System Architecture

1. High-Level Architecture

2. Database Design

2.1 Key Tables

- Users (id, email, health_data, preferences, created_at)
- Recipes (id, name, ingredients, nutrition_facts, cultural_tags)
- Meal_Plans (id, user_id, week_plan, shopping_list)
- Vendors (id, name, location, products, rating)
- User_Progress (id, user_id, metrics, goals, achievements)

3. API Design

3.1 Key Endpoints

- POST /api/onboarding - Complete user profile
- GET /api/meal-plan - Generate weekly plan
- POST /api/progress - Log user metrics
- GET /api/vendors - List nearby vendors

4. AI/ML Architecture

4.1 Recommendation Engine

- Input: User profile + Local context

- Processing: Collaborative filtering + Content-based filtering

- Output: Personalized meal plans

5. Security Architecture

- JWT-based authentication

- Role-based access control

- Data encryption standards