Anna Mitra Waste Management System

By Team EcoVision

Submitted to: JayPrakash Lalchandani

Team Details

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👥 Team Members

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Executive Summary

Anna Mitra is a technology platform that rescues surplus cooked food from restaurants, events, hostels, and households and redistributes it to people in need through a verified network of NGOs and volunteers.

- ✅ Streamlines end-to-end donation lifecycle
- ✅ Matches donations with nearest NGOs
- ✅ Assigns volunteers for pickup & delivery
- ✅ Ensures safe handling & transparency
- ✅ Prioritizes speed, food safety, and accountability

Problem Statement

! **Large volumes of edible food are discarded daily while nearby communities remain food-insecure**

No central place to announce surplus food and make it discoverable

Coordination gaps between donors, NGOs, and volunteers; pickups are often late or duplicated

Food safety risks due to unclear handling practices and time limits

Lack of transparency—donors rarely know whether their food was collected and delivered on time

Anna Mitra addresses these gaps with a single coordinated system

Goals & Objectives

1 **Fast, reliable matching** of surplus food with nearby NGOs/volunteers before it expires

2 **End-to-end visibility** of the donation lifecycle for all stakeholders

3 **Built-in food safety** through checklists, time windows, and handling guidelines

4 **Trust & accountability** using verification, ratings, and delivery proofs

5 **Actionable insights** via dashboards and reports to increase impact over time

Stakeholders & Roles

Donor

Creates donations, lists items, sets preferred pickup window, provides contact/location details

NGO

Views nearby donations, claims suitable ones, coordinates volunteer pickup, confirms delivery

Volunteer

Accepts/gets assigned pickups, sees route/map, follows safety checklist, marks handover

Admin

Monitors donations, manages users, moderates content, tracks platform metrics

Team collaboration for food rescue

Core Features - Public Site

Home

- ⚑ Mission
- 📊 Quick stats
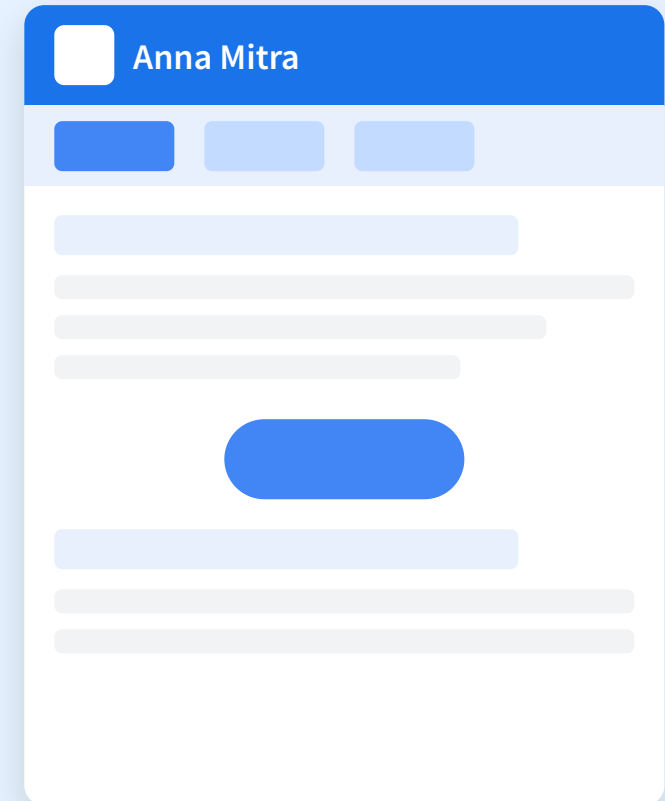- 👆 **Donate Food CTA**
- ❞ Testimonials

About (Who We Are)

- 📖 Story
- 👁 Vision
- 🌿 **Sustainability focus**
- 🚫 No IoT bins
- ⇄ Purely donation & redistribution

Contact

- 📄 Contact form
- 🎧 Support details

Anna Mitra

Core Features - Access & Accounts

Login/Signup

✉ Email based   💬 OTP authentication   👥 **Role selection**

🍴 Donor   🤲 NGO   🛵 Volunteer

Account

👤 Profile info   📍 Addresses/Locations

📄 **Organization documents**   🛡 NGO verification

🔔 Notification settings

Anna Mitra

Email

Password

Select Role

🍴 Donor   🤲 NGO   🛵 Volunteer

Core Features - Donation Lifecycle

Create Donation

📍 Pickup location   🍴 Food items   🕐 **Best-before time**   🏷 Dietary tags

Donations List

☰ Status filters   ❗ Open   ✅ Claimed   🚚 In Pickup   ✔ Delivered

Donation Details

📈 Complete timeline   ☰ Items list   🗺 Map view   🔓 Action buttons

Notifications

⚡ **Real-time alerts**   👐 NGO notifications   🕐 Status updates

Proof of Delivery

📷 Photo upload   ✏ NGO signature   123 OTP verification

Sewa

UI UX Case Study

Sewa Donation App

Connecting Donors with Underprivileged Communities who are in need and often left unheard.

