EcoBite High Fidelity Prototype

Project Documentation

A. Solution Overview

Project Name: EcoBite Smart Food Management System

Project Description:

EcoBite is a web application that helps users to efficiently manage food inventory at home, reduce waste, and intelligently recommend recipes. Users can easily add, query and manage food, and the system will intelligently recommend recipes according to the inventory, and help users understand the use of food through data visualization.

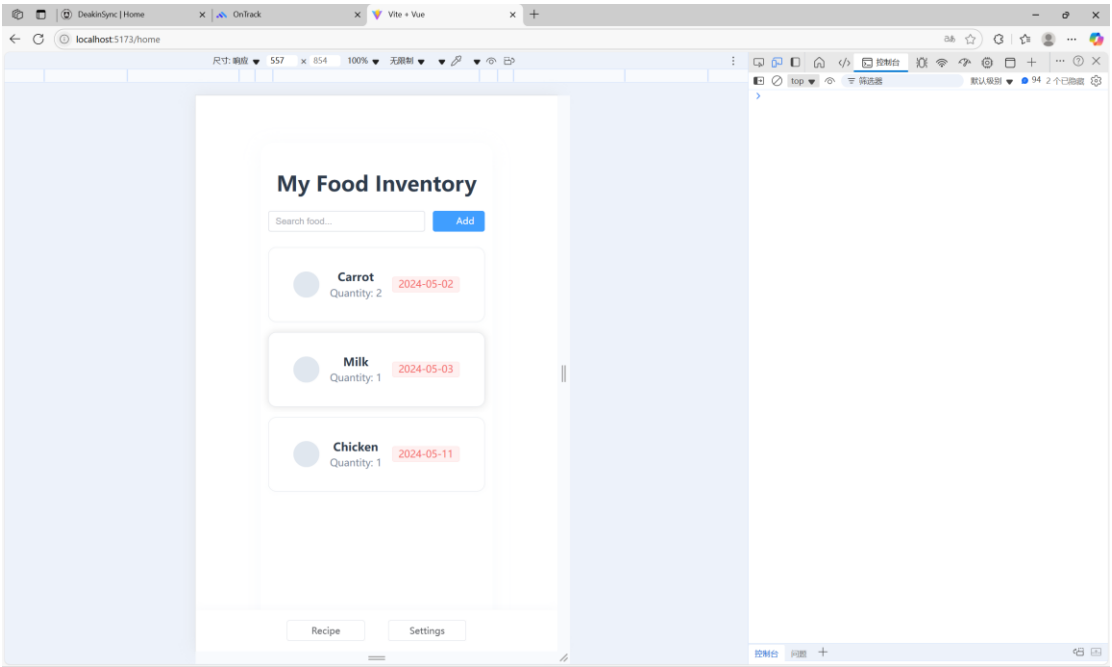
Reasons for choosing Web App:

- The target users are mainly families who often use computers or tablets to manage household chores.
- The Web App is easy to access across platforms and does not require installation, making it suitable for family members to use together.
- It is easy to expand to mobile or PWA.

