

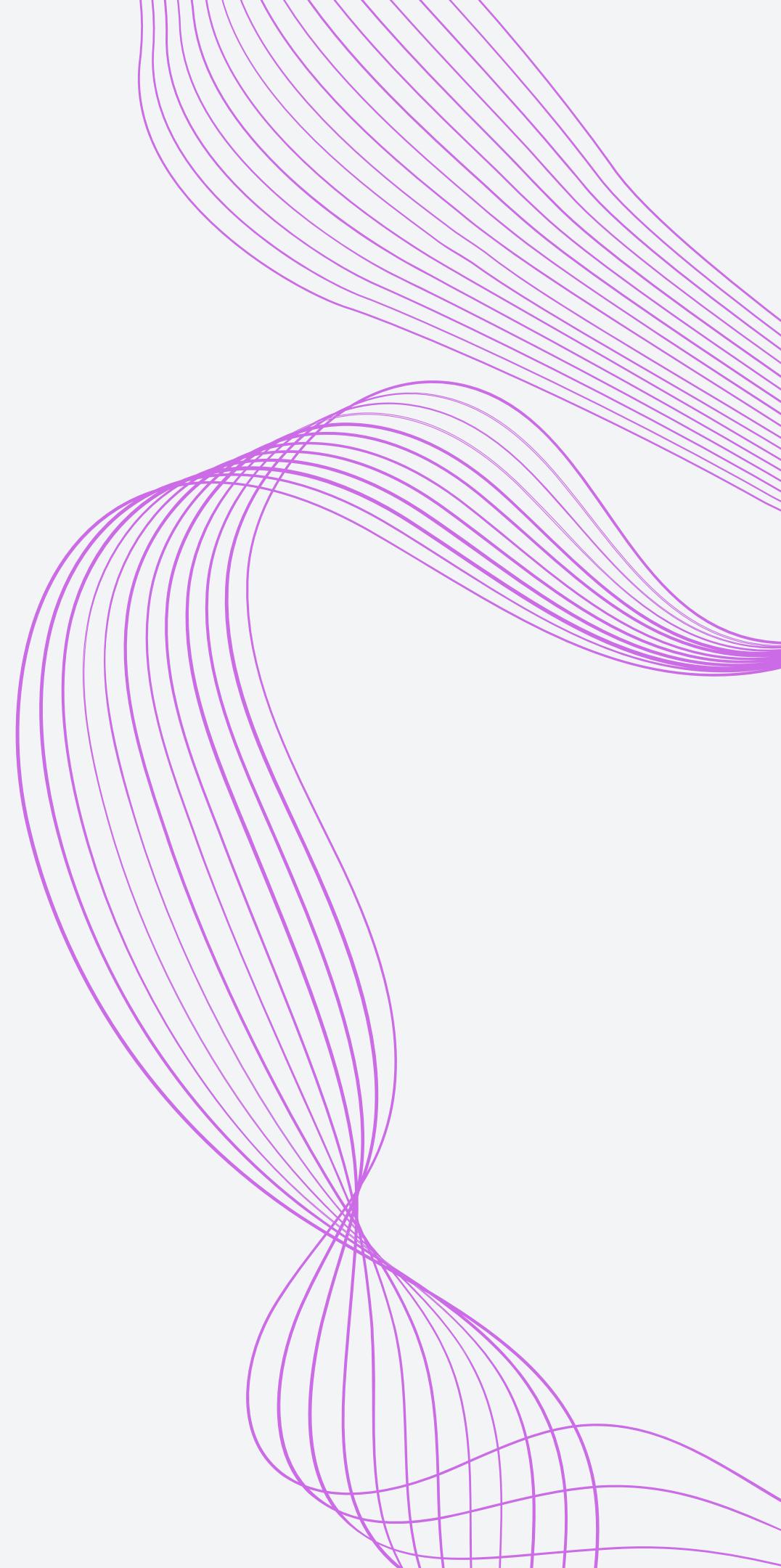
TOUR CONNECT

Decentralized Tourism Platform

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CONTENT

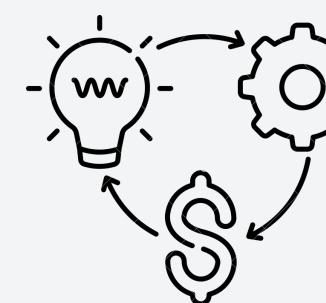
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INTRODUCTION

Tour Connect is a decentralized eco-tourism platform that redefines how tourism interacts with local communities, conservation efforts, and the environment. Built on blockchain technology, it ensures transparency, fair resource distribution, and empowers stakeholders to participate in sustainable tourism practices. The platform fosters a community-driven, transparent ecosystem where tourists, local service providers, and conservation efforts can thrive together.



