

NAAN MUDHALVAN PROJECT REPORT

SB8067- SALESFORCE DEVELOPER

“APPLY LEFTOVER FOOD TO POOR“

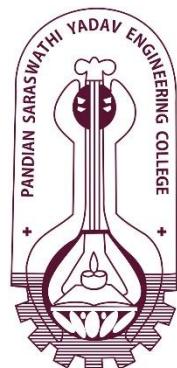
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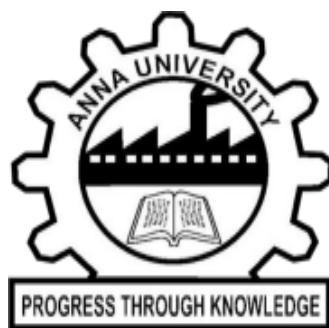
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BONAFIDE CERTIFICATE

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ACKNOWLEDGEMENT

First of all, I thank God Almighty for His wisdom and His substantial blessings by which I have been able to complete my project successfully.

I would like to express my sincere thanks and gratitude to our beloved Founder **“Hind Rattan Mr. Malaysia S.Pandian”** of our college for his support.

I express my thanks to our beloved Managing Director **Er.S.P.Varadharajan,B.E.,** of our college, for his support. My special thanks to our principal **Dr.P.Raveendran,M.E.,Ph.D.,** for permitting us to undertake this project.

I am also grateful to our Head of Department **Mrs.D.Vanathi,M.Tech.,** Department of Computer Science and Engineering and my project supervisor **Mrs.T.Jeeva Bharathi,M.E.,** Department of Computer Science and Engineering for making available excellent infrastructure that has enabled us to the completion of the project and also for providing the great opportunity to pursue this project and guided us at every stage of our project to make it a successful one.

I am grateful to express our gratitude to our family members and friends for their support and effort in encouraging me to complete this project in an efficient manner.

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TABLE OF CONTENTS:

S.NO	TITLE	PG.NO
1.	Abstract	1
2.	Introduction	2
3.	Objectives	3
4.	System Requirements 4.1:Hardware Requirements 4.2:Software Requirements	3
5.	Modules of the System	4
6.	Technologies Used	5
7.	System Design	5
8.	Workflow Description	6
9.	Implemented Steps	7
10.	Expected Outcomes	17
11.	Advantages	17
12.	Future Enhancements	18
13.	Conclusion	18
14.	References	19

1. ABSTRACT

The project “**Apply Leftover Food to Poor**” developed using **Salesforce** is a cloud-based system designed to collect, manage, and distribute surplus food from individuals, restaurants, and events to those in need. This project aims to minimize food wastage while ensuring timely delivery to underprivileged people through a transparent and traceable process.

Using Salesforce’s CRM and automation capabilities, the system maintains donor details, food collection records, delivery requests, and volunteer tracking. The platform integrates standard and custom objects, validation rules, flows, and dashboards to automate the workflow — from food donation registration to delivery confirmation.

By leveraging Salesforce’s secure and scalable cloud infrastructure, the project provides real-time updates on available food stock, pickup schedules, and delivery status. Automation ensures that food is collected and distributed efficiently, reducing manual effort and improving accountability.

Ultimately, this system promotes social responsibility by connecting donors, volunteers, and beneficiaries through technology — making the process of applying leftover food to the poor more systematic, reliable, and impactful.

2. INTRODUCTION

Food wastage is a global issue that coexists with hunger. Large quantities of edible food are discarded daily by households, restaurants, and events, while millions suffer from food insecurity. The “**Apply Leftover Food to Poor**” project seeks to bridge this gap by developing a Salesforce-based cloud application that connects food donors and distribution volunteers in an efficient network.

Salesforce, a leading CRM platform, enables efficient management of data, users, and workflows in a secure cloud environment. Through Salesforce’s low-code tools, this project automates donor registration, food request tracking, pickup scheduling, and reporting.

The application is designed for NGOs, community kitchens, and volunteers who coordinate the collection and distribution of surplus food. It allows donors to register leftover food details, volunteers to confirm pickups, and recipients to acknowledge deliveries. Managers can monitor all operations through reports and dashboards for complete transparency.

To begin, a **Salesforce Developer Org** is created at <https://developer.salesforce.com/signup>. Custom objects like “Donor,” “Food Collection,” “Delivery,” and “Feedback” are created using **Object Manager**. Each object is configured with relationships, validation rules, and automation flows.

This system replaces manual coordination with a cloud-based, automated model — ensuring that leftover food reaches the needy safely and efficiently.

3. OBJECTIVES

The main objectives of the project are:

- To create a Salesforce-based application for managing surplus food collection and distribution.
- To automate workflows for donor registration, food pickup, and delivery confirmation.
- To ensure transparency and accountability in food distribution using reports and dashboards.
- To utilize validation and matching rules for data integrity and error-free record management.
- To reduce manual coordination and improve efficiency using Salesforce Flows and Apex automation.
- To promote a sustainable and humanitarian approach to leftover food management

4. SYSTEM REQUIREMENTS

4.1 HARDWARE REQUIREMENTS:

- Processor: Intel Core i5 or equivalent
- RAM: 8 GB or higher
- Storage: 256 GB SSD or more
- Internet: Stable high-speed connection

4.2 SOFTWARE REQUIREMENTS:

- Operating System: Windows 10/11, macOS, or Linux
- Salesforce Platform: Developer Edition (free signup)
- Browser: Chrome or Edge (latest version)
- No local installations required; Salesforce is entirely cloud-based

5. MODULES OF THE SYSTEM:

The project consists of the following Salesforce modules:

1. Donor Module:

Manages donor information including name, contact number, address, and food type. Duplicate rules ensure no duplicate donor entries.

2. Food Collection Module:

Tracks details of donated food (quantity, category, expiry time) and schedules pickups. Validation rules ensure the food is safe for delivery within valid time.

