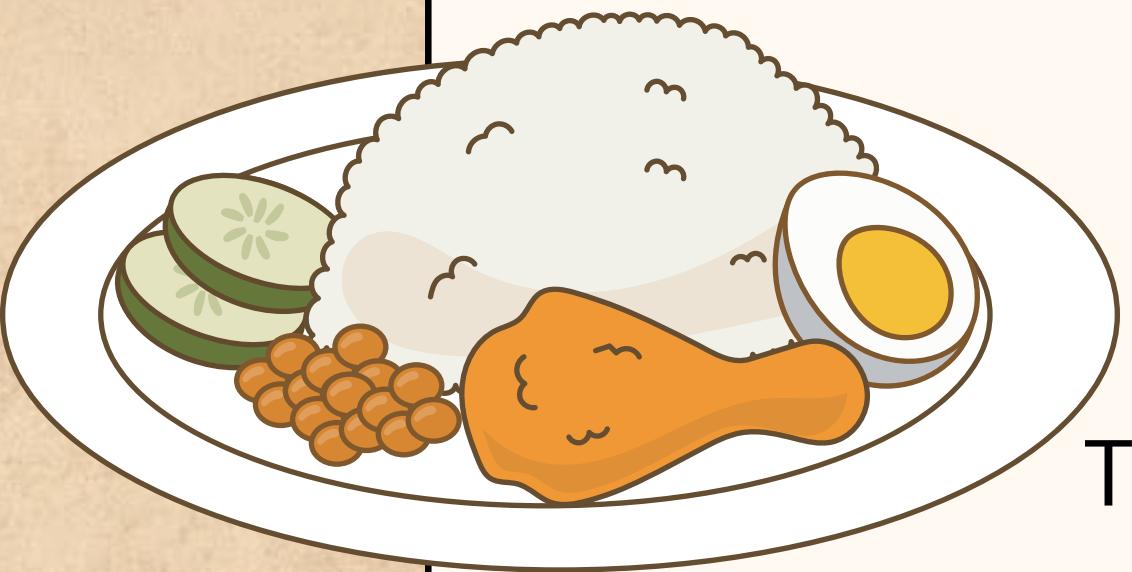
Nutrition AI Coach

By Singh Parisdeep & Nasui Elisa



Our Project

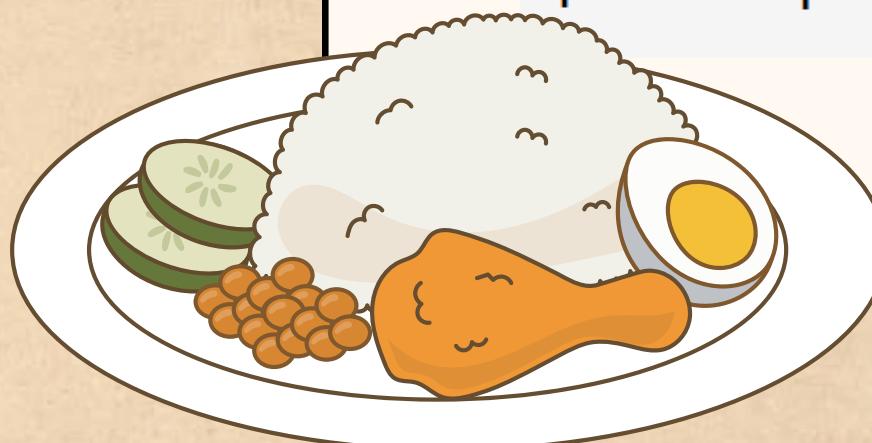
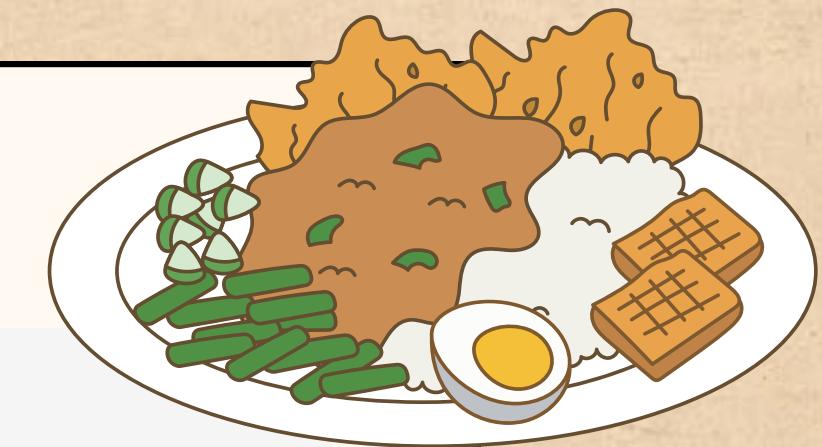
The Nutrition AI Coach is an app that strives to make healthy and nutritious cooking easier, as well as encourage people to try new dishes.



