GreenSteps

Salesforce-powered Sustainability Tracking Platform

Project Overview

Design and implement a Salesforce-powered sustainability tracking platform that promotes eco-conscious engagement within urban communities. Citizens can report environmental issues (like illegal dumping or pollution), Volunteers can participate in clean-up and awareness drives, and City Officers can manage and track green initiatives. The platform fosters transparency and participation through Experience Cloud, with robust tracking, automation, and dashboards for better decision-making.

Business Objective

To promote sustainable urban development by empowering citizens, volunteers, and city officials to collaboratively report, track, manage, and resolve environmental issues. The platform aims to:

- Enhance public engagement - Allow citizens to raise environmental issues via experience cloud portals and track initiatives.
- Allow Volunteers to register and participate in several initiatives.
- Allow City officers to manage and track all initiatives and environmental issues
- Support automation and workflow for quicker resolution.
- Provide dashboards and reports for better policy decision-making.
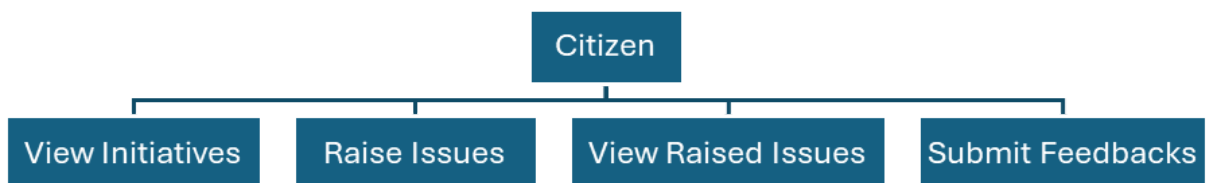
Data Model

1. Objects:

Object Name	Type	Use
Account	Standard	To store data from the company account GreenSteps.
Contact	Standard	To store data of users that will register on the website.
Cases	Standard	To store environmental issues raised by citizens.

Green Initiatives	Custom	To store environmental campaigns created by city officer
Initiative Members	Custom	To store data of volunteers registered under any initiative
Feedback	Custom	To store feedback from citizens on any initiative

2. Relationships

Parent	Child	Type	Relationship
Account	Contact	Standard	Lookup Relationship
Account	Cases	Standard	Lookup Relationship
Contact	Cases	Standard	Lookup Relationship
Green Initiative, Contact	Feedback (Junction Object)	Custom	Many to Many Relationship
Green Initiative, Contact	Initiative Members (Junction Object)	Custom	Many to Many Relationship
Green Initiative	Cases	Custom	Lookup Relationship

3. ER Diagram (Schema Builder)

User Personas, Profiles & Roles Involved

Users	Profiles	License	Responsibilities
Prajakta Hikare	City Officer User	Customer Community Plus User	Manage and track green initiatives, ensuring efficient resource allocation.
Harshada Gandhi	Citizen User	Customer Community Plus User	Report environmental issues such as illegal dumping and pollution.
Dhanashree Phadke (Senior)	Volunteer User	Customer Community Plus User	Participate in clean-up drives and awareness campaigns.
Pranjali Neve (Junior)		Customer Community Plus User	