PURPOSE

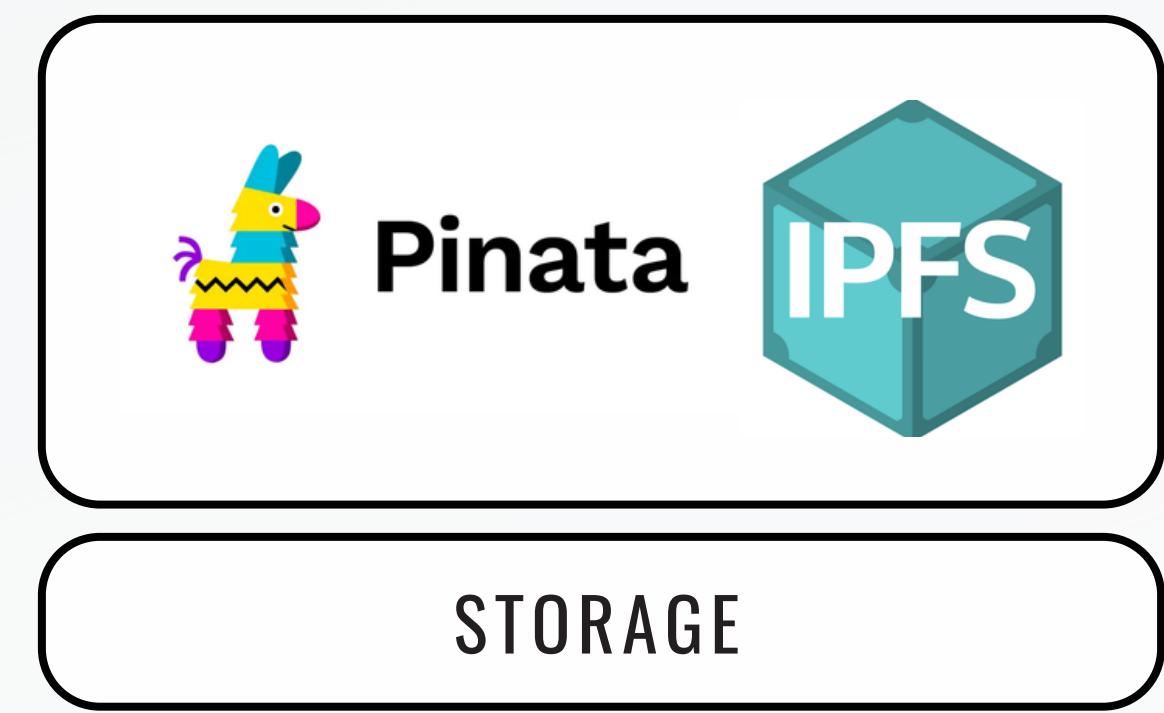
