Salesforce Project

Topic

GreenTrack

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Problem Statement

Communities and organizations often organize eco-friendly activities such as tree plantations, recycling drives, and awareness campaigns. But tracking these efforts, calculating their real environmental impact, and recognizing contributors is mostly manual and unorganized. GreenTrack solves this by providing a centralized Salesforce-based platform to log activities, calculate carbon footprint reduction, and showcase results through dashboards and leaderboards.

Tracking eco activities like tree plantations and recycling is manual and scattered. GreenTrack centralizes logging, impact calculation, and dashboards to promote sustainability.

Overview

GreenTrack is a Salesforce CRM solution designed to track eco-friendly activities like tree plantations, recycling drives, and awareness events. It calculates environmental impact (e.g., CO_2 saved) and provides real-time dashboards for organizations to monitor sustainability initiatives.

It helps individuals, institutions, and organizations record sustainability activities, calculate their environmental impact, and visualize progress through dashboards.

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1) Industry

Environmental Sustainability / Non-Profit / Education

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2) Project Type

B2C & B2B Salesforce CRM implementation

- **B2C** (if individual students/employees log activities).
- **B2B** (if institutions, NGOs, or companies use it to track collective impact).

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3) Target Users

- **Community Members / Students / Employees** → Log eco activities.
- **NGOs / Environmental Clubs** → Track initiatives.
- **Management / Admins** → View dashboards, analyse impact, assign recognition.

Objectives

➔ Provide a centralized platform to log eco-friendly activities.

➔ Calculate carbon footprint reduction (e.g., trees planted $\rightarrow$ CO_2 saved).

➔ Recognize active participants with badges/leaderboards.

➔ Provide dashboards for real-time sustainability tracking.

➔ Create scalable solutions adaptable for schools, colleges, companies, or NGOs.

Features

● Log sustainability activities

● Automatic CO_2 reduction calculation

● Badge assignment (Bronze/Silver/Gold)

● Leaderboards & gamification

● Real-time dashboards

Use Cases

1. **Activity Logging**
   ○ Users can log activities such as tree plantation, waste recycling, or awareness events.
   ○ Each activity is linked with date, location, and participant.

2. **Impact Calculation**
   ○ The system calculates CO_2 saved (e.g., 1 tree planted = 21kg CO_2 saved).
   ○ Automatic cumulative total maintained for each participant.

3. **Gamification & Recognition**
   ○ Flow assigns badges (Bronze, Silver, Gold) based on thresholds.

○ Leaderboard dashboard shows top contributors.

    4. **Reports & Dashboards**

        ○ Monthly CO_2 saved trends.

        ○ Activity type distribution (Pie chart).

        ○ Top departments or individuals contributing to sustainability.

    5. **(Optional Advanced)**

        ○ Integration with external APIs for real carbon tracking.

        ○ LWC-based form for activity logging.

Tech Stack

➢ Salesforce (Admin + Developer)

➢ Custom Objects, Flows, Validation Rules

➢ Apex Triggers

➢ Lightning Web Components

➢ Reports & Dashboards

What To Build

1. **Custom Objects:**

    ○ Eco_Activity__c (fields: Activity Type, Location, Date, Trees Planted, Waste Recycled, etc.)

    ○ Impact_Score__c (calculated from activity data, e.g., each tree = 21kg CO_2 saved).

    ○ Badge__c (Bronze/Silver/Gold, auto-assigned via Flow).

2. **Automation:**

    ○ Flow → When activity is logged, calculate CO_2 saved.

- Flow → When a participant crosses the threshold (e.g., 500 kg CO_2 saved), assign a badge.

3. **UI & LWC (Optional but adds "WOW" factor):**
   - LWC to quickly log an activity with a form.
   - LWC dashboard showing **live CO_2 savings**.

4. **Reports & Dashboards:**
   - Pie chart: % of activities by type.
   - Leaderboard: Top 5 participants.
   - Line chart: CO_2 saved over time.