User Workflows -

1. Citizen:

2. Volunteer:

3. City Officer:

Business Functionalities / Use Cases Implemented

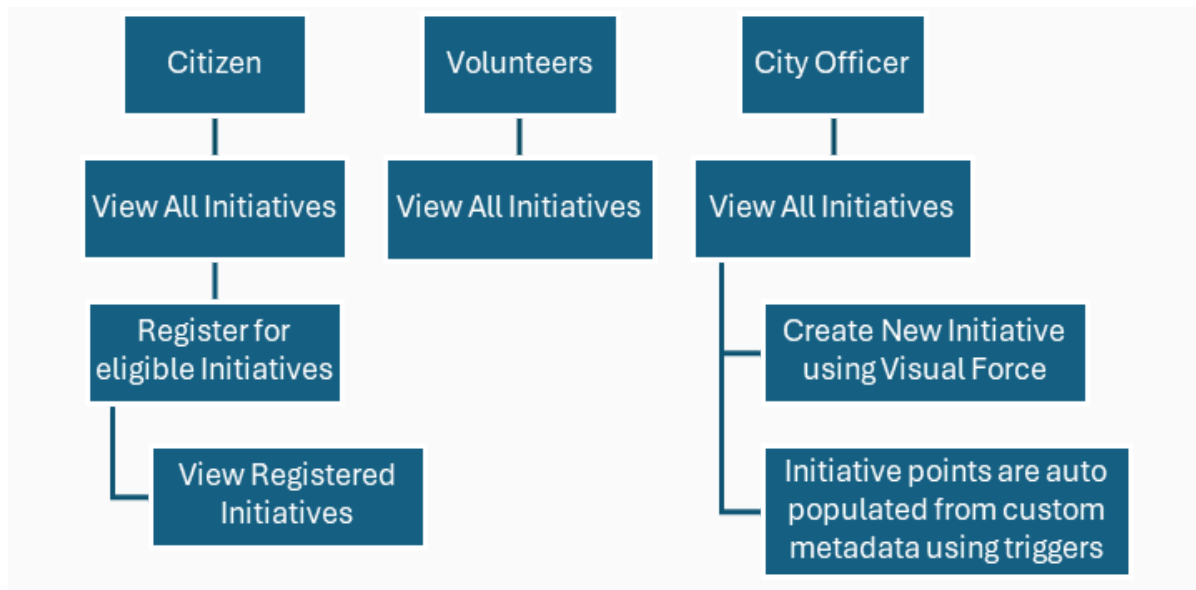| **1. Profile Based Registration and Access** |
|---|
| **Description :** Users will be segregated on the basis of user type like - volunteer, citizen and city officers. On the basis of user type taken from registration form, a new user record and contact record will be created. Separated profiles will be allocated to different users. Access to functionalities also differ on the basis of profiles. |
| **Features Used -**
➢ Record Trigger Flow to create new user, contact and profile allocation. |

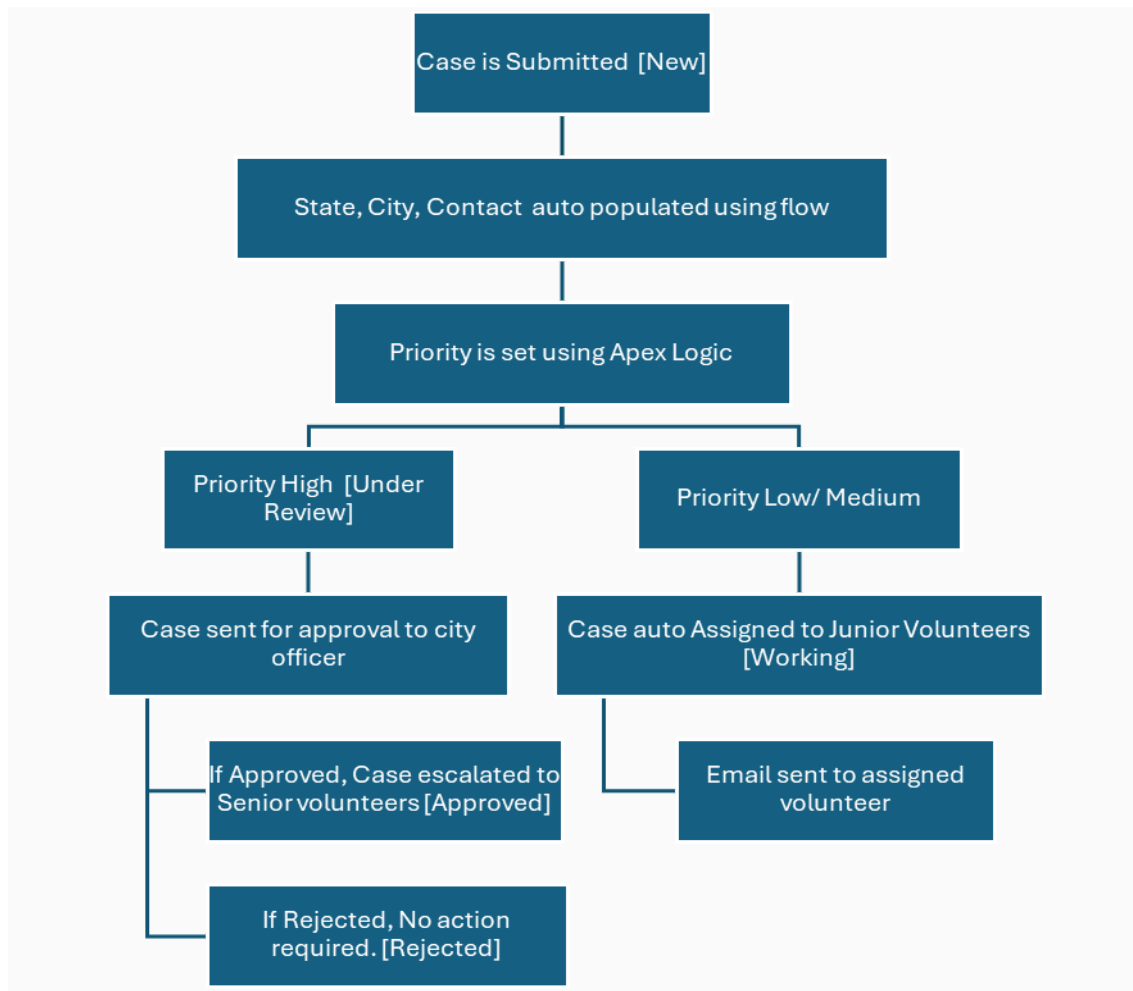| **2. Green Initiatives Creation, Fetching and Volunteer Registration** |
|---|
| **Description :** City officer can create a new initiative and publish it on the website. All citizens and Volunteers can see all initiatives. Volunteers can register for planned, upcoming or ongoing initiatives (only once) and also can see their registered initiatives on their profile. |
| **Features Used -**
➢ LWC, SLDS for UI components
➢ LDS to store registered volunteer data
➢ Visualforce page and standard controller to create new initiative.
➢ Apex Controllers and SOQL to fetch all initiatives and list of registered initiatives on the basis of logged in volunteers.
➢ Custom Metadata for storing a fixed number of points for each type of initiative.
➢ Apex Triggers and Handlers to update initiative points while creation of initiative based on type stored in metadata. |