3. Volunteer Module:

Assigns volunteers to collect and deliver food. Lookup relationship connects volunteers to food collection records.

4. Delivery Module:

Tracks distribution details — delivery date, recipient location, and delivery status (Pending, Completed). Automation updates records on completion.

5. Feedback Module:

Collects ratings and suggestions from donors and recipients to improve service quality

6. TECHNOLOGIES USED

1. **Salesforce Platform:** For building the CRM-based cloud application.
2. **Apex Triggers:** Used to automate calculations such as assigning volunteers and updating delivery status.
3. **Flows:** For automating notifications, field updates, and data synchronization.
4. **Validation Rules:** To ensure correct data entry (e.g., valid food expiry time).
5. **Reports and Dashboards:** For monitoring donations, deliveries, and volunteer performance.
6. **Email Alerts:** Automatically notify donors and volunteers of food pickup and delivery completion.

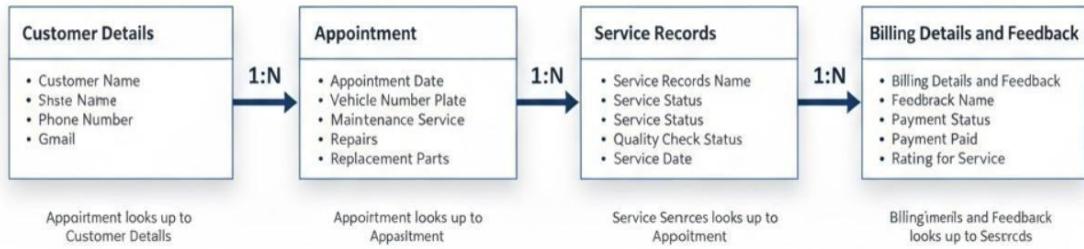
7. SYSTEM DESIGN

ER DIAGRAM

Entity–Relationship (ER) Diagram:

- **Donor → Food Collection:** One donor can contribute multiple food donations.
- **Food Collection → Volunteer:** Each collection is assigned to a specific volunteer.
- **Volunteer → Delivery:** A volunteer can handle multiple deliveries.
- **Delivery → Feedback:** Each delivery is followed by a feedback entry.

This relational model ensures complete data traceability across the system.



8. WORKFLOW DESCRIPTION

- **Donor Registration:**

Donors register food details through a form (food name, quantity, expiry time, pickup address).

- **Food Collection Scheduling:**

System automatically assigns an available volunteer using an Apex trigger based on location and availability.

- **Pickup and Delivery:**

Volunteers collect the food and mark the status as “Picked Up.” Upon delivery, they update the record to “Delivered.”

- **Notification System:**

Automated email alerts are sent to donors confirming food collection and delivery.

- **Feedback Submission:**

After successful delivery, recipients or donors provide feedback through a Salesforce form.

- **Reporting:**

Managers can track real-time statistics like total food collected, total deliveries, and donor participation through dashboards.

