1. Title of the Project:

Health Hive

2. Academic Supervisor:

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3. List of Team Members:

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4. Problem Statement

Maintaining a healthy lifestyle and following a suitable diet plan is difficult for many people due to several reasons:

- **Generic diet charts:** Most meal plans found online are one-size-fits-all and ignore individual factors such as age, weight, height, activity level, health conditions (e.g., diabetes, PCOS, hypertension), and personal goals (fat loss, muscle gain, maintenance).

- **Lack of personalization & tracking:** Users struggle to continuously track their progress (weight, body measurements, adherence to meal plans) and adjust their diet accordingly.

- **Limited access to trusted consultants:** Not everyone has easy access to certified nutritionists or fitness consultants, especially in remote or busy urban environments.

- **Fragmented experience:** Meal planning, recipe discovery, social motivation, and professional consultation are usually spread across multiple apps or platforms, which reduces consistency and long-term adherence.

- **Unverified advice:** Many people follow random "influencer" diets on social media without scientific backing or verification, which can be harmful.

There is a clear need for a **centralized, intelligent web-based platform** that can generate **personalized weekly meal plans**, allow **social sharing and motivation**, and provide **access to verified health consultants**, while also enabling users to track their goals over time.

5. Potential Solution

We propose to develop **HealthHive** , a web application that:

1. Allows users to **create accounts** and complete a **health profile** (age, gender, weight, height, activity level, health conditions, food preferences, and goals such as weight loss or muscle gain).

2. Uses this information to **generate personalized weekly meal plans** for each user, considering calories and basic health constraints.

3. Allows users to **track their progress over time** (weight, progress toward goal, adherence to plan).

4. Enables users to **browse system-generated meals**, create **custom meals/recipes**, and **save** them to their own library.

5. Provides a **social layer**, where users can **share** their weekly plans or custom meals, **follow** other users, and **view** meal plans of those they follow.

6. Includes **two types of users**:

    - **Common Users** – regular users who follow plans and interact socially.

    - **Health Consultants** – certified nutritionists/dietitians/trainers who can provide professional guidance.

7. Integrates a **consultation system**, where users can chat with **verified health consultants** inside the app.

8. Provides an **admin/moderator panel** to review certificates uploaded by consultants and **verify** or **reject** them.

9. Optionally uses a **basic recommendation/ML component** later to improve plan suggestions based on user feedback, preferences, and history.

This integrated solution aims to combine **personalized planning**, **community support**, and **professional advice** into one platform.

6. Key Features & Use-Case Descriptions:

6.1 User Registration & Authentication

- **Use Case: Sign Up**
    - *Actor:* New User
    - *Description:* A visitor creates an account using email/password or third-party login (e.g., Google). The system stores basic account information securely.
- **Use Case: Log In**
    - *Actor:* Registered User
    - *Description:* The user logs in with valid credentials and gets access to personalized dashboard and features.

6.2 User Profile & Health Information

- **Use Case: Setup Health Profile**
    - *Actor:* Common User
    - *Description:* The user provides age, gender, weight, height, activity level, existing health conditions (e.g., diabetes), dietary preferences (vegetarian, halal, etc.), and goal (lose fat, maintain weight, gain muscle).
    - *Outcome:* System calculates a rough daily calorie requirement and stores the health profile.

6.3 Goal Setting & Progress Tracking

- **Use Case: Set Goal**
    - *Actor:* Common User
    - *Description:* User selects a target goal (e.g., lose 5 kg in 3 months). The system sets target weekly calorie and meal plan accordingly.

- **Use Case: Track Progress**
    - *Actor:* Common User
    - *Description:* User logs weight/measurements regularly. The system shows progress graphs and indicates whether the user is on track or not.

6.4 Weekly Meal Plan Generation

- **Use Case: Generate Weekly Plan**
    - *Actor:* Common User
    - *Description:* Based on the health profile and goals, the system generates a weekly meal plan (e.g., 3–4 meals per day) with appropriate calorie range.
    - *Outcome:* User can view,modify and follow the meals for each day.
- **Use Case: Regenerate/Adjust Plan**
    - *Actor:* Common User
    - *Description:* If the user dislikes certain meals or wants more variety, they can regenerate the plan or swap individual meals.

6.5 Browsing & Custom Meal Creation

- **Use Case: Browse System Meals**
    - *Actor:* Common User
    - *Description:* User browses a catalog of meals/recipes recommended by the system, with nutrition information.
- **Use Case: Create Custom Meal**
    - *Actor:* Common User
    - *Description:* User creates their own meal by specifying ingredients and approximate quantities. The system estimates nutrition for the meal and allows saving it for reuse.

- **Use Case: Generate Recipe from Ingredients**
    - *Actor:* Common User
    - *Description:* User inputs available ingredients at home, and the system suggests possible recipes or meals using those ingredients.

6.6 Social Features: Sharing & Following

- **Use Case: Share Weekly Plan or Meal**
    - *Actor:* Common User
    - *Description:* User shares their custom meal or weekly plan publicly or with followers.
- **Use Case: Follow Other Users**
    - *Actor:* Common User
    - *Description:* User follows other users (friends, influencers, consultants) to see their public plans and meals.
- **Use Case: View Others' Shared Plans**
    - *Actor:* Common User
    - *Description:* User can browse shared plans/meals from people they follow and optionally copy/adapt them into their own plan.

6.7 Chat System

- **Use Case: User-to-User Chat**
    - *Actor:* Common User
    - *Description:* Users can send text messages to each other for sharing tips, asking questions, or discussing plans.
- **Use Case: User-to-Consultant Chat**
    - *Actor:* Common User, Consultant

- *Description:* Users can open a chat with a verified consultant to ask health/meal-related questions. Consultants can reply, provide advice, or share custom meal plans.