B. High Fidelity Prototype Design Description

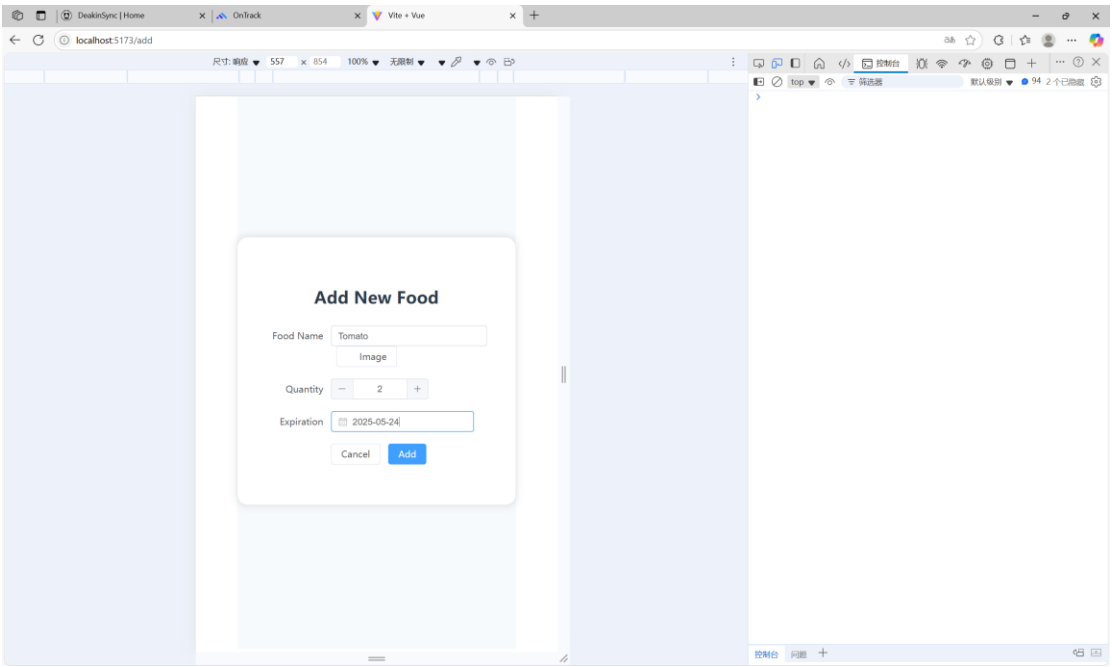
1. Design Drawings

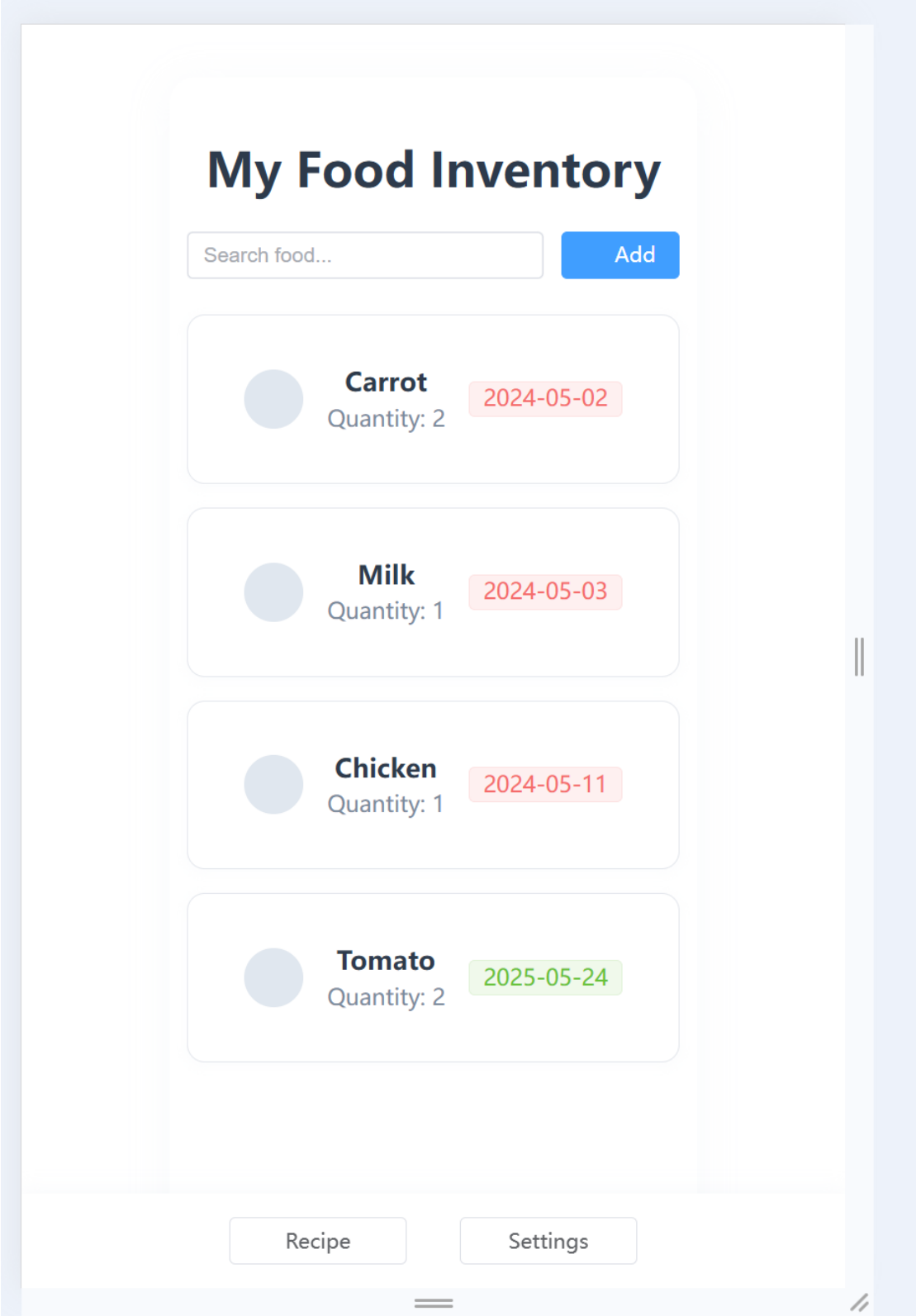

locate to different pages
HOME
SEARCH
Carrot 2/may
Milk 3/May
chicken 11/may
show food with expiration date
Add Food
Food Name
Quantity
Expiration Date
DD/MM/YYYY
CANCEL
ADD
image recognition for quick input and add image for this item
1. Add food page
2. searching bar for locating specific items
ECOBite
loading page.
RECIPE
Spaghetti
Tomato
Garlic
olive oil
XXXX
image