9. IMPLEMENTED STEPS

1. Creating Developer Account:

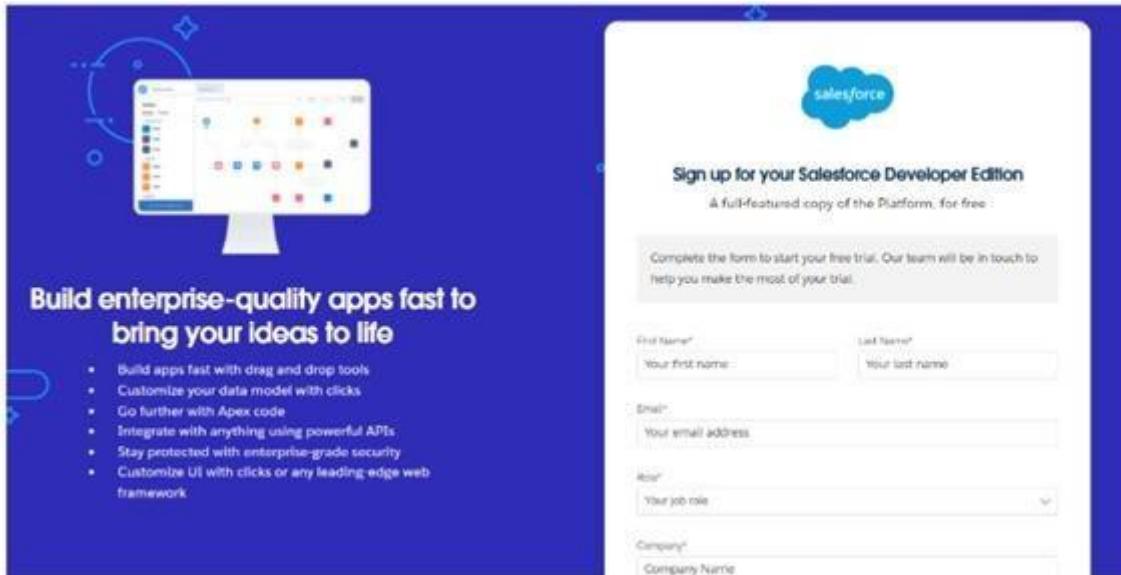


Fig:1.1 Developer Account

2. Account Activation:



Fig:2.1 Verifying Account

3. Object Creation:

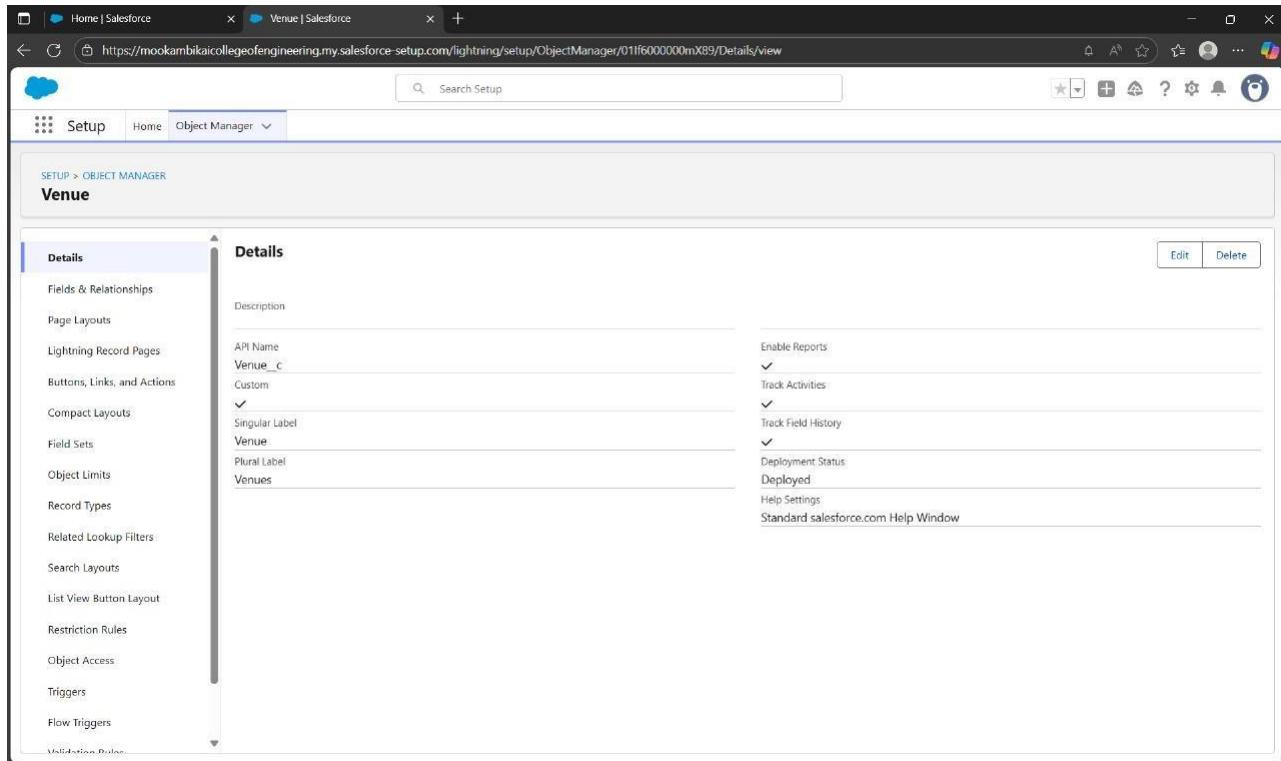


Fig :3.1 Creation of Venue details Object

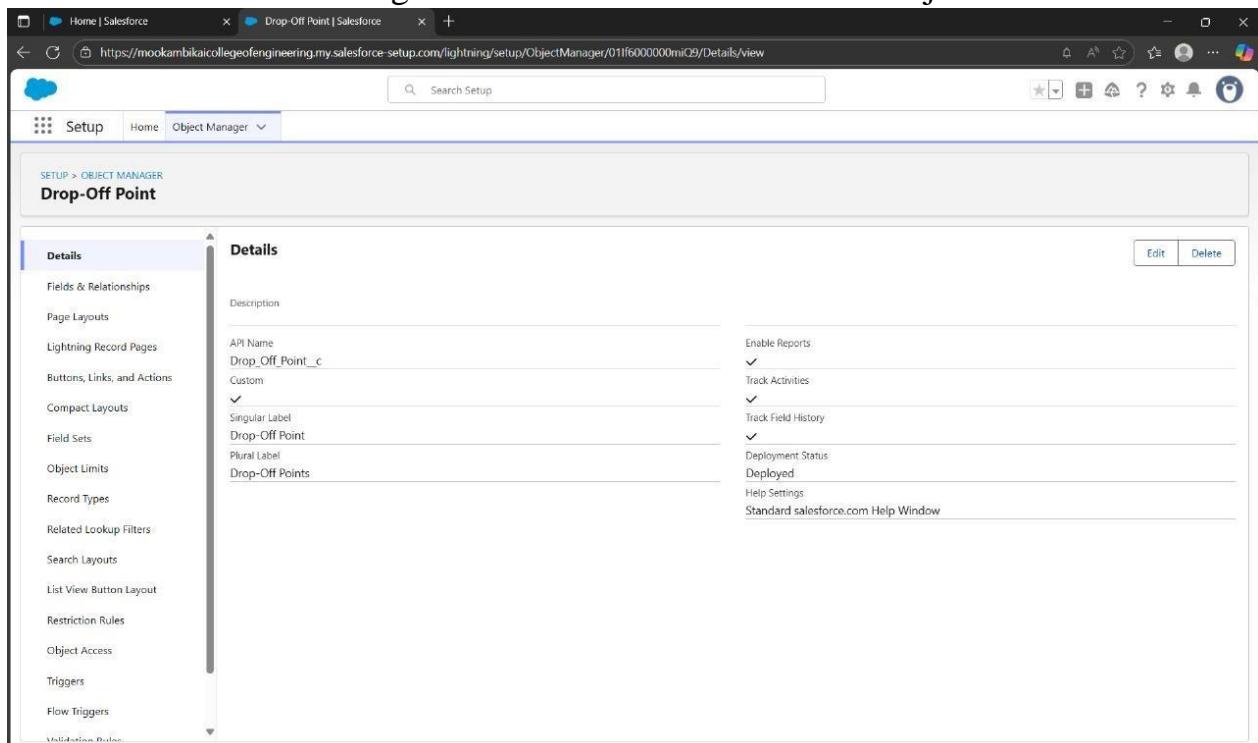


Fig :3.2 Creation of Drop off point Object

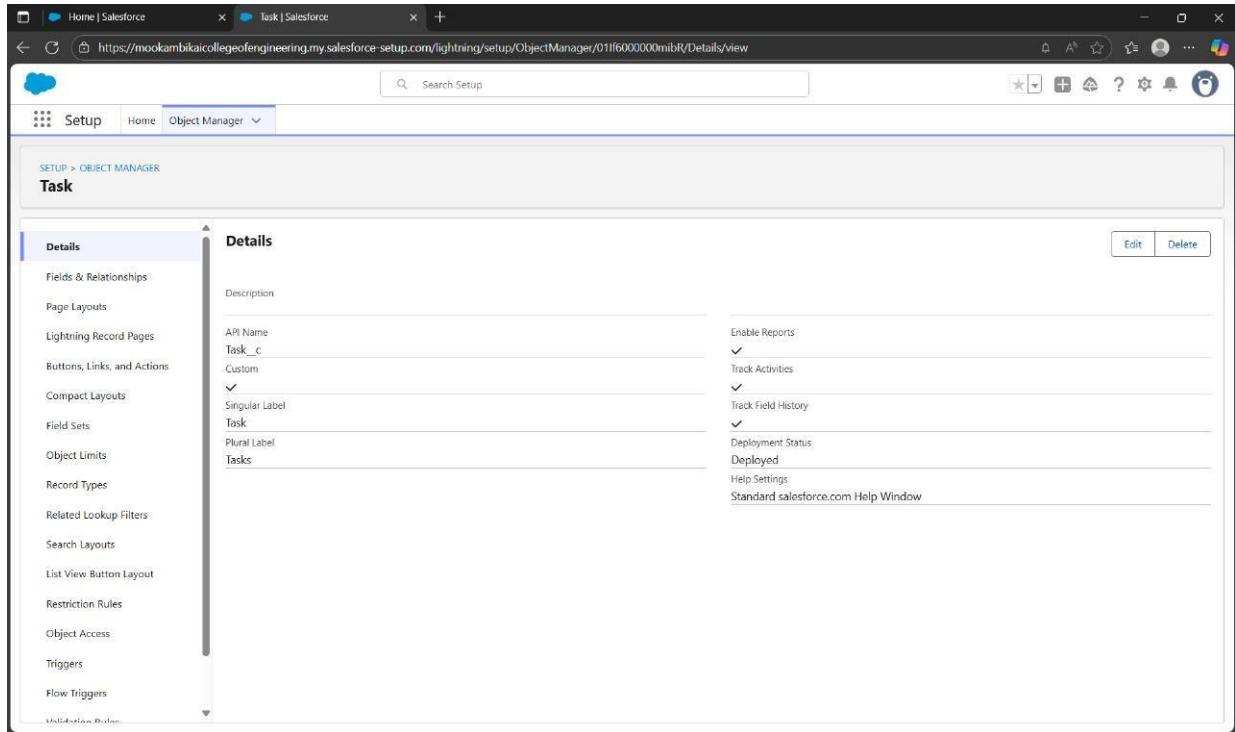


Fig :3.3 Creation of Task records Object

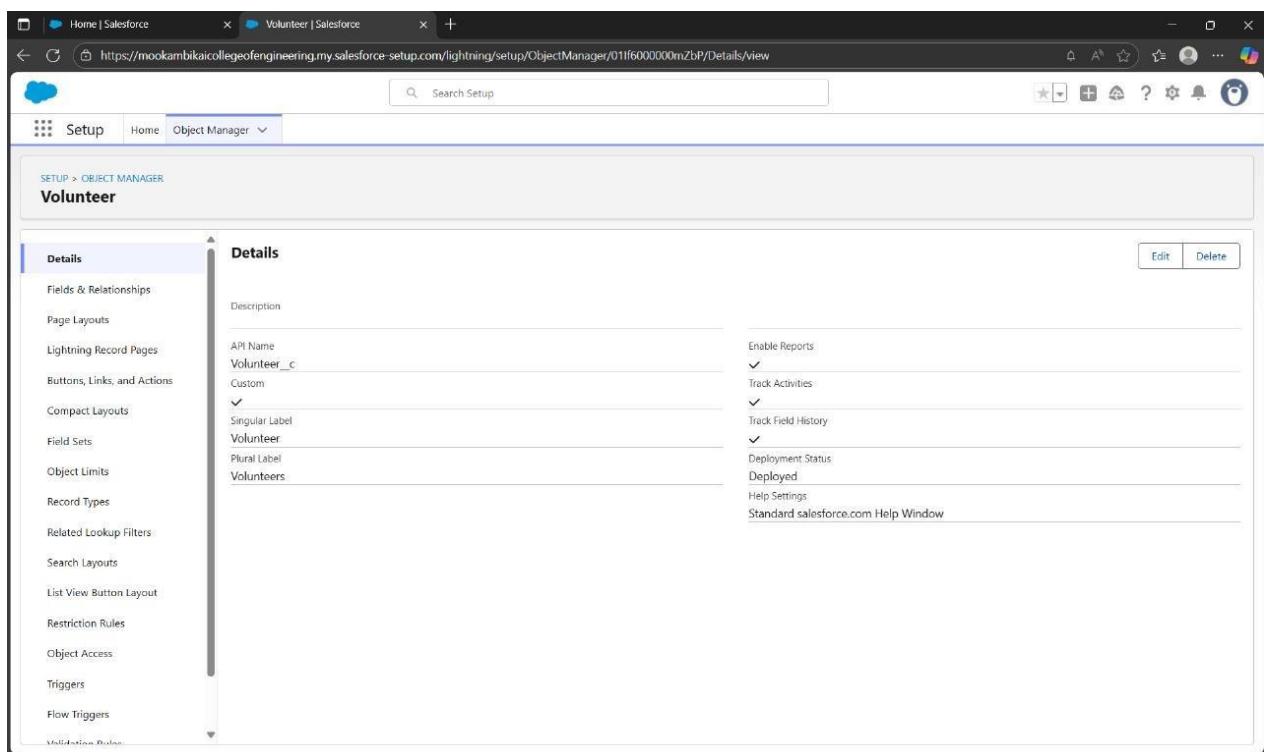


Fig :3.4 Creation of Volunteer details Object

4. Tabs:

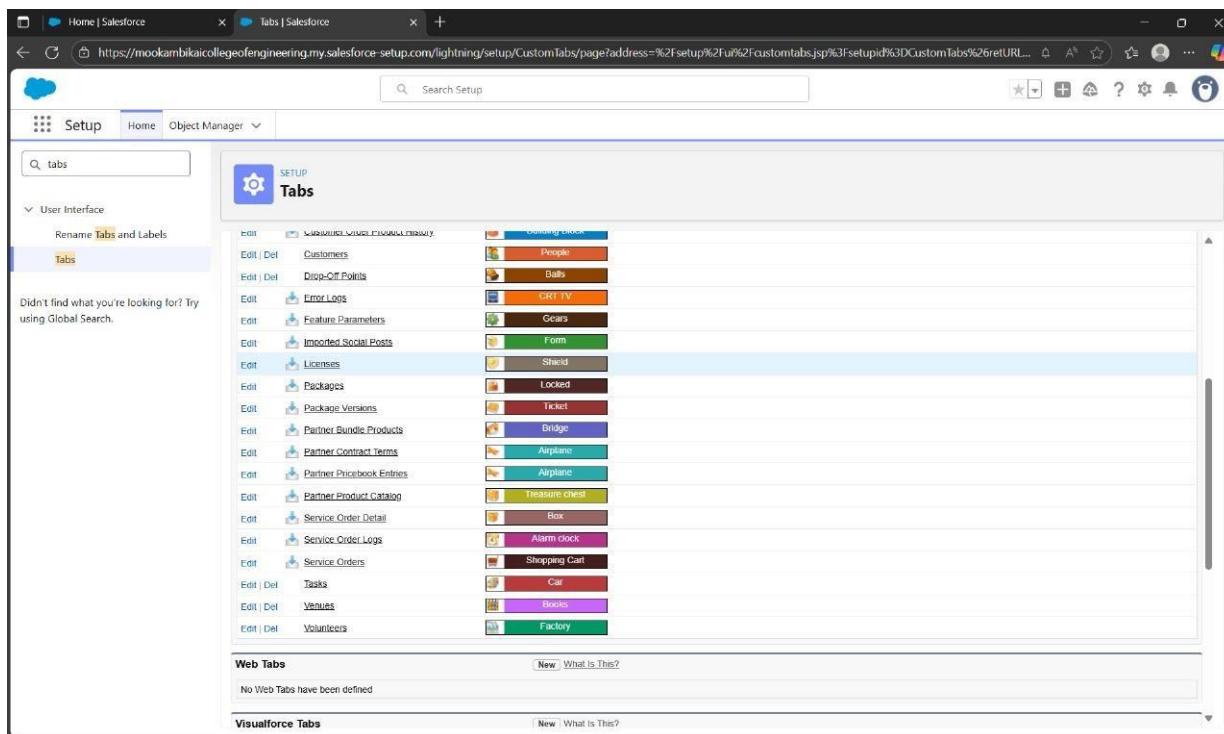


Fig :4.1 Creation of a Custom Tab

5. The Ligthning App:

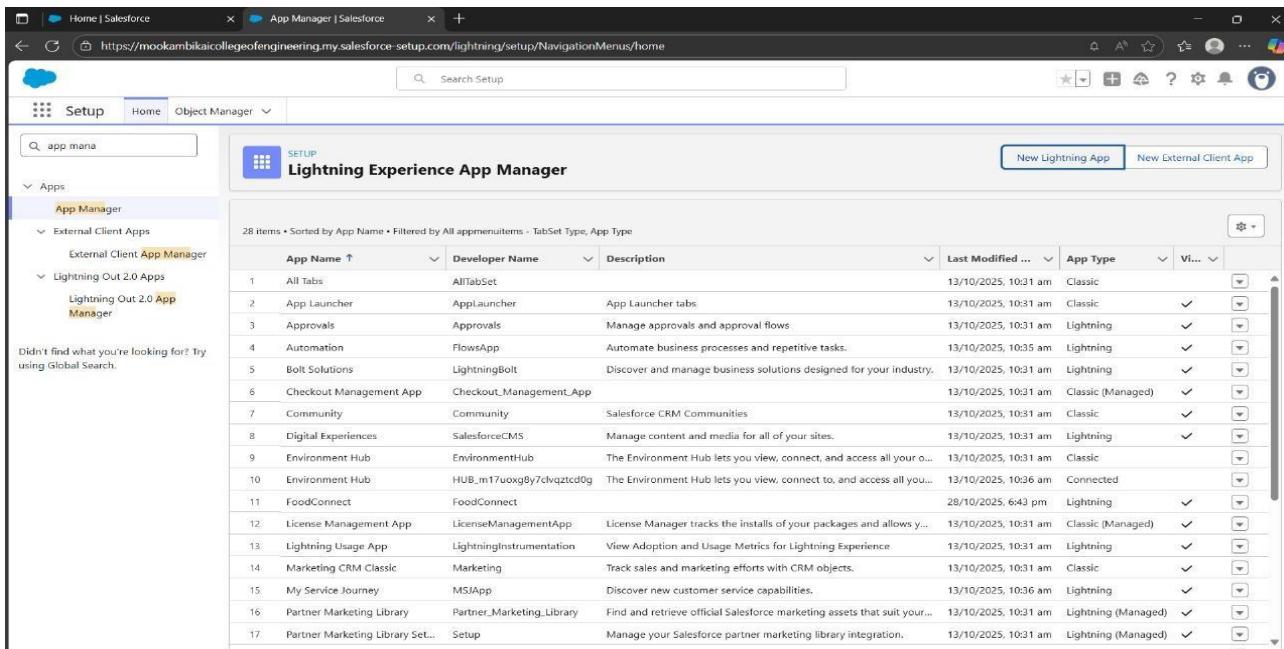


Fig :5.1 Leftover Food To Poor Application

6. Fields:

The screenshot shows the Salesforce Setup interface for the 'Volunteer' object. The left sidebar lists various setup categories like Page Layouts, Lightning Record Pages, and Field Sets. The main area is titled 'Fields & Relationships' and displays 13 items. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are: Address (Address_c, Long Text Area(32768)), Age (Age_c, Number(18, 0)), Available On (Available_On_c, Date), Contact Number (Contact_Number_c, Number(18, 0)), Created By (CreatedByld, Lookup(User)), Date of Birth (Date_of_Birth_c, Date), Drop-Off point (Drop_Off_point_c, Master-Detail(Drop-Off Point)), Email (Email_c, Email), Execution ID (Execution_ID_c, Auto Number (External ID)), Gender (Gender_c, Picklist), and Last Modified By (LastModifiedByld, Lookup(User)).

