

Requirements Specification Document

(Group : 6)

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1. Functional & Non-Functional Requirements

Functional Requirements (What the system will *do*)

These directly come from your described flows — the **donation lifecycle** + dashboards.

1.1 User Registration & Authentication

- Users can **sign up** and **log in** using email/OTP.
- Users choose their **role** (Donor, NGO, Volunteer, Admin).
- NGO accounts require **document verification** by Admin.
- Auth implemented via **Passport local strategy**.

1.2 Donation Management (Donor Side)

- Donor can **create donation posts** with:
 - Food items, quantity, best-before time.
 - Pickup location and time window.
 - Notes/special instructions.
- Donor can **view their donations list** with statuses:
 - Open, Claimed, In Pickup, Delivered, Expired/Cancelled.
- Donor receives **real-time notifications** on claim, pickup, delivery.
- Donor can **rate NGOs/Volunteers** after successful delivery.

1.3 NGO Management

- NGO can **view nearby open donations** based on location.
- NGO can **request/claim donations**.
- NGO can **assign volunteers** for pickup.
- NGO confirms **final delivery** once food is received.
- NGO can view compliance checklist and past donations.

1.4 Volunteer Management

- Volunteers can **view assigned donations** or accept open pickups.
- Stepper flow for pickup process:
 - Start → At Donor → Picked → At NGO → Delivered.
- Volunteers must **upload proof of delivery** (photo + OTP/signature).

1.5 Admin Dashboard

- Admin can **verify NGOs and users**.
- Can **monitor donations** and handle disputes.
- Can create other admin accounts.
- Can view system metrics (donations completed, users active, etc.)

1.6 Notification System

- Real-time alerts for:
 - NGO when donation is posted.
 - Donor when claim/pickup/delivery happens.
- Supports Email + Firebase push notifications.

1.7 Proof of Delivery

- Volunteer uploads **photo** and **OTP/signature** from recipient.
- System automatically **marks donation as delivered** after proof.

1.8 Feedback & Rating

- Donor ↔ NGO can give star ratings and comments.
- Ratings contribute to NGO/Volunteer reputation.

Non-Functional Requirements (How the system will *behave*)

Category	Requirement
Performance	Publish → notify latency < 5s; system handles 100+ concurrent users.
Availability	Minimum uptime 99.5% during peak donation hours.
Security	Passport local strategy-based authentication, hashed passwords, encrypted user data.
Privacy	Donors can hide contact info; phone masking for communication.
Usability	UI simple enough for semi-tech users (NGOs/Volunteers).
Localization	English, Hindi, Gujarati supported.
Accessibility	Large buttons, readable contrast, mobile-friendly layout.
Scalability	Modular backend (Node + Express + DB) for easy future expansion.
Maintainability	Clean code structure with separated frontend/backend repos.

2. Detailed User Stories / Use Case Diagrams

User Stories (Agile format)

Donor

1. *As a Donor*, I want to create a donation post so that nearby NGOs can request it.
2. *As a Donor*, I want to see my donation status (Open, Claimed, Delivered) so I can track progress.
3. *As a Donor*, I want notifications when an NGO claims or delivers my food.
4. *As a Donor*, I want to rate the NGO/Volunteer after successful delivery.

NGO

1. *As an NGO*, I want to view nearby open donations so I can claim them.
2. *As an NGO*, I want to assign volunteers for pickup and delivery.
3. *As an NGO*, I want to confirm delivery and upload proof to maintain transparency.

