CSE 4408

SYSTEM ANALYSIS AND DESIGN LAB

LAB 2

OUR TEAM:

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Organization:

GIKI ZERO

Giki Zero is a digital platform aimed at helping individuals understand and reduce their carbon footprint. It provides personalized actions to users based on their lifestyle to promote sustainable living, aligning directly with **SDG 13: Climate Action.**

ORGANIZATIONAL CONTEXT & SYSTEM SCOPE:

Core Function	Giki Zero promotes sustainable living by helping users track and reduce their carbon footprint.
Identified Need	Improve user experience, streamline data collection, and enhance impact reporting.
System Scope	In scope – carbon tracking, user activities, feedback loop, and reporting.
Out of Scope -	internal HR, financials, and unrelated external API integrations.

CONTEXT-LEVEL DFD:

System Process: Giki Zero Carbon Tracking System.

External Entities: Users, Sustainability Experts, Admins, External Climate Data Sources.

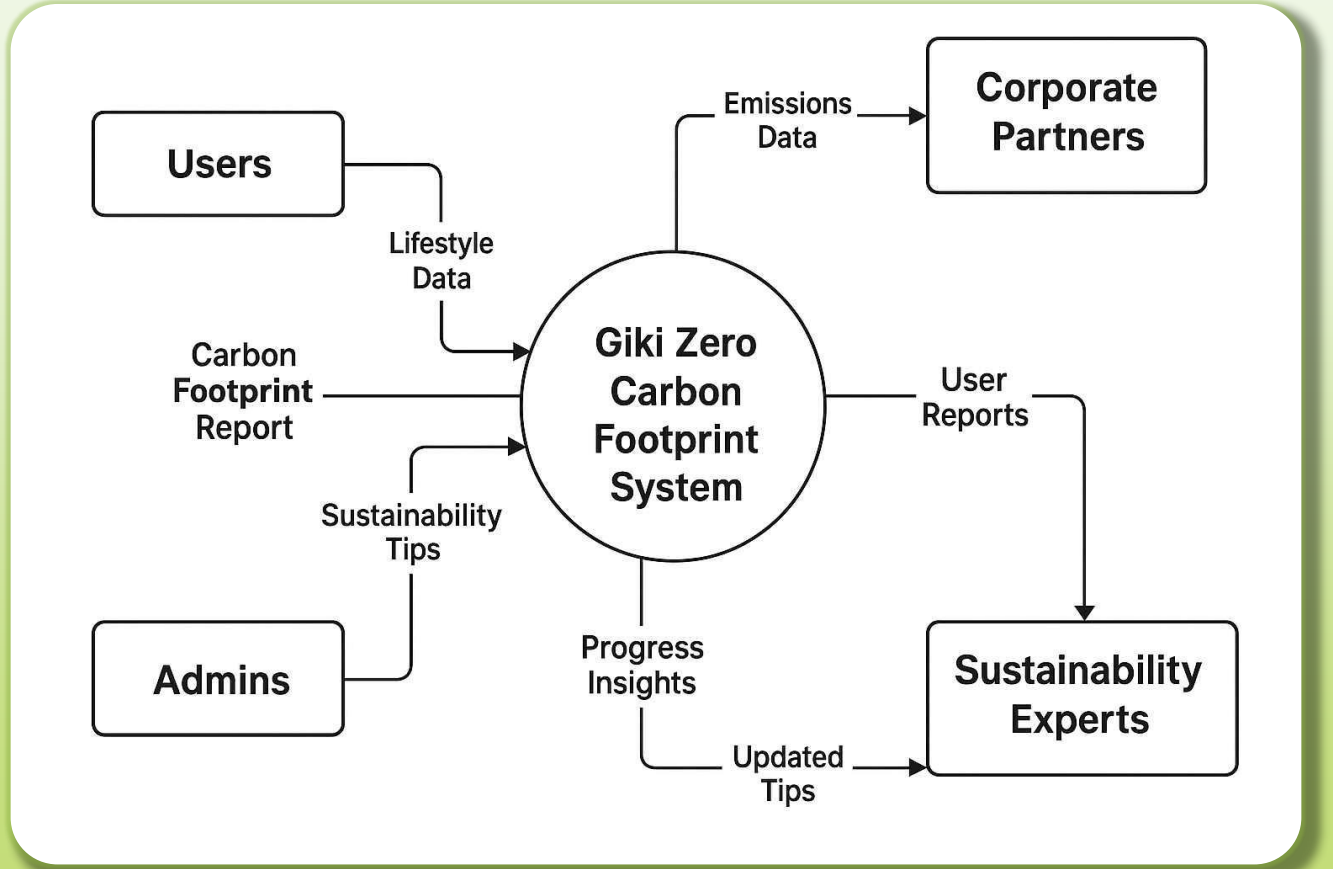
Key Data Flows:

Input: User lifestyle data, environmental data.

Output: Carbon footprint reports, personalized tips, progress insights

DFD View: One central process interacting with users and data sources, emphasizing user input and output clarity.

CONTEXT-LEVEL DFD VIEW:



PRELIMINARY E-R DIAGRAM

Key Entities:

User, Activity, Carbon Score, Tip, Report, Expert, Feedback.

