Date	02/11/2025
Team ID	NM2025TMID02631
Project Name	To Supply leftover food to poor

Solution Architecture:

Goals of the Architecture:

• Provide an automated system to connect food donors with NGOs and volunteers
• Maintain food safety and transparency throughout the collection and distribution process
• Reduce manual coordination and monitoring in food donation and delivery operations

Key Components:

- **Donor table** (stores details of registered food donors)

- **NGO/Volunteer table** (maintains records of registered NGOs and delivery volunteers)

- **Food_Donation table** (tracks available food items, quantity, and expiry time)

- **Matching Algorithm** (automatically links donors with nearby NGOs/volunteers based on availability and location)

Development Phases:

☐ **Create sample donor and NGO/volunteer accounts** (e.g., Restaurant A, Helping Hands NGO)

☐ **Add food donation entries** from donors with details like food type, quantity, and pickup time

☐ **Implement the matching and notification algorithm** to connect donors with nearby NGOs/volunteers

☐ **Test the process** by simulating different scenarios — available NGO, no NGO nearby, expired food — to ensure accurate and safe distribution

☐ **Solution Architecture Description**:

The solution architecture is designed to ensure efficient food distribution and reduce wastage by implementing an automated matching and monitoring system. The architecture focuses on maintaining data consistency across the **Donor**, **NGO/Volunteer**, and **Food_Donation** tables. A smart algorithm continuously checks for available food items and active recipient requests using parameters such as location, food quantity, and expiry time. When a match is found, the system automatically notifies the nearest NGO or volunteer for collection and delivery. If no suitable recipient is available within the safe delivery time window, the process is paused to prevent spoilage. The development process includes creating test donor and NGO records, adding food entries, running the matching algorithm, and validating real-time notifications and delivery updates. This architecture minimizes

manual coordination, enhances transparency, and promotes accountability in food redistribution operations.

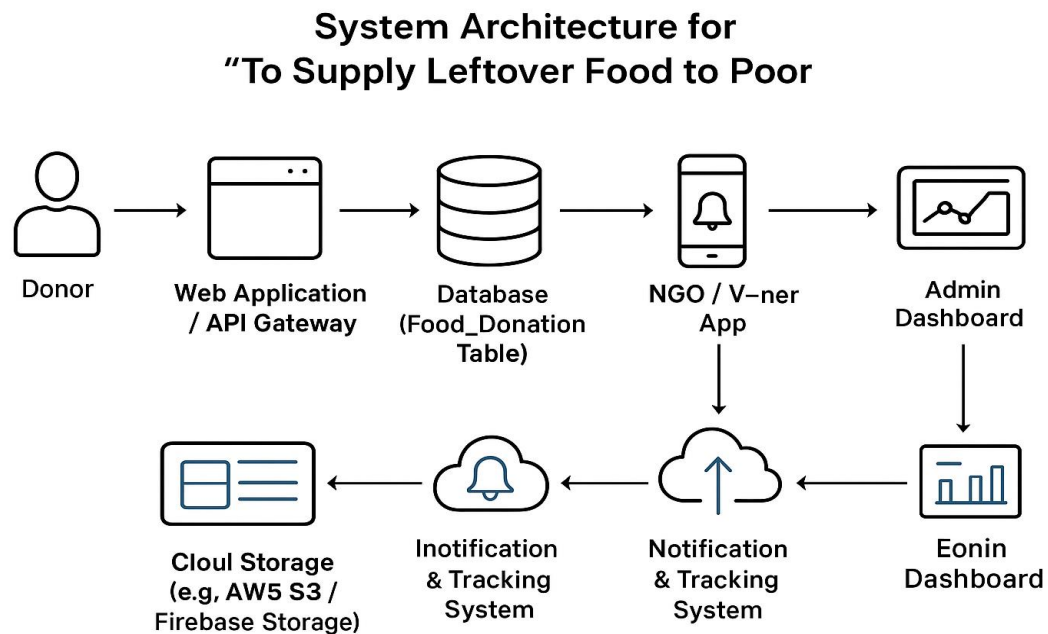**Example - Solution Architecture Diagram:**

System Architecture for "To Supply Leftover Food to Poor

Figure 1: Architecture and data flow of the *To Supply Leftover Food to Poor* platform
Reference: Your internal design documentation (or if you reuse a published source, provide full citation)