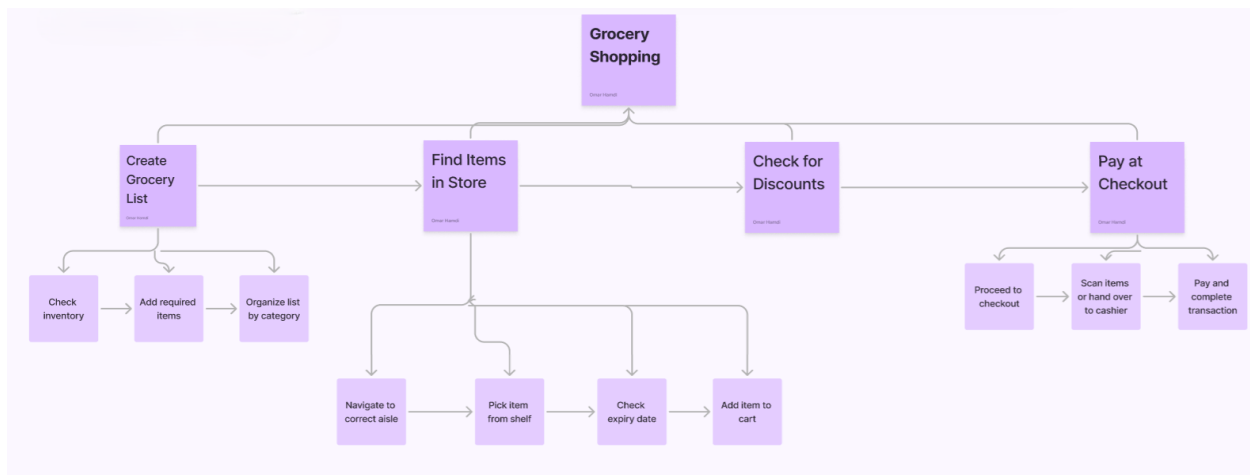# 1. Task Analysis

2. User Persona

AHMED MANSOUR

Ahmed is a young professional who leads an active lifestyle. He prioritizes healthy eating, counting calories and macronutrients to maintain his fitness goals. He prefers cooking his own meals and buys organic or fresh ingredients. However, due to his busy schedule, Ahmed needs a streamlined way to plan meals, track his grocery inventory, and discover healthy recipes quickly.

- Name: Ahmed Mansour
- Age: 28
- Occupation: Software Developer
- Location: Dubai, UAE
- Marital Status: Single
- Income: $65,000/year
- Education: Master's in Computer Science

Goals:
- Stay on top of his fitness and nutritional goals.
- Find recipes that align with his diet (low-carb, high-protein).
- Avoid wasting food by using up fresh ingredients.
- Discover new healthy recipes using what he already has at home.

Motivations:
- Convenience and ease of planning meals.
- Tools that support his health and fitness goals.
- Access to organic or health-conscious food products.

SARAH JOHNSON

Busy Parent

Sarah is a working mother who manages a busy household and a demanding job. She often struggles to plan healthy meals for her family during the week due to time constraints. Sarah uses a smart fridge to monitor her groceries but lacks an efficient way to link it to her meal planning routine. She's looking for a solution to streamline meal preparation, optimize her grocery shopping, and reduce food waste.

- Name: Sarah Johnson
- Age: 34
- Occupation: Marketing Manager
- Location: New York, USA
- Marital Status: Married, two kids
- Income: $90,000/year
- Education: Bachelor's in Business Administratio

Goals:
- Spend less time on meal planning and grocery shopping.
- Ensure her family eats balanced, nutritious meals.
- Reduce food waste at home by tracking what she has.
- Take advantage of discounts and offers to save on groceries.

Motivations:
- Convenience and time-saving tools.
- Health and nutrition for her family.
- Budget-conscious grocery shopping.