Relationships:

- User logs Activities → generates Carbon Score.
- User receives Tips and Reports.
- Experts provide Feedback based on Reports.

Cardinality Examples:

- One User → many Activities.
- One Report → one User.
- One Expert → many Feedback items.

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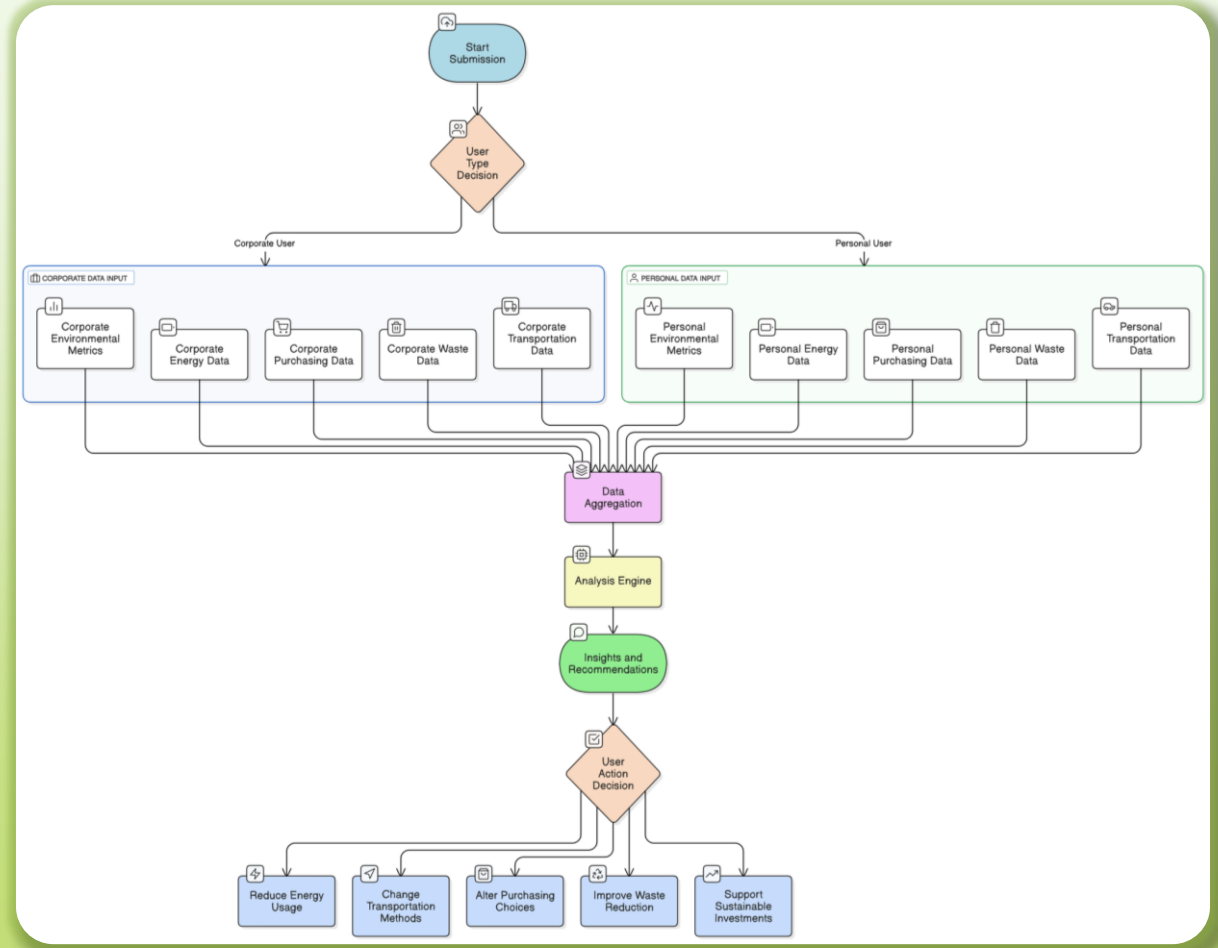

HIGH-LEVEL USE CASE DIAGRAM

Primary Actors

User, Admin, Expert, System.

Use Cases

Submit Lifestyle Activity

View Carbon Score

Generate Report

Get Expert Advice

Track Progress

Update Tips & Insights (Admin)

System View

Simple interaction model focusing on key functions users and admins need most.

MANAGEMENT LEVELS & ORGANIZATIONAL CULTURE

Management Levels

Operational: Monitor user activity logs, data collection.

Middle: Analyze performance metrics and user engagement.

Strategic: Use dashboards for impact evaluation and feature planning.

Culture Analysis

Tech-forward and iterative, but user-centric.

Informal communication, low resistance to change.

Embraces Agile for continuous improvement and fast adaptation.

CONCLUSION

Designed a data-driven system supporting both corporate and personal users

Structured inputs, aggregation, and intelligent recommendations, the system promotes environmental awareness and actionable insights

Proposed design aligns with orgs mission to help users measure, understand, and reduce their environmental impact.

Scalable and user-centric approach for long-term sustainable impact.