Solution Architecture

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Team ID	LTVIP2025TMID31177
Project Name	To Supply Leftover Food to Poor

Solution Architecture:

Solution Architecture is a structured framework that defines how a specific software solution will be designed, developed, and deployed to meet business or user needs.It acts as a **blueprint** for building and integrating technology systems, outlining how various components—like apps, databases, APIs, and users—**interact to solve a specific problem**.

Key Concepts:

User Interface (UI)

- Web or mobile app for food donors, NGOs, and volunteers to interact with the system.

Application Logic

- Handles task assignments, scheduling, and coordination of food pickup and delivery.

Database System

- Stores data on food donations, pickup/drop locations, users, and distribution history.

Automation & Workflow Engine

- Automates notifications, task updates, and routing using tools like Salesforce Flows or triggers.

API Integrations

- Connects to external services like Google Maps for route planning or messaging APIs for alerts.

Analytics & Reporting

- Dashboards and reports for tracking food quantity, delivery timelines, and NGO performance.
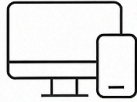
Security & Access Control

- Role-based permissions to ensure users access only relevant data (e.g., volunteer vs. admin).

Scalability & Cloud Infrastructure

- Uses scalable cloud platforms (e.g., Salesforce, AWS, GCP) to support growth and reliability.

KEY ELEMENTS OF SOLUTION ARCHITECTURE

USER INTERFACE
Web and mobile interfaces for donors, charitable organizacions, and beneficiaries

APPLICATION LOGIC
Processes for managing **food** danations, matching of deliveriesed of deliveries

DATABASE SYSTEM
Central repository storing data on donors, organizations, beneficiaries, and tran**sactions**

DATABASE SYSTEM
Central repositony **storing** data on denors, organizations, transactions, and transactions

API INTEGRATIONS
interfaces for integration with external logistics, payment, and notifications services

ANALYTICS & REPORTING
Tools for tracking performance, identifying trénds, and generating inssights

SECURITY & ACCESS CONTROL
Utilization of cloud-based resources, enabling system scalability

SCALABILITY & CLOUD INFRASTRUCTURE
Utilization of cloud-based resources, enabling system scalability and high