Volunteer

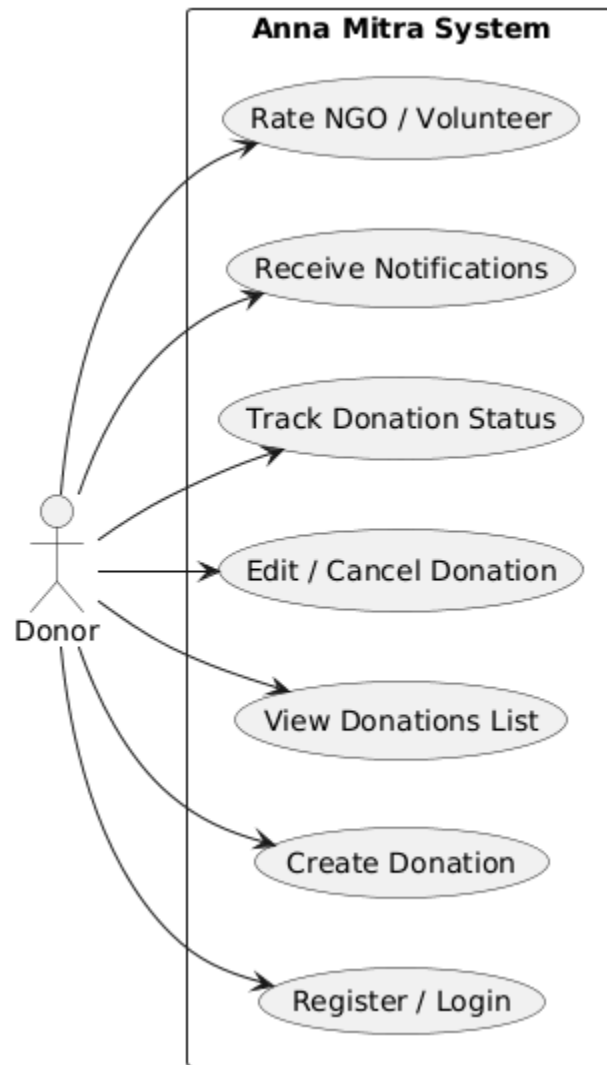
1. *As a Volunteer*, I want to see my assigned pickups and drop-off points on map.
2. *As a Volunteer*, I want to update my status step-by-step (Picked, Delivered).
3. *As a Volunteer*, I want to upload delivery proof (photo/OTP) for record keeping.

Admin

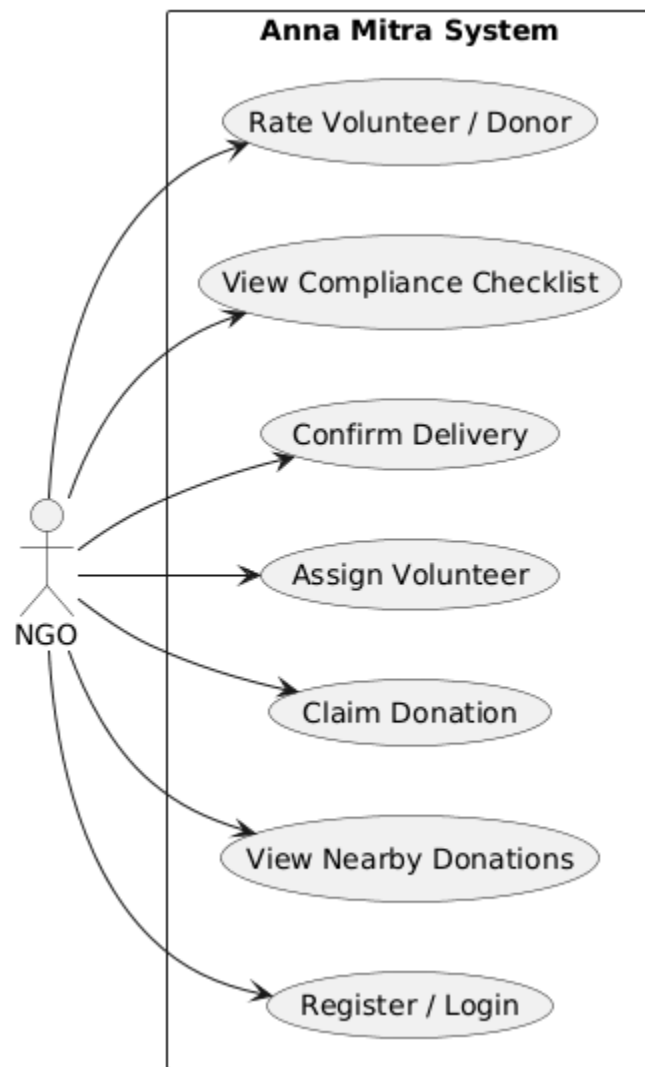
1. *As an Admin*, I want to verify NGOs and manage users.
2. *As an Admin*, I want to monitor all donations and metrics.
3. *As an Admin*, I want to handle complaints or expired donations.