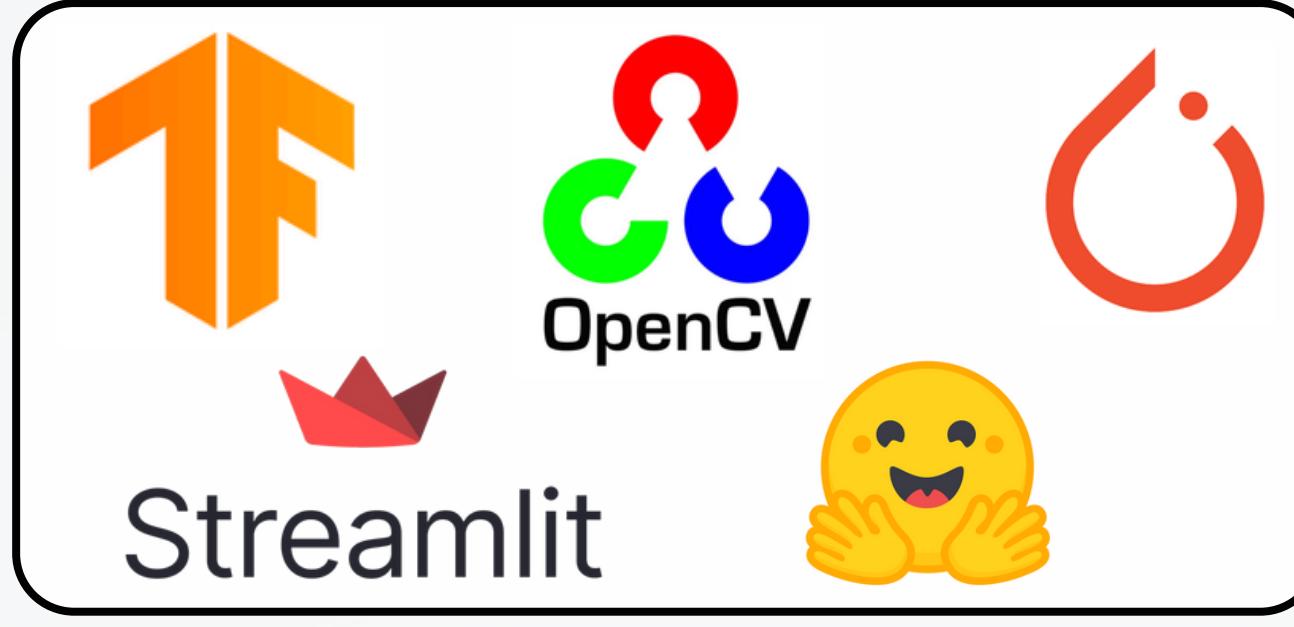
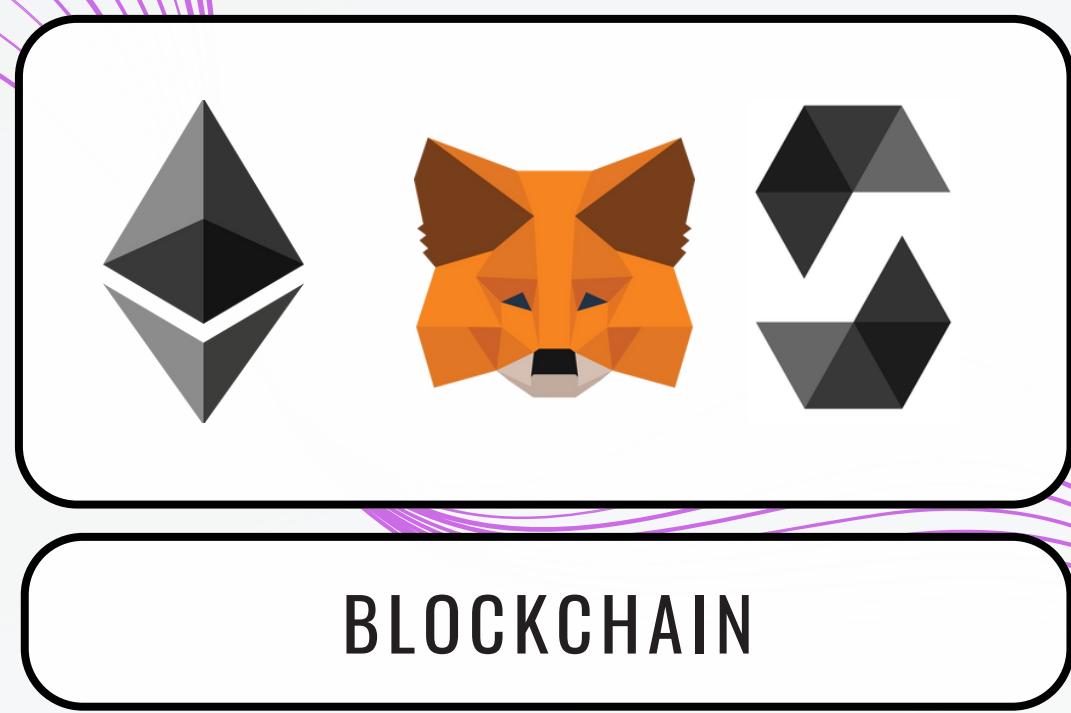


