Marvelous Meal Planner

Weekly Meal Planning

Meet Our Team!

Angelo

Frontend, Backend, Database

Baopu

Frontend, Backend, Project Manager

Daniel

Frontend, Backend

Lakshmi

Frontend, Backend, Testing

Agalya

Frontend, Testing

Lynn

Frontend, UI/UX

Motivations

Many find cooking mundane, this affects how quickly they use up their food in cooking.

50% of households in New Zealand report food waste due to expired ingredients

Prices of common groceries, like eggs, have risen by over 50% from 2023 to 2024

Existing Solutions:

Paprika

- Planner + inventory management
- Cluttered UI
- Recipes from online sources
- Cannot browse grocery products

Mealime

- Only for mobile
- Clean, modern UI
- Recipes written by staff
- Also cannot browse grocery products

Grocer

- Dedicated grocery product browsing app
- No cooking assistance capabilities

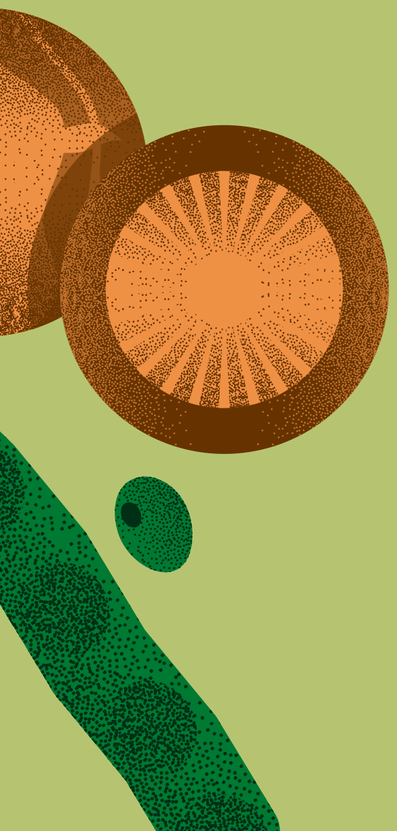
Market Gaps

- Lacks generative AI
- Fragmented solutions
- Some of them have lacklustre UI

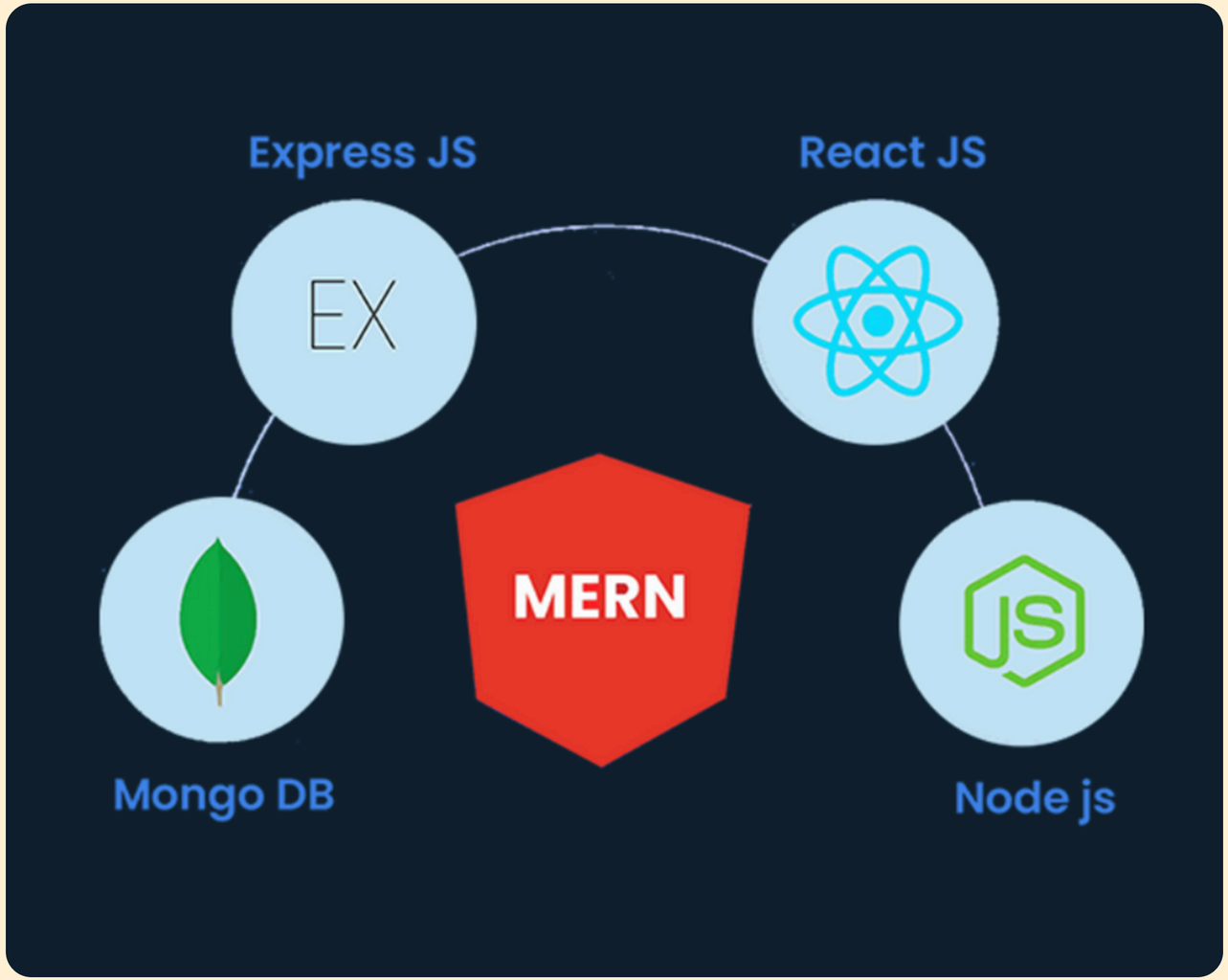
Goals

1. Diverse Recipe Suggestions
2. Straightforward Meal Planning
3. Pantry Management
4. Grocery Budgeting
5. User-Friendly UI

