FreshFood Tracker

Don’t Forget Your Fridge!

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Introduction

What is FreshFood Tracker ?

A simple smart system to manage your fridge at home.

PROBLEM

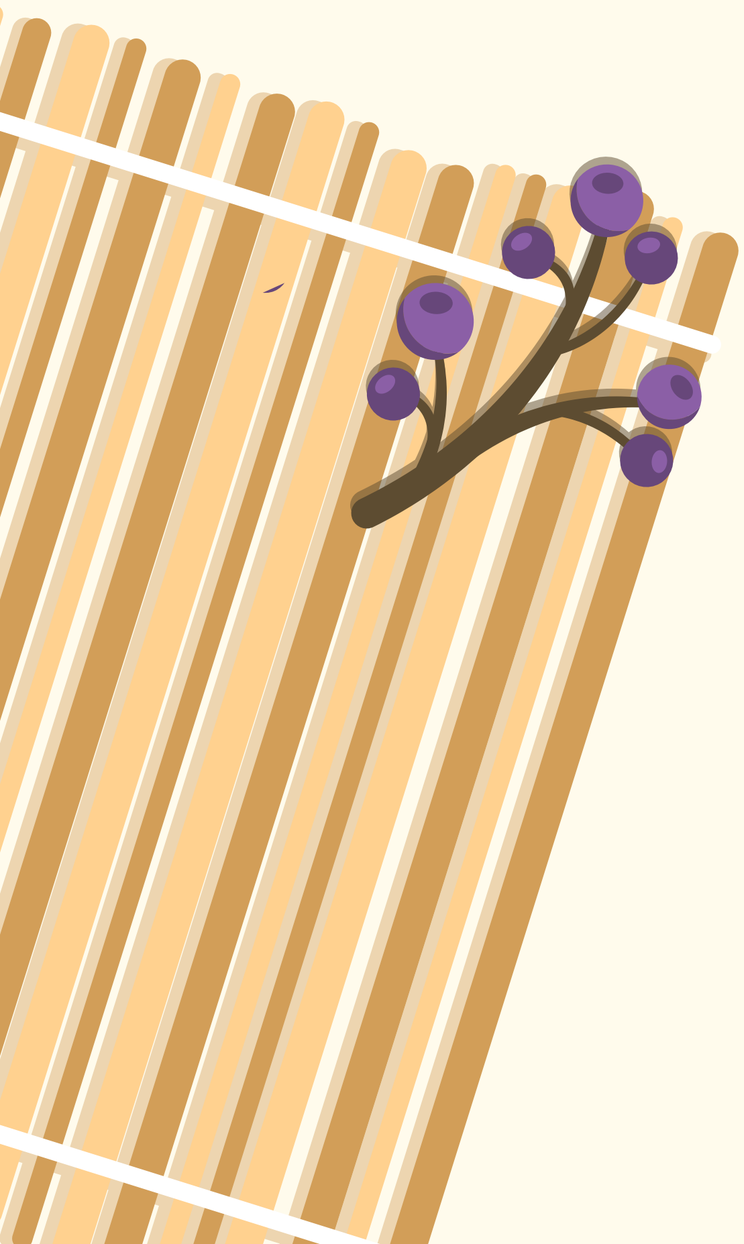
The Problem:

Many users forget what's inside their fridge and let food expire, leading to waste.

Project Goal:

To build a system that reminds users of expiry dates, stores items efficiently, and suggests meals based on available ingredients.

Objectives



1. Prevent food waste.
2. Organize fridge contents.
3. Provide a menu interface.
4. Suggest simple recipes.

Used Data Structures

Queue

Stack

Array

Program Functionalities

01

• User can add new items.

02

• System checks for expired ones.

03

• User can view fridge contents.

04

• User can view expired items.

05

• Recipes are suggested from fridge.

Program Function

01

```cpp
void push(FoodItem item) {
    if (top < MAX_SIZE - 1)
        items[++top] = item;
}

void showItems() {
    if (top == -1) {
        cout << "\nNo expired items.\n";
        return;
    }

    cout << "\nExpired Items:\n";
    for (int i = top; i >= 0; --i) {
        cout << "- " << items[i].name << " (Expired on: " << items[i].expiryDate << ")\n";
    }
}
```

02

```cpp
void addItem(const FoodItem& item) {
    if (!isFull()) {
        items[rear] = item;
        rear = (rear + 1) % MAX_SIZE;
    }
}

void listItems(const string& currentDate) {
    cout << "\nFridge Contents:\n";
    for (int i = front; i != rear; i = (i + 1) % MAX_SIZE) {
        FoodItem item = items[i];
        int daysLeft = getDaysLeft(item.expiryDate, currentDate);
        cout << "- " << item.name << " (Expiry: " << item.expiryDate << ") - " << daysLeft << " days left\n";
    }
}
```

03

```cpp
void suggestRecipes(Recipe recipes[], int recipeCount, Fridge& fridge) {
    cout << "\nSuggested Recipes:\n";
    for (int i = 0; i < recipeCount; i++) {
        bool allAvailable = true;
        for (int j = 0; j < 3; j++) {
            if (!fridge.hasIngredient(recipes[i].ingredients[j])) {
                allAvailable = false;
                break;
            }
        }
        if (allAvailable) {
            cout << "- " << recipes[i].name << "\n";
        }
    }
}
```

OUTPUT & RESULTS

```
FreshFood Tracker Menu
1. Add Item
2. Check Expiry
3. Display Fridge
4. Show Expired Items
5. Suggest Recipes
6. Exit
Choice: 1
Item name: egg
Expiry Date (yyyy-mm-dd): 2025-10-5
Quantity: 6
```

```
FreshFood Tracker Menu
1. Add Item
2. Check Expiry
3. Display Fridge
4. Show Expired Items
5. Suggest Recipes
6. Exit
Choice: 2

Items Expiring Soon:
- egg in 161 days
```

```
FreshFood Tracker Menu
1. Add Item
2. Check Expiry
3. Display Fridge
4. Show Expired Items
5. Suggest Recipes
6. Exit
Choice: 3

Fridge Contents:
- egg (Expiry: 2025-10-5) - 161 days left
- milk (Expiry: 2025-7-7) - 71 days left
```

```
FreshFood Tracker Menu
1. Add Item
2. Check Expiry
3. Display Fridge
4. Show Expired Items
5. Suggest Recipes
6. Exit
Choice: 4

Expired Items:
- apple (Expired on: 2025-03-28)
- broccoli (Expired on: 2024-04-05)
- butter (Expired on: 2025-01-17)
```

```
FreshFood Tracker Menu
1. Add Item
2. Check Expiry
3. Display Fridge
4. Show Expired Items
5. Suggest Recipes
6. Exit
Choice: 5

Suggested Recipes:
- Omelette
```

Conclusion

Conclusion:
FreshFood Tracker is a simple yet effective system using data structures to manage fridge content and inspire better food usage.

Thank you for your attention