Project Design Phase
Solution Architecture

Date	02 November 2025
Team ID	NM2025TMID04225
Project Name	To supply leftover food to poor
Maximum Marks	4 Marks

Solution Architecture:

Goals of the Architecture:

• Reduce food wastage by collecting surplus food from restaurants, events, and households

• Supply hygienic leftover food to underprivileged communities efficiently

• Enable real-time communication between donors, volunteers, and recipients

• Promote social responsibility through technology-driven food redistribution

Key Components:

• Donor Module – Restaurants, hotels, or individuals who register and upload details of leftover food
• Volunteer Module – Registered volunteers who collect and distribute food
• Receiver Module – Shelters, orphanages, and NGOs that receive food supplies
• Real-time Database – Stores food details, pickup locations, and recipient status
• Notification System – Sends alerts for new donations or pickup requirements
• Tracking System – Monitors delivery progress and ensures accountability

Development Phases:

1. User Registration – Donors, volunteers, and receivers register in the system
2. Food Posting – Donors post leftover food details with quantity and pickup time
3. Volunteer Allocation – Volunteers are auto-assigned or manually assigned for collection
4. Food Collection – Volunteers collect and verify food quality
5. Distribution – Volunteers deliver food to nearby shelters or poor communities
6. Feedback and Tracking – Receivers confirm receipt and provide feedback
7. Data Analysis – System records food quantities and helps optimize future distribution

Solution Architecture Description:

The Leftover Food Supply System is designed to bridge the gap between food surplus and hunger. The architecture integrates three key stakeholders — Donors**,** Volunteers**,** and Receivers — into a single digital platform. Donors upload details of leftover food, which is then matched with available volunteers using real-time location tracking and database coordination.

Volunteers are notified through a mobile interface to collect the food, verify its quality, and deliver it to identified poor communities or partner organizations.

The architecture ensures food safety, transparency, and timely delivery**,** while reducing manual coordination through automation. The notification system and tracking dashboard enhance reliability and accountability, ensuring that food reaches those in need quickly and safely. This architecture not only minimizes wastage but

also promotes sustainable social welfare.

Example - Solution Architecture Diagram: