

From Cart to Calories – All in One Place

NutriTrack

A Smart Grocery & Meal Assistant with
Calorie Tracking

Team Name:
4X1 ENCODERS

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The Problem We Face

- Food waste is one of the biggest issues globally as well as in our daily lives. Many times, we purchase groceries but forget their expiry dates. By the time we remember, the food has already gone bad and has to be thrown away.
- Another problem people face is deciding "What should I cook today?". This simple daily question wastes time and often leads to unhealthy choices when nothing is planned.
- Shopping without planning is also a common issue. People either buy too much, leading to wastage, or forget important essentials, creating inconvenience.
- On top of that, we do not usually track how many calories we consume daily. Sometimes we overeat at home, and other times we eat outside food like burgers and cold drinks without realizing the calorie load. Over time, this leads to health issues such as obesity or malnutrition.



Key Features of Our Solution

A convenient, user-friendly online system accessible from any device, enabling users to efficiently manage groceries, track expiry dates, and plan meals all in one place, anytime and anywhere.

TRACK GROCERIES

Add groceries with expiry dates and calories. Get alerts before items expire to reduce waste.

MEAL SUGGESTIONS

Receive recipes based on groceries available, prioritizing items nearing expiry.

CALORIE METER

Monitor daily calorie intake. Include meals eaten outside to keep totals accurate.

