Project Report

Title:

Salesforce-Based Food Donation Management System — "Apply Leftover Food to Poor"

1. Abstract

This project aims to develop a Salesforce-based application to connect food donors (such as restaurants, hostels, and event organizers) with NGOs and volunteers who distribute leftover food to the needy. The system ensures that surplus food is not wasted and is efficiently redirected to people in need. The application automates donor registration, food collection requests, NGO coordination, and delivery tracking through the Salesforce platform. Using Salesforce's CRM capabilities, the solution provides transparency, accountability, and real-time monitoring of donations.

2. Introduction

Food wastage is a major social and environmental issue. Every day, large quantities of food are discarded by restaurants, canteens, and households, while millions of people go hungry.

This project uses Salesforce CRM to create a centralized platform that brings together donors, NGOs, and volunteers. The system simplifies the process of donating leftover food by using Salesforce objects, automation, workflows, and dashboards to track the food flow from donor to recipient.

3. Objectives

- To reduce food wastage and help the poor by managing surplus food efficiently.
- To provide an easy-to-use Salesforce application for food donors and NGOs.
- To automate donation requests, approvals, and delivery tracking.
- To maintain real-time data on available food and beneficiaries.
- To generate reports and dashboards for impact analysis and transparency

4. System Requirements Hardware

Requirements

Processor: Intel i3 or above

RAM: 4 GB minimum

Storage: 20 GB free space

Internet connection

Software Requirements

- Salesforce Developer Account (https://developer.salesforce.com)
- Web Browser (Chrome/Edge/Firefox)
- Basic knowledge of Apex, Lightning App Builder, and Flow

5. Modules of the System

User Management Module

- Registers and manages three types of users: Donors, NGOs, and Volunteers.
- Uses Salesforce roles and profiles for access control.
 Food Donation Module
- Donors submit details of leftover food (type, quantity, location).
- Automatic creation of a Food Donation record in Salesforce.

NGO Allocation Module • System matches donations to nearby NGOs based on location and need.

 Uses Salesforce Flow or Apex Trigger for automatic allocation.

Volunteer Assignment Module

- Assigns volunteers to collect and deliver food.
- Volunteers update status via Salesforce Mobile App.

Tracking and Reporting Module

- Tracks donation lifecycle (Donated Collected → Delivered).
- Generates dashboards showing total donations, donors, and beneficiaries

6. Technologies Used

- Salesforce CRM Platform Apex Classes and Triggers
- Lightning App Builder
- Salesforce Flow and Process Builder
- Salesforce Reports & Dashboards

7. System Design

ER Diagram (Conceptual Flow)

Donor — 5 Food Donation NGO Volunteer Beneficiary

Salesforce Objects

Donor_c

Stores donor details

NGO c

Stores NGO details

Food_Donation_c

Contains food item info

Volunteer__c

Tracks volunteer availability

Delivery_c

Records delivery updates

8. Workflow Description

- Donor creates a food donation record.
- Salesforce Flow checks for nearby NGOs.
- NGO receives automatic notification (email alert).
- Volunteer is assigned to collect food.
- Delivery is confirmed, and record is marked "Completed." • Reports and dashboards show metrics like:
- Total Donations
- Total Beneficiaries Served
- Food Collected vs. Delivered

9. Expected Outcomes

- Efficient management of leftover food through Salesforce automation.
- Easy coordination between donors, NGOs, and volunteers.
- Reduced food wastage and increased social impact.
- Data-driven transparency with dashboards and reports.

10. Advantages

- Cloud-based (accessible from anywhere).
- No need for separate infrastructure.
- Automated workflows reduce manual effort.
- Real-time visibility and accountability

11. Future Enhancements

- Integration with Google Maps API for real-time location tracking.
- SMS/WhatsApp notification for donors and volunteers.
 Al-based prediction of high-demand areas for food distribution.
- Mobile-first responsive Lightning App.

12. Conclusion

This Salesforce-based Food Donation Management System demonstrates how CRM technology can be applied to social good. By connecting food donors with NGOs and volunteers, it minimizes wastage and ensures that food reaches those who need it most. The solution's scalability, automation, and

cloud features make it a sustainable approach to fighting hunger.

