Carbon Footprint Tracker Project Documentation

Project Overview

The Carbon Footprint Tracker aims to help users monitor and reduce their carbon footprint through a user-friendly web application. This tool will provide valuable insights into individual contributions to climate change and promote sustainable practices.

Understanding Climate Change

Climate change refers to significant and lasting changes in the Earth's climate. It is primarily driven by the increase of greenhouse gases (GHGs) in the atmosphere, largely due to human activities such as burning fossil fuels, deforestation, and industrial processes. Key impacts include:

- **Rising Temperatures**: Global temperatures are increasing, leading to more frequent heatwaves and extreme weather events.
- **Melting Ice and Rising Sea Levels**: Polar ice caps are melting, contributing to rising sea levels that threaten coastal communities.
- **Ecosystem Disruption**: Changes in climate patterns are affecting biodiversity, leading to habitat loss and species extinction.
- **Agricultural Challenges**: Shifts in climate can affect food production, leading to food security issues.

Steps to Build the Application

Step 1: Selection of Problem Statement

- Identify target users and their needs regarding carbon footprint management.

Step 2: Selection of Languages

- Choose the following languages and technologies for development:
  - **HTML**: For structuring the web application.
  - **CSS**: For styling the user interface.
  - **JavaScript**: For client-side interactivity.
  - **Python**: As the backend programming language.
  - **Django**: As the web framework to facilitate rapid development and clean design.

Step 3: Coding the Basic Structure of the Web App

- Set up the basic structure of the web application:
  - Create HTML files for different pages (e.g., home, input form).
  - Implement CSS for layout and design.
  - Use JavaScript for user input validation and dynamic content.

Step 4: Adding Basic Tips and Basic Reward System

- Include sections for:
  - Tips on reducing carbon footprint.
  - A reward system that incentivizes users for tracking their footprint, such as badges or points.

Step 5: Deciding on UI Design

- Plan the user interface layout, focusing on usability and accessibility.
- Considered creating wireframes or prototypes to visualize the design.
- Ensure a responsive design for various devices (desktop, tablet, mobile).
- Use consistent color schemes and typography to enhance the user experience.