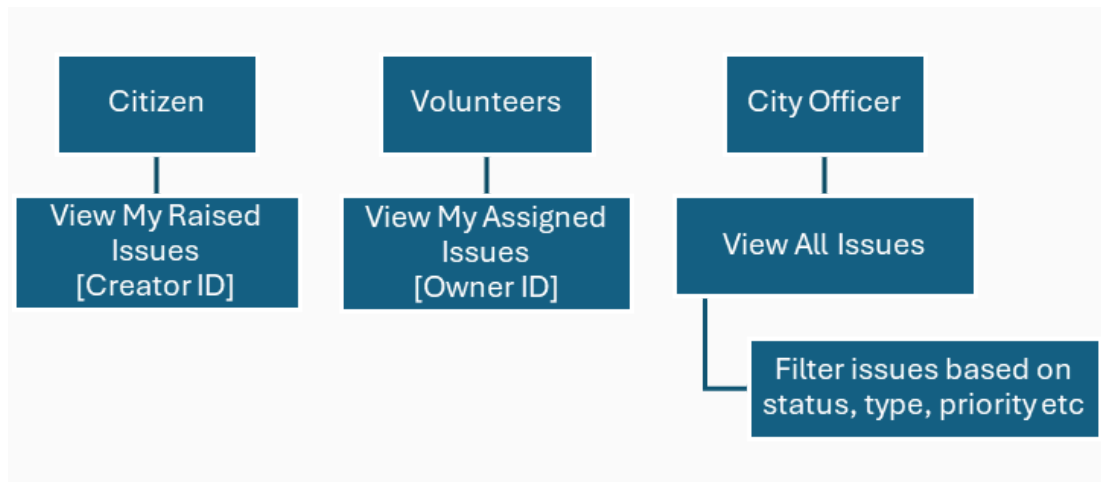| 3. Environmental Issue Reporting, Approval and Assignment to Volunteers |
|---|
| **Description :** Citizens can report environmental issues such as illegal dumping and pollution. Once a case is raised, its priority is decided based on type. High priority cases are sent for approval to city officer, once approved they are escalated and assigned to senior volunteers. Low/Medium priority cases are auto assigned to Junior Volunteers. |
| **Features Used -**
➢ LWC, SLDS for UI components
➢ LDS to store issues data
➢ Record trigger flow to auto populate contact, state, city etc
➢ Apex Controller and Triggers to update priority based on vase type
➢ Approval Process for High Priority Cases
➢ Escaalation Rules for approved cases
➢ Case Assignment using flow for low/medium cases.
➢ Emails sent to city officer for approval and volunteer for informing assigned case. |

