Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	03 -11-2025
Team ID	NM2025TMID05217
Project Name	To Supply Leftover Food to Poor
Maximum Marks	4 Marks

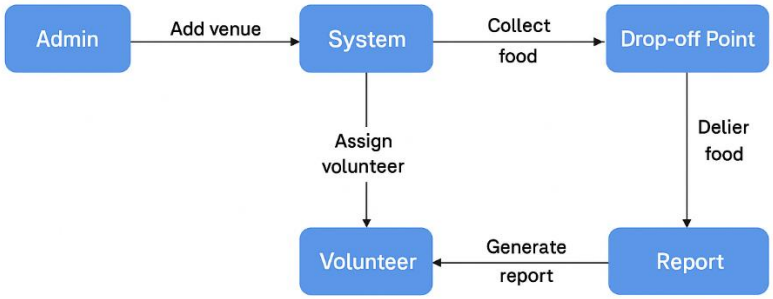
Technical Architecture:

The deliverable includes the architectural diagram and the corresponding component and characteristic details.
This architecture represents how Salesforce modules and integrations work together to manage food donation, collection, and distribution.

Example: Food collection and distribution management system using Salesforce for leftover food supply.

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

Table-1 : Components



Guidelines:

The architecture should include all major processes such as venue creation, volunteer assignment, food collection, delivery tracking, and report generation as key application logic blocks. It must clearly show the infrastructural separation between local operations like the user interface and the cloud-based Salesforce backend. External interfaces such as Google Maps API and notification services should be indicated for real-time communication and location tracking. Data storage components like the Salesforce Cloud Database and file storage for reports must be represented. The diagram should also depict how different modules interact within the system. Additionally, an optional integration with machine learning models can be shown to predict high-demand food distribution areas, enhancing future decision-making and efficiency.

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Technologies:

S.No	Component	Description	Technology
1.	User Interface	Admin interacts through Salesforce Lightning dashboard to manage venues, volunteers, and drop-off points.	Salesforce Lightning Web UI
2.	Application Logic-1	Handles venue registration and volunteer assignment through Flows and custom objects.	Salesforce Flow Builder, Apex Triggers
3.	Application Logic-2	Manages food collection and delivery tracking across drop-off points.	Process Builder, Apex Classes

4.	Application Logic-3	Generates reports and dashboards for donation tracking and analytics.	Salesforce Reports & Dashboards
5.	Database	Stores venue, volunteer, and drop-off data.	Salesforce Standard & Custom Objects
6.	Cloud Database	Managed under Salesforce cloud backend for scalable data access.	Salesforce Cloud (SaaS)
7.	File Storage	Used for storing generated reports or images of donation events	Salesforce File Storage
8.	External API-1	Integrates Google Maps API to track venue and drop-off point locations.	Google Maps API
9.	External API-2	Optional integration with NGO portals or community apps.	REST API (Salesforce Integration)
10.	Machine Learning Model	Optional future module for predicting food demand areas.	Einstein Analytics (Optional)
11.	Infrastructure (Server / Cloud)	Entire system is hosted and managed on Salesforce Cloud.	ServiceNow Cloud (SaaS)

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology

1.	Open-Source Frameworks	Salesforce platform uses proprietary cloud framework.	-
2.	Security Implementations	Role-based access control for admin and volunteer users; field-level security applied.	Salesforce Security Model, Profiles & Roles
3.	Scalable Architecture	Cloud-based architecture that scales horizontally with data and user volume.	Salesforce Multi-Tenant Cloud
4.	Availability	99.9% uptime through Salesforce's global infrastructure.	Load-balanced Salesforce Instances
5.	Performance	Optimized using automation tools, indexed queries, and cached reports.	Apex, Process Builder, Data Caching