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Profile Overview

- Theme - GreenTech
- Problem Statement Title - "Eco-friendly transportation system : Innovative transportation solutions that reduce emissions and promote sustainable mobility." Create a tech-driven solution that promotes eco-friendly transportation by reducing carbon emissions, minimizing traffic congestion, and encouraging the use of sustainable mobility options such as electric vehicles, shared rides public transport, or non-motorized transport.
- Team name - CODE STORM

IDEA TITLE

- **Solution Overview :** Green Commute is an innovative platform designed to reduce transportation-related emissions and promote sustainable mobility in urban environments. It addresses the core issues of the problem statement by combining technology, behavior change, and community engagement to create a cleaner, more efficient transportation ecosystem.

1. Reduces Emission with smart ride-sharing optimized ride paths lower overall fuel usage and CO_2 emissions.
2. Promotes Public Transit & Non-Motorized Travel Provides eco-optimized routes using buses, trains, cycling, and walking.

- **Problem Solving** – The Green Commute prototype is a web and mobile application that enables users to plan eco-friendly commutes and reduce their carbon footprint through smart choices.

- Prototype Features:

1. Dashboard : Shows daily and weekly travel stats displays CO_2 saved and eco points earned.
2. Ride-Sharing Module : Allows users to find and join carpools based on location and timing AI recommends the most efficient.

- **Innovation :** The core innovation in this problem statement lies in rethinking transportation to not only move people efficiently, but to do so sustainably, inclusively, and responsibly.

1. Shift from Traditional to Sustainable Mobility.
2. Integration of Technology with Environmental Goal.
3. Community-Centered Solutions.

Technical Approach

- Technologies Used – Programming language, framework and Hardware :

1. Programming Languages – JavaScript, HTML/CSS , NodeJs, Python.
2. Frameworks – React.js, Redux, Flutter, Express.js, Socket.io, Geopy(Python).
3. Hardware (For Prototype, Testing, and Deployment) – Smartphone for mobile testing , Computer for web application, Server hosting for web and backend.

- Methodology :

1. Problem Understanding & Research :
   - Review Existing Solutions
   - Identify Key Issues
   - Market & User Research
2. Solution Design :
   - Create Use Cases & User Personas
   - Wireframing and UI/UX Design
   - Market & User Research
3. Prototype Development :
   - Front-End Development : Build responsive web/mobile interfaces using frameworks like React, Next.js, or Flutter.
   - Back-End Development : Develop APIs and logic using Node.js, Express, and MongoDB/Firebase for data storage.
   - Carbon Tracking Logic : based on transportation mode and distance.
   - Incentive System : Implement gamification features for eco-points, leaderboards, and redeemable rewards.

Impact and Benefits

➢ Target Audience Impact :

Green Commute is a sustainability-driven initiative that promotes eco-friendly commuting through ride-sharing, cycling, EV use, and public transport. It benefits individual commuters, governments, businesses, environmental groups, students, and tech innovators by reducing emissions, cutting costs, improving health, and encouraging green habits. The platform fosters a culture of sustainability, innovation, and collective action toward a cleaner, more efficient urban future.

➢ Key Benefits :

1. Environmental Benefits Cuts carbon emissions Promotes clean air and sustainability Tracks personal environmental impact

2. Economic Benefits Saves commuting costs Reduces fuel use and congestion Offers eco-rewards; supports green economy

3. Social Benefits Improves public health Increases transport accessibility Builds community around sustainability.

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Feasibility and Viability

➢ Feasibility :

- ❑ Technical Feasibility
- ❑ Operation Feasibility
- ❑ Financial Feasibility
- ❑ Market Feasibility
- ❑ Environment Feasibility

➢ Challenges :

- ❑ Real-Time Data Integration
- ❑ Machine Learning Models
- ❑ User Acquisition
- ❑ Data Privacy
- ❑ Upfront Costs for Development
- ❑ Ongoing Maintenance
- ❑ Growing Interest in Sustainability

➢ Long-Term Value :

- ❑ Long-Term Emission Reduction
- ❑ Contribution to Cleaner
- ❑ Biodiversity and Ecosystem Protection

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References :

- Iclei.org
ICLEI – Local Government For Sustainability

- transportenvironment.org
Transport and Environment

- greenbiz.org