Team Name : **Brain Hack**

Team Leader Name : Shaik Asma

Problem Statement :''Daily surplus food from hotels, hostels, and canteens goes to waste while nearby shelters face hunger because no real-time system connects donors and receivers.''

Brief about the Idea:

The Hyper-Local Food Rescue Network is a real-time digital platform that connects places with extra cooked food (college canteens, hotels, hostels) to nearby orphanages, shelters, and NGOs before the food gets spoiled.

It works similar to a ride-booking app:

- Donor posts food

Example: “5 kg Rice & Dal available – pickup before 4 PM”

- Nearby NGO receives alert

They instantly accept the donation.

- Volunteer delivers food

A student volunteer gets the request, the system calculates the fastest route, and the food is delivered safely.

- Instead of throwing away leftover food, the platform uses location + time + routing algorithm to quickly move food from surplus areas to needy people.

- How different is it from any of the other existing ideas?

Fully AI-driven ,Hyper-local & real-time ,Uses spoilage prediction to prioritize urgent food, Works even in low-network areas ,Instead of just collecting food, our platform creates an intelligent redistribution ecosystem.

- How will it be able to solve the problem?

Donor uploads leftover food with expiry time, Nearby NGOs get instant alert, One NGO claims the food, System finds closest volunteer, App gives fastest route, Food delivered before spoilage.

- USP of the proposed solution

Expiry-aware matching (priority food rescue),Smart routing algorithm, Gamified student participation (Social Credits),Hyper-local (within 2–5 km radius),Real-time tracking.

List of features offered by the solution:

👤 **User Management**

Separate login for Donor, NGO, and Volunteer, Mobile number / OTP authentication, Profile & location registration.

🍛 **Donor Features (Hotels / Canteens)**

Post leftover food details ,Upload food photo, Set pickup deadline, Auto notify nearby NGOs, View pickup status in real-time.

🏠 **NGO / Receiver Features**

Instant alert for nearby food availability, Accept / reject donation, Request volunteer pickup, Track delivery live on map, Provide feedback & food safety rating.

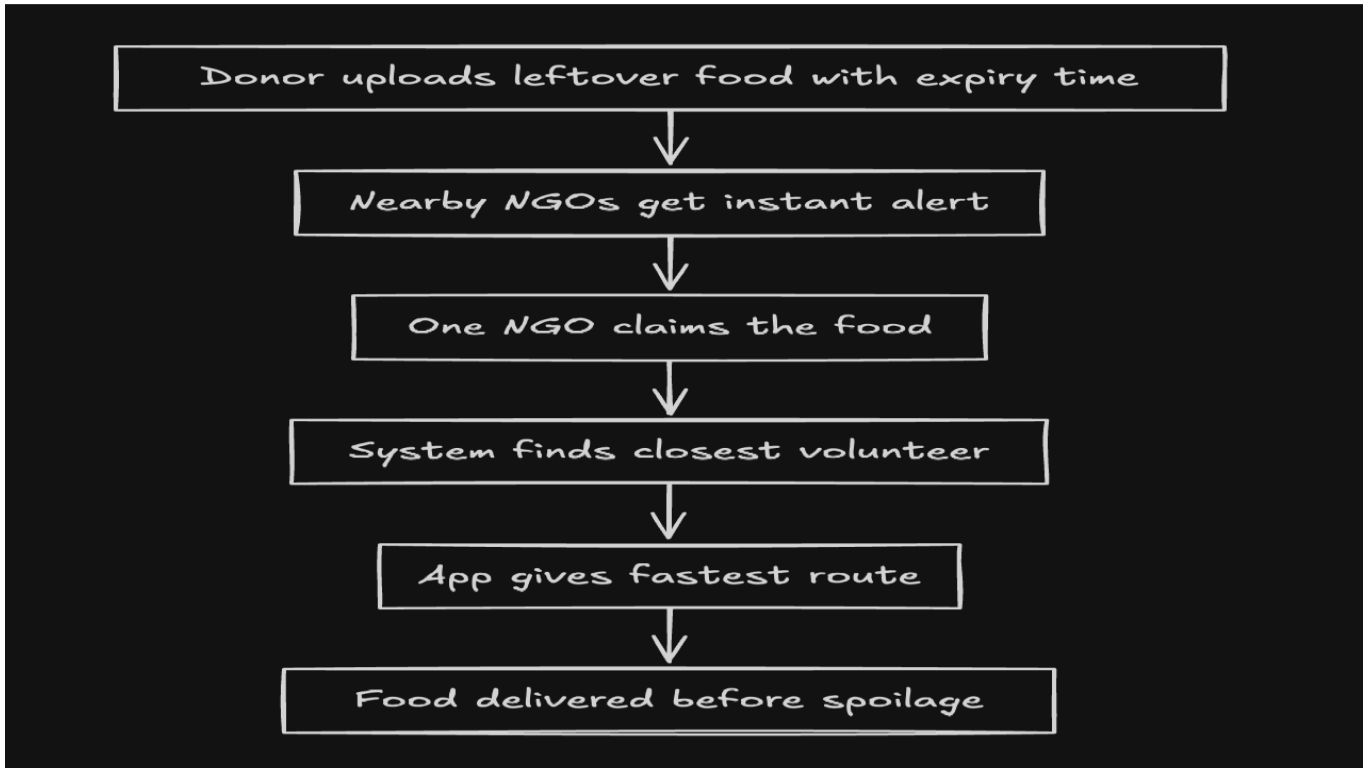
🚴 **Volunteer Features (Students)**

Nearby pickup notifications, Accept delivery task, View optimized route ,Navigation support, Earn Social Credit points.

