FridgeAI

Your Smart Meal Planner

A Recipe Recommendation App Based on What You Already Have

Developed by Olga Khan

Introduction to Software Engineering

University Project

The Fridge Dilemma: From "What's for Dinner?" to "What Can I Cook?"

Skip the guesswork—just list what's in your fridge, and our AI does the rest.

Problem Overview & Solution

The Problem

- People struggle to plan meals based on ingredients they have.

The Challenge

- Dietary restrictions and health goals complicate meal planning.

The Opportunity

- Goal: Make **personalized, diet-compliant recipes** easily accessible.

Core Solution: FridgeAI generates recipes using AI based on:

- Ingredients on hand

- Meal type (breakfast, lunch, dinner)

- Dietary preferences

- Health goals

- Provides detailed instructions, calories, and difficulty level.

Meet Your FridgeAI

Smart Technology Transforms Meal Prep

Smart Meal Planner makes cooking at home simple and stress-free. It saves you time by instantly matching recipes to your ingredients, helps reduce food waste, and ensures every meal fits your dietary goals.

1 **Add Ingredients**

Enter all the ingredients you have at home so nothing goes to waste.

2 **Set Goals**

Select your diet preferences and any restrictions.

3 **Get Recipes**

Instantly receive recipes perfectly tailored to your ingredients and goals

List Your Ingredients 🥕

Tell us what's in your kitchen, and we'll help find the best recipe match.

Set Your Goals 🎯

Select what matters most — diet, taste, time, nutrition — and let AI adapt.

Get AI Recipes ✨

Discover new meals instantly. Save favorites and share your creations!

Why Cook Smart? 💡

Reduce food waste, eat healthier, and make cooking fun again! Our AI tools are designed to help everyone — from busy students to curious food lovers — create delicious meals with less effort.

Ready to Cook Smart 🔥

Make the most of what you already have!

🔥 Start Cooking ⭐

Key Features / Requirements

Core Functional Features

- Ingredient-based **AI recipe generation**

- Meal type selection (breakfast, lunch, etc.)

- Dietary preference filtering (vegetarian, etc.)

- Health goal filtering (weight loss, etc.)

- Detailed recipe view: calories, difficulty, time

- Save and manage **liked recipes**

- User feedback submission

Technology Stack

- Frontend: TypeScript, HTML, CSS, built upon an
- initial AI-generated Figma Prototype