13. References

- Salesforce Developer Documentation https:// developer.salesforce.com/docs
- Salesforce Trailhead Modules on Flow, Apex, and Lightning App Builder.
- UN Food Waste Report 2024 World Food Programme.
 - NGO Coordination Guidelines, Government of India.

Project steps

Step 2: Create a New App

- 1. Navigate to Setup App Manager New Lightning App.
- 2. App Name: Food Donation Management
- 3. Description: "A Salesforce app to manage leftover food donations for the poor."
- 4. Choose Lightning Experience Navigation Style.
- 5. Add custom objects and tabs (created later).
- 6. Save and open the app in App Launcher.

Step 3: Create Custom Objects

You'll need several objects to store data.

	Go to Setup	Object Manager Create	Custom Object.
	Object Name	API Nat-ne	Purpose
	Donor	Donor_c	To store donor details
	NGO	NGO_c	To store NGO details
	Food Donation	Food_Donation C	To record donated food items
	Volunteer	Volunteer_c	To manage volunteer details
	Delivery	Delivery_c	To track pickup and delivery statu
•	Enable: "Allow	Reports," "Allow Activities,	" and "Track Field History" for each object

Step 4: Create Fields for Each Object

Donor c

- Donor Name (Text)
- Contact_Number (Phone)
- Email (Email)
- Address (Text Area)

NGO_c

- NGO_Name (Text)
- Contact Person (Text)
- Phone (Phone)
- Location (Text)
- Capacity (Number)

Food_Donation—C

- Donor (Lookup Donor_c)
- Food_Type (Picklist: Cooked, Packed, Bakery, Fruits, etc.)
- Quantity (Number)
- Location (Text)
- Status (Picklist: New, Assigned, Picked Up, Delivered)
- Assigned NGO (Lookup NGO c)

Volunteer c

- Volunteer_Name (Text)
- Phone (Phone)
- Assigned Area (Text) Availability (Checkbox) Delivery c
- Food Donation (Lookup Food Donation c)
- Volunteer (Lookup Volunteer_c)
- Pickup Time (Date/Time)
- Delivery_Time (Date/Time)
- Status (Picklist: Pending, Completed)

Step 5: Create Relationships

- In Food Donation c, create a Lookup Relationship to Donor and NGO.
- In Delivery_c, create Lookup Relationships to Food_Donation and Volunteer.
- This ensures connected records and clear tracking from donor foodl NGO →delivery.

Step 6: Create Tabs for Custom Objects

- 1. Go to Setup Tabs New Custom Object Tab.
- 2. Select each custom object (Donor, NGO, Food Donation, Volunteer, Delivery).
- 3. Choose an icon and assign to your Food Donation Management app.

Step 7: Create Lightning Record Pages

1. Open each object Lightning Record Pages New Page.

- 2. Customize layout with fields and related lists (using Lightning App Builder).
- 3. Example: On the Food Donation record page, show related NGO and Delivery info.

Step 8: Automate Workflow (Using Salesforce Flow or Process Builder)

Option 1: Salesforce Flow

- Trigger: When a new Food Donation record is created.
- Action:
- Auto-assign nearby NGO (based on Location or Availability).
- Change Status field to "Assigned."
- Send an Email Alert to NGO contact.

Option 2: Process Builder (Simpler Option)

- Object: Food_Donation_c
- Criteria: [Status = New]
- Actions:
- Update field Assigned NGO.
- Send Email Alert to NGO.

Step 9: Create Validation Rules

To maintain data accuracy:

- Example: On Food_Donation c , ensure Quantity > O.
- Example: On Volunteer_c , ensure phone number is filled if Availability = TRUE.

Step 10: Create Reports and Dashboards

- 1. Go to Reports New Report.
 - Example Reports:
 - "Total Food Donations by Donor"
 - "Donations Delivered This Week"
 - "Active NGOs by Location"
- 2. Go to Dashboards New Dashboard.
 - Add charts like: Pie chart (Donations by Type), Bar chart (Deliveries Completed).

