



Team Name – DragonZ



# Team Details

## Team Members

- Member 1 - Nikhil Chauhan
- Member 2 - Sridhar Vasudevan
- Member 3 - Rishabh Kumar

## About Us

We are passionate developers and innovators committed to creating sustainable solutions that make a real difference in the world.



**Sustainable  
Shopping  
EXPERIENCE**

**Theme - Sustainable Shopping Experience**



# a) Problem Statement

## The Sustainability Crisis in E-Commerce

- 🌐 2.5 tons CO<sub>2</sub> - Average annual carbon footprint per online shopper
- 📦 165 billion packages shipped annually with 30% return rate
- ❓ 78% of eco-claims are unverifiable or misleading
- 💰 20-40% premium on sustainable products with no clear ROI

## Core Challenges

- **Information Asymmetry:** Consumers can't verify sustainability claims
- **Decision Fatigue:** No clear way to compare environmental impact
- **Fragmented Experience:** No unified platform for sustainable shopping
- **Last-Mile Waste:** Excessive packaging and inefficient shipping



# Our Solution :GreenCart



# powered by EarthScore

## Overview

An AI-Driven Sustainable Shopping Ecosystem

**Vision:** Transform Amazon into the world's first carbon-transparent marketplace

### Key Components:

- AI-Powered Eco-Recommendations
- Dedicated Green Store with Product Grading
- Personal Impact Dashboard
- Sustainable Packaging Options
- Group Buying for Reduced Emissions





# How GreenCart Works ?



## Product Sustainability Score (0-100)

- Carbon Footprint (30%)
  - Manufacturing emissions
  - Transportation distance
  - End-of-life disposal
- Materials & Packaging (25%)
  - Recyclability index
  - Biodegradability score
- Ethical Sourcing (25%)
  - Fair trade certification
  - Supply chain transparency
- Product Longevity (20%)
  - Durability rating
  - Repairability index

## The EarthScore Algorithm





# Features in Action:

- **Smart Search:** "Show me water bottles with EarthScore > 70"
- **Impact Tracking:** Real-time carbon savings visualization
- **Group Buying:** "5 neighbors want this item - save 40% packaging"





# b) Working Backwards from Customer

## Our Target Customers

### 1. The Conscious Consumer (25%)

- Profile: Urban, 25-45, higher income
- Pain Point: Can't verify green claims
- Need: "Show me my real impact"



The **Conscious**  
Consumer



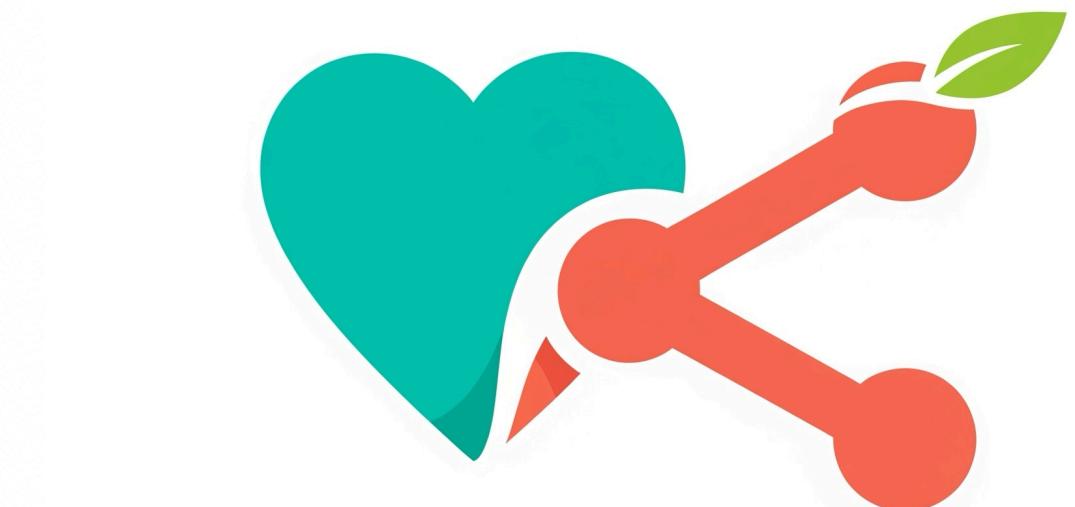
## 2. The Budget-Conscious Green (40%)