Basic Architecture

```
app project/
    run.py
    app/
        chat.py
        database.py
        models.py
        user.py
    templates/
        index.html
    .env
    requirements.txt
```

- # Main file to run the application
- # Folder containing the core files of the app
- # Manages chat/messages
- # Manages the database
- # Defines the data models
- # Manages user-related functions (login/register)
- # Folder containing HTML files
- # Front-end of the app
- # Environment variables (e.g., database, API keys)
- # List of Python dependencies for the project



user.py

This file handles **user registration** and **login**:

- Reads email and password sent from the frontend
- Hashes the password before storing it
- Checks if the email already exists before creating a new user
- Verifies the email + password when logging in
- Stores the user's ID in the Flask session to keep them logged in

chat.py

This file sets up the connection to **PostgreSQL**:

- Loads the DATABASE_URL from .env
- Creates a SQLAlchemy engine connected to PostgreSQL
- Provides SessionLocal to interact with the database
- Defines the Base class used to create SQLAlchemy models

index.html

This file contains **the entire user interface**:

- Displays the pages: Home, Login, Register, Chat
- Includes the forms for registration and login
- Displays the chat area to talk with the AI
- Uses JavaScript to:
 - send HTTP requests to the Flask backend
 - render chat messages
 - switch screens depending on user actions (login, register, chat)

models.py

This file defines the **database structure** using SQLAlchemy.

Class: User

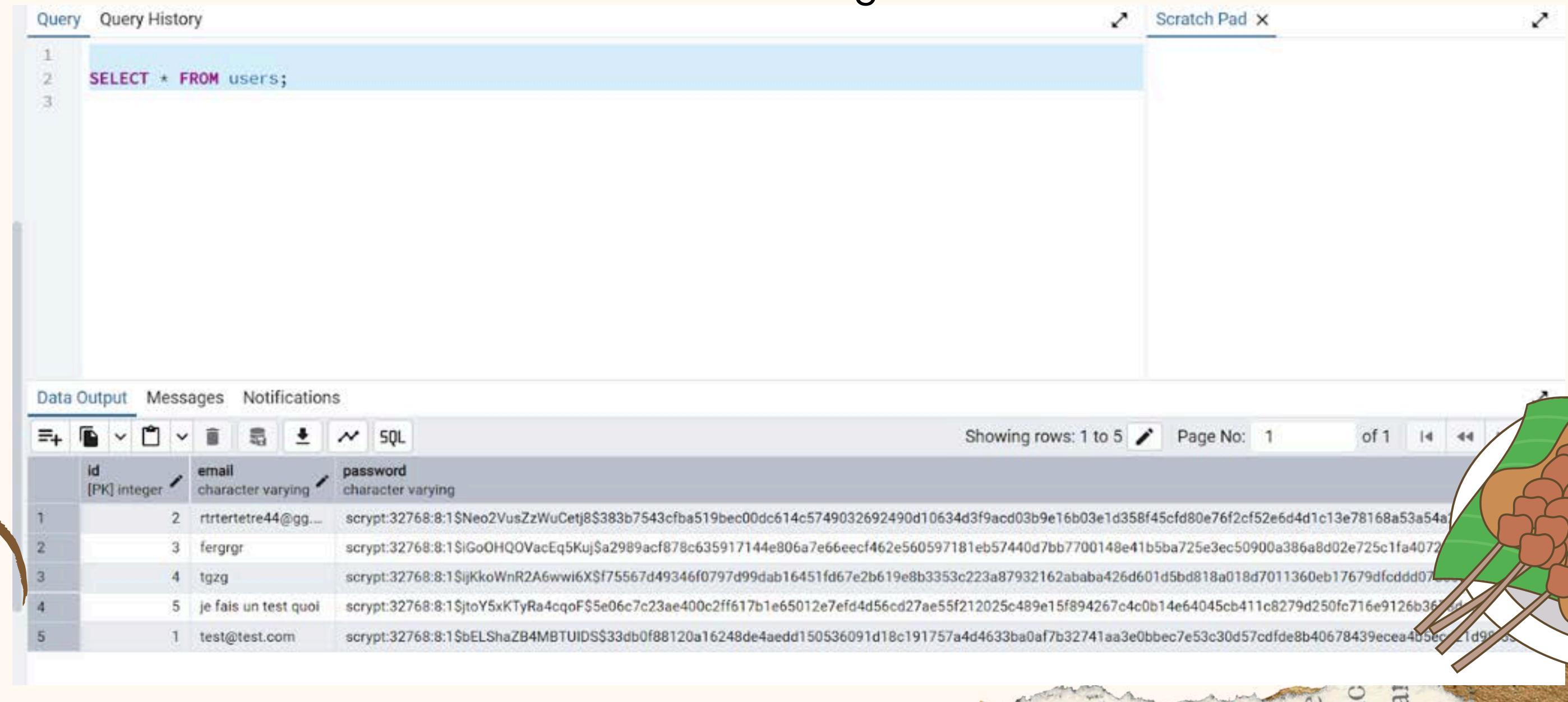
Represents a user in the database with the following fields:

- **id** → Unique ID for each user (primary key)
- **email** → The user's email (must be unique)
- **password** → The hashed password stored in the database
- **chat_history** → A text field storing the entire chat history as JSON

This model is used by the rest of the app to create, read, and update user data in the database.

The Database

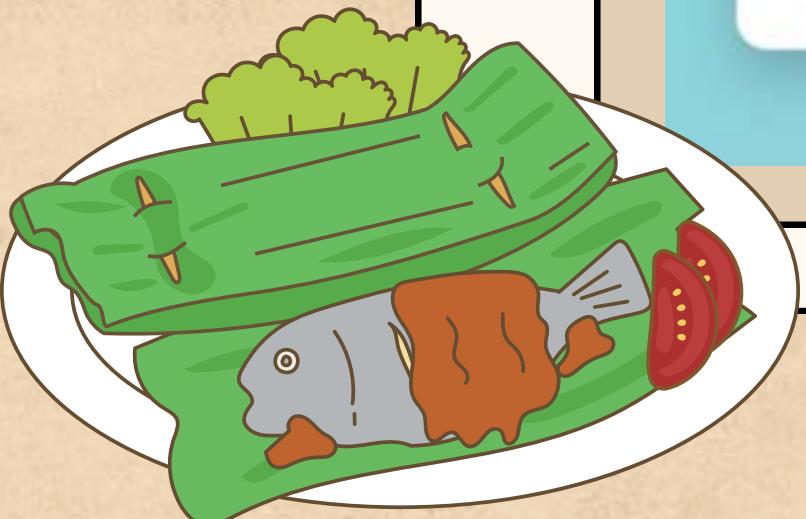
PostgreSQL is a free and open-source relational database management system (RDBMS) emphasizing extensibility and SQL compliance. Below, you can see how we utilized it for account management:



	id [PK] integer	email character varying	password character varying
1	2	rtrtertete44@gg...	scrypt:32768:8:1\$Neo2VusZzWuCetj8\$383b7543cfba519bec00dc614c5749032692490d10634d3f9acd03b9e16b03e1d358f45cf80e76f2cf52e6d4d1c13e78168a53a54a...
2	3	fergrgr	scrypt:32768:8:1\$IGoOHQOVacEq5Kuj\$2989acf878c635917144e806a7e66eefc462e560597181eb57440d7bb7700148e41b5ba725e3ec50900a386a8d02e725c1fa4072...
3	4	tgzg	scrypt:32768:8:1\$ijKkoWnR2A6wwi6X\$75567d49346f0797d99dab16451fd67e2b619e8b3353c223a87932162ababa426d601d5bd818a018d7011360eb17679dfcddd07...
4	5	je fais un test quoi	scrypt:32768:8:1\$joY5xKTyRa4cqoF\$5e06c7c23ae400c2ff617b1e65012e7efd4d56cd27ae55f212025c489e15f894267c4c0b14e64045cb411c8279d250fc716e9126b36...
5	1	test@test.com	scrypt:32768:8:1\$bELShaZB4MBTUIDSS33db0f88120a16248de4aedd150536091d18c191757a4d4633ba0af7b32741aa3e0bbec7e53c30d57cdfde8b40678439eceaa4b5ec...