Food donation platform interface

Core Features - Role Dashboards

Donor Dashboard

Quick action: Create Donation

History: Past donations, Pending confirmations, Recent deliveries

Manage Profile

NGO Dashboard

Nearby open donations
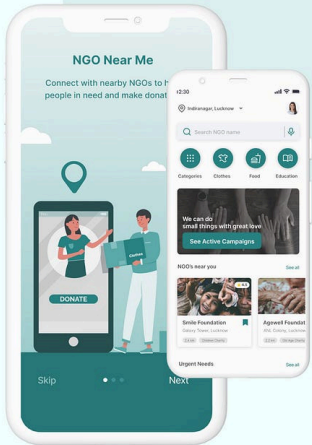
One-click Request assign to available volunteer

Set delivery destination (shelter/community point)

Compliance tracker: food safety checklist completion

Volunteer Dashboard

"My Assignments" with pickup & drop addresses, ETA, map link

Stepper flow: Start → At Donor → Picked → At NGO → Delivered

Upload proof (photo + OTP)

Admin Dashboard

User/NGO verification (documents & status)

Monitor Donations

Control over all users

Create other admin profiles (if Super Admin)

Detailed Workflow

1 📝 **Post**

Donor **publishes donation** with items and pickup window

2 🔔 **Notify**

Nearby NGOs receive **push/email/SMS alerts**; list shows freshness/time remaining

3 🤝 **Request**

NGO requests; donor receives requests from multiple NGOs and **accepts one**

4 👤➕ **Assign**

NGO **assigns a volunteer** (or volunteer self-accepts from open pool)

5 🚚 **Pickup**

Volunteer follows **in-app checklist** (packaging, vehicle hygiene), marks Picked
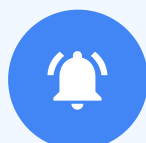
6 ⇄ **Handover**

At delivery point, volunteer **records photo as proof**; marks Delivered

7 ★ **Close & Rate**

System closes donation, updates metrics; donor/NGO can **rate experience** and leave feedback

Post → Notify → Request → Assign → Pickup → Handover → Rate

Food Safety & Compliance

Time-bound Pickups

Based on **best-before** and **ready-on** fields to ensure food freshness

Mandatory Safety Checklist

Packaging intact • Temperature safe • Vegetarian separation

Educational Hints

Tips on donation form (e.g., **cool food to safe temperature** before dispatch)

Technology Stack

Frontend

React (web)

Backend

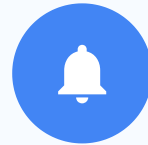**Node.js + Express** (REST)

Database

PostgreSQL or MongoDB

Location/Maps

Google Maps Platform

Notifications

Firebase Cloud Messaging +
email/SMS gateway

Storage

Cloud object storage for proofs

Frontend

Backend

Database

Deployment

Future Enhancements

Event-Mode Donations

Bulk donations for events • **Recurring schedules** for hostels/messes

Corporate CSR Integration

CSR dashboards • **Impact certificates** for corporate partners

Route Optimization

Route batching for volunteers • **Basic route optimization** algorithms

Communication Features

In-app chat with masking • **Multilingual voice prompts**

Events

Corporate

Routing

Chat

Conclusion

Anna Mitra is a practical, screen-aligned platform to reduce hunger and food waste by connecting donors, NGOs, and volunteers and managing the full donation lifecycle with safety and accountability.

The design mirrors the actual functionality present in our current screens: public pages (Home/About/Contact), authentication and account management, Donation creation + items modal, Donations list & details, and role-specific dashboards (Donor/NGO/Volunteer/Admin).

This proposal lays out the path to deliver a **usable, impactful system** within the semester.

💙 **Reduce Hunger**   🗑 **Minimize Waste**   ✅ **Ensure Safety**

🕑 **Streamline Process**

✔

100%
Platform Alignment

End-to-End
Donation Lifecycle

One Semester
Delivery Timeline