Busy lives & overwhelming options making healthy, personalized food choices difficult,
leading to poor habits and long-term health risks.

Virtual Dietician

Personalized - Readily Customisable - Ongoing Guidance

Features

- **Diet Scheduler -** Requirements Generator on user data
- **Meal Planner -** Meal plans & Food Plate Recommendation
- **Modifier -** Special Needs Accommodation on feedback

  - **User Management:** User registration, login (JWT), and profile management.

  - **AI-Powered Assistance:** LLM driven diet requirement generation, Food plate recommendations & Special needs accommodation based on body responses.

  - **Orchestration:** Coordinates services to generate final recommendations.

System Inputs:

- **Registration / Login:** Name, Email, Password.

- **User Details:** Basic Info, Food Preferences, Dietary Goals, Health information.
- **Queries:** Diet Schedules, Meal plans, Inputs for plan adjustments, Feedback on Special needs.

System Outputs:

- **AI Driven Outputs:** Diet Schedule, Meal Plans, Food advice, Special Needs Recommendations.

- **Authorization:** JWT tokens, success/error messages.

- **Profiles:** Stored user data.

- **Notifications**: Input errors, system issues.

Architecture

- **Microservices Architecture:** Independent services for User mgt, Diet Plan, Meal Plan and for Special needs.
Can be in in-sync with others like fitness.

- **External LLM Integration:** AI features by Groq API depending on the Llama 4 Scout

- **API-Driven**: FE communicates via REST APIs.

- **Containerized Deployment:** Docker & Docker Compose

- **Asynchronous BE:** Async FastAPI+Motor(MongoDB Driver)

Tech Stack

➔ **Frontend:** Streamlit UI.

➔ **Backend:** Python, FastAPI, Uvicorn.

➔ **DB:** MongoDB+Motor (async driver).

➔ **LLM Integration:** Groq API, groq Python SDK, Llama 4

➔ **Auth:** JWT tokens, Passlib

➔ **Data Validation:** Pydantic models

➔ **Deploy.:** Docker, Docker Compose.

Virtual Dietician

Login   Register

Login

Email

testuser@gmail.com

Password

•••••••
Press Enter to apply

Login

Type to Speak...   Saved

Logout

Virtual Dietician

User Profile

Personal Information

Name: Test User

Email: testuser@gmail.com

Age: 18

Gender: Male

Health Information

Height: 180.0 cm

Weight: 180.0 kg

Diet Type: non-vegetarian

Activity Level: very-active

Health Goal: muscle-gain

Additional Information

Allergies: None

Dietary Restrictions: gluten sensitive

Medical Conditions: None

Edit Profile

Type to Speak...   Saved ▶

Diet Requirements

Your Latest Diet Requirements

Generated on: 2025-05-12T06:03:08.799

Daily Nutritional Requirements

Monday ⌃

Calories: 3500.0 kcal   **Fat:** 120.0 g

Protein: 170.0 g   **Fiber:** 25.0 g

Carbohydrates: 400.0 g

Tuesday ⌄

Wednesday ⌄

Thursday ⌄

Friday ⌄

Saturday ⌄

Type to Speak...   🔖 Saved   ▶ 🔖

Meal Recommendations

Your Latest Meal Recommendations

Generated on: 2025-05-12T06:05:24.529

Monday ⌃

Total: 1361.0 kcal, 100.3g protein, 132.0g carbs, 56.5g fat, 38.5g fiber

Notes: balanced meal plan

BREAKFAST

Total: 420.0 kcal, 19.0g protein, 26.0g carbs, 24.0g fat, 14.0g fiber

	Food	Calories	Protein	Carbs	Fat	Fiber
0	scrambled eggs (2 eggs)	140.0 kcal	12.0g	0.0g	10.0g	0.0g
1	whole wheat toast (2 slices)	140.0 kcal	4.0g	20.0g	2.0g	4.0g
2	avocado (1 medium)	140.0 kcal	3.0g	6.0g	12.0g	10.0g

LUNCH

Total: 300.0 kcal, 34.0g protein, 35.0g carbs, 5.0g fat, 7.0g fiber

	Food	Calories	Protein	Carbs	Fat	Fiber
0	grilled chicken breast (120g)	140.0 kcal	30.0g	0.0g		

Logout

Provide Feedback

Your feedback

itchy skin after Snacks on Monday

Press ⌘+Enter to apply

Feedback Type

negative ⌄

Submit Feedback

Generate New Meal Recommendations

Food Availability (Optional)

Enter available foods (comma-separated, leave empty to skip)

Available foods

Only Idly and Vada are available for Wednesday Breakfast

Meal Preferences (Optional)

Breakfast preferences (comma-separated)

Lunch preferences (comma-separated)

Type to Speak...   🔖 Saved ▶ 🔖

Feedback & Analysis

Your Feedback History

Feedback from 2025-05-12T00:25:36.066   ⌃

Type: negative

Feedback: Itchy skin after snacks on Monday and breakfast on Wednesday

Analysis Results

Identified Concerns:

- Itchy skin after consuming certain foods, potentially indicating a food allergy or intolerance

Suggested Dietary Restrictions:

- Monitor gluten intake due to known gluten sensitivity
- Consider avoiding common allergens such as nuts, dairy, and soy

Suggested Food Alternatives:

- Instead of snack options, try: fresh fruits, gluten-free crackers with avocado, carrot sticks with hummus
- Instead of breakfast options, try: gluten-free oatmeal with banana, scrambled eggs with spinach, smoothie bowl with almond milk and berries

Recommendation: Keep a food diary to track specific foods that may be causing itchy skin, consider an elimination diet to identify potential allergens or intolerances, and consult a healthcare professional for further guidance

Type to Speak...   🔖 Saved   ▶   🔖