

EcoNavix: AI-Powered Eco-Conscious Route Optimization

Team EcoVisionaries

Relevance & Impact

Problem Importance

Logistics industry contributes significantly to global carbon

EcoNavix Solution

Balances sustainability and efficiency in one platform

Unique Approach

Combines real-time emissions data with logistics planning

emissions

Companies lack effective tools
for sustainable operations

Introduces sustainability as
primary factor in route
selection

Turns routing decisions into
positive environmental impact

AI Technologies in EcoNavix

1 OpenAI GPT-4

Suggests actionable improvements to routes.

2 External APIs (OpenRouteService)

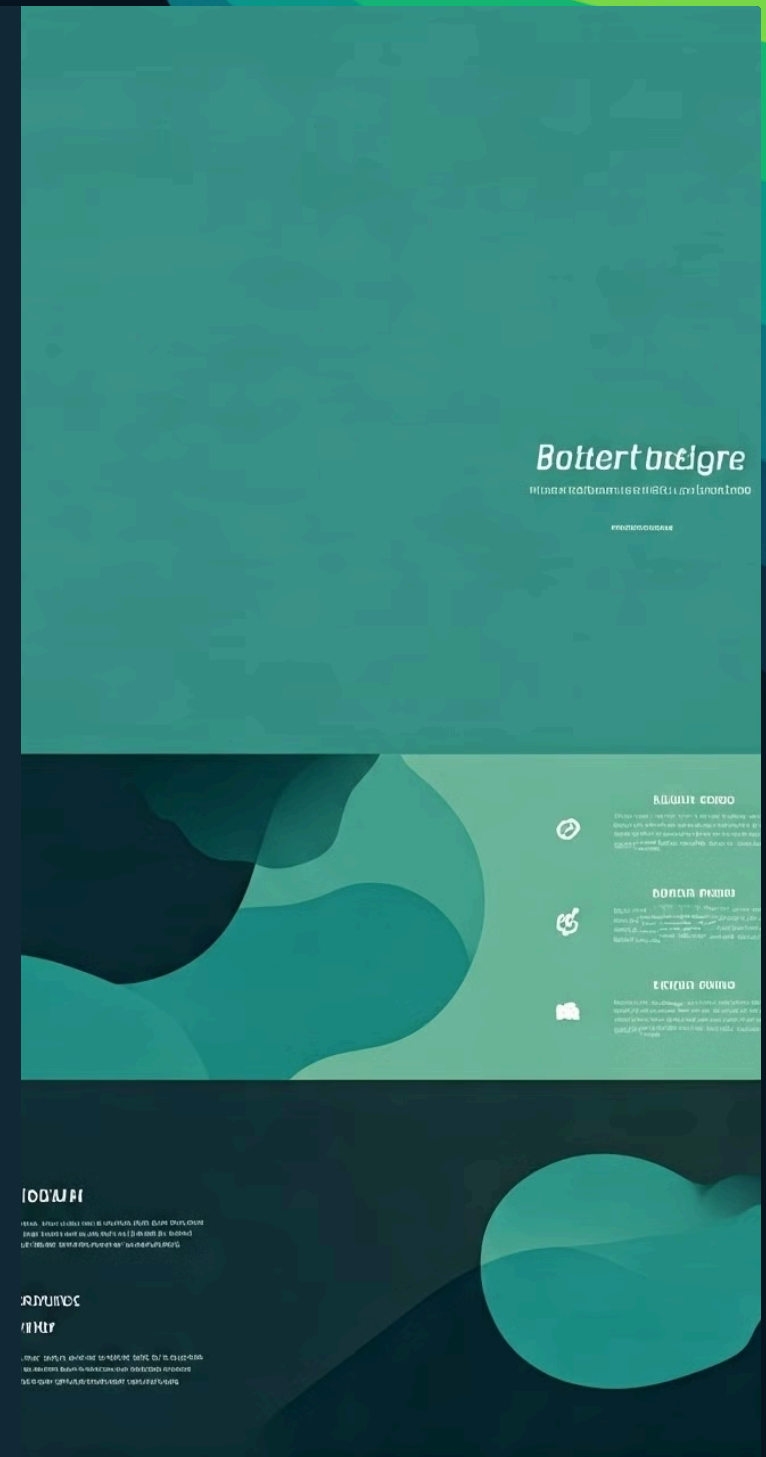
Integrate with various APIs for route data.

3 Flask (Python)

Provides the backend API for route optimization, handling HTTP requests and API interactions.

4 React.js & Leaflet

Power the user-friendly, interactive interface.



