Project Design Phase

Solution Architecture

Date:	2 NOVEMBER 2025
Team ID:	NM2025TMID06360
Project Name:	To Supply Leftover Food to Poor
Maximum Marks:	4 Marks

Goals of the Architecture:

The primary goal of this architecture is to build a Salesforce-based cloud application that efficiently manages the collection and distribution of surplus food to the needy. The architecture focuses on centralizing operations, streamlining communication between venues and NGOs, and ensuring transparency through reports and dashboards.

Key Components:

1. 1. Salesforce Developer Org – Base cloud environment for all configurations and development.
2. 2. Custom Objects – Venue, Drop-Off Point, Task, Volunteer, and Execution Details objects designed to capture end-to-end data.
3. 3. Relationships – Lookup and Master-Detail relationships to interconnect all functional entities.
4. 4. Automation – Salesforce Flow Builder and Apex Trigger for record creation and automatic field updates.
5. 5. Reports and Dashboards – Visual analytics for NGO activities, task tracking, and volunteer management.
6. 6. Security Model – Profiles, Users, and Public Groups with Sharing Rules to manage access and visibility.

7. 7. Lightning App and Home Page – Simplified UI for users to access flows, dashboards, and records efficiently.
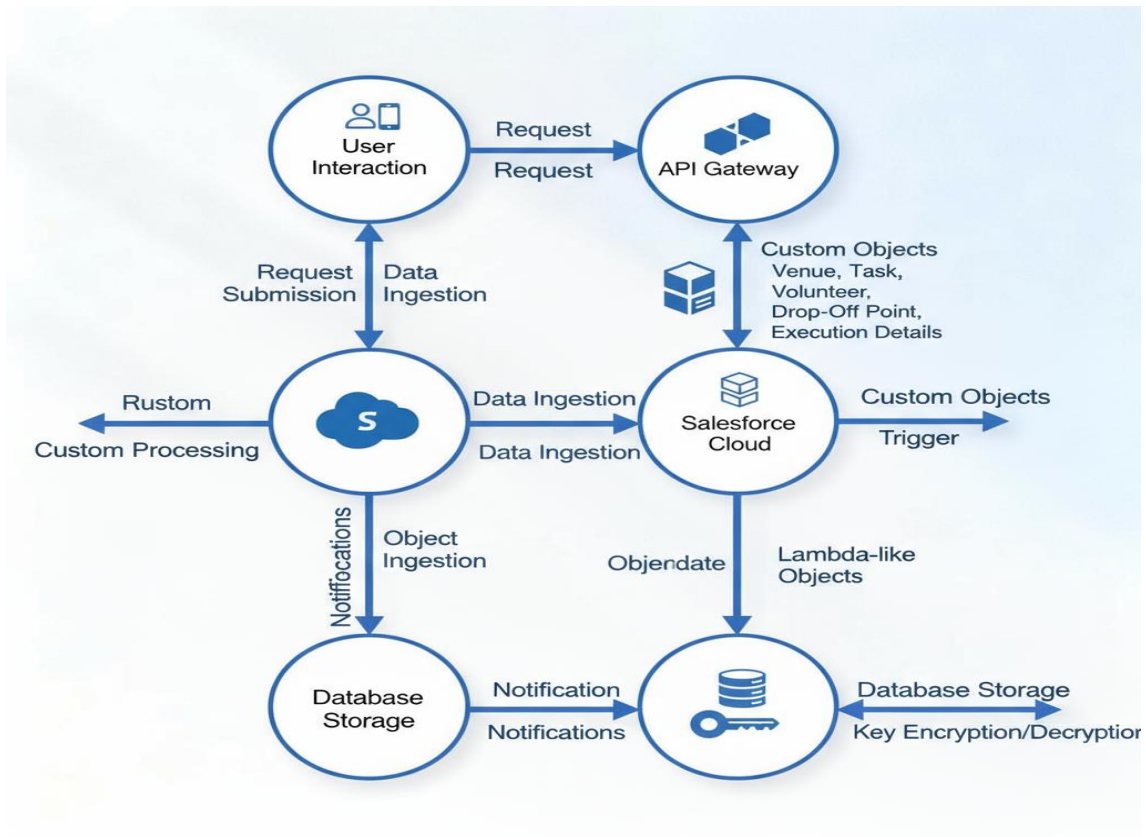
Development Phases:

8. Phase 1 – Setup: Developer Org creation and configuration.
9. Phase 2 – Data Model: Creation of core custom objects and relationship fields.
10. Phase 3 – Interface: Lightning App creation with navigation items and tabs.
11. Phase 4 – Automation: Implementation of Salesforce Flows and Apex Triggers.
12. Phase 5 – Visualization: Reports and Dashboards creation for analytical insights.
13. Phase 6 – Access Control: Setup of Profiles, Users, and Sharing Rules.
14. Phase 7 – Deployment: Custom Home Page integration and testing of final solution.

Solution Architecture Description:

The Salesforce-based architecture for the project 'To Supply Leftover Food to Poor' follows a modular and layered structure. The solution leverages Salesforce's multi-tenant cloud infrastructure, enabling scalability, real-time collaboration, and high availability. The system's front end is built using the Salesforce Lightning framework, offering an intuitive user experience. Data management is handled via custom objects interconnected through lookup and master-detail relationships.

Automations are achieved using Salesforce Flow Builder to handle record creation and updates, while Apex Triggers manage specific logic like distance calculation between venues and drop-off points. Reports and dashboards provide real-time insights into NGO activities, volunteer participation, and food distribution efficiency.

The security layer utilizes Salesforce profiles, roles, and public groups to ensure proper data access control. Finally, a custom home page integrates both dashboards and flows, allowing NGOs to interact with the system seamlessly. All data and functionalities are hosted on the Salesforce Cloud, ensuring reliability, performance, and transparency.

Reference:

https://developer.salesforce.com/