

Project Design Phase

Solution Architecture

PDate	27 OCT 2025
Team ID	NM2025TMID00743
Project Name	To Supply Leftover Food To Poor
Maximum Mark	4 Marks

SOLUTION ARCHITECTURE:

Goal of Architecture:

The goal of this solution architecture is to create a system which connects leftover food donors with volunteers and poor people in real time, so that food wastage is reduced and proper meals reach poor and homeless people quickly and safely.

KEY COMPONENTS

Component	Description
Donor App Module	Hotels / Marriage Halls / Restaurants upload leftover food details (food type, quantity, location, time)
Volunteer Module	Volunteers receive alerts, accept tasks, pick food, deliver to poor areas
Backend Server / Database	Stores food data, user details, delivery proof, time stamps
Notification Engine	Sends instant alerts to volunteers when donor uploads food
Route & Mapping System	Shows nearest donor and shortest route to volunteer
Monitoring & Reporting Dashboard	Tracks number of pickups, deliveries and food saved

DEVELOPMENT PHASE

Phase	Work Done
Requirement Phase	Identify donor, volunteer and beneficiary needs
UI/UX Design	Design screens for food posting, volunteer accept,

Phase	Work Done
Phase	delivery proof
Backend Development	Develop database, APIs, volunteer assignment logic, time tracking
Frontend Development	Build mobile app screens for donor upload and volunteer delivery
Integration Phase	Connect front-end screens with backend services
Testing Phase	Functional testing, performance testing, data flow testing
Deployment Phase	Publish application for real time usage and NGO collaboration

Solution Architecture Description - Supply Leftover Food To Poor People

The system architecture mainly works as a chain that connects the donors, system and volunteers together to make the food reach poor people safely. When the donor (hotel or marriage hall) uploads leftover food details such as food type, quantity, time prepared and location, the backend server stores this data and triggers a notification to all nearby volunteers using the notification engine. The mobile application then shows the list of available leftover food items to volunteers. The nearest volunteer accepts the pickup task, collects the food, checks food quality and uses the routing module to find the fastest delivery route to reach the poor or homeless communities.

Example