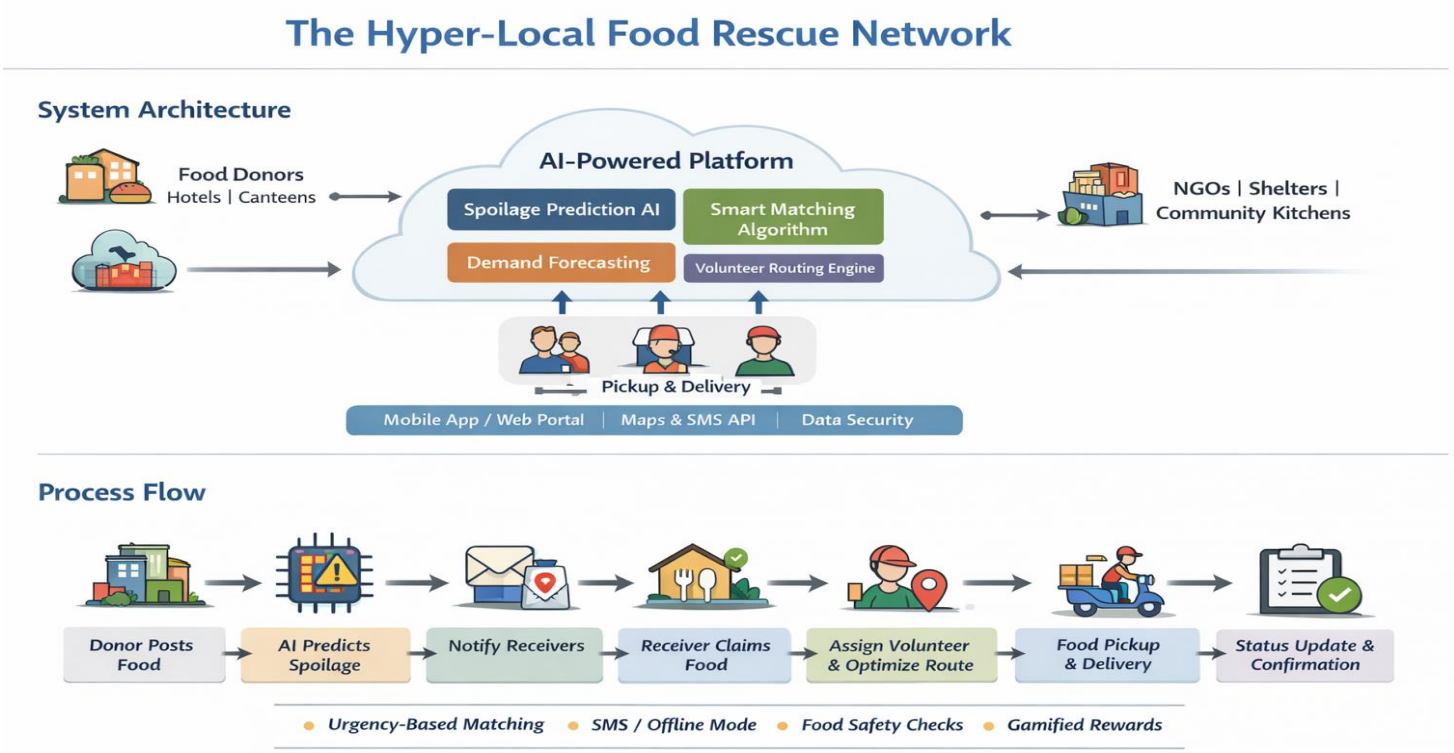
🔔 **Notification System**

Instant alerts to NGOs, Reminder before expiry, Delivery completion notification

Process flow diagram :



Architecture diagram of the proposed solution:



Technologies to be used in the solution

Frontend:

HTML,CSS,JS(Web Dashboard)

Progressive Web App (PWA) for mobile users

Backend:

Python - Django

Python (FastAPI) for AI/ML services

Database:

MySQL

AI / Machine Learning

Python + Scikit-learn (spoilage prediction & matching)

TensorFlow Lite (lightweight models)

Rule-based fallback logic

Cloud & Infrastructure:

Amazon Web Services for hosting & deployment

Docker (containerization)

GitHub (version control & CI/CD)

Maps & Routing:

Google Maps Platform

Notifications:

Twilio / AWS SNS for SMS alerts

Firebase Push Notifications

Web Sockets for live tracking

Security:

JWT Authentication

HTTPS + encrypted storage

The requirements for the hackathon:

A. Users (Stakeholders)

Food Donors (restaurants, homes, supermarkets)

Volunteers (delivery helpers)

NGOs / Shelters (receivers)

B. Core Features

Food listing

Location-based matching

Notifications

Real-time status tracking

C. System Qualities

Scalable

Real-time

Cloud-based

D. User-friendly Interface

Simple app for donors, volunteers, NGOs

Easy food posting & tracking

Clear notifications and status updates

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Thank You