Project Design Phase

Proposed Solution

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Team ID:	NM2025TMID05217
Project Name:	To Supply Leftover Food to Poor

1. Introduction

The **Proposed Solution** describes the "To Supply Leftover Food to Poor" system in detail, explaining how it helps reduce food waste and supports hunger relief through efficient redistribution of surplus food from restaurants, events, and households to needy people.

This section defines the system's functionalities, workflows, and user interactions designed to ensure timely collection, storage, and distribution of leftover food while maintaining safety and transparency.

Objective:

- To design an automated system for collecting, managing, and distributing leftover food.
- To connect donors (restaurants, events, households) with NGOs and volunteers.
- To monitor food quality, logistics, and delivery through digital tracking.
- To reduce food wastage and contribute to social welfare.

2. System Overview

The To Supply Leftover Food to Poor system is a **cloud-based web application** that manages food donation processes from start to finish. It ensures that leftover food is safely collected, stored, and delivered to poor and needy people efficiently.

Core components:

1. **Donor Management** – Registers and manages donors like restaurants, hotels, and individuals.
2. **Food Request and Collection Management** – Tracks available leftover food and assigns volunteers for pickup.
3. **Storage and Quality Control** – Records food condition, expiry time, and safe storage guidelines.

4. **Beneficiary Management** – Maintains a database of NGOs, shelters, and poor communities receiving food.
5. **Tracking and Notification System** – Sends alerts to volunteers and NGOs about available food donations.
6. **Reporting and Analytics** – Generates reports about total donations, wastage reduction, and delivery metrics.

3. <u>Feature Description</u>

Feature	Description	User Impact
Donor Registration and Management	Allows restaurants, events, and individuals to register and list available food items.	Simplifies donor contribution and ensures accountability.
Food Collection Scheduling	Automatically assigns volunteers for pickup based on location and food type.	Reduces response time and ensures timely collection.
Storage & Quality Monitoring	Records food condition and expiry, ensuring only safe food is distributed.	Protects health and maintains hygiene standards.
Beneficiary Distribution Tracking	Matches food supply with NGOs or individuals in need.	Ensures fair and transparent distribution.
Notification & Communication Module	Sends real-time SMS/email alerts to volunteers and NGOs.	Improves coordination and reduces food spoilage.
Analytics & Reports	Displays statistics like food saved, people served, and areas covered.	Supports awareness, impact tracking, and system improvement.

4. <u>Workflow Scenarios</u>

Scenario 1: Food Donation and Collection

1. A restaurant or event updates leftover food details in the system.
2. The system notifies nearby volunteers.
3. A volunteer accepts the request and collects the food.
4. Food quality and quantity are verified at the collection point.

5. The food is then delivered to registered NGOs or directly to the poor.
   Outcome: Faster food redistribution, reduced wastage, and efficient volunteer coordination.

Scenario 2: Storage and Quality Control

1. Collected food is recorded in the storage database with time and temperature details.
2. The system tracks expiry times to ensure timely delivery.
3. Unsafe or expired items are automatically flagged and discarded.
4. Quality reports are shared with admins for monitoring.
   Outcome: Maintains food safety standards and improves donor trust.

Scenario 3: Reporting and Impact Analysis

1. The system records every donation, pickup, and delivery.
2. Admins generate reports to evaluate total food saved and beneficiaries served.
3. Data analytics highlight areas with maximum food surplus and scarcity.
4. Results help improve future planning and volunteer deployment.
   Outcome: Transparency in food management and measurable social impact.

TO SUPPLY LEFTOVER FOOD TO POOR

DONOR → VOLUNTEER → STORAGE → POOR

NGO

5. <u>Conclusion</u>

The "To Supply Leftover Food to Poor" system leverages modern technology to **reduce food waste and fight hunger**. By automating the process of donation, collection, and distribution, it ensures that surplus food reaches those in need safely and efficiently.

The system promotes:

- **Social welfare** through equitable food redistribution,
- **Sustainability** by minimizing waste, and
- **Transparency** through data-driven tracking and reporting.