- Profile: Wants sustainability within budget
- Pain Point: Eco products too expensive
- Need: "Help me be green affordably"



## 3. The Social Advocate (20%)

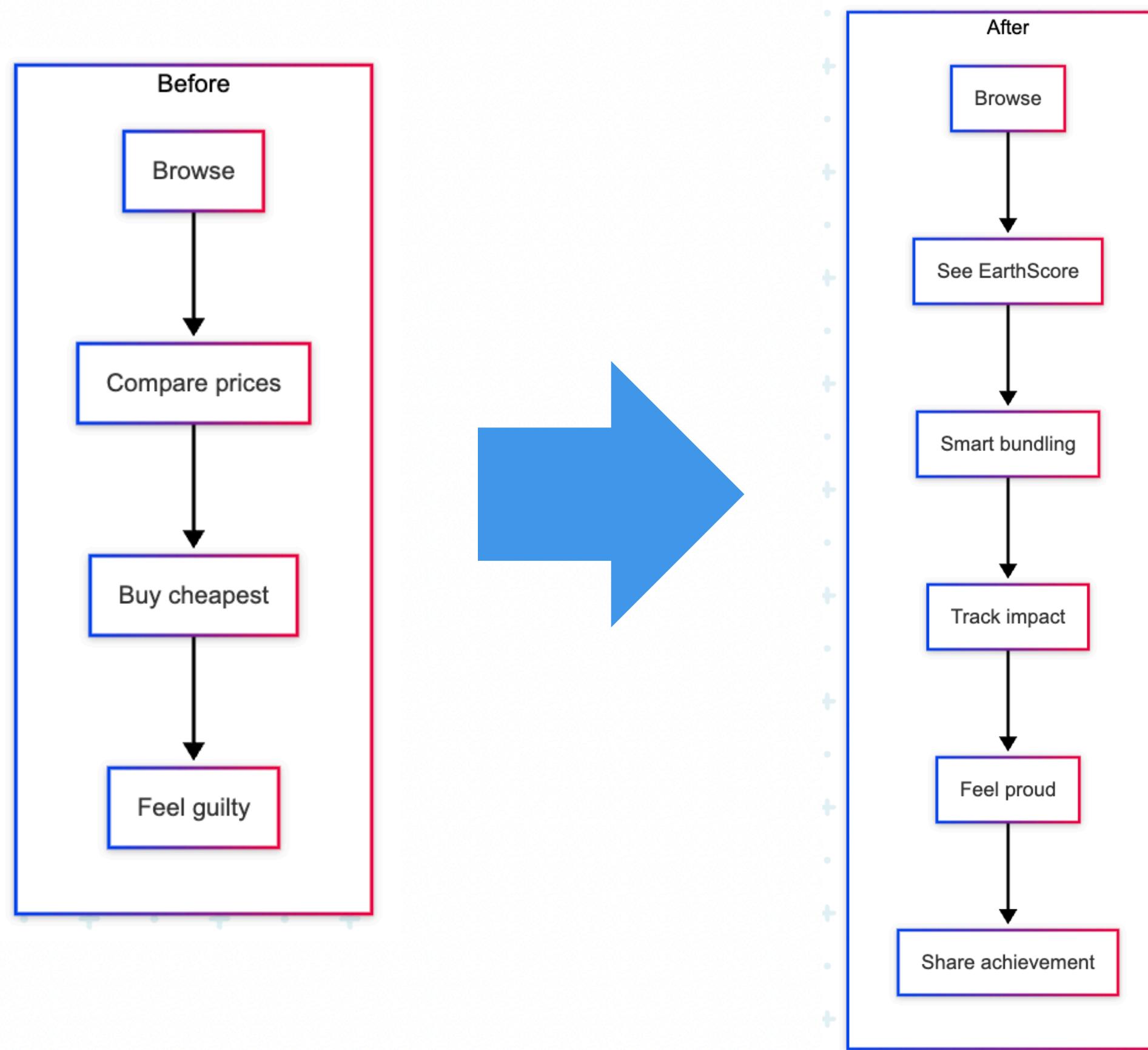
- Profile: Shares values online
- Pain Point: No way to showcase impact
- Need: "Let me inspire others"