Fig :6.1 Creation of fields for the Customer Details object

The screenshot shows the Salesforce Setup interface for the 'Drop-Off Point' object. The left sidebar lists various setup categories. The main area is titled 'Fields & Relationships' and displays 9 items. The table columns are FIELD LABEL, FIELD NAME, DATA TYPE, CONTROLLING FIELD, and INDEXED. The fields listed are: Created By (CreatedByld, Lookup(User)), Distance (Distance_c, Number(14, 4)), distance calculation (distance_calculation_c, Formula (Number)), Drop-Off Point Name (Name, Text(80)), Last Modified By (LastModifiedByld, Lookup(User)), Location 2 (Location_2_c, Geolocation), Owner (Ownerid, Lookup(User,Group)), State (State_c, Picklist), and Venue (Venue_c, Lookup(Venue)).

Fig :6.2 Creation of fields for the Appointments object

The screenshot shows the Salesforce Object Manager interface for the 'Venue' object. The left sidebar lists various setup options under 'Fields & Relationships'. The main area displays a table of fields:

FIELD LABEL	FIELD NAME	DATA TYPE	CONTROLLING FIELD	INDEXED
Contact Email	Contact_Email__c	Email		
Contact Phone	Contact_Phone__c	Phone		
Created By	CreatedById	Lookup(User)		
Last Modified By	LastModifiedById	Lookup(User)		
Location	Location__c	Geolocation		
Owner	OwnerId	Lookup(User,Group)		✓
Venue Location	Venue_Location__c	Long Text Area(32768)		
Venue Name	Name	Text(80)		✓

Fig :6.3 Creation of fields for the contact records object