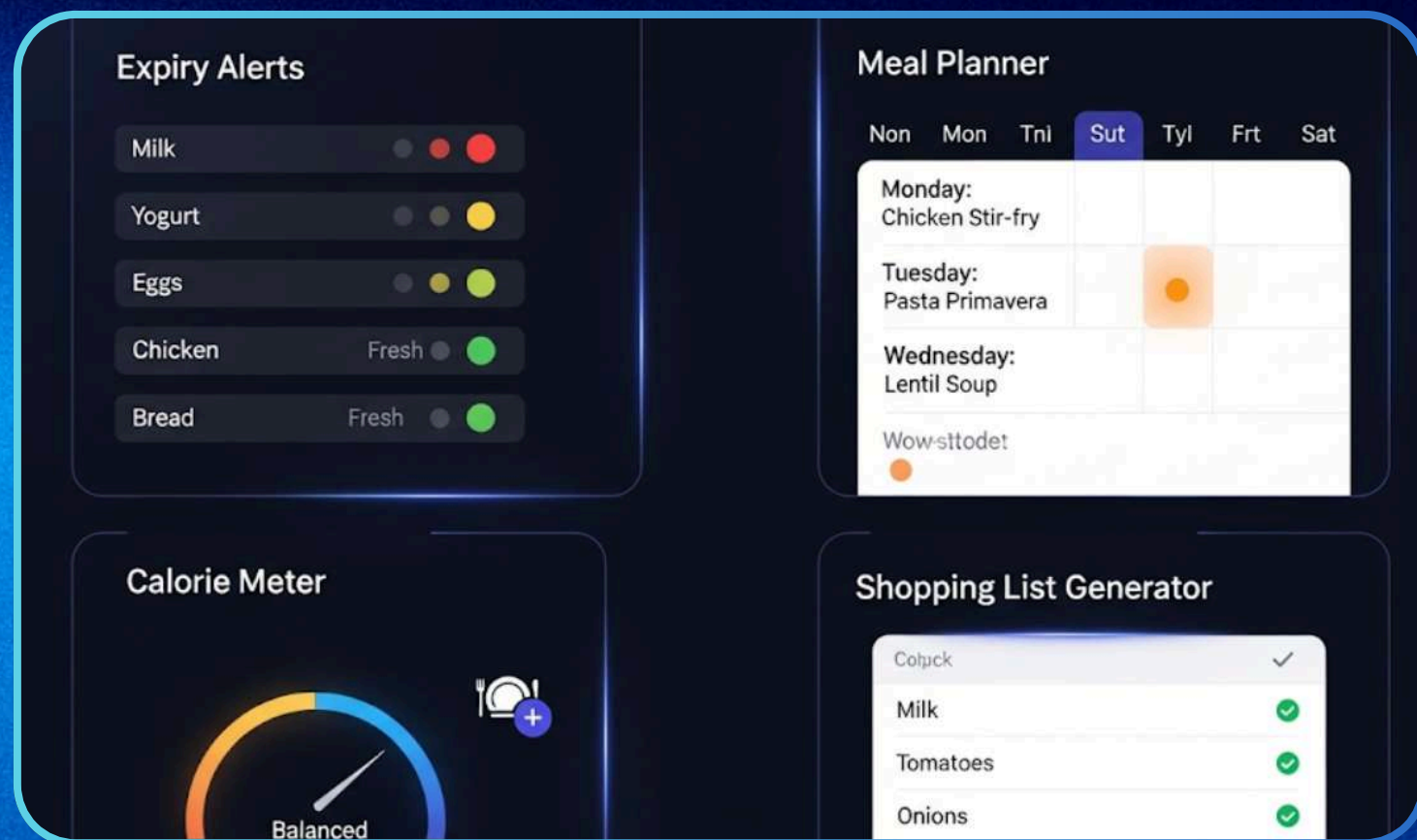
EXTRA FOOD LOGGING

Easily record snacks and fast food consumed outside to maintain precise calorie counts.

SAVE & STAY HEALTHY

Reduce food waste, save money and time, and maintain a healthier lifestyle.

Exclusive Functionalities of Our Smart Assistant



EXPIRY ALERTS WITH TRAFFIC LIGHT SYSTEM:

The system gives clear alerts about food items. Items close to expiry are shown in red, those with moderate shelf life in yellow, and safe items in green. This helps users quickly decide what to use first.

CALORIE METER:

The system calculates daily calorie intake. It gives a status: whether the intake is high, low, or balanced, compared to standard requirements. Users can also add extra food eaten outside so that the calorie meter reflects their true diet.

MEAL PLANNER:

Based on the available groceries, the system suggests what meals can be cooked. It prioritizes those items that are about to expire, reducing waste while also removing the stress of deciding what to cook every day.

SHOPPING LIST GENERATOR:

Every week, the system prepares an auto-generated shopping list based on what is running out. This prevents overbuying and ensures essential items are never missed.

Our Technology Foundation

This simple division of technologies allows us to use only basic skills in Python, C++, and HTML while still building a powerful and useful project.

PYTHON (BACKEND):

Handles grocery data, calorie calculations, and meal suggestions. It also creates the weekly shopping list.

C++ (LOGIC):

Implements expiry date checking, traffic light categorization, optimal meal planning, and calorie requirement comparison.

HTML (FRONTEND):

Provides an interactive dashboard where users can see expiry alerts, suggested meals, their calorie meter, extra food log, and the shopping list in a user-friendly way.

System Workflow

A person wearing an orange long-sleeved shirt is holding a tablet computer. They are standing next to a large cardboard box filled with fresh vegetables, including red tomatoes, yellow corn cobs, green broccoli, and green leafy vegetables. The background is a dark blue gradient with a subtle pattern of white dots.

01

The user inputs grocery items along with their expiry date and quantity

02

The system stores this data securely.

03

The expiry tracker checks all dates and categorizes the items into red, yellow, or green based on urgency.

04

Using this data, meal suggestions are generated, focusing on items nearing expiry.

05

The user logs extra food consumed outside the home.

06

The calorie meter calculates the total daily calories and compares it to the recommended level.

07

The interactive dashboard displays all the results: expiry alerts, meal suggestions, extra food log, calorie meter, and shopping list.

Example in Action

SUPPOSE A USER HAS:

- Milk (2 days left, 1 Litre)
- Bread (3 days left, 8 slice)
- Rice (50days left, 1kg)

Suppose a User needs to calculate the calories intake (We ask the amount consumed):

- Milk (1 glass)
{assuming 1 glass = 200ml}
- Bread (2 slice)

THE SYSTEM WILL SHOW:

- Expiry Alerts: Milk (red, urgent), Bread (yellow, moderate), Rice (green, safe).
- Meal Suggestion: Bread Toast with Milk (310 kcal).
- If the user eats a burger (350 kcal) and cold drink (140 kcal) outside, they add it to the extra food log.

FINAL RESULT

At the end of the day, the Calorie Meter shows 800 kcal consumed, comparing it with the daily requirement, and displays whether the intake was too high, too low, or balanced.

The Importance of Our Solution



It reduces food waste, which is good for both the environment and our wallets.



It saves money by ensuring that groceries are consumed before they expire and that shopping is planned properly.



It saves time by giving automatic meal suggestions and weekly shopping lists.

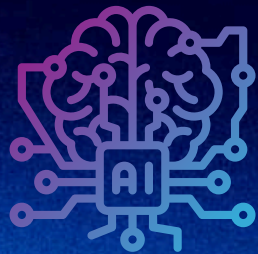


It encourages a healthier lifestyle by tracking calories accurately, including outside food.



It is not limited to college students. Families, working professionals, and anyone who wants to save food and eat healthy can use this.