Use AI to generate recipes based current inventory
Settings
user detail
Notification
Language
Visualization data in charts / graphs
Notify users if items close to expiration date


DeakinSync | Home
OnTrack
Vite + Vue
localhost:5173/home
My Food Inventory
Search food...
Add
Carrot
Quantity: 2
2024-05-02
Milk
Quantity: 1
2024-05-03
Chicken
Quantity: 1
2024-05-11
Recipe
Settings

Home Page (Food Inventory)

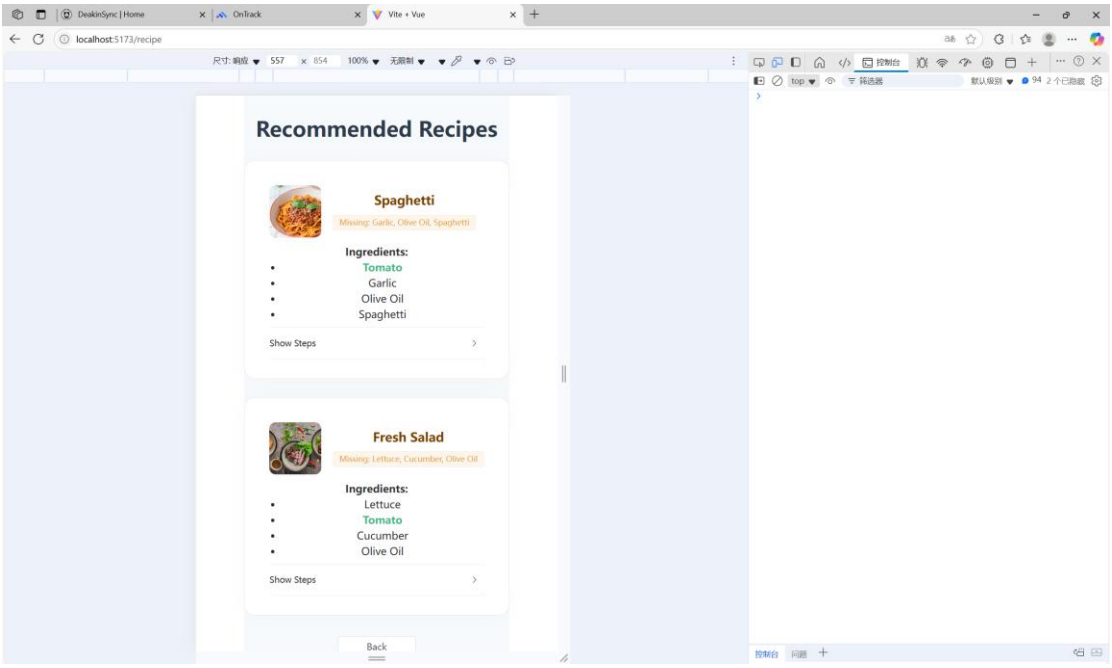
- Display all food items, support search, add.
- Carded display of food products, with expiration time highlighted.