The Social Advocate



# Customer Journey Transformation



**GreenCart**



# c) Success Metrics & Impact



## 1. Business Metrics

- Recommendation CTR Uplift
- Target a 20 % higher click-through rate on eco-ranked items vs. generic listings
- Revenue Growth
- +250 % sustainable-product sales (Year 1)
- +18 % average order value (via smart bundling)
- +35 % customer retention

## 2. User Engagement & Adoption

- Group-Buy Participation
- 15 % of active users join  $\geq 1$  group purchase per quarter
- 30 % overall group-buy adoption rate
- Dashboard & Social
- 5 million+ daily active dashboard users
- 10 million+ social shares of impact achievements



**GreenCart**



### 3. 🌱 Environmental Impact

- Per-User Carbon Reduction
- 10 kg CO<sub>2</sub>e monthly decrease per active shopper
- Aggregate CO<sub>2</sub> Savings
- 1 million tons CO<sub>2</sub> saved annually
- Packaging Waste Reduction
- -30 % single-use packaging per green-pack order
- -40 % overall packaging waste
- Return Rate Improvement
- -25 % fewer returns



**GreenCart**



## 4. Societal Impact

- Education: Users aware of carbon footprint
- Behavior Change: Sustainable shopping becomes default
- Industry Transformation: Competitors forced to follow
- Planet: Measurable reduction in e-commerce emissions



**GreenCart**



# d) Scalability & Marketplace



## Domain Expansion



**GreenCart**

### 1. Microservices & API-First Architecture

GreenCart is built on decoupled microservices with an API-first approach, enabling rapid integration into existing e-commerce platforms and third-party marketplaces. This design simplifies updates, testing, and horizontal scaling as demand grows.

### 2. Marketplace Licensing (SaaS)

- Short-Term: SaaS (Software-as-a-Service)
- Full-Term: We'll package our recommendation and grading engines into a SaaS offering that retailers and marketplaces can license—allowing them to embed EarthScore calculations and eco-recommendations without heavy in-house development.



### 3. Enterprise Procurement Integration (B2B)

- Short-Term: B2B (Business-to-Business)
- Full-Term: Extend EarthScore into corporate procurement systems, giving enterprises a centralized view of vendor sustainability, carbon savings, and ethical sourcing metrics at scale

### 4. Vertical Integration with Key Retail Brands

- **Amazon Fresh:** Embed food-miles tracking so perishable items show real-time carbon footprints at point of sale.
- **Amazon Fashion:** Surface sustainable-materials badges and ethical-sourcing flags on apparel.
- **AWS Marketplace:** Offer carbon-neutral cloud services through certified offsets for infrastructure.
- **Whole Foods:** Install in-store EarthScore displays at checkout lanes to inform shoppers



## 5. Platform Evolution

- EarthScore-as-a-Service (B2B API)
- Provide a RESTful API for third parties to request EarthScore™ data and integrate scoring into their own UIs.
- Carbon Trading Marketplace (P2P)
- Build a peer-to-peer (P2P) offset exchange where users and businesses can buy, sell, and retire carbon credits.
- Green Finance
- Launch sustainability-linked financial products—green loans, rewards, and insurance discounts—tied directly to a user's or business's EarthScore™ performance.