USE CASES:

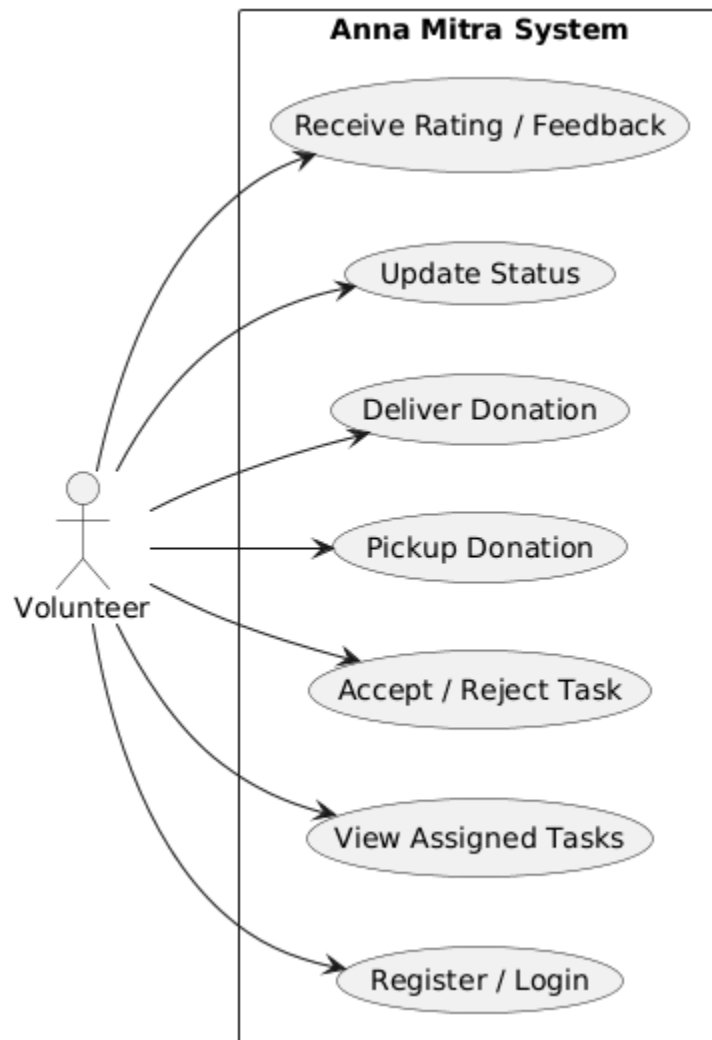
DONOR



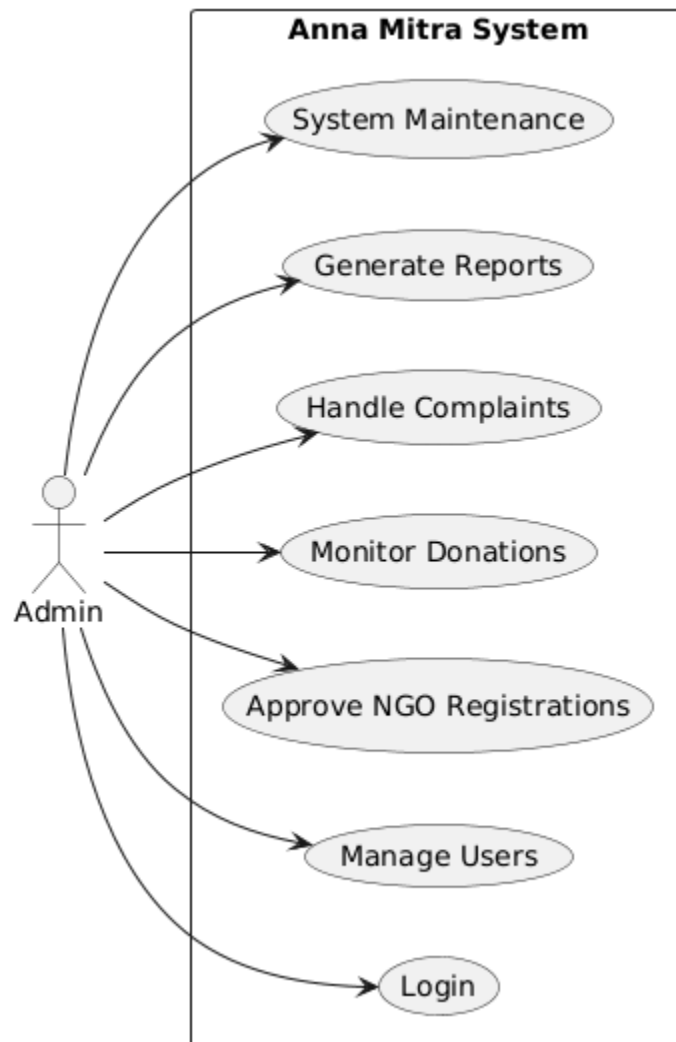
NGO:



VOLUNTEER:



ADMIN:



3. Interface Requirements

Interface	Description
Login/Signup Screen	Role-based registration (Donor, NGO, Volunteer, Admin). OTP/email verification.
Home Page	Public view showing mission, stats, testimonials, CTA to “Donate Food”.
Create Donation Form	Donor enters food details, quantity, pickup location, best-before time, and contact info.
Donation List Page	Displays all donations with status filters (Open, Claimed, Delivered).
Donation Details Page	Full info, map, and action buttons (Claim, Pickup, Deliver).
NGO Dashboard	List of nearby donations; option to assign volunteer.
Volunteer Dashboard	Shows assigned pickups with map and timeline.
Admin Dashboard	User verification, donations overview, and system metrics.
Notifications Panel	Real-time updates for donation lifecycle.

4. Wireframes / UI-UX Mockups (Initial Draft)

(Since actual images aren't available, description given.)

Screen	Key UI Elements
Home Page	Header (Logo, About, Contact, Login); Main banner "Donate Food, Feed Hope"; Stats cards (Donations saved, Meals served); CTA button.
Login Page	Email + Password fields; Role selection dropdown; Submit button.
Donor Dashboard	Button "+ Create Donation"; Card list of donations (status color-coded); Sidebar: Profile, History, Logout.