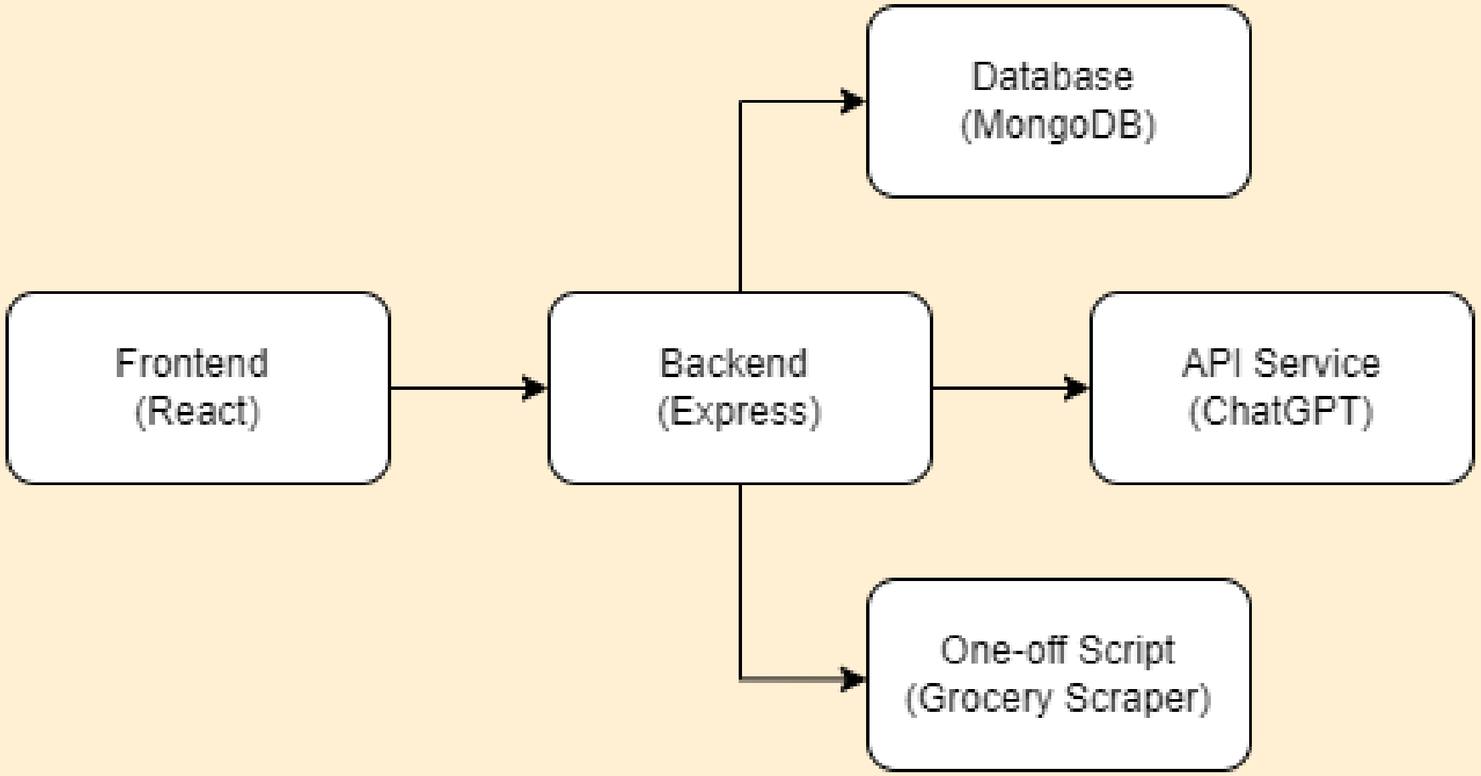
Demo



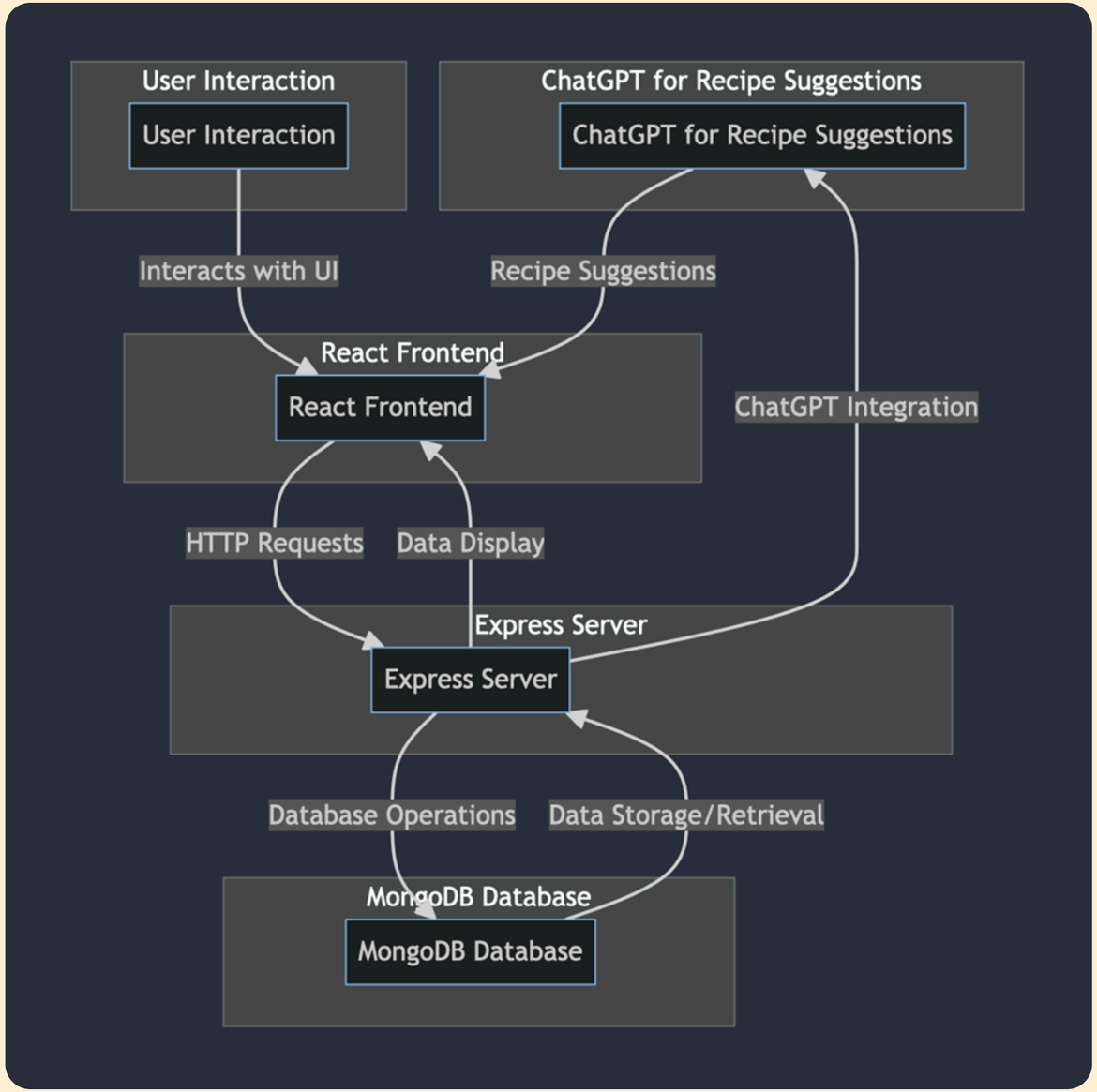
Tech Stack - MERN



Overall Architecture



User Flow


User Interaction
User Interaction
ChatGPT for Recipe Suggestions
ChatGPT for Recipe Suggestions
Interacts with UI
Recipe Suggestions
React Frontend
React Frontend
ChatGPT Integration
HTTP Requests
Data Display
Express Server
Express Server
Database Operations
Data Storage/Retrieval
MongoDB Database
MongoDB Database

