

Project Design Phase-II

solution requirements (functional & non functional)

Date	4 Nov 2025
Team ID	NM2025TMID02156
Project Name	To supply leftover food to poor
Marks	4 Marks

✓ Functional Requirements

These describe what the system **must do**.

1. Donor Module

- The system must allow donors (restaurants, events, individuals) to register.
- Donors should be able to create a *food donation request* including:
 - Type of food
 - Quantity
 - Pickup location
 - Available pickup time
- Donors should receive notifications when a volunteer accepts their request.

- Donors should receive proof of delivery (photos or confirmation message).

2. Volunteer Module

- Volunteers must be able to register and verify identity.
- Volunteers should receive notifications for nearby food pickup requests.
- Volunteers should be able to accept or reject requests.
- Volunteers should update the status at each stage:
 - Food picked up
 - On the way
 - Food delivered

3. Recipient Management

- The system must allow NGOs/recipients to register.
- The system should match recipients based on:
 - Location
 - Food availability
- The recipients should confirm receipt of food (digital signature / OTP / photo).

4. System Process Flow

- The system must assign the nearest available volunteer (auto or manual assignment).
- The system must track the delivery using GPS/location.
- The system must log all pickup and delivery data for reporting.

5. Database Requirements

- Store donor, volunteer, recipient details.
- Store food donation history and transaction logs.
- Store feedback, photos, and delivery confirmations.

6. Reporting & Monitoring

- System should generate reports:
 - Number of donations
 - Quantity of food delivered
 - Number of beneficiaries
- Admin should be able to monitor live operations.

Non-Functional Requirements

These specify **how** the system should perform.

1. Usability

- Simple and user-friendly interface (especially for volunteers/donors).
- Should support usage via mobile (app or WhatsApp bot).

2. Reliability

- System must be available 24/7.
- Data should not be lost during operations (automatic backups).

3. Performance

- Response time to show available requests ≤ 2 seconds.
- System should support multiple users performing actions at the same time.

4. Scalability

- Easily scalable to support more donors, volunteers, and locations.
- Should support integration with NGOs and government platforms later.

5. Security

- Secure login with authentication.
- Sensitive data (phone numbers, location) must be protected.
- Data encryption for all stored user information.

6. Maintainability

- Code should be modular and allow future feature upgrades.
- System should allow admin to update features without downtime.

7. Availability

- 99.5% uptime per month.
- Automatic failover if one server node fails.

8. Data Integrity

- No duplicate food donation records.

- Only authorized volunteers can update delivery status.

Summary Table

Requirement Type	Key Areas Covered
Functional Requirements	Donor request, volunteer assignment, delivery tracking, feedback
Non-Functional Requirements	Security, scalability, usability, performance, reliability