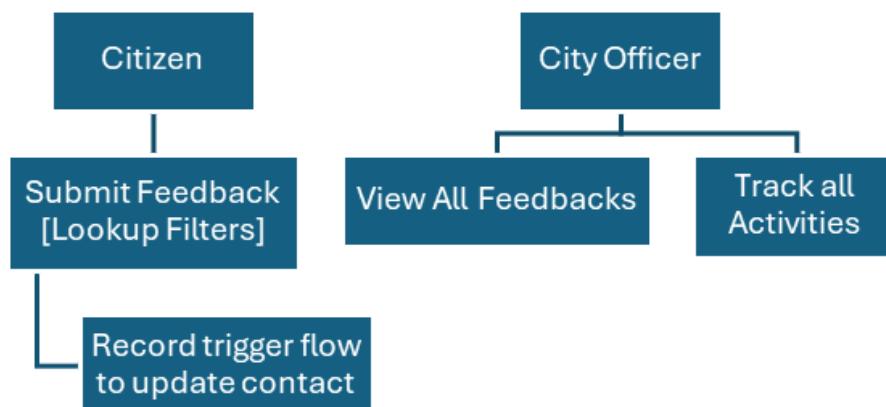| |
|---|
| **4. Fetching Cases based on Logged in User** |
| **Description :** Citizen would be able to see cases raised by him (On basis of Creator ID). Volunteers would be able to see cases assigned to him (On basis of Owner Id).
 City Officer would be able to see and filter all cases. |
| **Features Used -**
 ➢ LWC, SLDS for UI components
 ➢ Apex Controllers and SOQL to fetch related cases.
 ➢ Parent to Child Communication for Filters
 ➢ LMS to show raised issue immediately in the list. |

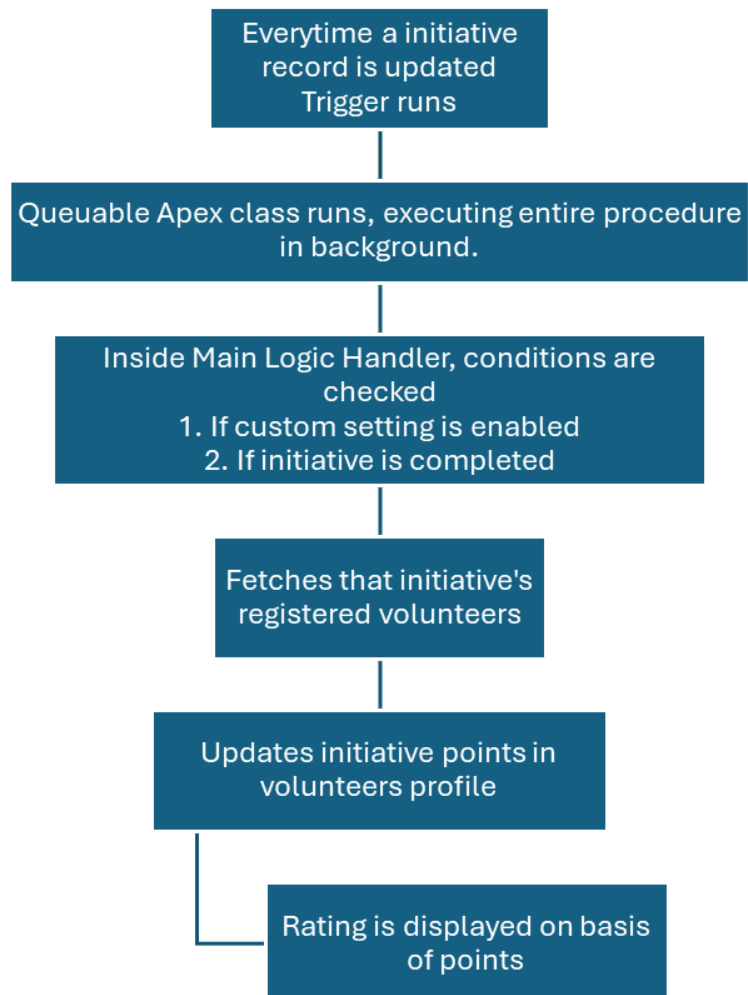| **5. Feedback Submission and Activity Management** |
|---|
| **Description :** Citizen would be able to submit feedback for completed initiatives. City Officer would be able to see all feedbacks and track all activities in the app. |
| **Features Used -**
➢ LWC, SLDS for UI components
➢ LDS to submit feedback
➢ Record Trigger flow to update contact field for feedback.
➢ Apex Controllers and SOQL to fetch all feedbacks.
➢ Lookup filters to show only completed feedbacks in list.
➢ Reports and Dashboards to track activities. |