- **Empower Local Communities & Conservation:** Ensure fair compensation for local service providers and direct funding for biodiversity preservation through transparent blockchain transactions.
- **Promote Sustainable Tourism:** Incentivize eco-friendly behaviors and responsible tourism, creating a global ecosystem where tourists and communities actively contribute to environmental conservation.
- **Ensure Transparency & Accountability:** Use blockchain to guarantee transparent distribution of resources, building trust among all stakeholders involved.

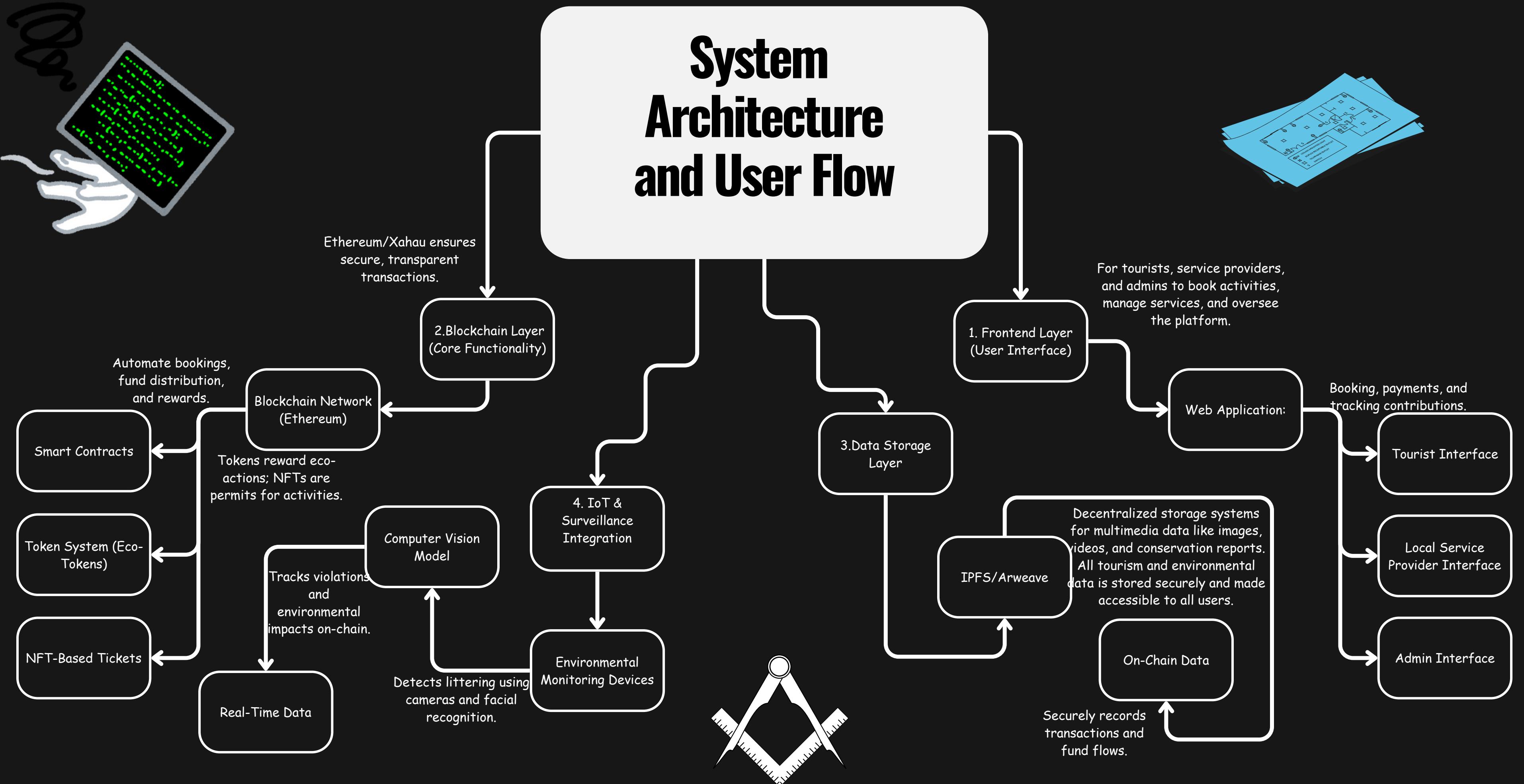
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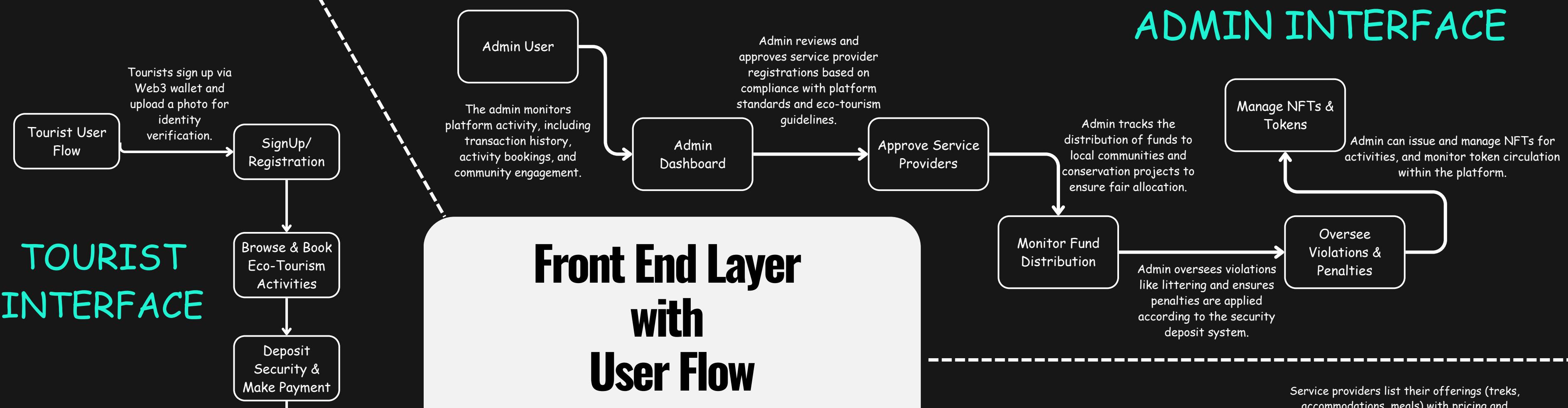
TECH STACKS