7. FLOW:

The screenshot shows the FoodConnect application interface for creating a flow named 'Venue Form'. The top navigation bar includes links for Home, venues, Tasks, Drop-Off Points, Execution Details, Volunteers, Reports, Dashboards, and a 'Venue' link.

Flow Details:

- Type: Associated Record
- Progress Status: Activated
- Last Modified Date: 10/28/2025, 8:12 AM
- Flow Owner: Chellappan.s

Information:

Flow Label	API Name
Venue Form	Venue_Form
Description	Flow Type
Associated Record	Screen Flow
Created By	Segment
Chellappan.s, 10/27/2025, 11:37 AM	Created Date
Last Modified	10/27/2025, 11:37 AM
Chellappan.s, 10/28/2025, 8:12 AM	Last Modified Date
Category	Subcategory

Fig :7.1 create venue flow

8. Trigger:

The screenshot shows the Salesforce Object Manager interface. The top navigation bar says "SETUP > OBJECT MANAGER". Below it, the title "Drop-Off Point" is displayed. On the left sidebar, there are several options: "Details", "Fields & Relationships", "Page Layouts", "Lightning Record Pages", and "Buttons, Links, and Actions". The main content area is titled "Apex Trigger" and shows the trigger name "DropOffTrigger". Below the name, there is a link "« Back to List". At the top right of the main content area, there are four buttons: "Edit", "Delete", "Download", and "Show Dependencies". Underneath these buttons, there is a table with the following data:

Name	DropOffTrigger	sObject Type	Drop-Off Point
Code Coverage	0% (0/2)	Status	Active