The Main Page

The first thing a new user is going to come face-to-face with is a Login/Register screen that has been set up with appropriate error messages for different scenarios



AI-Nutrition

[Login](#)

[Register](#)



AI-Nutrition

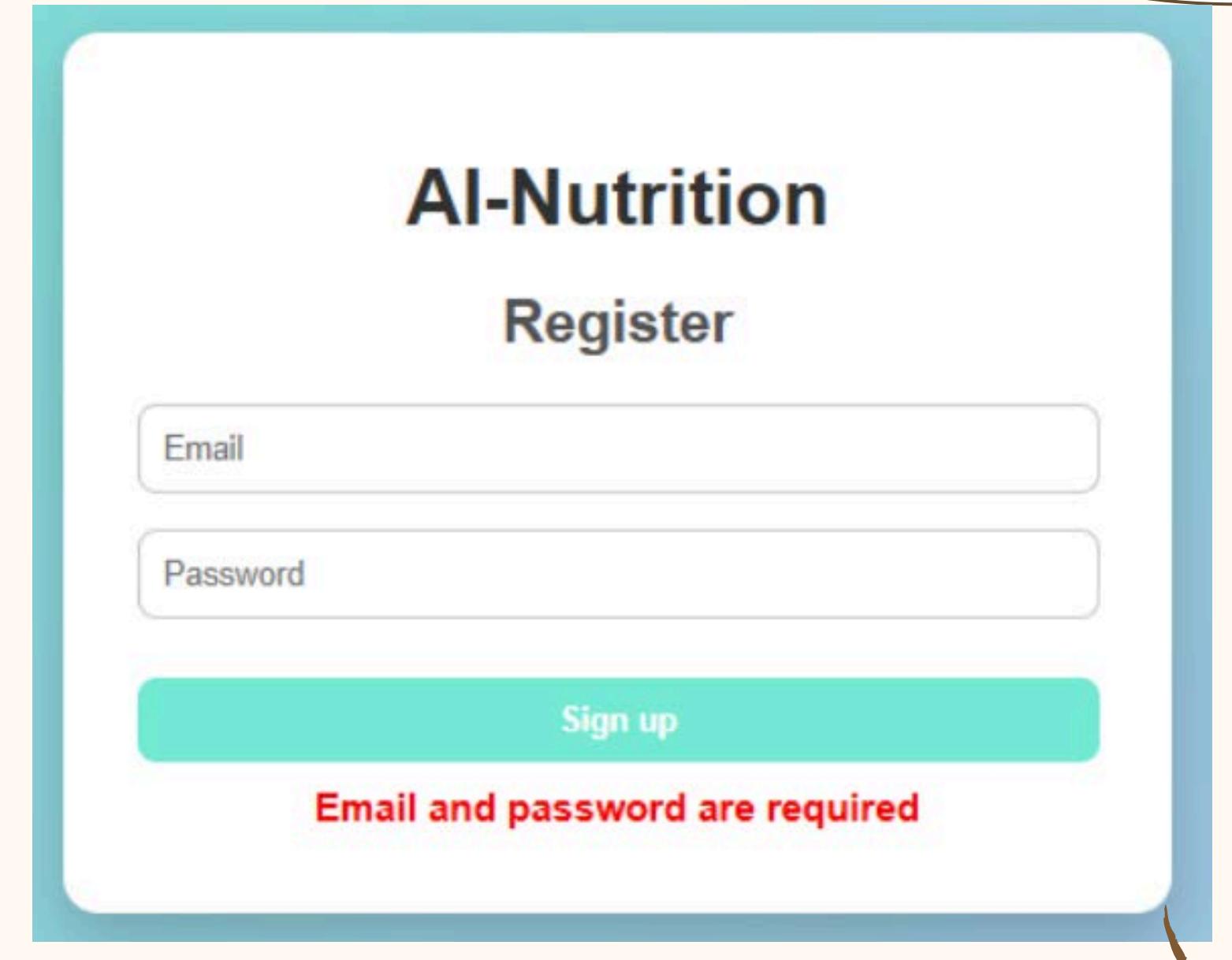
Register

[Sign up](#)