Frontend Architecture

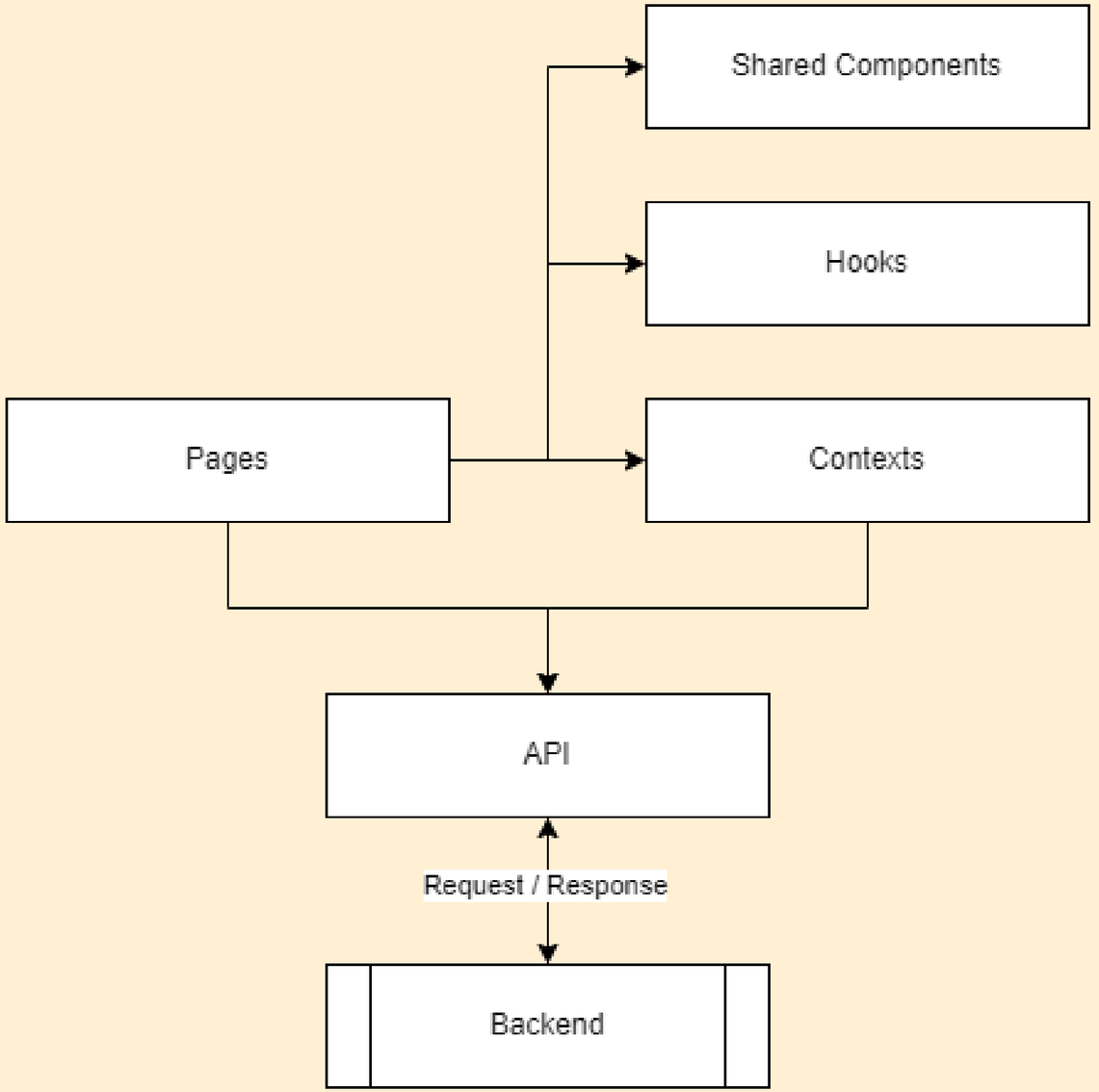
1) Pages:
- Top-level components representing different routes/features in the application

2) Shared Components:
- Re-usable components shared across different pages

3) Hooks
- Custom hooks that encapsulate logic and can be re-used across different components

4) Contexts:
- Used for managing shared state(s) between the different pages

5) API:
- Used for making API calls to the various resources/endpoints of the backend