Created By	Chellappan.s_	Created Date	10/27/2025, 11:59 AM
Namespace Prefix		Last Modified By	Chellappan.s_
		Last Modified Date	10/27/2025, 12:03 PM

Fig :8.1 Create a Trigger in Object details

The screenshot shows the "Apex Trigger Edit" screen for the "DropOffTrigger". The title at the top says "Apex Trigger" and "DropOffTrigger". Below the title, there are three buttons: "Save", "Quick Save", and "Cancel". There are two tabs at the top: "Apex Trigger" (which is selected) and "Version Settings". A checkbox labeled "is active" with a checked box is visible. The main area contains the Apex trigger code:

```
trigger DropOffTrigger on drop_c (before insert) {
    for(drop_c Drop : Trigger.new){
        Drop.Distance__c = Drop.distance_calculation__c;
    }
}
```

Fig :8.2 Apply Trigger Code in dropOff

9. Profile:

The screenshot shows the Salesforce 'User Detail' page for a user named 'Iksha Foundation Chellappan s'. The top navigation bar includes links for 'Permission Set Assignments', 'Public Group Membership', 'Queue Membership', 'Team', 'Managers in the Role Hierarchy', 'OAuth Apps', 'Third-Party Account Links', 'Built-in Authenticators', 'Installed Mobile Apps', 'Authentication Settings for External Systems', 'Login History', and 'User Provisioning Accounts'. Below the navigation, there are tabs for 'Edit', 'Sharing', 'Reset Password', 'Freeze', and 'View Summary'. The 'Edit' tab is selected. The 'User Detail' section contains the following data:

Name	Value	Role
Name	Iksha Foundation Chellappan s	
Alias	iiksh	User License
Email	chellappanchellappan02@gmail.com [Verify]	Profile
Username	chellappanchellappan02@gmail.com	Active
Nickname	User17616563138391690452	Marketing User
Title		Offline User
Company		Knowledge User
Department		Flow User
Division		Service Cloud User
Address	23.appar street Nemathannatti	Site.com Contributor User

Fig :9.1 IKSHA Profile

The screenshot shows the Salesforce 'User Detail' page for a user named 'NSS NSS'. The top navigation bar and tabs are identical to the previous screenshot. The 'Edit' tab is selected. The 'User Detail' section contains the following data:

Name	Value	Role
Name	NSS NSS	
Alias	nsss	User License
Email	chellappanchellappan02@gmail.com [Verify]	Profile
Username	chellappanchellappan02@gmail.com	Active
Nickname	User17616579547163430101	Marketing User
Title		Offline User
Company		Knowledge User
Department		Flow User
Division		Service Cloud User
Address	23.appar street Nemathannatti	Site.com Contributor User

Fig :9.2 NSS Profile

10. Report:

Custom Report Type						
All Custom Report Types		New Custom Report Type				
Label ↑	Name	Description	Category	Cre...	Created Date	
Drop-Off Points with Volunteers with Execution ...	Drop_Off_Points_with_Volunteers_with_Execution_...	Drop-Off Points with Volunteers with Execution De...	Other Repor...	che	10/27/2025, 9:48 A...	
Orchestration Run Logs Spring '24	flow_orchestration_log_oottb_crt_two_four_eight	Find out which orchestration run logs were created...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Orchestration Runs Spring '24	flow_orchestration_run_oottb_crt_two_four_eight	Find out which orchestration runs were created.	Other Repor...	autopro	10/21/2025, 4:51 PM	
Orchestration Stage Runs Spring '24	flow_orchestration_stage_run_oottb_crt_two_four_ei...	Find out which orchestration stage runs were creat...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Orchestration Step Runs Spring '24	flow_orchestration_step_run_oottb_crt_two_four_eig...	Find out which orchestration step runs were create...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Orchestration Work Items Spring '24	flow_orchestration_work_item_oottb_crt_two_four_e...	Find out which orchestration work items were crea...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Definition Spring '24	Program_Definition_sfdcSESV60	Review your analytics with a program-like structur...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Definition Summer '24	Program_Definition_sfdcSESV61	Review your analytics with a program-like structur...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Item Progress Spring '24	Program_Task_Progress_sfdcSESV60	Report on tasks like exercises, milestones, and out...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Item Progress Summer '24	Program_Task_Progress_sfdcSESV61	Report on tasks like exercises, milestones, and out...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Progress Spring '24	Program_Progress_sfdcSESV60	Report on program progress. Specific progress on ...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Program Progress Summer '24	Program_Progress_sfdcSESV61	Report on program progress. Specific progress on ...	Other Repor...	autopro	10/21/2025, 4:51 PM	
Screen Flows	screen_flows_prebuilt_crt	Find out which flows get executed and how long u...	Other Repor...	autopro	10/21/2025, 4:51 PM	