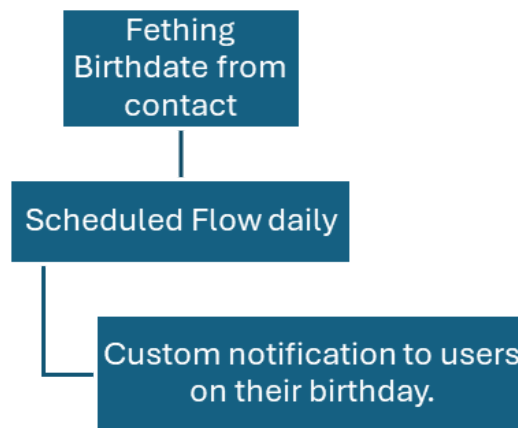**6. Score points and rating for volunteers based on their participation**

Description : Volunteers would earn points for each initiative they participate in and complete it. Rating will be decided on the basis of points.

Features Used -
- ➤ Custom Settings for enabling point distribution for overall application.
- ➤ Interface and OOPs concepts.
- ➤ Apex Controllers to increment points in volunteers profile when initiative gets completed.
- ➤ Queueable async apex to run points allocation process in background.
- ➤ Formula field to update rating on basis of score points.

7. Birthday Wishes Notifications
Description : All users will receive birthday wishes notification on their birthdate.
Features Used - ➢ Scheduled Flow to schedule notifications daily. ➢ Custom notifications to send messages.

```
Fething
Birthdate from
contact
        |
Scheduled Flow daily
        |
        Custom notification to users
        on their birthday.
```

Other Key Features Implemented

1. Experience Cloud Site

Experience Cloud Pages	Purpose	Assigned to (User roles)
Home Page	Provide an overview and access to key features of the platform.	All
About Us	Share information about the organization and its mission.	All
My Profile Page	Profile Details shown to user	Citizen, Volunteer

2. Validation Rules Used

Rule	Purpose
Completed Status Validation	This rule ensures that when a record is marked as Completed, the end date must either be blank or today's date or later. This prevents marking something as completed if its end date is already in the past.
Ongoing Status Validation	This rule checks that for a record marked as Ongoing, both start and end dates must be filled in, and today's date must fall between them. It prevents marking a record as ongoing if the dates are missing or if the current date is outside the valid range.
Planned Status Validation	This rule ensures that when a record is marked as Planned, at least one of the dates (start or end) must be provided. It helps confirm that there is some timeline associated with the planning.
Upcoming Status Validation	This rule ensures that for a record marked as Upcoming, the start date must be specified and should be more than 15 days in the future. It helps identify tasks or events that are scheduled well ahead of time.

3. Custom Formula Fields

Formula Field	Purpose
Average Satisfaction Score	Calculate the average satisfaction score across all five satisfaction responses.
Campaign Duration	No of days of Campaign will be calculated on basis of start and end date.
Budget Performance	Calculates how much over or under budget a project is.
Volunteer Profile Rating	Gives rating on basis of score points.

4. Field Dependency and Page Layouts

Feature	Purpose
Field dependency between state and city in every object.	To ensure that the city options shown are relevant to the selected state.
Custom Page Layouts for each object.	Displays fields based on the object's/users specific needs and requirements.

5. Other Features

Feature	Purpose
Knowledge Articles	Used to document and share reusable solutions and best practices for quick access across the team.
Exception Handling	Ensures errors are caught and managed properly to maintain smooth system performance.
Test Classes	Used to validate the functionality of code components and ensure they work as expected during deployments.

Data Security Model

1. Object Level Settings

Objects	Citizen	Volunteer	City Officer
Contacts	Read, Edit, View All Fields	Read, Edit, View All Fields	Read
Green Initiatives	Read	Read	Create, Read, Edit, Delete
Initiative Members	No access	Read, Create	No access
Feedback	Read, Create	No access	Read, View All Fields
Cases	Read, Create	Read, Edit	Read, View All Fields

2. Record Level Settings

Objects	OWD (External User Access)	Role Hierarchy, Sharing Rules, Manual Sharing
Green Initiatives	Public Read Only	NA
Initiative Members	Private	NA
Feedback	Public Read Only	NA
Cases	Public Read/Write/Transfer	NA