Real-World Scenario

1

Input Route

San Francisco to Los Angeles, key logistical points

2

Data Processing

Traffic, weather, and carbon emissions data analyzed

3

Route Optimization

10% less travel time, 35% reduced emissions

4

Real-Time Updates

Dynamic adjustments based on changing conditions



User Experience & Design

Simplicity

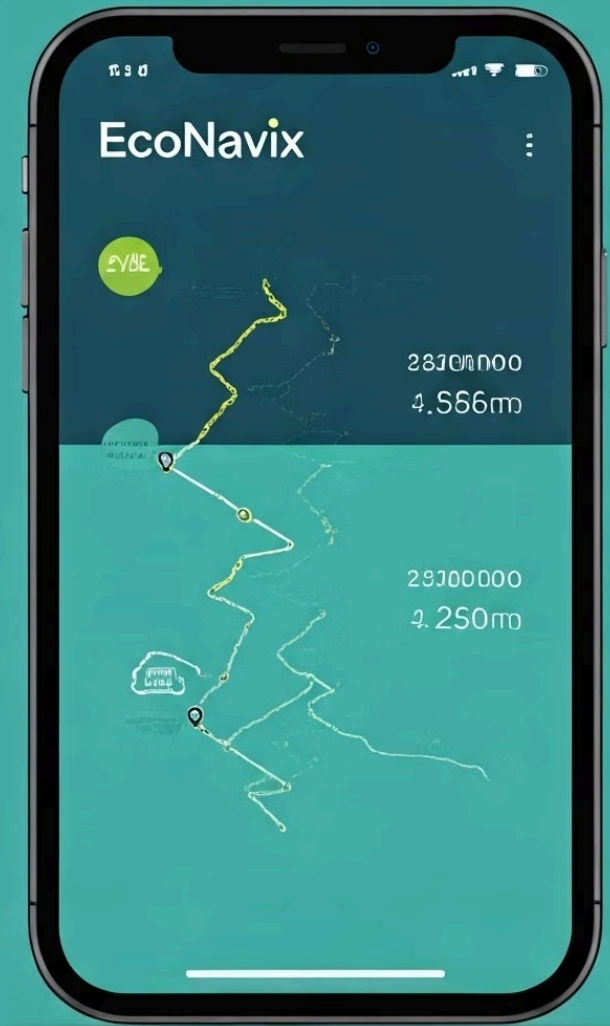
Intuitive interface despite complex backend algorithms

Visibility

Clearly displays emissions saved, fuel usage, time differences

Encouragement

Encourages sustainable choices without technical details



Teamwork & Collaboration



AI Integration

Samarth: AI integration and back-end logic



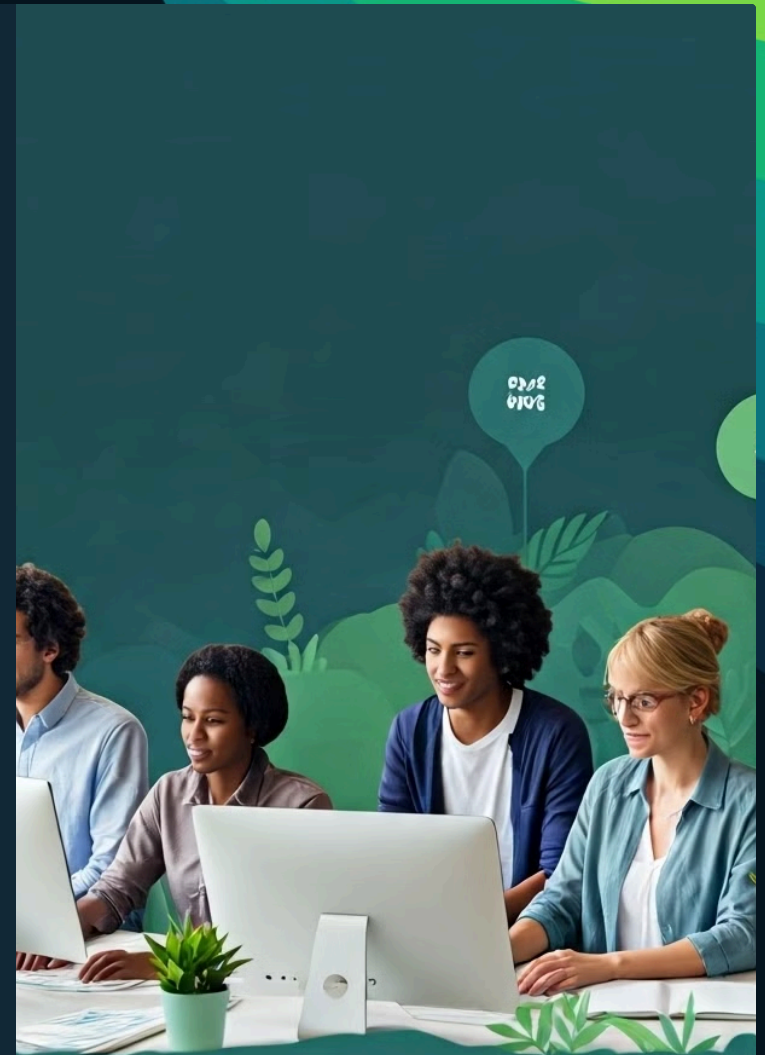
Frontend Development

Tej: React.js and Leaflet for mapping



API Integration

Sachin: API integration and back-end routing



Future Development

1

Expansion

Electric vehicle route optimization and autonomous delivery systems

2

AI Improvement

Incorporating more datasets for precise sustainability-performance balance

3

Ultimate Goal

Become the go-to platform for sustainable logistics