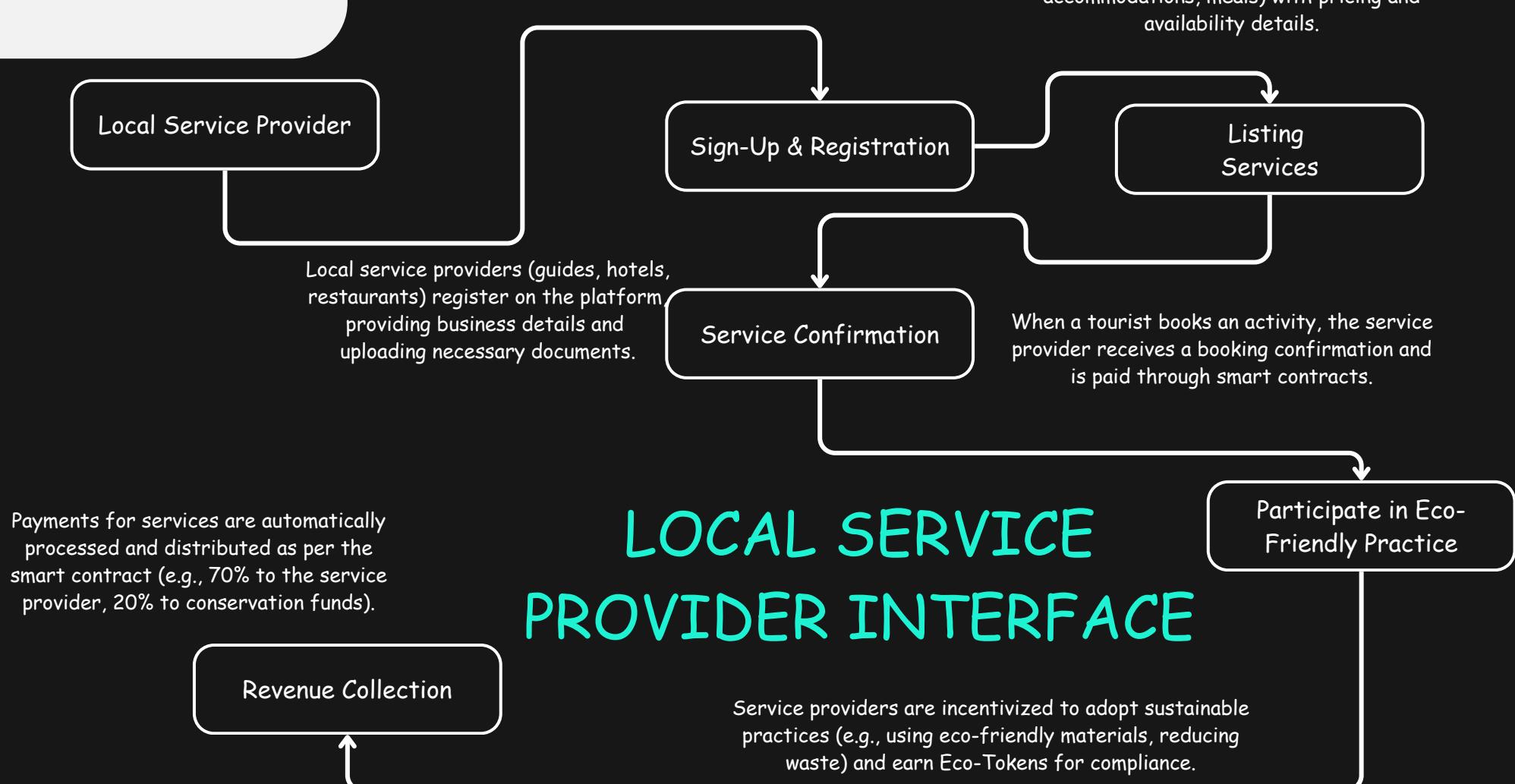
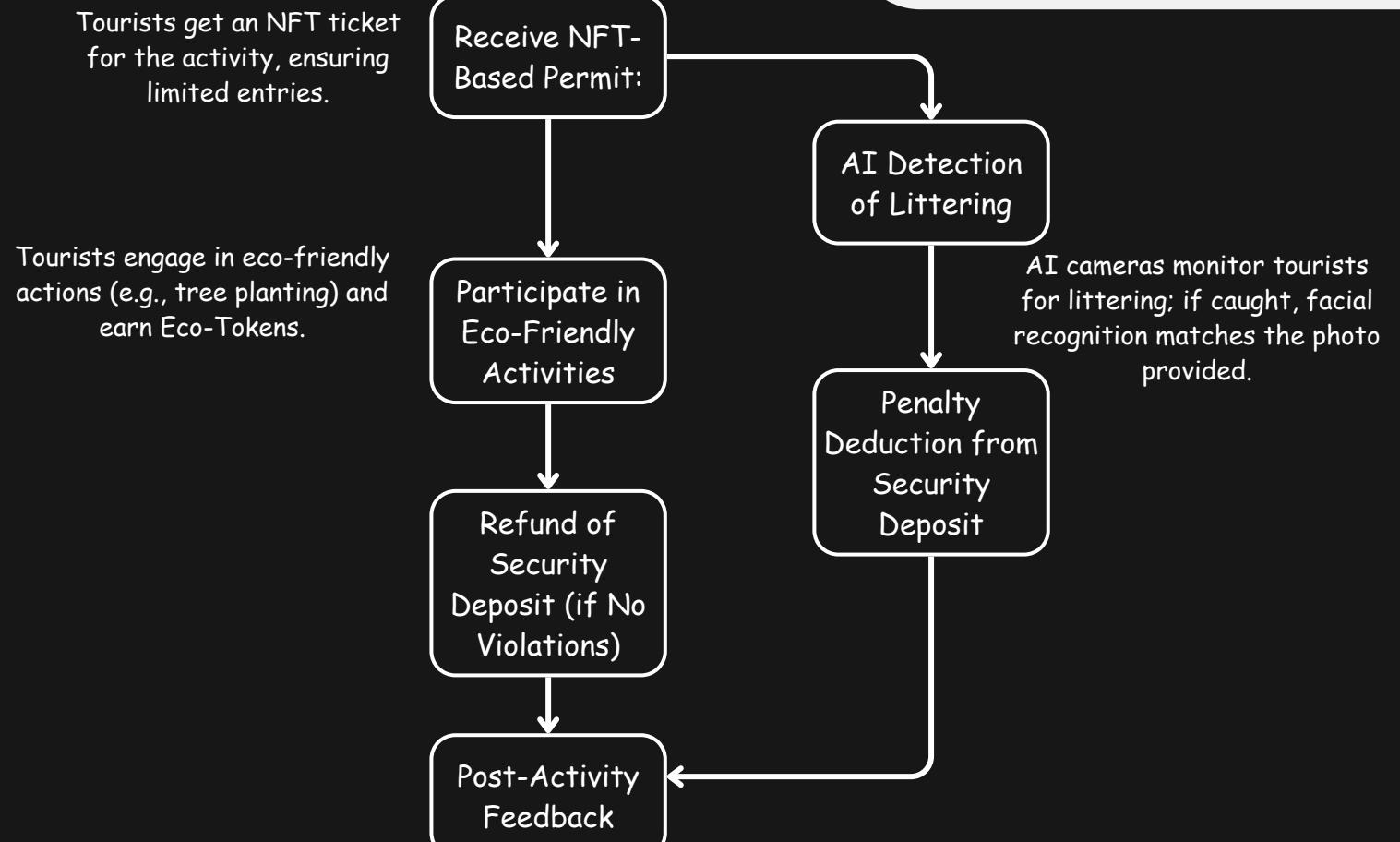
System Architecture and User Flow