Step 11: Test the System

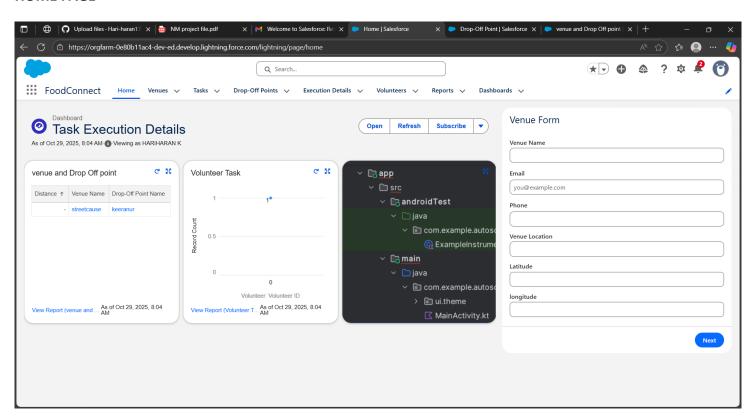
- 1. Log in as Admin create sample Donor, NGO, and Volunteer records.
- 2. Create a new Food Donation record.
- 3. Verify that NGO and Volunteer are auto-assigned.
- 4. Check that workflow sends email and updates status.
- 5. Run reports and view dashboards.

Step 12: Deploy or Share

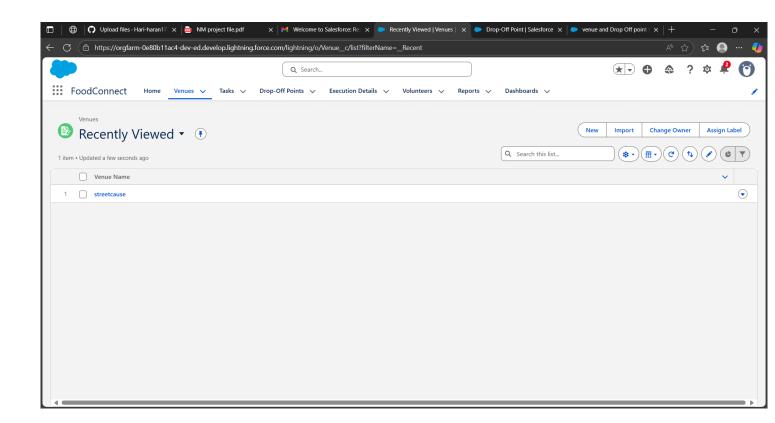
- Keep it in Developer Org for demo and submission.
- Optionally, you can export the app using Change Sets or Salesforce CLI.
- Share access with your instructor using Read-Only profile or demo login.