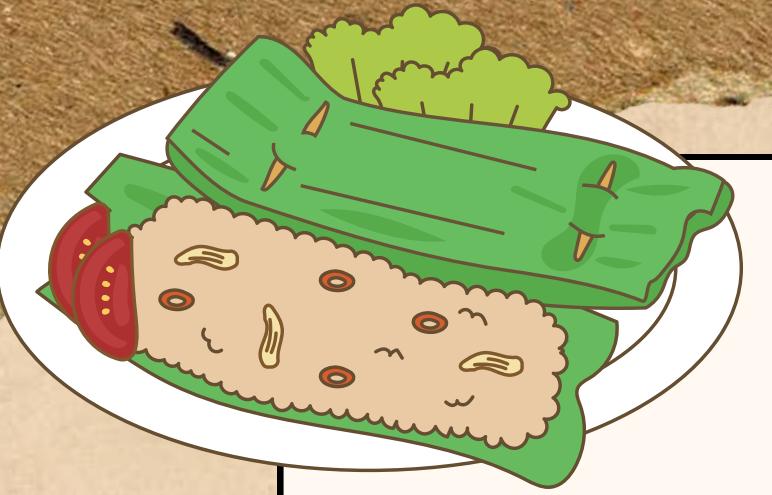
User successfully registered!

The Login/Register Use Cases

- 1. Successful Registration**
- 2. Email Already in Use**
- 3. Missing Email or Password in Registration**
- 4. Successful Login**
- 5. User Not Found**
- 6. Incorrect Password**
- 7. Missing Email or Password in Login**



The image shows a mobile application interface titled "AI-Nutrition" with a "Register" button. Below the title are two input fields: "Email" and "Password". A large red error message at the bottom states "Email and password are required".



The Chat

Upon successful Login, the Nutrition AI's main chat is visible.

AI-Nutrition

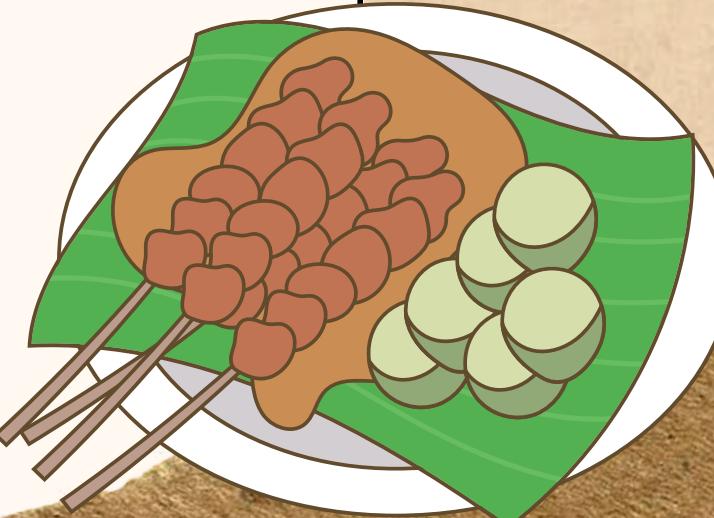
Chat with AI

Do you think potatoes are good for me, and in what quantity? I'm 1.92m tall, weigh 95kg, and my goal is to lose fat while gaining muscle. Please give me a short answer

Potatoes can be a healthy part of your diet when consumed in moderation. They are a good source of vitamins, minerals, and carbohydrates. For weight loss and muscle gain, consider limiting serving sizes to about 150-250 grams (cooked) a few times a week, focusing on preparation methods like baking or boiling instead of frying. Combine them with lean proteins and plenty of vegetables for a balanced meal.

Type your message

Send



Individual Chats

Each user's chat history and information is unique to them.

what is my name and my favorite color ?

I'm sorry, but I don't have access to personal data about individuals unless it has been shared with me in our conversation. If you'd like to tell me your name and favorite color, I'd be happy to remember it for our chat!

what is my name and my favorite color ?

Your name is Fernando, and your favorite color is red.

Logging in with
"test@gmail.com"

Logging in with
"presentation@gmail.com"

Individual Chats

That is because each account's chat history is stored individually within the database.



The screenshot shows a database interface with a query editor and a data output viewer. The query editor contains the following SQL code:

```
1
2 SELECT email, chat_history FROM users;
3
```

The data output viewer displays a table with two rows, each representing a user and their chat history. The columns are labeled 'email' and 'chat_history'. The first row shows 'test@gmail.com' with an empty chat history. The second row shows 'presentation@gmail.c...' with a non-empty chat history containing a message exchange between a user and an assistant.

email	chat_history
test@gmail.com	[]
presentation@gmail.c...	[{"role": "user", "content": "salut, sache que je m'appelle Fernando et ma couleur pr\u00e9f\u00e9r\u00e9e est le rouge"}, {"role": "assistant", "content": "Salut Fernando ! Ravi de te rencont..."}]

Thank
You
FOR YOUR ATTENTION