## 6. Geographic Rollout

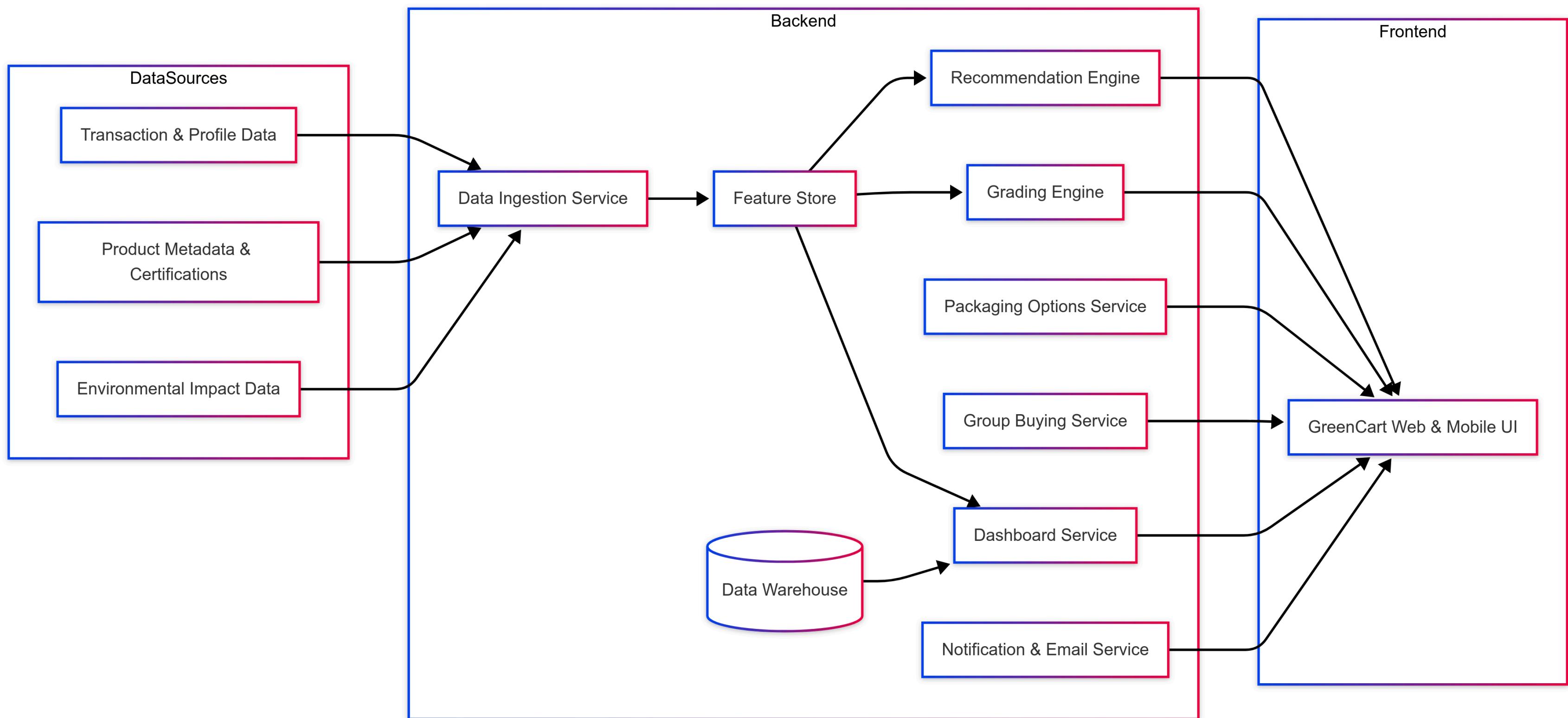
- Phase 1: US Market (Regulatory clarity)
  - Launch in the United States, where environmental and labeling regulations are well-defined.
- Phase 2: EU Market (GDPR-ready)
  - Adapt data flows for the General Data Protection Regulation and align with EU eco-label standards.
- Phase 3: Asia-Pacific (India, Japan)
  - Tailor features for rapidly growing eco-conscious segments in India and Japan.
- Phase 4: Global Expansion
  - Localize language, payment, and compliance for broader international markets.



# e) Architecture Details



# High-Level System Design





# Technical Components

- **Data Ingestion:** Streams user purchases, profiles, and third-party sustainability datasets.
- **Feature Store:** Serves precomputed signals (e.g., user green-score, product footprint).
- **Recommendation Engine:** Ranks products by customized sustainability score and user intent.
- **Grading Engine:** Evaluates new SKUs via carbon data, material sourcing, and end-of-life factors.
- **Packaging Options Service:** Calculates environmental trade-offs and costs.
- **Group Buying Service:** Manages lobby creation, order aggregation, and savings.
- **Dashboard Service:** Presents real-time impact visualizations.
- **Notifications:** Remind users of expiring eco-offers and group buys.