6.8 Consultant Verification & Management

- **Use Case: Consultant Registration**
  - *Actor:* Consultant
  - *Description:* Consultant signs up as a special user type and uploads certification documents (e.g., degree certificates, registration with professional body).
- **Use Case: Certificate Review**
  - *Actor:* Admin/Moderator
  - *Description:* Admin or moderator reviews the submitted certificates and either approves or rejects consultant status.
- **Use Case: Consultant Profile**
  - *Actor:* Consultant
  - *Description:* Approved consultants have a visible profile where users can see their qualifications and follow them or message them.

6.9 Admin & Moderator Panel

- **Use Case: Manage Users & Consultants**
  - *Actor:* Admin
  - *Description:* Admin can view, deactivate, or monitor users and consultants when necessary.
- **Use Case: Moderate Content**
  - *Actor:* Moderator
  - *Description:* Moderator can review reported content (inappropriate meal plans, messages, or profiles) and take action.

7. Tools and Technology

Frontend:

- React.js with Vite as the build tool.
- TypeScript for type-safe frontend development.
- Tailwind CSS (or similar) for responsive, modern UI.

Backend:

- FastAPI.
- PostgreSQL as the main relational database.
- JWT-based authentication and role-based access control.

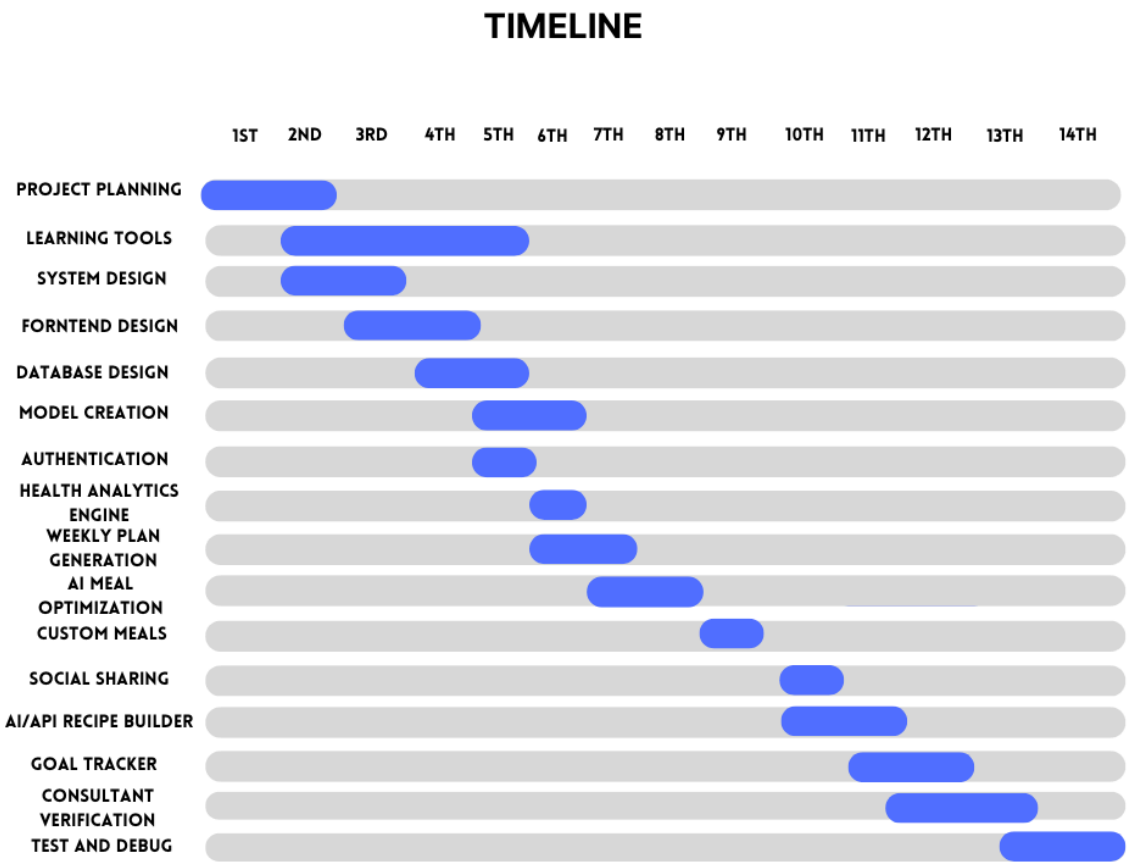
8. Application Domain

The proposed system lies primarily in the domain of:

- **Health and Fitness Technology**
- **Nutrition and Diet Planning**
- **Social Networking / Community-based Platforms**
- **Tele-health / Online Consultation**

It targets individuals who want to manage their diet and fitness in a structured way, as well as professional health consultants who want to reach more clients and manage interactions digitally.

9. Proposed Timeline



Project Timeline														
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	13th	14th
Project Planning	✓	✓												
Learning Tools and technologies	✓	✓	✓	✓										
System design		✓	✓	✓	✓									
Frontend design			✓	✓	✓	✓								
Object model creation			✓	✓										
Authentication					✓									
Health data analysis					✓	✓								
Week plan generation						✓	✓							
Using ML/Ai to optimize plan								✓	✓					
Social sharing									✓	✓				
AI/API recipe generation										✓	✓			
Goal Tracker											✓	✓		
Admin panel												✓		
Consultant verification												✓		
Consultation platform												✓	✓	
Testing and debugging														✓
deployment														✓