ADMIN INTERFACE



Front End Layer with User Flow



LOCAL SERVICE PROVIDER INTERFACE

WHY TOUR CONNECT ?

	Tour Connect	Traditional Methods
Transparency	Blockchain-based, immutable records ensure full transparency.	Prone to hidden charges, fraud, and lack of traceability.
Eco-Friendliness	Encourages responsible tourism through eco-tokens and AI-powered litter detection.	No mechanisms to monitor or promote eco-friendly practices
Security	Smart contracts automate processes like refunds and penalties; NFT-based ticketing.	Manual processes with a higher risk of fraud or data breaches.
Affordability	Offers middle-class-friendly security deposits and tokens that reduce trip costs.	High intermediary fees and inconsistent pricing make it less affordable for many.
Rewards and Incentives	Tourists earn eco-tokens for good behavior, redeemable for discounts or merchandise.	No reward system for sustainable practices.
Local Business Support	Provides local businesses (guides, hotels, restaurants) with visibility and revenue streams.	Limited or no direct benefits for local service providers.

WHY TOUR CONNECT ?

	Tour Connect	Traditional Methods
Environmental Monitoring	AI and IoT devices monitor biodiversity and detect littering in real time.	Relies on manual or non-existent environmental monitoring.
Revenue Distribution	Transparent distribution of fees to NGOs, biodiversity projects, and local services.	Opaque and often centralized, with no direct contribution to conservation efforts.
Personalization	Offers curated services and seamless trip planning through a single platform.	Fragmented experiences requiring multiple platforms or agents.
Scalability	Decentralized system ensures scalability across locations and user bases.	Centralized systems limit scalability and adaptability.
User Experience	One-stop platform for booking tickets, accommodations, and services with a user-friendly UI.	Time-consuming process with multiple intermediaries.

REAL-TIME SURVEILLANCE SYSTEM OVERVIEW



PURPOSE

The goal of the real-time surveillance system is to **preserve biodiversity** by **monitoring and preventing harmful activities** in eco-sensitive areas, such as national parks, wildlife reserves, or protected ecosystems. The system aims to reduce littering, waste disposal, and other harmful practices through surveillance and automatic identification of offenders.

Computer Vision Models

COMPONENTS

Integrated Workflow

These models utilize advanced techniques to analyze video feeds and identify objects, faces, and activities in real-time.

Garbage Detection: The system uses YOLOv8, a state-of-the-art object detection algorithm, to identify and classify waste found in the environment. YOLOv8 is specifically trained to classify various types of waste into categories such as recyclable, non-recyclable, or hazardous, based on predefined labels.

Face Recognition: The face recognition system works by extracting facial features from surveillance video frames. It then matches these features with a user database to identify the individual responsible for littering or other harmful activities.

Detect Littering: Surveillance cameras strategically placed in the eco-sensitive area continuously capture video footage.

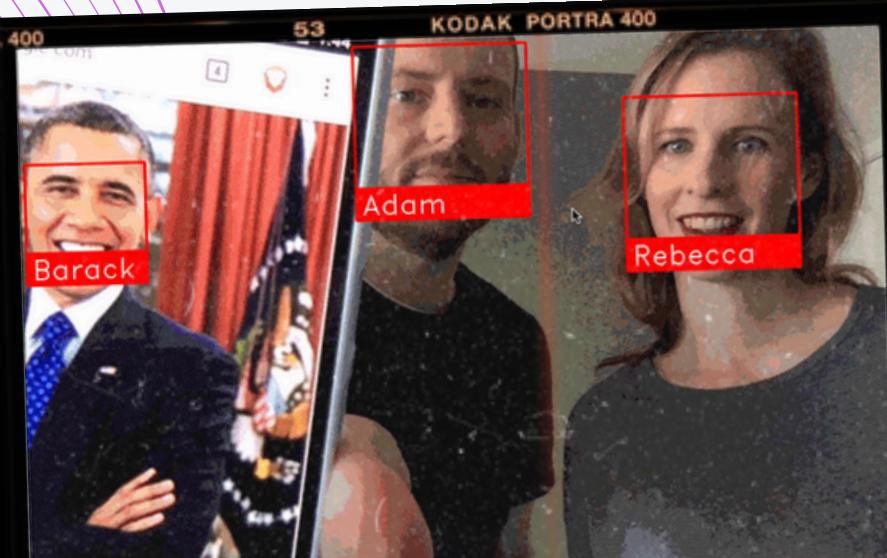
Extract Video Frames: When the system detects littering, it extracts specific video frames where the event occurs.

Identify the Individual: Using face recognition algorithms, the system extracts the individual's facial features and cross-references them with the user profile database stored in a mobile app or central system to verify the person's identity.

WORKFLOW AND ACTION

Detection

- The system uses deep learning-based models like Mask R-CNN or YOLOv8 to detect littering objects in real-time.
- Mask R-CNN provides instance segmentation to accurately segment and classify objects within an image, enabling precise identification of littering items.
- YOLOv8 focuses on real-time object detection and classification, ensuring that waste (recyclable, non-recyclable, hazardous) is identified instantly as the video footage is processed.



Identification

- Face recognition algorithms such as FaceNet extract features from detected faces in the video frames and match them against registered profiles.
- The FaceNet model uses deep neural networks to map facial features into a multidimensional space where similar faces are clustered together, allowing for reliable face matching and identification.

Action

- Once an individual is identified, the system automatically links the person to their eco-profile stored in a mobile app or central database.
- The system then automatically deducts fines for littering from the user's ticket deposit or eco-token balance. This serves as an incentive for eco-friendly behavior and ensures that violators are held financially accountable for their actions.

Effectiveness

Real-Time Monitoring: Continuous 24/7 monitoring to detect littering or harmful activities, ensuring constant vigilance over eco-sensitive areas regardless of time or lighting.

Scalable and Flexible: Easily expandable by adding more cameras or drones, adaptable to urban parks or remote reserves.

Automatic Alerts: Sends alerts to authorities with video evidence, allowing faster intervention without human monitoring.

Reduction in Manual Efforts: Reduces the need for human patrolling, allowing personnel to focus on more complex tasks.

Continuous Improvement: Learns and adapts over time, improving waste detection & face recognition accuracy with new data & feedback.

Minimized False Positives: Advanced AI models accurately distinguish littering events from irrelevant activity, ensuring only valid incidents are acted upon.

Cost-Efficient Long-Term: Reduces labor costs, fine management, and waste cleanup, making it cost-effective over time.

