Team ID	NM2025TMID06277
Project Name	Apply Leftover Food to Poor
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3. Requirement Analysis Phase — Apply Leftover Food to Poor

3.1 Introduction

The Requirement Analysis Phase identifies and documents all necessary specifications for the leftover food redistribution system.

3.2 Functional Requirements

Donor Registration: Enable donors to create profiles and specify food donation types and availability.

Donation Scheduling: Allow scheduling of leftover food pickup requests with time and location details.

Volunteer Management: Register volunteers, assign tasks, and track participation.

Logistics Coordination: Plan and optimize pickup and delivery routes in real time.

Food Safety Monitoring: Track temperature and compliance with hygiene standards during transport.

Notification System: Send alerts and reminders to donors, volunteers, and NGOs

3.3 Non-Functional Requirements

Usability: Intuitive interfaces accessible by users with varying tech skills, supporting multiple languages.

Reliability: System uptime of at least 99%, with failover mechanisms.

Performance: Quick response times for scheduling, notifications, and data queries.

Security: Role-based access, data encryption, and compliance with privacy laws.

Scalability: Ability to expand to new geographic areas or increased user load without performance loss.

Maintainability: Modular design allowing easy updates and debugging.

3.4 System Requirements

Hardware: Servers or cloud VM, volunteers' mobile devices for pickup confirmations. Software: Web browser for donors/NGOs, Node.js/Django, React, MySQL/Postgres, mapping API.

3.5 User Requirements

Donors: Easy food donation process, transparency on pickup schedules.

Volunteers: Clear task lists, real-time updates, communication with coordinators.

NGOs/Community Kitchens: Manage beneficiaries, track distributions, report outcomes.

Beneficiaries: Timely access to safe, nutritious food, feedback mechanisms.

3.6 Feasibility

Technical Feasibility: Availability of required technology, development skills, and infrastructure.

Operational Feasibility: Willingness of donors, volunteers, NGOs to participate; existing community networks.

Economic Feasibility: Budget analysis supporting initial setup and ongoing operations.

Legal Feasibility: Compliance with food safety, liability, and data protection regulations.