

Application to Manage Surplus Food Distribution using Salesforce CRM (Developer)

1. Project Overview

FoodConnect is a cloud-based Salesforce application designed to streamline and automate the process of surplus food collection, volunteer coordination, and delivery to beneficiaries. It centralizes the management of venues (food donors), drop-off points, tasks, volunteers, and execution tracking. With Salesforce CRM, NGOs and coordinators can efficiently assign volunteers, track donation points, automate scheduling, and generate real-time operational insights.

This system replaces manual, paper-based processes with an automated, user-friendly, and scalable platform.

- Key Highlights:
- Centralized management of venues, volunteers, and tasks.
- Real-time dashboards for drop-off locations, distances, and volunteer assignments.
- Role-based security for Admin, NGO Managers, and Volunteers.
- Automated workflows for task assignment, execution logging, and distance-based sharing rules.

2. Objectives

The primary objectives of developing the FoodConnect CRM application are:

1. Streamline venue, drop-off point, and volunteer management by maintaining accurate records in Salesforce.
2. Automate task creation, execution logging, and distance calculation.
3. Provide management with real-time dashboards for monitoring volunteer activity and delivery performance.
4. Reduce coordination delays, improve task efficiency, and ensure timely food delivery to beneficiaries.
5. Create a scalable system that can integrate with geolocation services and mobile apps in the future.

3. Phase 1: Requirement Analysis & Planning

3.1 Understanding Business Requirements:

- Track venue details, drop-off points, and volunteer assignments.
- Allow coordinators to log tasks and executions quickly.
- Generate real-time dashboards for managers to plan delivery routes.

3.2 Project Scope and Objectives:

Develop a Salesforce CRM app with Venue, Drop-Off Point, Task, Volunteer, Execution, and Execution Details modules.

Implement automation using Flows, Process Builder, and Apex Triggers.

Provide role-based access and secure data sharing.

3.3 Data Model & Security Model:

- Custom Objects:
 - Venue (Stores donor and location details)
 - Drop-Off Point (Tracks delivery locations and distances)
 - Task (Defines delivery activities)
 - Volunteer (Stores volunteer profiles and availability)
 - Execution & Execution Details (Logs task execution details)

Security Setup:

- Admin: Full access to all modules.
- NGO Manager: Assign tasks, view analytics, approve critical operations.
- Volunteer: View assigned tasks and log execution details.

4. Phase 2: Salesforce Development - Backend & Configurations

4.1 Environment Setup:

Created Developer Org and set up the FoodConnect Lightning App.

Defined DevOps workflow for future deployments using change sets.

4.2 Backend Customization:

Created custom objects: Venue, Drop-Off Point, Task, Volunteer, Execution, Execution Details.

Added fields like Contact Email, Phone, Geolocation, Distance, Food Category, Rating, Feedback.

Created relationship fields: Lookup and Master-Detail relationships between objects.

Validation rules to ensure required fields are filled and correct formats are used.

Process Builder & Flows to auto-create venue records and assign tasks.

4.3 Automation:

Trigger to copy calculated distance to Distance field for sharing rules.

Email alerts for task assignments and volunteer reminders.

Distance-based sharing rules for assigning drop-off points to NGOs.

5. Phase 3: UI/UX Development & Customization

Created a custom Lightning App named 'FoodConnect' with intuitive navigation.

Designed page layouts and dynamic forms for Venues, Tasks, and Drop-Off Points.

Added related lists for volunteer history and task execution tracking.

Developed dashboards for Venue & Drop-Off Points Overview and Volunteer Task Summary.

Created Lightning Pages for managers to quickly assign tasks and view reports.

Integrated Venue Form Flow into Lightning Home Page.

6. Phase 4: Data Migration, Testing & Security

6.1 Data Migration:

Imported sample venue, volunteer, and drop-off point data using Data Import Wizard.

6.2 Testing:

- Created test cases for:
 - Task creation and volunteer assignment.
 - Distance calculation and sharing rule assignment.
 - Execution detail logging and reporting.
 - Apex test classes for triggers.

6.3 Security:

Implemented role hierarchy for Admin, NGO Manager, and Volunteer profiles.

Applied field-level security, permission sets, and sharing rules.

7. Phase 5: Deployment, Documentation & Maintenance

Deployed the application to production using Change Sets.

Documented all objects, relationships, flows, triggers, and dashboards.

Set up monitoring dashboards for task completion rates and delivery performance.

Provided training material for NGO staff and volunteers.

8. Conclusion & Future Enhancements

FoodConnect successfully automates volunteer coordination, venue management, and task execution tracking. It reduces delays, ensures accurate assignment of delivery points, and provides real-time visibility for NGO managers.

- Future Enhancements:
 - Integrate GPS tracking for live volunteer location updates.
 - Launch a mobile app for volunteer task access and execution logging.
 - Implement AI-powered route optimization and food demand prediction.