- Backend: Supabase

- AI: OpenAI-powered recipe generation

System & Functional Requirements

- Dietary preferences are **prioritized and enforced**

- Dietary preferences are **stored and shown once**, unless changed

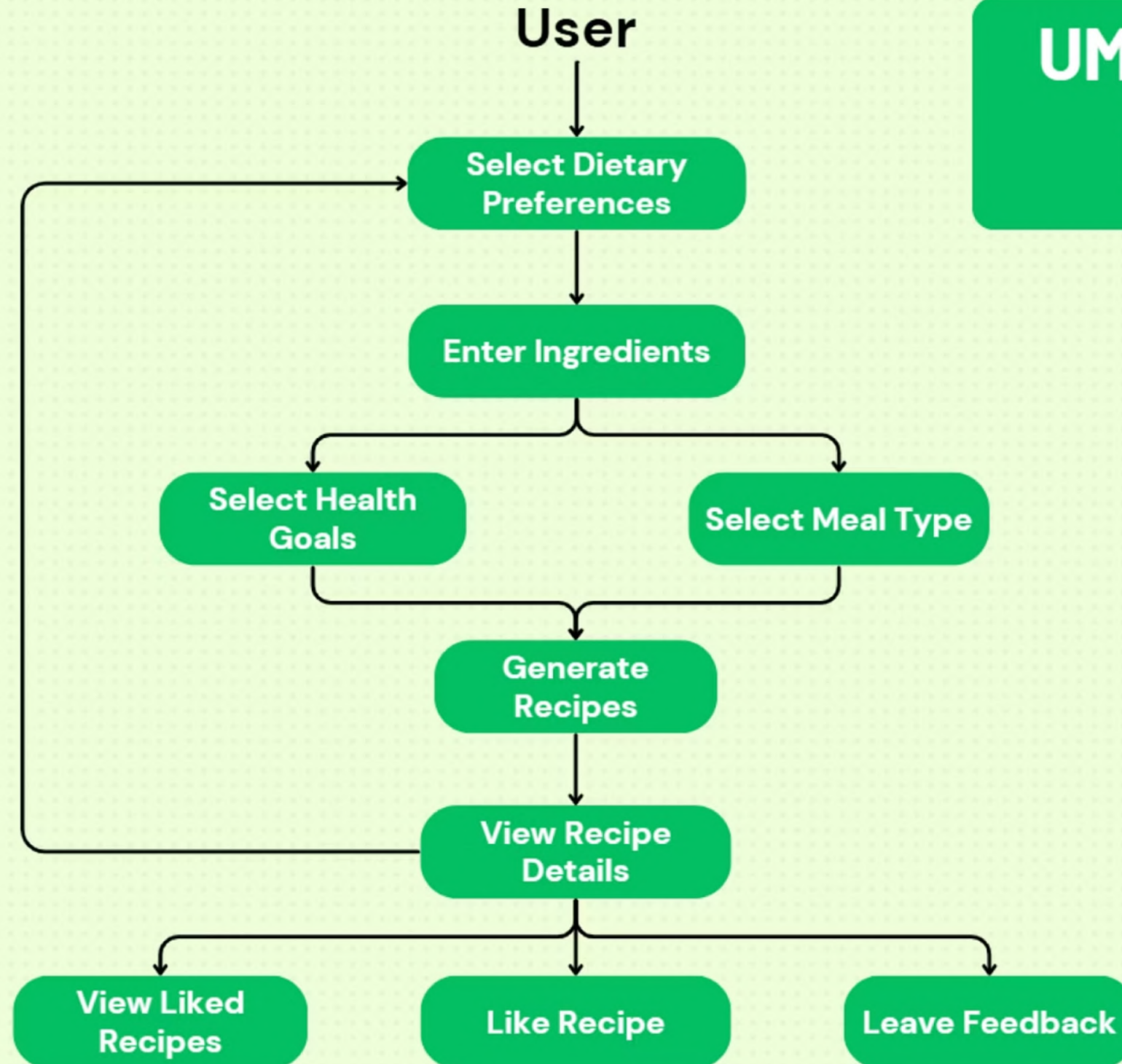- Persistent data storage for likes and feedback