Step 13: Documentation & Screenshots

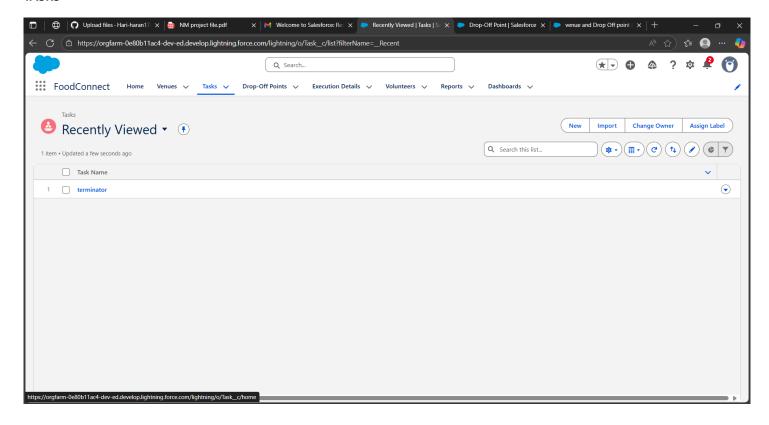
HOME PAGE



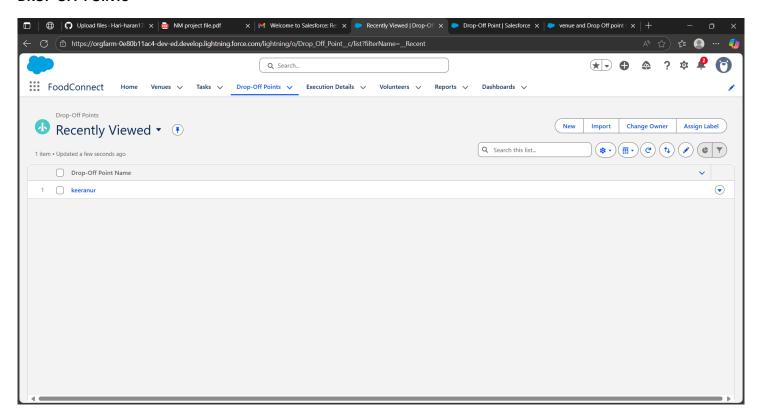
VENUES



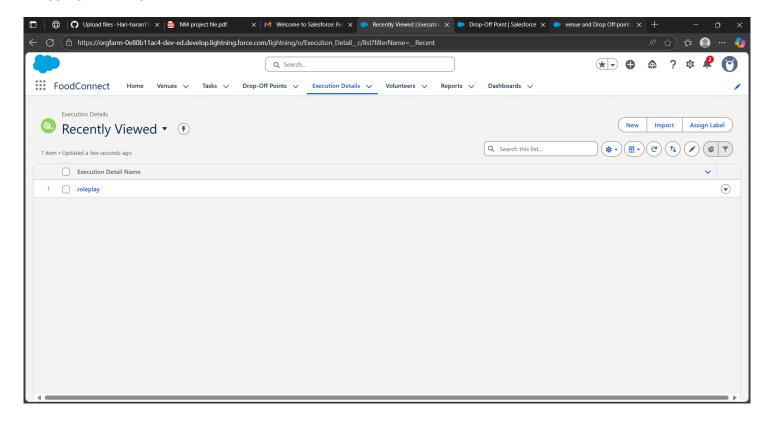
TASKS



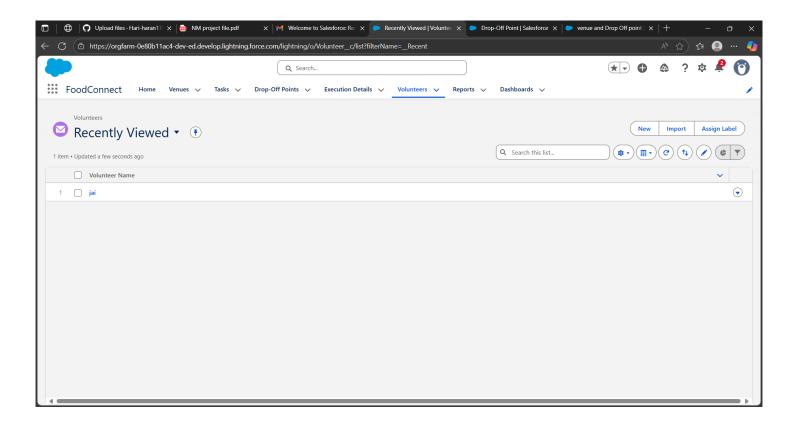
DROP-OFF POINTS



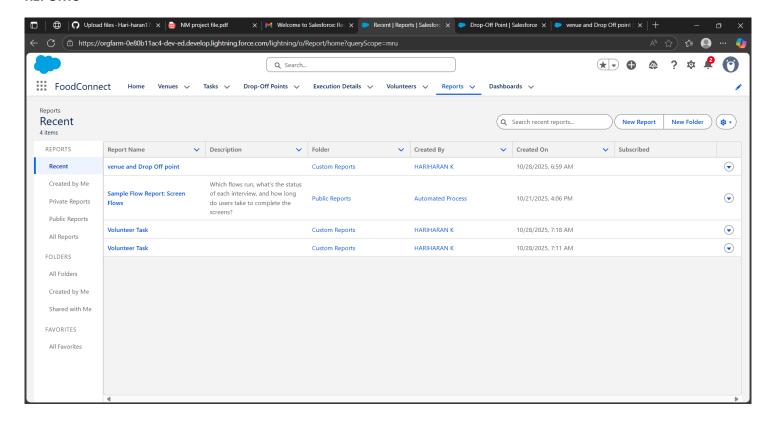
EXECUTION DETAILS



VOLUNTEERS



REPORTS



DASHBOARDS