Benefits

Positive Social Impact: Increases public awareness, leading to long-term behavior shifts toward sustainability.

Encourages Eco-Conscious Technology Integration: Allows users to track eco-friendly actions and receive tips via a smart app. Provides tools for ongoing environmental conservation, preventing irreversible damage and promoting responsible stewardship.

Supports Environmental Policy Compliance: Assists in enforcing waste disposal and preservation regulations in eco-sensitive areas.

Data-Driven Insights: Generates valuable data for research and policy design, improving system effectiveness.

Improved Visitor Experience: Maintains clean, welcoming environments in parks and reserves by reducing littering.

Reduced Environmental Footprint: Ensures proper waste management, especially for recyclables and hazardous materials, minimizing the environmental footprint.

Cost-Efficient Long-Term: Reduces labor costs, fine management, and waste cleanup, making it cost-effective over time.

Enhanced Transparency and Accountability: Ensures fair and consistent penalties, fostering trust and compliance among visitors.

REVENUE MODEL

REVENUE STREAMS

Tourist Contributions

- **Security Deposit:** Tourists deposit a refundable security amount based on their booking. The deposit incentivizes responsible behavior and can be adjusted based on factors such as family size, individual travelers, or discounts for PWDs.
- **Booking Fees:** A small percentage is retained by the platform as a service fee for bookings made through Tour Connect.
- **Subscription Plans:**
 - **Basic Plan:** Offers tourists access to limited discounts and benefits.
 - **Premium Plan:** Provides greater perks, such as higher token rewards and exclusive offers.

Service Provider Fees

- **Registration Fees:** Hotels, restaurants, tour guides, and other local service providers pay an annual fee to register and list their services on the platform.
- **Commission on Bookings:** A percentage of each booking made through the platform is retained as commission.

Eco-Tokens and NFTs

- **Eco-Tokens:**
 - Rewarded for eco-friendly actions, such as avoiding littering or using sustainable options.
 - Redeemable for discounts, exclusive merchandise (like eco-friendly goodies and local crafts), or donations to biodiversity conservation.
- **NFT Tickets:** Digital permits issued as NFTs for eco-tourism activities, ensuring secure and transparent access. A small transaction fee is charged for NFT issuance and resales.

Penalties

- Tourists engaging in prohibited activities, such as littering, are penalized. Fines are deducted from the security deposit and used to maintain the environment.



Advertising and Sponsorships

- **Ad Spaces:** Eco-friendly brands and local businesses can advertise on the platform for a fee.
- **NGO Collaborations:** Partner NGOs are charged for visibility and access to potential donors.

Partnerships and Collaborations

- Collaborations with eco-friendly brands and local artisans to promote and sell their products.
- Partnerships with conservation organizations to support biodiversity preservation projects.

REVENUE ALLOCATION

Platform Maintenance & Operations: Supports technology infrastructure, IoT integration, and blockchain transactions.

Profit & Expansion: Ensures growth, scalability, and global adoption of the platform.

Biodiversity Conservation & NGO Support: Allocates a portion of the revenue to fund conservation projects and support local NGOs.

REVENUE MODEL FOR ONE YEAR AT A SINGLE ECO-TOURISM SPOT

Assumptions:

- 500 tourists visit monthly (6,000 tourists annually).
- 50 businesses registered on the platform (hotels, restaurants, and tour guides).

- One eco-tourism destination operating year-round.
- Security deposit doubled to ₹2,000 per tourist.



REVENUE STREAMS FOR 1 YR

Tourist Revenue

1. Security Deposits

- Average refundable deposit per tourist: **₹2,000**.
- Annual deposits collected: **₹2,000 x 6,000 = ₹1,20,00,000**.
- Refunds (90% compliance): **₹1,08,00,000 refunded; ₹12,00,000 retained from penalties.**

2. Booking Fees

- Average ticket price per tourist: **₹500**.
- Platform service fee: **10%**.
- Total booking revenue: **₹500 x 6,000 = ₹30,00,000**.
- Platform earns: **10% of ₹30,00,000 = ₹3,00,000**.

3. Eco-Tokens and Merchandise

- Tokens rewarded per tourist: **50 tokens (₹2/token)**.
- Annual token cost to platform: **6,000 x 50 tokens x ₹2 = ₹6,00,000**.
- Merchandise sales generate a profit of 20% of token redemptions: **₹1,20,000**.

Business Revenue

1. Annual Fees

- Hotels and Restaurants: **₹10,000/year per business.**
 - Total revenue from 20 businesses: **₹10,000 x 20 = ₹2,00,000**.
- Tour Guides: **₹3,000/year per guide.**
 - Total revenue from 30 guides: **₹3,000 x 30 = ₹90,000**.

2. Commission on Bookings

- Average business revenue per tourist: **₹1,000** (e.g., guides, meals, accommodations).
- Total earnings from tourists: **₹1,000 x 6,000 = ₹60,00,000**.
- Platform commission (10%): **₹6,00,000**.

3. Advertising Revenue

- 20% of businesses (10 businesses) pay for ad space at **₹5,000/month**.
- Annual advertising revenue: **₹5,000 x 10 businesses x 12 months = ₹6,00,000**.



Revenue from Penalties

- Tourists fined for littering (5% of 6,000 tourists): 300 tourists.
- Average fine per tourist: ₹200.
- Total fines collected: **₹200 x 300 = ₹60,000**.



Total Revenue for the Platform (1 year)

1. Tourist Revenue:

- Booking fees: ₹3,00,000.
- Retained security deposit: ₹12,00,000.
- Merchandise profit: ₹1,20,000.
- Fines: ₹60,000.
- Subtotal: ₹16,80,000.