3. Content and Functionality

1- Meal Planner: Content & Functionality
- **Content:**
    a. **Recipe Library:**
       A curated collection of user-preferred and suggested recipes, each featuring a name, image, prep time, ingredients, and nutritional info (calories).
    b. **Weekly Meal Calendar:**
       A drag-and-drop calendar where users can assign meals to specific days, organized by breakfast, lunch, and dinner.
    c. **Favorite Meals:**
       A dedicated tab for user-marked favorite recipes, making meal planning faster.
- **Functionality:**
    a. **Add/Remove Recipes:**
       Easily add or remove recipes from the meal calendar with a tap or drag-and-drop action.
    b. **Generate Grocery List:**
       Automatically creates a grocery list with ingredients from selected meals, excluding items already available at home.
    c. **Recipe Filtering:**
       Filter recipes by cooking time, available ingredients, or calorie content.

2- Grocery List: Content & Functionality
- **Content:**

a. **Categorized Grocery List:**
   Organized by sections (e.g., Produce, Meat, Dairy) with each item displaying quantity and sale indicators.

b. **Inventory Status:**
   Each item indicates whether it is already available at home, with potential integration with a smart fridge.

c. **Discount Alerts:**
   Icons on grocery items show if they are on sale at nearby stores.

- **Functionality:**

a. **Check/Uncheck Items:**
   Mark items as purchased or remove them from the list with a simple swipe or tap.

b. **Sort and Organize:**
   Sort items by aisle or category to make in-store shopping more efficient.

3- Discounts and Promotions: Content & Functionality

- **Content:**

a. **Current Discounts:** A list of discounts at local stores based on user's shopping habits, showing original and discounted prices.

b. **Personalized Recommendations:**
   Tailored recommendations based on user preferences.

- **Functionality:**

a. **Apply Discounts:**
   Tap on a discounted item to add it directly to the grocery list, with automatic price adjustments.

b. **Notifications for Discounts:**

Push notifications alert users when frequently purchased items go on sale.

4- Expiration Tracking: Content & Functionality

- Content:

a. Item Expiration List:
Displays a detailed list of items nearing expiration, showing the item name, expiration date, and days remaining.

b. Recommended Recipes:
Suggests recipes that use expiring ingredients to help reduce waste.

c. Waste Statistics:
Shows the amount of food waste users have avoided by using ingredients before they expire.

- Functionality:

a. Expiration Notifications:
Users receive alerts for items expiring soon, such as within the next 3 days.

b. Scan to Add:
Scan new grocery items to track expiration dates automatically.

5- User Profile: Content & Functionality

- Content:

a. Dietary Preferences:
Users can set dietary restrictions and preferences (e.g., vegetarian, gluten-free, low-carb).

> **b. Shopping History:**
>> A log of past shopping lists and purchases, allowing users to revisit previous meals and grocery items.

- **Functionality:**
  - **a. Update Preferences:**
    Easily update dietary preferences, favorite stores, and profile settings.

4. Primary Actions

1- Creating and Managing a Grocery List: The app's core function is making grocery shopping easier and more efficient, ensuring users don't forget any important items and save time.

- **How It Works:**
  - a. **Meal Plan Integration:** Users can create a grocery list based on their meal plans for the week. The app automatically gathers all the ingredients needed.
  - b. **Inventory Check:** The system cross-references the user's inventory to exclude items they already have at home.
  - c. **Manual Adjustments:** Users can add or remove items manually to adjust their list as needed.
  - d. **Discount Alerts:** Items on sale are flagged, helping users make budget-friendly choices.
  - e. **Real-Time Syncing:** The list updates in real-time as users check off items while shopping.
- **Why It's Essential:**

This feature simplifies grocery shopping by automating list creation and keeping it synced with what users already have at home.

2- Tracking Inventory and Expiration Dates: A key feature of the app is tracking groceries and managing expiration dates to help reduce food waste.

- **How It Works:**
    a. **Automatic Inventory Tracking:** For those with smart kitchen devices, the app automatically tracks what's in their inventory and how much is left.
    b. **Manual Entry:** Users without smart devices can easily add items by scanning barcodes or entering them manually.
    c. **Expiration Alerts:** The app notifies users when items are nearing expiration, encouraging them to use them before they spoil.
    d. **Recipe Suggestions:** It even suggests recipes based on ingredients that are about to expire.
    e. **Sync with Grocery List:** When items run out or expire, the app prompts users to add them back to their grocery list.

- **Why It's Essential:**

Tracking inventory and expiration dates helps prevent food waste.

