

The Good Plate

Project Overview

The Good Plate is a MERN-based community platform that connects donors and volunteers to reduce food wastage. Donors can list surplus food with details, while volunteers locate nearby donations, claim them, and deliver to those in need, supported by maps, notifications, and smart automations.

Functional Requirements

User Accounts

- Donors (one-time or multiple-time) and volunteers must sign up/login with name, email, phone, password.
- One-time donor accounts are auto-deleted after their donation expires.

Donor Actions

- Donor adds address, coordinates, food details (name, quantity, shelf life, short description).
- System stores time of listing and auto-deletes once time + shelf life is exceeded.

Volunteer Actions

- Volunteers view all food listings sorted by proximity.
- On selecting a listing → it becomes unavailable to others.
- If cancelled → listing becomes available again.
- On marking delivered → listing is removed, and donor is notified.

Notifications

- Volunteers get notified when a new listing is added.
- Donors get notified when their food is picked up and delivered.

Non-Functional Requirements

1. **Usability** - Easy-to-use, simple interface for people with basic tech skills.
2. **Performance** - Should handle multiple donors/volunteers at the same time without lag.
3. **Reliability** - Auto-expiry of listings must work accurately to avoid food wastage.
4. **Scalability** - System should support more users/locations as the network grows.
5. **Security** - Donor and volunteer details (phone, email, password) must be stored safely.
6. **Availability** - Should work 24/7 with minimal downtime.

Challenges

- Ensuring real-time updates for listings and notifications.
- Accurate proximity calculation using geolocation.
- Handling auto-deletion of expired food and one-time donor accounts.
- Preventing multiple volunteers from taking the same listing.
- Maintaining simple yet secure authentication.

Agile SDLC Model

- The app has **separate modules** (donor, volunteer, notifications, maps), which can be developed and delivered in independent sprints.
- Agile enables **early release of core features** such as user authentication and donation listing, so users can start using the app sooner.
- **Continuous feedback** from users allows the team to improve features like notifications and proximity-based sorting.
- The model supports **incremental development** and testing, making it easier to release updates, fix issues quickly, and adapt to changing requirements.