Backend Architecture

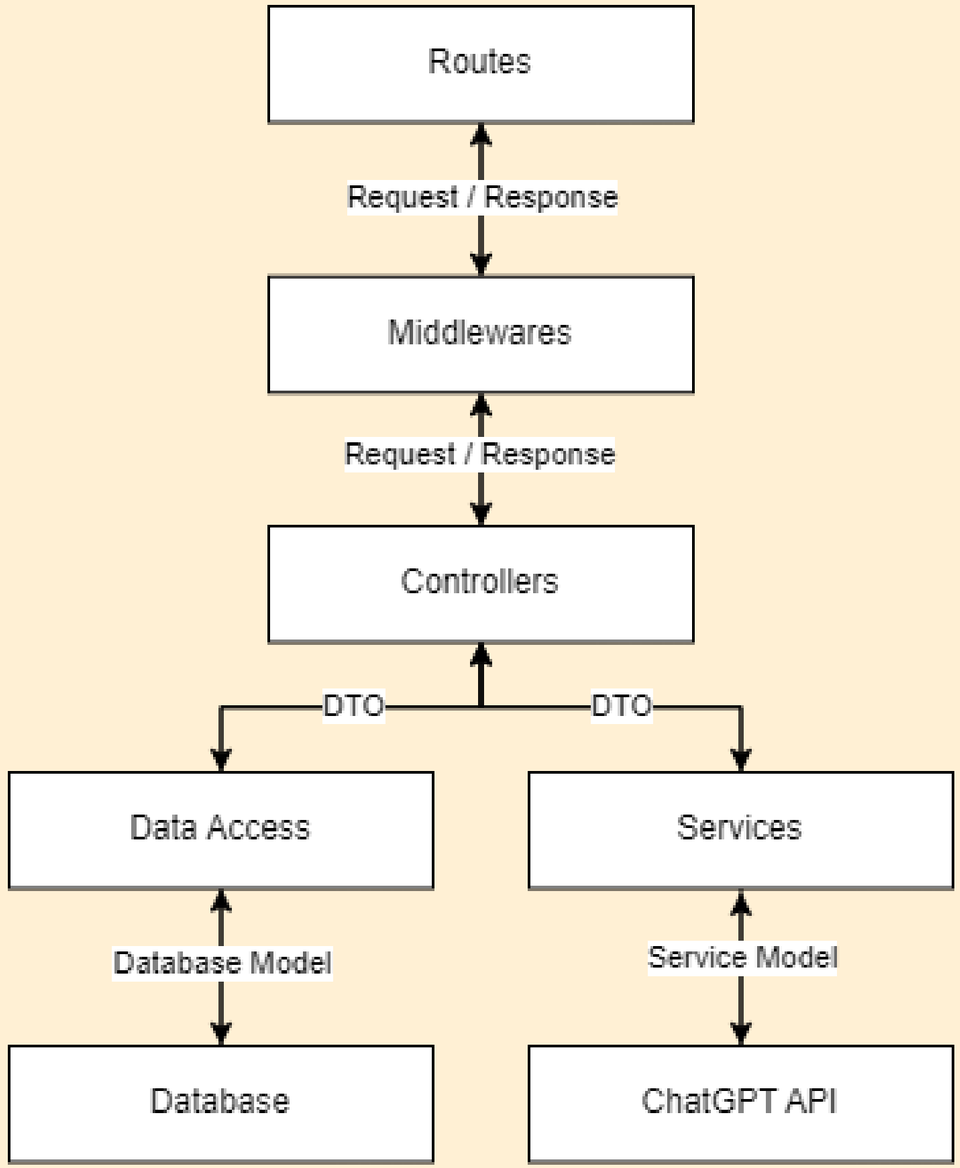
1) Routes:
- Defines the backend's API endpoints
- Entry point for HTTP requests that are sent from the frontend

2) Middlewares:
- Used for request authentication / authorization and validating other input data

3) Controllers:
- Used for handling incoming requests, processing them to create and send responses
- Orchestrates main logic by interacting with both the data access and services layers

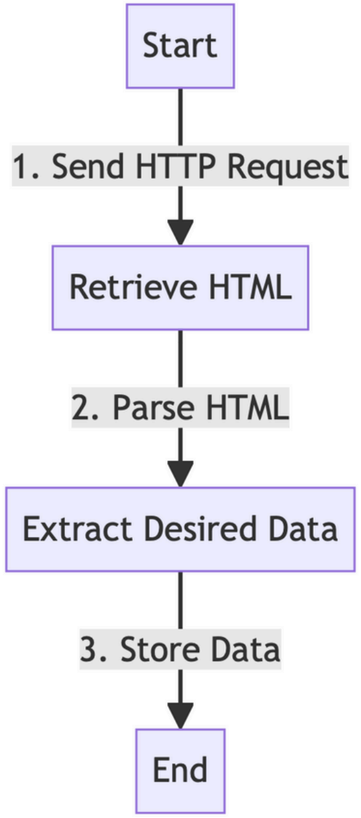
4) Data Access:
- Handles interactions with the database, abstracting queries and operations