5. Core Feature Set

1- Automated Grocery List Creation

- **What It Does:** Automatically creates a grocery list based on the user's chosen meal plan, checking what's already in their kitchen to avoid adding duplicate items.
- **Why It's Helpful:** This feature makes grocery shopping much easier by gathering all the ingredients you need in one place, cutting down on the time and effort it takes to plan.

2- Inventory Management & Expiration Alerts

- **What It Does:** Keeps track of the food you have at home and alerts you when something is about to expire. User can update inventory manually or connect it to smart kitchen devices for automatic tracking.
- **Why It's Helpful:** You'll know exactly what's in your pantry and fridge, helping you avoid food waste and making sure nothing spoils before using it.

3- Recipe Suggestions with What You Have

- **What It Does:** Based on the ingredients you already have, the app suggests recipes you can make. You can filter by dietary preferences or nutritional goals.
- **Why It's Helpful:** This makes meal planning super easy by showing you what's possible with the ingredients on hand, saving you from unnecessary trips to the store.

4- Real-Time Discount Notifications

- **What It Does:** Alerts you to real-time discounts for items in your grocery list at local stores, tailored to your shopping preferences.
- **Why It's Helpful:** It helps you save money by flagging discounts on things you already plan to buy, making your grocery shopping more budget-friendly.

5- Meal Planning with Calendar Integration

- **What It Does:** Lets you plan meals for the week and organize them on a calendar. The app automatically creates a grocery list based on the meals you've planned.

- **Why It's Helpful:** By connecting meal planning with grocery shopping and inventory management, this feature ensures you always have what you need for meals, making both cooking and shopping stress-free.

6. Interaction Scenarios

1- 1st Scenario:
- **Abstract User:**
   a. **Name:** Sarah Johnson
   b. **Age:** 34
   c. **Location:** New York, USA
- **Expected Outcomes:** Generate a Grocery List
- **Constraints**
   a. **Time**: Sarah is balancing a demanding job and family life, so she has limited time for meal planning and grocery shopping.
   b. **Budget-Conscious**: She is mindful of staying within a grocery budget, especially with rising costs.
   c. **Health and Nutrition**: Ensuring that her family has healthy meals is essential.
   d. **Non-Techy Solutions**: She needs straightforward tools that save her time, not create more work.
- **Emotional Context:** Sarah is often overwhelmed by the time-consuming nature of meal planning and grocery shopping.

- **Design Questions**

a. How can the app help Sarah reduce the time spent on meal planning and grocery shopping while ensuring nutritious options for her family?

b. How can the app integrate discount alerts without adding unnecessary distractions to Sarah's already hectic day?

c. How can the app support Sarah's goal of reducing food waste without requiring her to manually input inventory data?

d. How can the app remain simple and intuitive, considering Sarah's limited time and patience for learning new technologies?

e. How can the app create an emotional connection with Sarah by addressing her deeper need to feel in control of her family's health and budget?

2- 2nd Scenario
- **Abstract User**:
    a. **Name**: Ahmed Mansour
    b. **Age**: 28
    c. **Location**: Dubai, UAE
- **Expected Outcomes**: Ahmed expects the app to suggest recipes that align with his fitness goals
- **Constraints**:
    a. **Time Limitations**: Limiting the time he has to dedicate to meal planning and grocery shopping.
    b. **Strict Dietary Needs**: He avoids processed foods and is selective about what he buys.
    c. **Freshness Focus**: Ahmed prefers fresh, organic ingredients and tries to avoid foods that may be nearing expiration.

d. **Price Sensitivity**: Preferring to find health-conscious food options without overspending.
- **Emotional Context:** Ahmed is driven by his health and fitness goals.
- **Design Questions**
    a. How can the app help Ahmed find recipes that are easy to prepare, aligned with his strict dietary goals, and support his fitness regime?
    b. How can the app allow Ahmed to track his nutritional intake seamlessly without requiring excessive manual data entry?
    c. How can the app accommodate Ahmed's preference for organic and fresh ingredients while still providing a simple and quick meal planning process?
    d. How can the app help Ahmed save time and reduce food waste without losing focus on the nutritional quality of his meals?
    e. How can the app motivate Ahmed to keep achieving his health and fitness goals while making the shopping and planning process as convenient as possible?