## Some Other Core Services

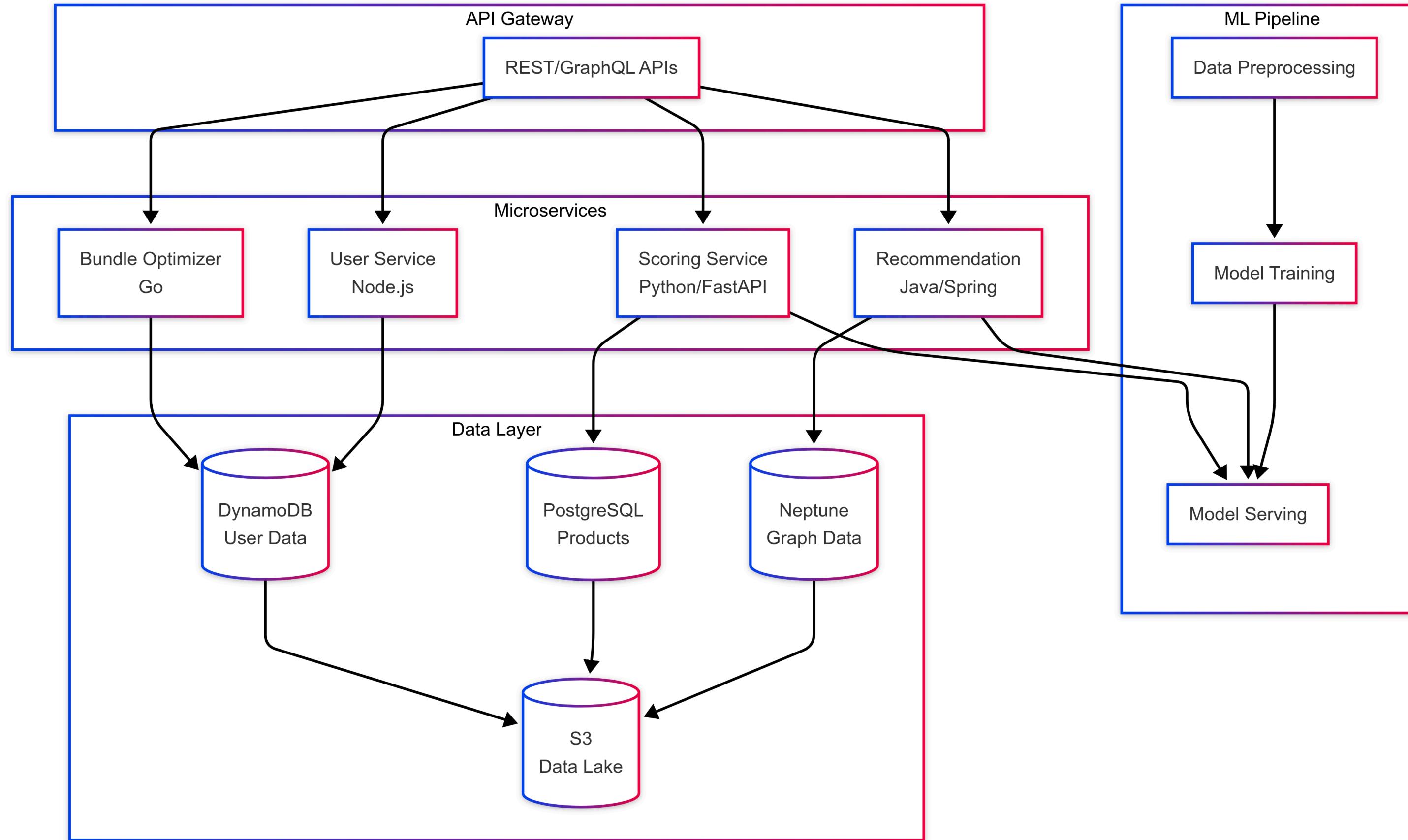
- EarthScore Engine: Real-time sustainability scoring
- Smart Bundling AI: Optimizes orders for minimal packaging
- Recommendation Service: Personalized green alternatives
- Impact Tracker: Gamified carbon savings dashboard

## Others & Future Enhancements

- **Blockchain Traceability:** Integrate a distributed ledger to verify origin and supply-chain sustainability claims, boosting trust and compliance ([companionlink.com][8]).
- **Standardised Reporting:** Align with emerging global frameworks (e.g., EU CSRD, G7 Circular Textiles) to simplify multi-brand sustainability metrics.
- **Resale & Circular Channels:** Partner with AI-powered secondhand platforms (e.g., Encore) to recommend vintage/used alternatives and extend product lifecycles