5) Services:
- Handles interactions with external services



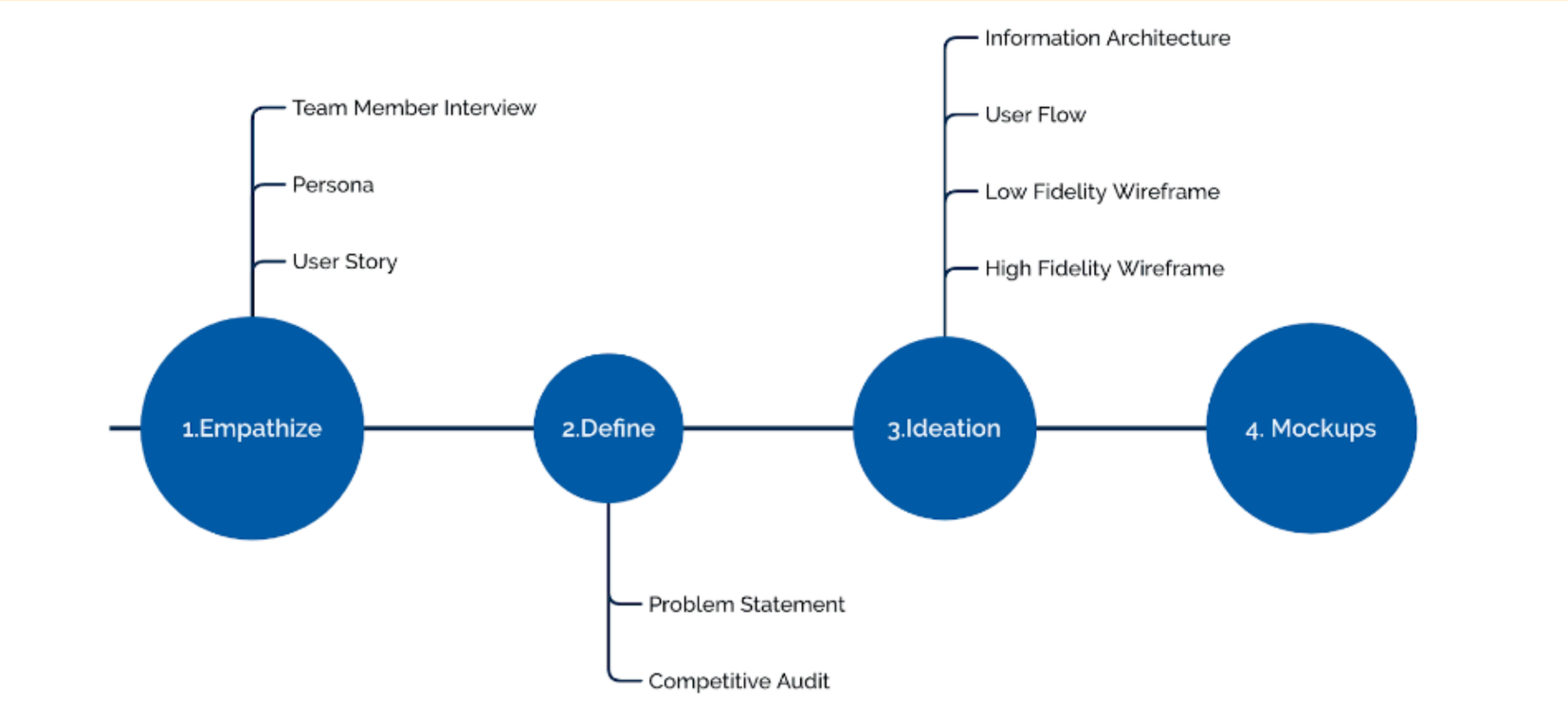
Web Scraping

1. **Process Overview:**
   a. Web scraping extracts data from websites.
   b. It involves sending an HTTP request to retrieve HTML content.
   c. HTML content is parsed to extract desired data.
2. **Tools and Libraries:**
   a. Requests: Python's Requests library for sending HTTP requests and retrieving web page content.
   b. Beautiful Soup: A Python library for parsing HTML and XML documents, facilitating data extraction.
   c. Scrapy: A Python framework for web scraping that provides a high-level interface for crawling and extracting data.
3. **Challenges:**
   a. Anti-Scraping Measures: CAPTCHA or IP blocking may be implemented to prevent scraping.
   b. Data Quality: Ensuring accurate and reliable data extraction, especially with inconsistencies or poorly structured HTML.



Design Process

we used design thinking approach, its briefly a non-linear, iterative process that teams use to understand users, challenge assumptions, rederine problems and create innovative solutions to prototype and test.
paragraph text



Personas

We created personas to help design the UI/UX experience:

- Fictional characters
- Represents larger groups of users with certain characteristics and backgrounds

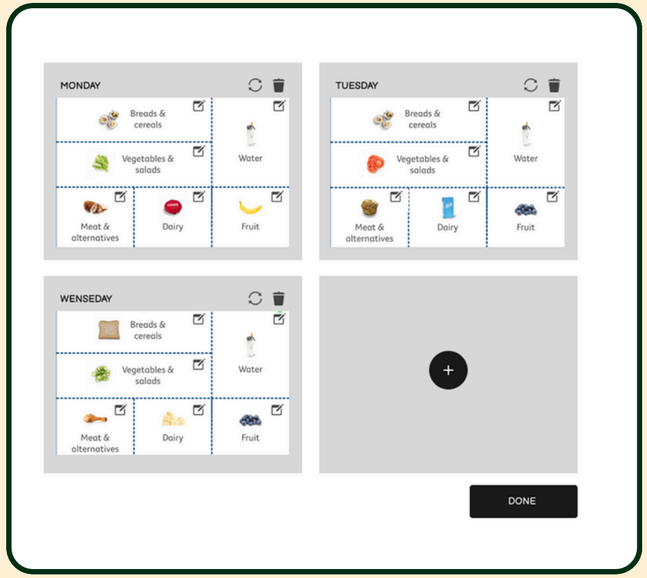
Helen

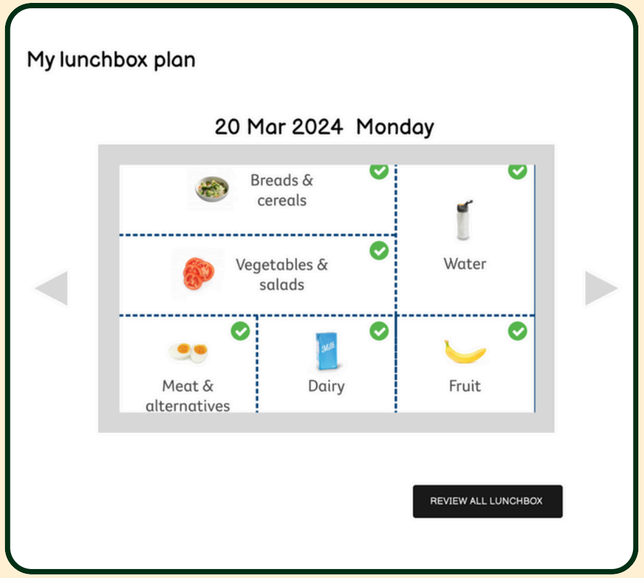
- Studies in UOA of master degree,
- Works part-time.
- Has a busy life
- Doesn't want to spend time going to market and grocery shopping.
- Spends her weekends with her friends and sometimes by attending workshops.