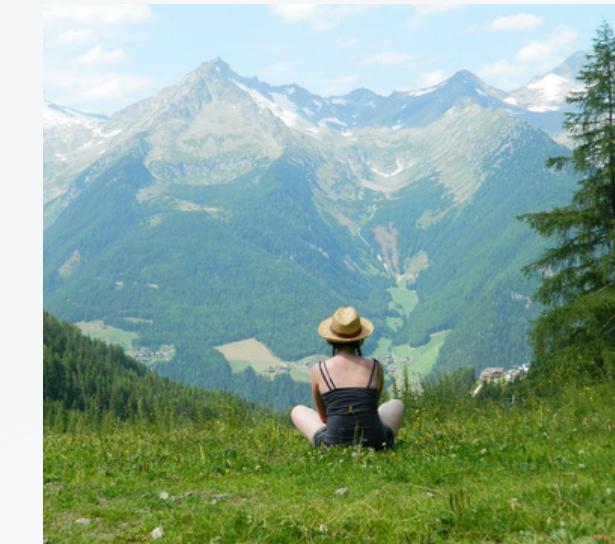
2. Business Revenue:

- Registration fees (hotels/restaurants): ₹2,00,000.
- Registration fees (tour guides): ₹90,000.
- Commission: ₹6,00,000.
- Advertising: ₹6,00,000.
- Subtotal: ₹14,90,000.
-

Grand Total Revenue: ₹31,70,000.

Scalability

- By replicating the model across 10 eco-tourism spots, total annual revenue could exceed ₹3.17 crores.
- Additional revenue potential through partnerships with biodiversity initiatives, eco-merchandise expansion, and premium eco-tourism packages.



Feasibility for Businesses and Tourists

- Hotels and restaurants: Slightly higher annual fee (₹10,000) reflects the value of increased tourist visibility and streamlined bookings.
- Tour guides: Lower fee (₹3,000) makes the platform accessible to independent guides, encouraging registration.
- Tourists: Reasonable refundable deposit (₹2,000) and affordable ticket fees (₹500) align with middle-class affordability.

BLOCKCHAIN POWERED

Considering Key Blockchain Features,
Advantages of Blockchain Integration,
Implementation Steps

NFT-Based Permits and Tickets

- Issued as tamper-proof, digital tickets for eco-tourism activities.
- NFTs ensure sustainability by capping entries to prevent over-tourism.
- Revenue generated through ticket purchases supports conservation efforts.

Blockchain-Driven Transparency

- All transactions and resource allocations are recorded on-chain for transparency.
- Smart contracts automate the distribution of funds to local communities, conservation projects, and platform maintenance.

Tokenized Incentives

- Eco-Tokens incentivize eco-friendly actions and conservation involvement.
- Tourists and locals earn tokens for activities like tree planting, reporting violations, or maintaining biodiversity.
- Tokens can be redeemed for discounts, merchandise, or donated to environmental projects.

Transparent Resource Tracking

- Blockchain records the utilization of funds for conservation and community development.
- Enables stakeholders to verify the impact of their contributions in real-time.

Smart Contracts

- Enable automated and tamper-proof fund allocation.
- Examples:
 - 70% to local communities.
 - 20% to biodiversity preservation.
 - 10% for platform upkeep.

Decentralized Governance

- Establish a DAO (Decentralized Autonomous Organization) for community-driven decision-making.
- The DAO ensures equal representation for local communities and environmental organizations in eco-tourism management.

KEY BLOCKCHAIN FEATURES



ADVANTAGES OF BLOCKCHAIN INTEGRATION

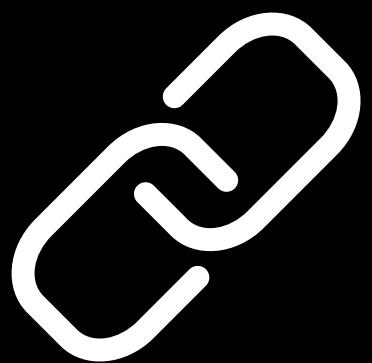
- Fair Revenue Distribution: Smart contracts ensure locals receive their fair share of eco-tourism revenue.
- Immutable Records: On-chain records prevent disputes and promote trust among stakeholders.
- Global Reach: Blockchain-backed transparency attracts eco-conscious global travelers.
- Scalability: Layer-2 solutions (e.g., Polygon) reduce gas fees, enabling cost-efficient operations.

IMPLEMENTATION STEPS

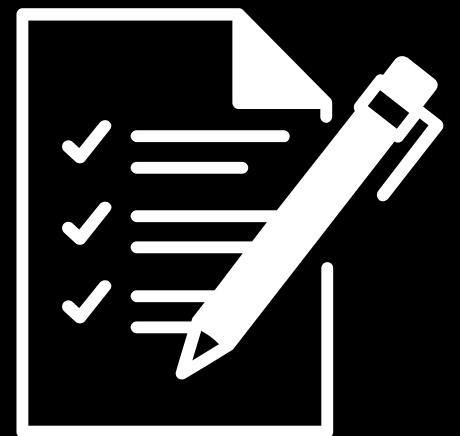
Develop a decentralized platform integrating blockchain, smart contracts, and NFTs.

Launch a pilot program in key eco-tourism hotspots (e.g., Meghalaya or Kaziranga).

Collaborate with local communities for onboarding and governance.



REFERENCES / LINKS



SYSTEM ARCHITECTURE
AND DATA FLOW
DOCUMENTATION LINK

THANK YOU

From Team Innovatorss