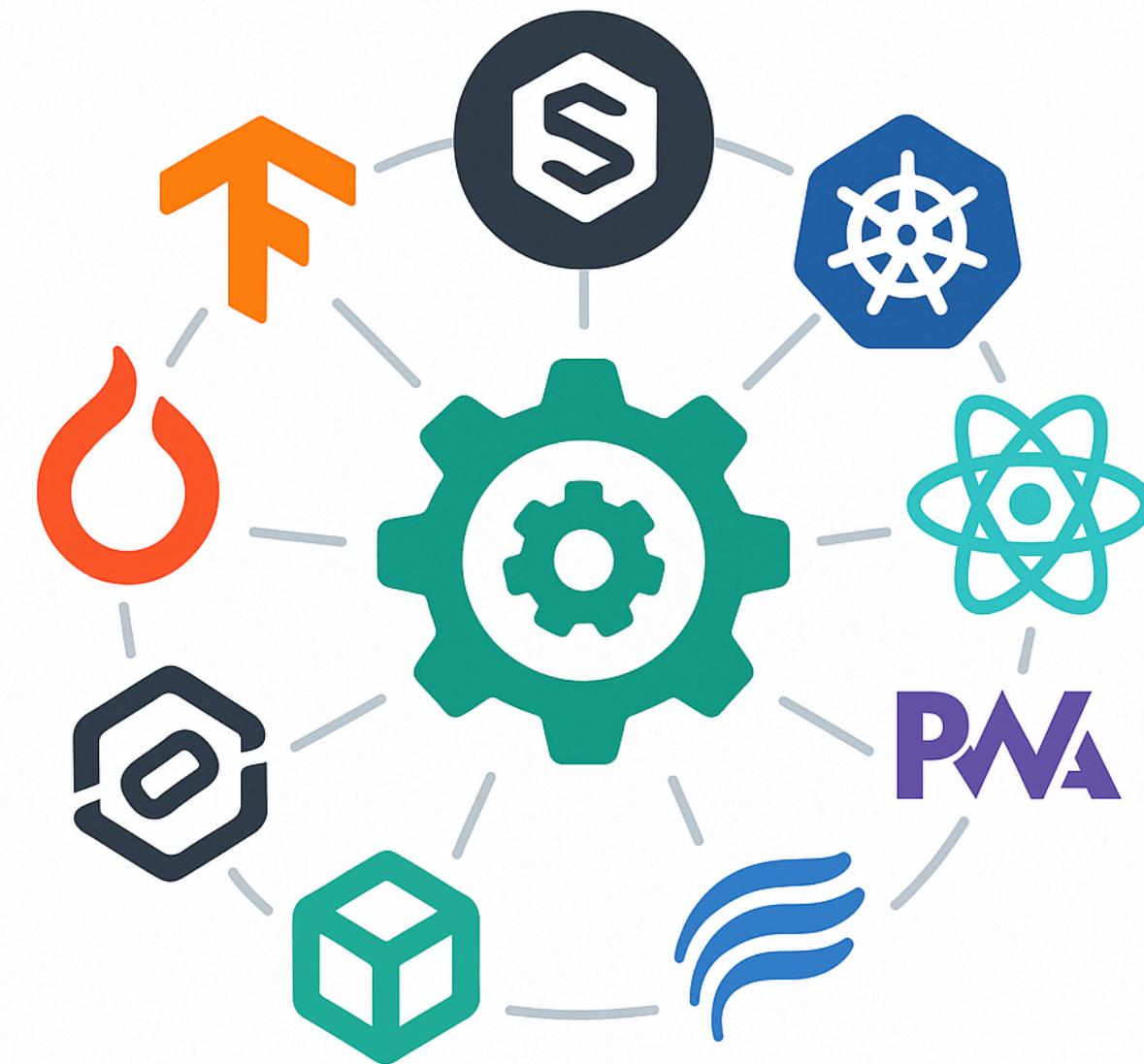
# Detailed Microservices Architecture





## Key Technologies

- AI/ML: TensorFlow, PyTorch, SageMaker
- Backend: Microservices with Kubernetes
- Frontend: React, PWA, AR.js
- Blockchain: Hyperledger for verification
- Analytics: Real-time with Kinesis





# Competitive Advantages



## Why we think **GreenCart** is viable ?

### 1. First-Mover Advantage

- First comprehensive sustainability platform in e-commerce
- Sets industry standard for transparency

### 2. Network Effects

- More users = better group buying deals
- Seller competition drives sustainability

### 3. Data Moat

- Large sustainability dataset
- Proprietary EarthScore algorithm

### 4. Ecosystem Integration

- Seamless with Prime, Alexa, Whole Foods
- B2B expansion opportunities



# Thank You!

## Team DragonZ

“Building a Sustainable Future, One Purchase at a Time”



*We look forward to hearing from you soon!*

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