Fig :10 Report Type

11. Flows:

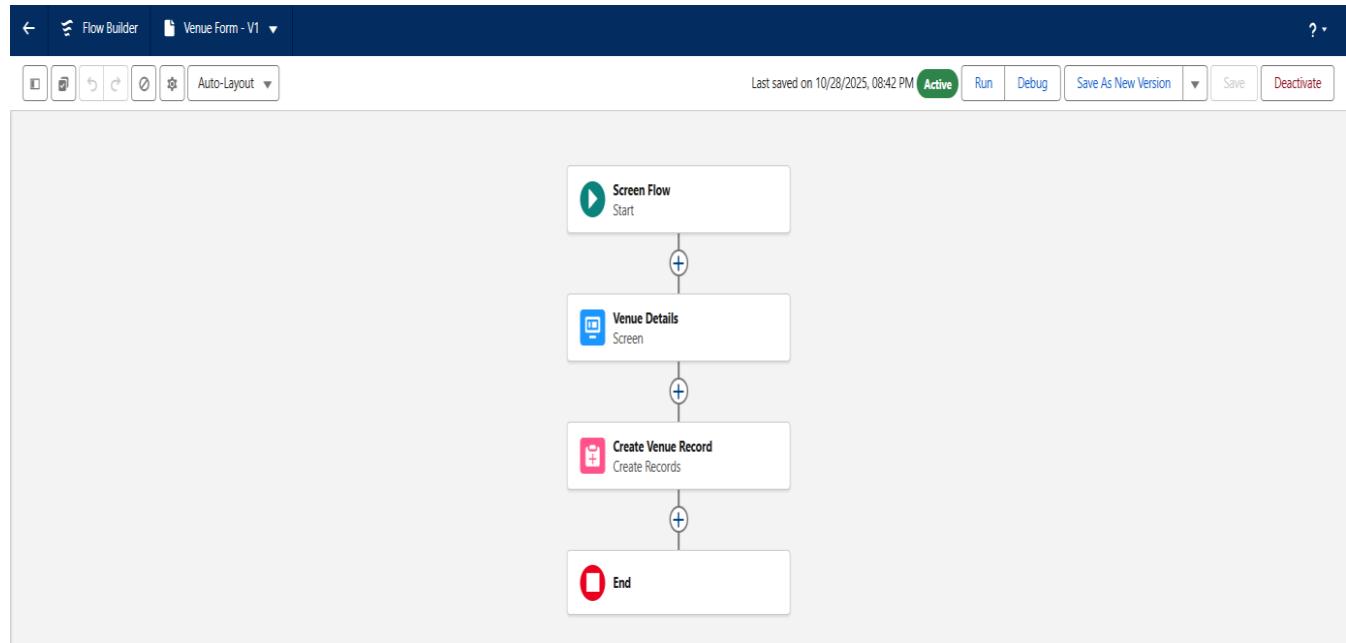


Fig:11.1 Creating a flow

12. Dashboard:

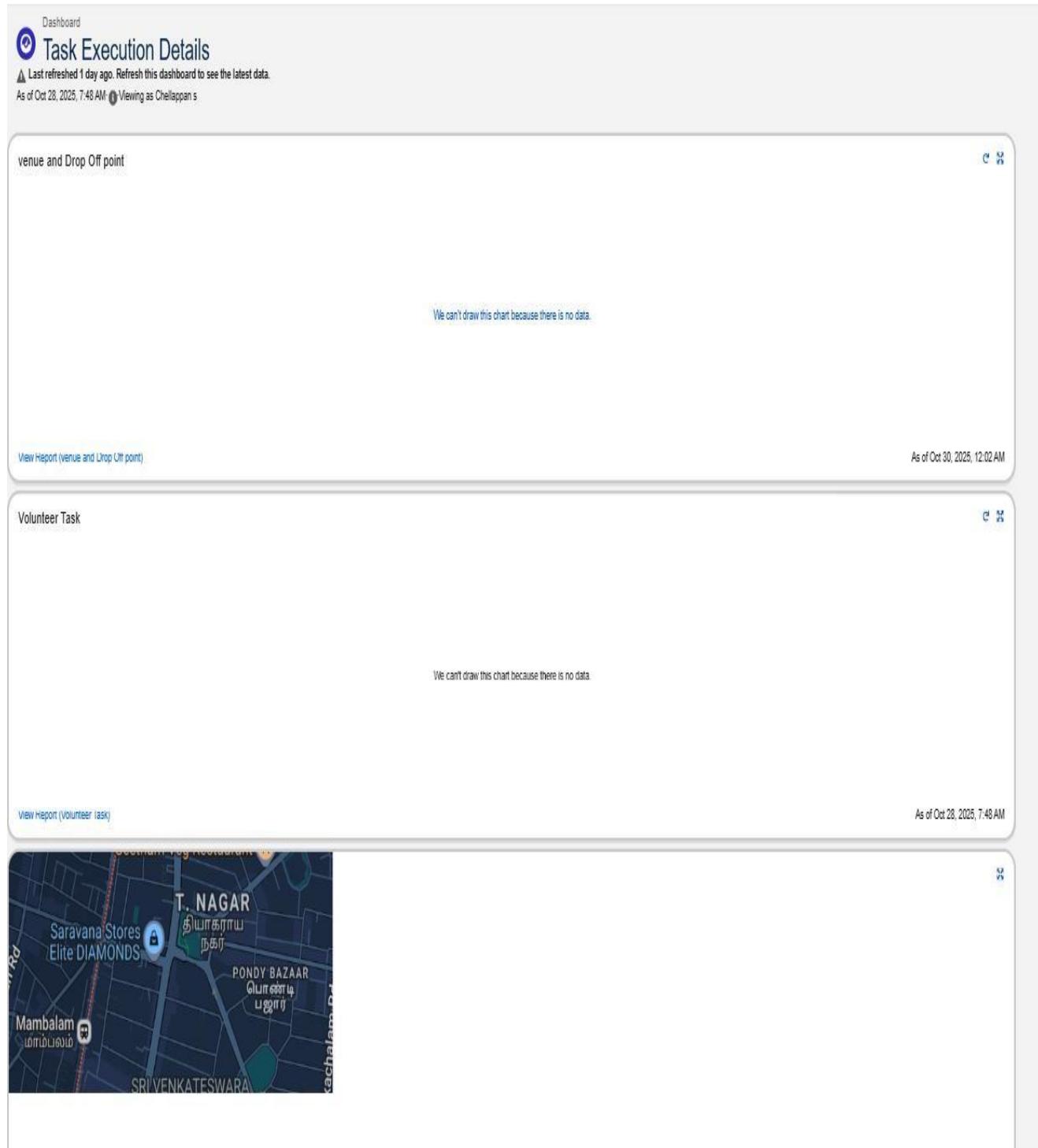


Fig:11.1 Creation of Dashboard

10. EXPECTED OUTCOMES

- Streamlined process of surplus food collection and delivery.
 - Real-time tracking of food movement and volunteer activities.
 - Reduced manual coordination through automated notifications.
 - Improved transparency in the distribution process.
 - Enhanced community engagement and donor satisfaction.

11. ADVANTAGES

- Cloud-based accessibility from any location.
- High data security and role-based access control.
- Complete automation reduces human effort.
- Real-time analytics improves decision-making.
- Encourages social responsibility by reducing food waste.
- Eco-friendly — fully paperless management system.

12. FUTURE ENHANCEMENT

- Integrate **Google Maps API** for live tracking of delivery routes.
- Add **mobile app** for donors and volunteers to manage records easily.
- Implement **AI-based prediction** to forecast food demand areas.
- Introduce **IoT-based sensors** to monitor food temperature during delivery.
- Enable **multi-language support** for broader accessibility.
- Integrate **UPI/Online Donation** options for funding delivery logistics.

13. CONCLUSION

The “**Apply Leftover Food to Poor**” project demonstrates how Salesforce can be leveraged to tackle real-world social challenges through technology. The system automates the end-to-end process of surplus food management — from donor registration to recipient feedback — ensuring transparency, efficiency, and accountability.

This project highlights Salesforce’s versatility beyond traditional CRM, proving its potential in humanitarian and sustainability-focused initiatives. It contributes to reducing food wastage and supporting underprivileged communities effectively.

14. REFERENCES

- 1.** Salesforce Developer Documentation – <https://developer.salesforce.com/docs>
- 2.** Salesforce Trailhead – <https://trailhead.salesforce.com>
- 3.** Apex Automation Tutorials – YouTube
- 4.** Naan Mudhalvan Project Portal – Skill Development Materials
- 5.** Global Food Waste Report – United Nations Environment Programme