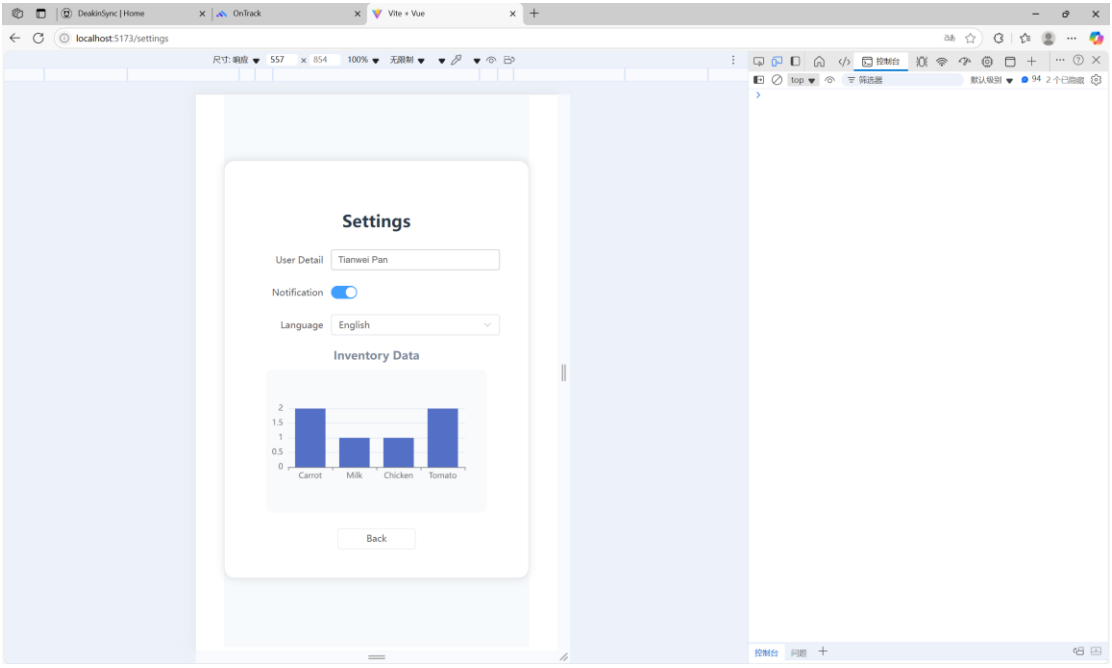
Add food

- Form-based input, support image recognition (not implemented yet).
- Date picker to prevent input errors.



Recipe Recommendation

- Dynamic recommendation of ready-to-make recipes, showing required ingredients, missing ingredients, and recipe steps.



Settings

- User information, notification, language switching, inventory data visualization.

2. Design description and notes

Card layout: make the food information clear at a glance and easy to operate.

High-contrast color and large buttons: enhance accessibility and suitable for users of different age groups.

Bottom navigation: one-click direct access to frequently used functions, reducing the number of operating steps.

Data visualization: bar charts to show the inventory structure and help users make decisions.

Responsive design: adapts to different screens and ensures consistent experience between mobile and desktop.

3. Reasons for design selection

User Habits: Most users are used to card-based and clear grouped interfaces.

Accessibility: High-contrast colors, large fonts and buttons are convenient for the elderly and users with poor eyesight.

Interaction efficiency: frequently used operations are concentrated in the home page and bottom navigation, reducing the cost of jumping and learning.

Visual aesthetics: soft color scheme, rounded corners and shadows to enhance modernity and affinity.

C. Testing Strategy

1. Test Content

Interface Ease of Use: Test whether the page layout, button size, color contrast is friendly.

Functional response: Test whether the functions of food adding, deleting, searching, recipe recommendation, data visualization, etc. are normal.

Cross-device compatibility: test the display effect on different browsers and devices (PC, tablet, cell phone).

2. Test Participants

- 2 students (housewife/student role simulation)
- 1 friend (office worker with food management needs)

3. Test Method

- **User task testing:** Let the tester complete the tasks of “adding food”, “finding food that is about to expire”, “checking recommended recipes”, etc., and observe the operation flow.
- **Feedback Form:** Collect users' subjective evaluations on the beauty of the interface, ease of operation, and practicality of the functions.
- **On-site observation and recording:** Record the confusion and mis operation encountered by users.

4. Feedback Utilization

- **Button Layout Optimization:** Enlarge and center the “Add” button according to feedback to improve usability.
- **Unified date format**: According to user suggestions, all dates are unified into “YYYY-MM-DD” format to avoid ambiguity.
- **Recipe Recommendation:** Add “Missing Ingredients” highlighting to help users quickly determine whether they can cook or not.
- **Adjustment of visual details:** fine-tune the color scheme and card shadows according to the feedback to improve the overall aesthetics.