Non-Functional Requirements

- User-friendly and responsive UI
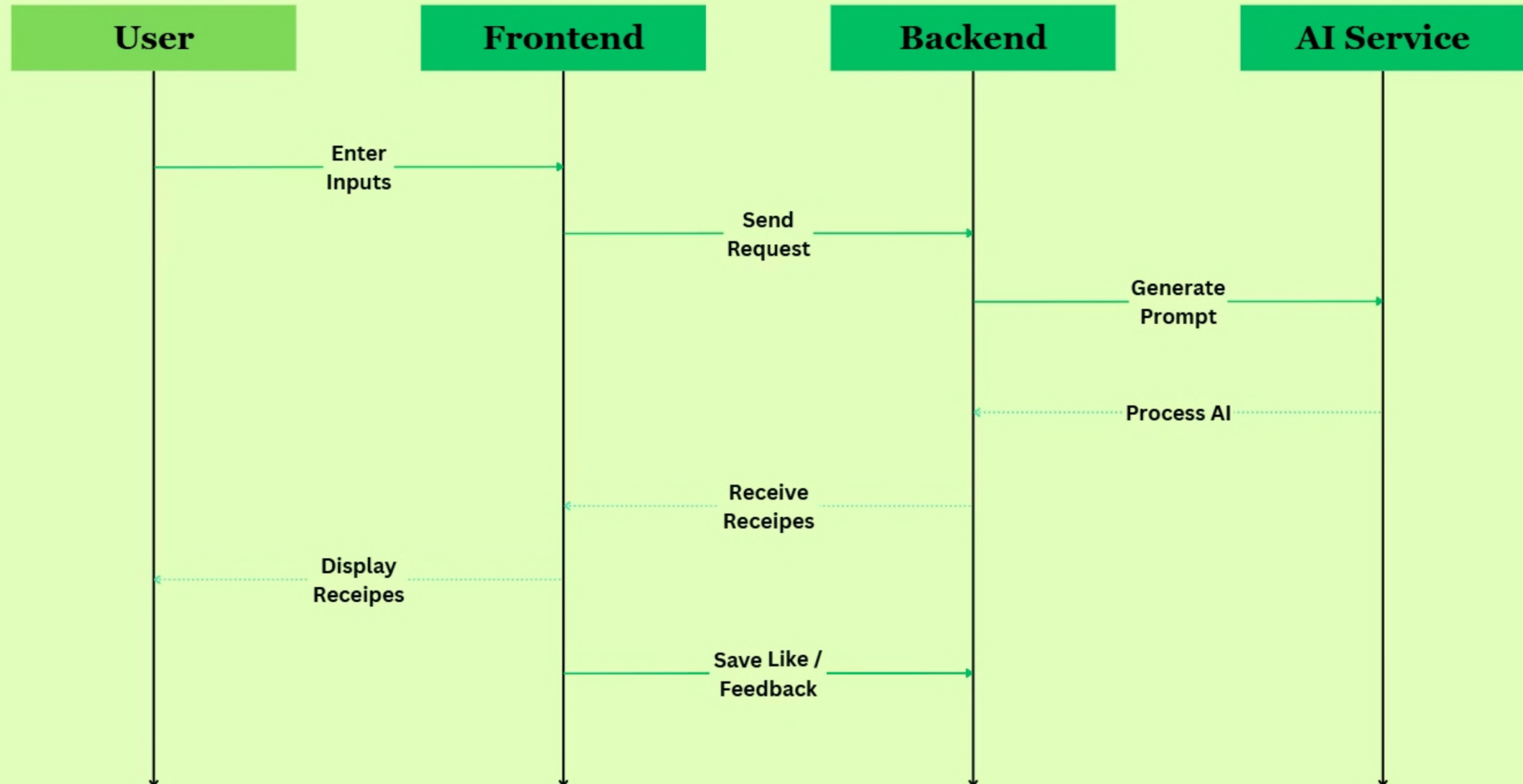
- Scalable backend architecture

Deployment - Vercel

Live demo link: https://fridgeaifinal-jug0qn9pe-olgakhans-projects.vercel.app/

FridgeAI Sequence Diagram

Testing Highlights

AI Recipe Generation:

- Recipes correctly generated for multiple meal types (breakfast, lunch, dinner)

- Adapted to selected dietary preferences (vegetarian, vegan, keto)

- Recipe details (calories, difficulty, cooking time) consistently accurate

- Tested end-to-end user interactions, including saving liked recipes and submitting feedback

Dietary Preference Enforcement:

- Preferences take priority over conflicting ingredients

- Conflicting items (e.g., meat in vegetarian mode) automatically excluded

- Preferences stored and reused, preventing repeated prompts

- No recipes violate selected dietary rules, ensuring compliance and user trust

Deployment - Vercel

Live demo link: https://fridgeaifinal-jug0qn9pe-olgakhans-projects.vercel.app/

Thank You for Exploring FridgeAI!

FridgeAI is designed to empower you to create delicious, personalized meals from what you already have, reducing waste and sparking culinary creativity.

Do you have any questions?

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