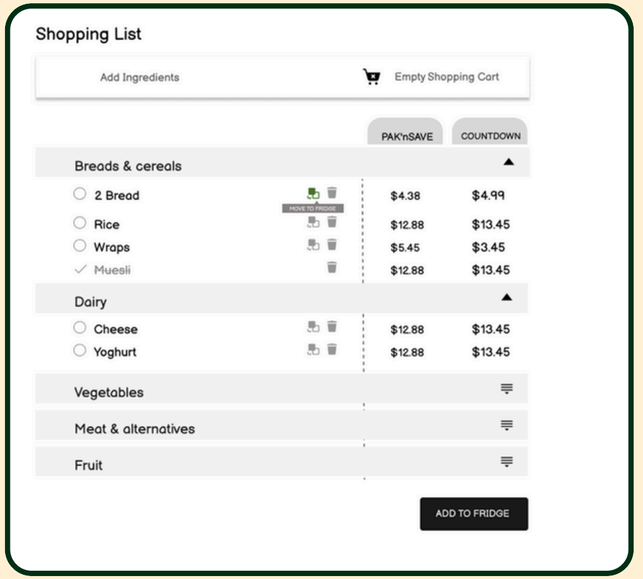
Alex

- Middle-aged
- Has a happy family life with her husband and daughter.
- Enjoys preparing lunch meal for her child.
- Prefers cheapest options when shopping