Create Donation Page	Form fields: Item name, quantity, best-before, packaging type, location map picker; Save/Publish buttons.
NGO Dashboard	Table/List of available donations; "Claim" button; status indicators; Assign volunteer modal.
Volunteer Dashboard	List of tasks with status (Pending, Picked, Delivered); "View Map" and "Upload Proof" buttons.
Admin Dashboard	Tabs for Users, Donations, NGOs, Reports, inquiries;

UI style is **clean, minimal**, with **green and white color palette** (eco/sustainability theme).

5. Acceptance Criteria (For Key Features)

Feature	Acceptance Criteria
User Registration	User can successfully register with valid email/OTP and role. Invalid OTP → error shown.
NGO Verification	Admin approves/rejects NGO within dashboard; unverified NGO cannot claim donations.
Create Donation	Donor can create post with at least 1 item, location, and pickup window.
Claim Donation	NGO can claim open donation only once; donation status changes to “Claimed”.
Volunteer Assignment	NGO can assign a volunteer from list; volunteer gets notification.
Pickup & Delivery	Volunteer updates each stage; proof upload required before “Delivered” status.
Notifications	Donor gets instant alerts on each lifecycle event (Claim, Pickup, Delivered).
Proof Upload	Delivery photo must be submitted; otherwise cannot close donation.
Rating System	After delivery, donor/NGO/volunteer can rate each other once per transaction.
Admin Dashboard	Admin can view all active donations and verified NGOs without app errors.