Project Phases for GreenTrack:

Phase 1: Problem Understanding & Industry Analysis

- **Requirement Gathering** → Need to track eco-activities (tree plantations, recycling, awareness drives).
- **Stakeholder Analysis** → Community members, NGOs, environmental clubs, admins/managers.
- **Business Process Mapping** → Current manual tracking → Centralized Salesforce solution.
- **Industry-Specific Use Case Analysis** → Environmental Sustainability / CSR / Education sector.
- **AppExchange Exploration** → Look for sustainability or gamification add-ons.

Phase 2: Org Setup & Configuration

- **Salesforce Developer Edition setup.**
- **Company Profile** → "GreenTrack Sustainability Portal."
- **Business Hours & Holidays** → For activity scheduling.
- **Fiscal Year Settings** → To track sustainability annually.
- **User Setup** → Admins, Community Users, NGO Managers.
- **Profiles & Roles** → Participant, Club Manager, Admin.
- **Permission Sets** → Assign badges, manage dashboards.
- **OWD & Sharing Rules** → Public read/write for activities, restricted for badges.
- **Sandbox Setup** → Testing flows & triggers.
- **Deployment Basics** → Change sets for promotion.

Phase 3: Data Modelling & Relationships

- **Custom Objects** → Eco_Activity__c, Impact_Score__c, Badge__c.
- **Fields** → Trees_Planted, Waste_Recycled, CO_2_Saved (formula field).
- **Record Types** → Different activity categories (Plantation, Recycling, Awareness Drive).
- **Page Layouts** → Simplified forms for activity entry.
- **Compact Layouts** → Quick mobile view.
- **Schema Builder** → Visualize relationships.
- **Relationships** →
  - User ↔ Activity (Lookup).
  - Activity ↔ Impact Score (Master-Detail).
  - User ↔ Badge (Lookup).

Phase 4: Process Automation (Admin)

- **Validation Rules** → Ensure proper values (e.g., Trees Planted > 0).
- **Flow Builder** →
  - Auto-calculate CO_2 saved after each activity.
  - Assign badge when thresholds are reached.
- **Email Alerts** → Notify users when a badge is awarded.
- **Custom Notifications** → Milestone reached (e.g., 1000kg CO_2 saved).

Phase 5: Apex Programming (Developer)

(optional but adds weight)

- **Apex Trigger** → Calculate impact score when activity is inserted.
- **Batch Apex** → Summarize monthly CO_2 savings.
- **Queueable Apex** → Send bulk badge updates.
- **Exception Handling & Test Classes** → For triggers and batch jobs.

Phase 6: User Interface Development

- **Lightning App Builder** → Create a "GreenTrack Console."
- **Record Pages** → Custom layouts for Eco Activities & Impact Score.
- **Tabs** → Activities, Impact Scores, Badges.
- **LWC** (optional for demo impact) → Quick "Log Activity" component.
- **Navigation Service** → Direct to dashboards.

Phase 7: Integration & External Access

(Optional, if time allows)

- Named Credentials → Prepare for external APIs.
- REST Callouts → Integrate with carbon footprint calculators (future scope).
- Remote Site Settings → For external API usage.

Phase 8: Data Management (optional) & Deployment

- Data Import Wizard → Upload sample activity data.
- Data Loader → Bulk import/export for testing.
- Data Backup → Export reports weekly.
- Change Sets → Migrate from sandbox to dev org.
- GitHub Repository → Store metadata & docs.

Phase 9: Reporting, Dashboards & Security Review

- **Reports** →
  - Total CO_2 Saved (Summary).
  - Activity Breakdown by Type (Matrix).
  - Leaderboard of Users (Tabular).
- **Dashboards** →
  - Monthly Sustainability Impact.
  - Top 5 Contributors.
- **Sharing Settings** → Limit dashboard editing to admins.
- **Field Level Security** → Hide system-calculated fields from general users.
- **Audit Trail** → Monitor admin changes.

Phase 10: Final Presentation & Demo Day

- **Pitch Presentation** → Problem, Solution, Demo, Outcomes.
- **Demo Walkthrough** → Logging an activity → CO_2 saved auto-calculated → Badge assigned → Dashboard update.
- **Handoff Documentation** → Object schema, flow diagrams, repo link.

- **LinkedIn/Portfolio Showcase** → Adding GreenTrack as a Salesforce Capstone Project.