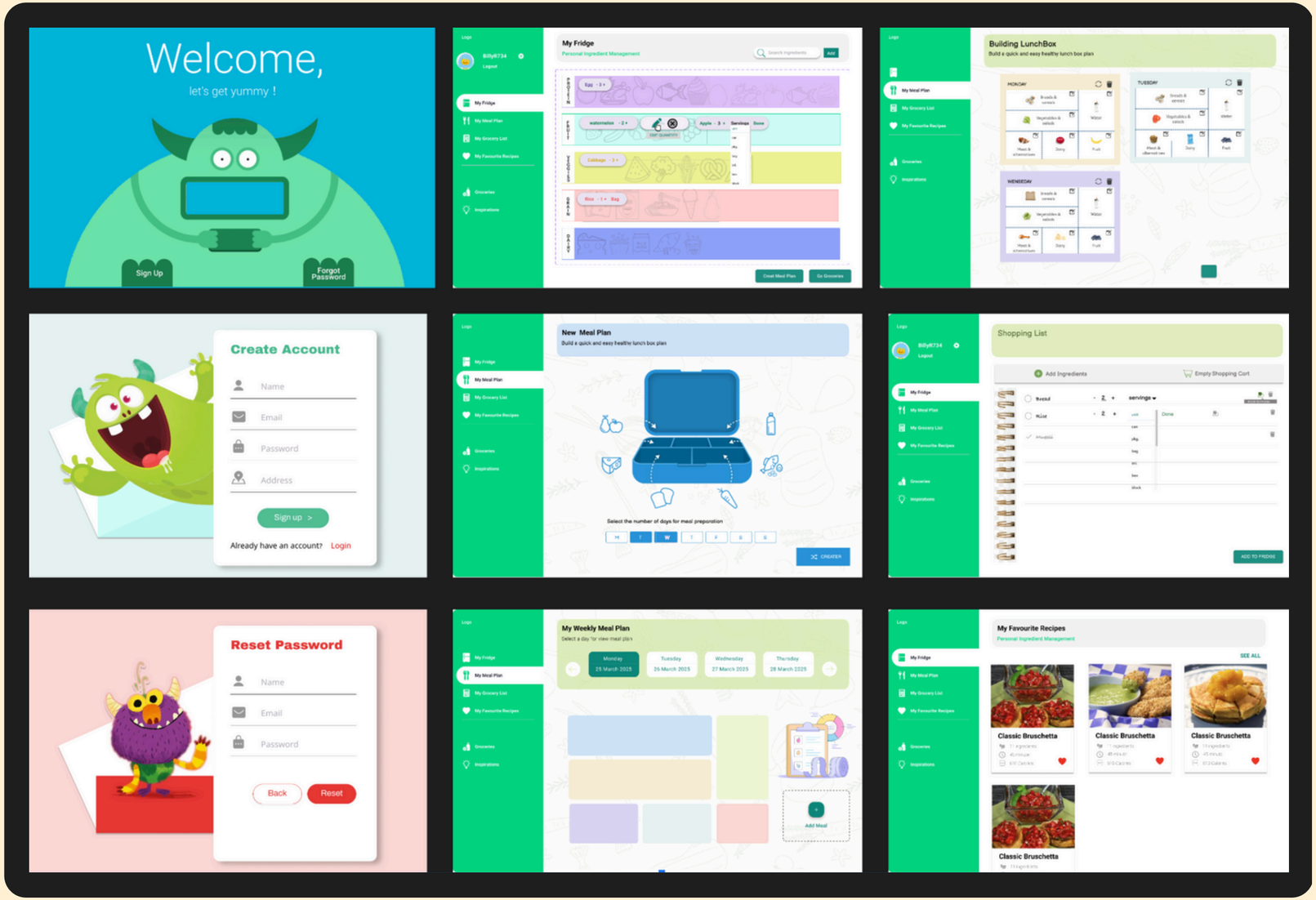
Low Fidelity Wireframe







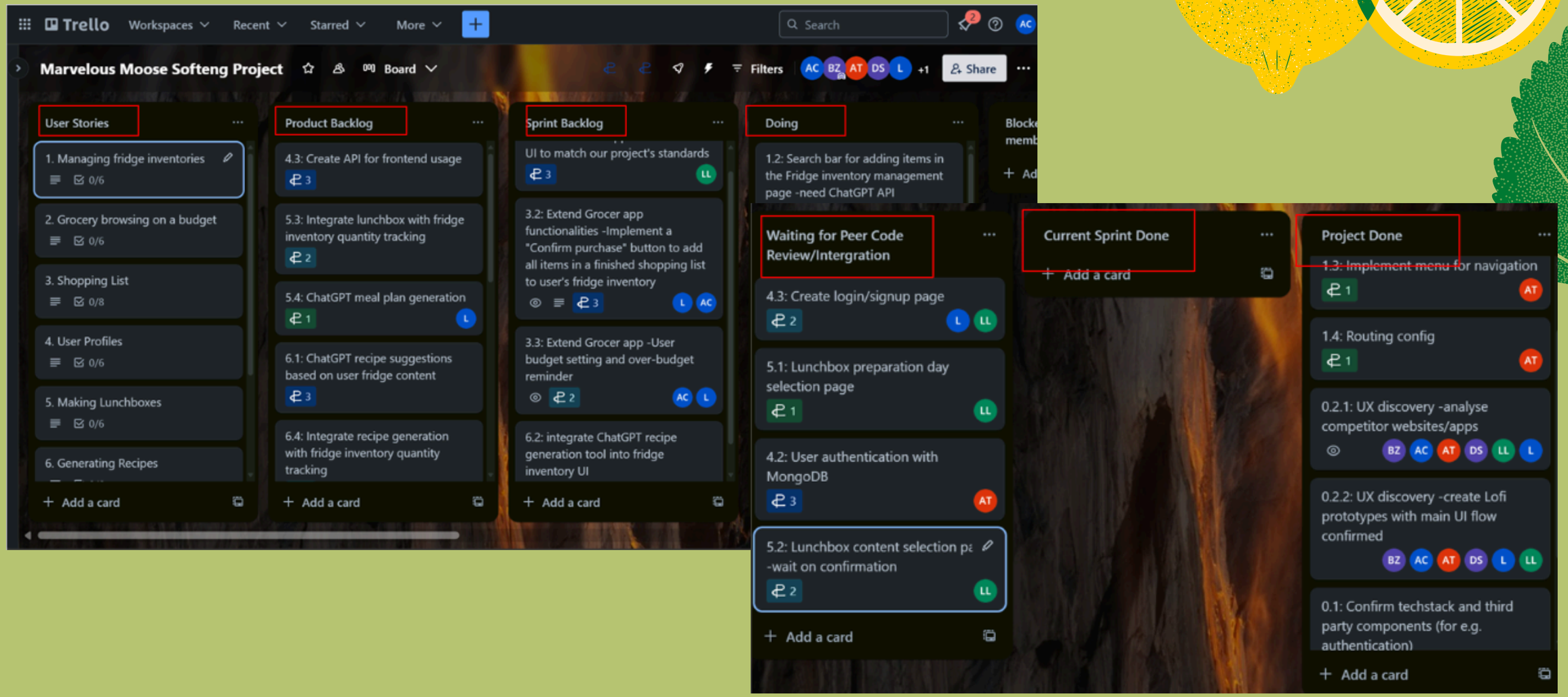
High Fidelity Wireframe



Project Management

- **Agile approach:**
  - 6 development sprints
  - Story points workload estimation
  - User stories
- **Ticket Management / Allocation**
  - Trello Kanban board
- **Version Control:**
  - GitHub
- **Communication:**
  - Discord
  - In-person meetings

Trello Boards



Future Work

- Users can set a food budget while creating their shopping list
- Users can access details like preparation time through the UI
- Users can tell ChatGPT what they want to cook first and receive a response
- The app can save favorite recipes and ingredients for easier access
- Users can take a photo of their open fridge, and the app will automatically identify the food items

Thank You!

We are now open to any questions