Scope for Future Development



AI-POWERED MEAL PLANNING

An AI Nutrition Advisor that gives personalized diet plans based on health goals.



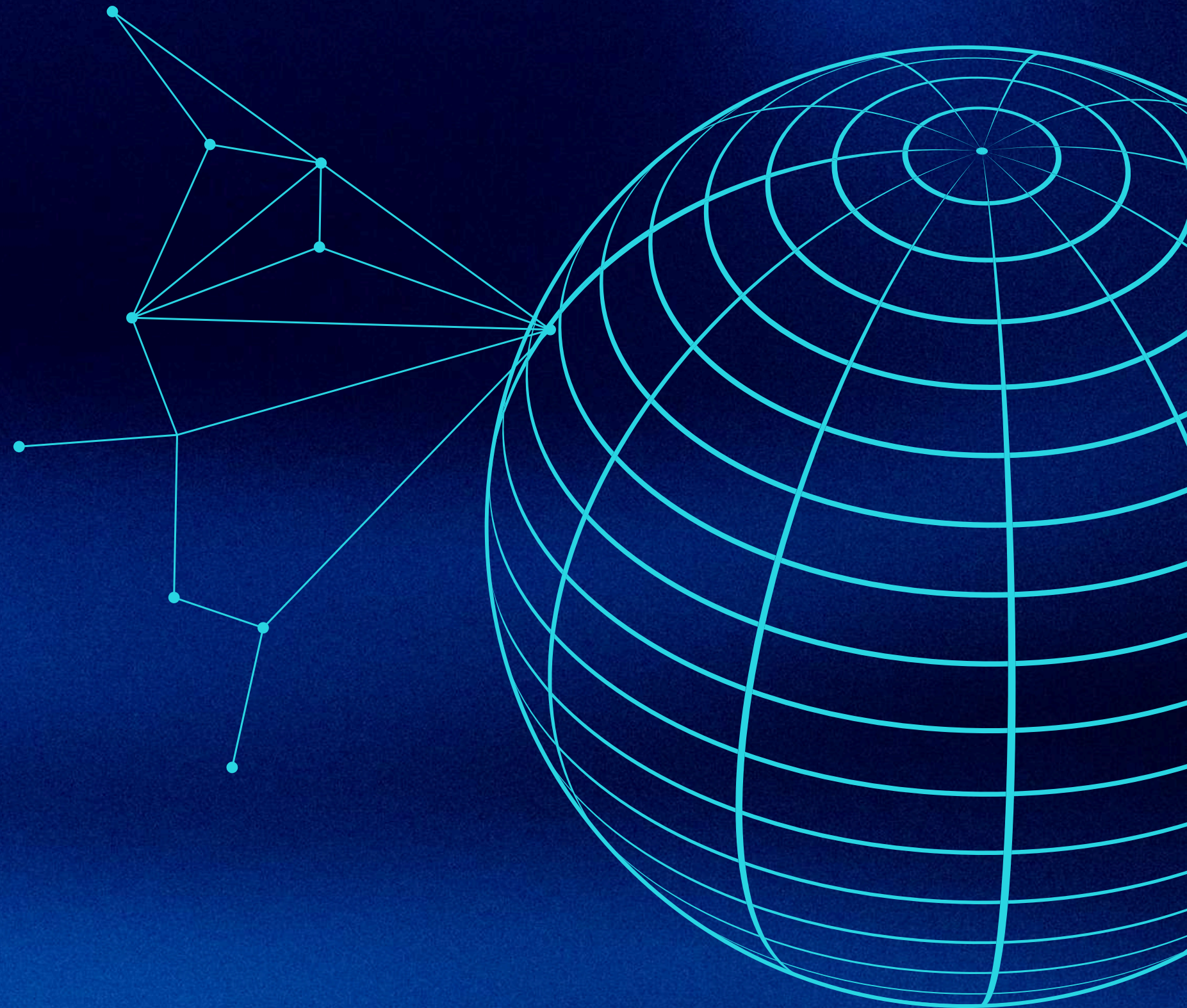
BARCODE SCANNING

Enable quick and accurate grocery input using barcode scanning to fetch expiry dates, nutrition, and product details automatically.



SMART FRIDGE & IOT INTEGRATION

Connect with smart kitchen devices to auto-track grocery usage, real-time stock levels, and reduce manual input.





"From Cart to Calories – All in One Place"

Our Smart Grocery & Meal Assistant with Calorie Tracker is a complete solution for food and health management. It ensures that groceries are consumed before expiry, meals are suggested automatically, shopping is planned weekly, and calorie intake is monitored daily.

Thank You