

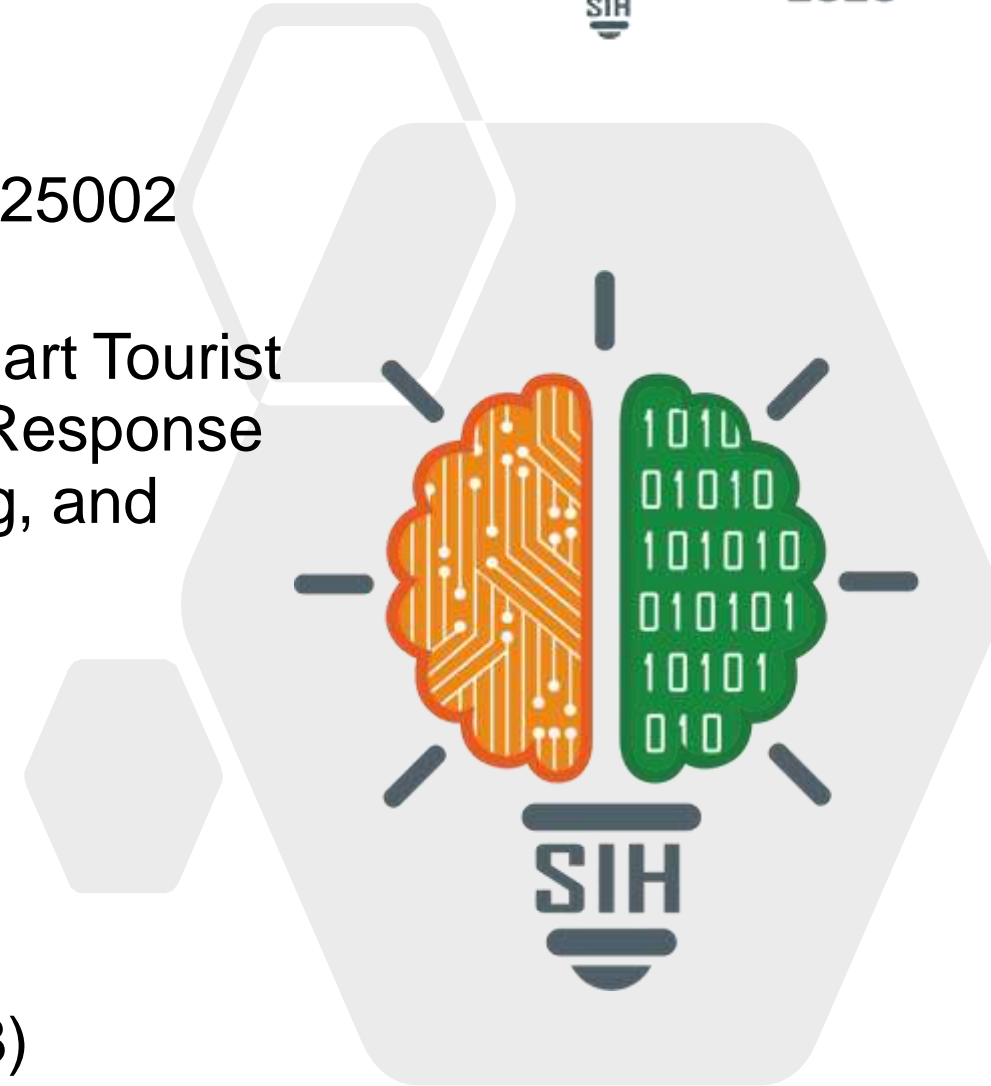


Problem Statement Title-Smart Tourist Safety Monitoring & Incident Response System using AI, Geo-Fencing, and Blockchain-based Digital ID

Theme- Travel & Tourism

PS Category- Software

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❖ Proposed Solution ([Watch Video](#))

Digital Tourist ID (with KYC & Itinerary) using Blockchain

- Secure and tamper-proof digital ID for every tourist

Tourist Mobile App Features:

- Alerts when entering risky areas (geo-fencing)
- Panic button and live location sharing
- Safety score for tourists

AI-driven anomaly detection for route deviation, inactivity

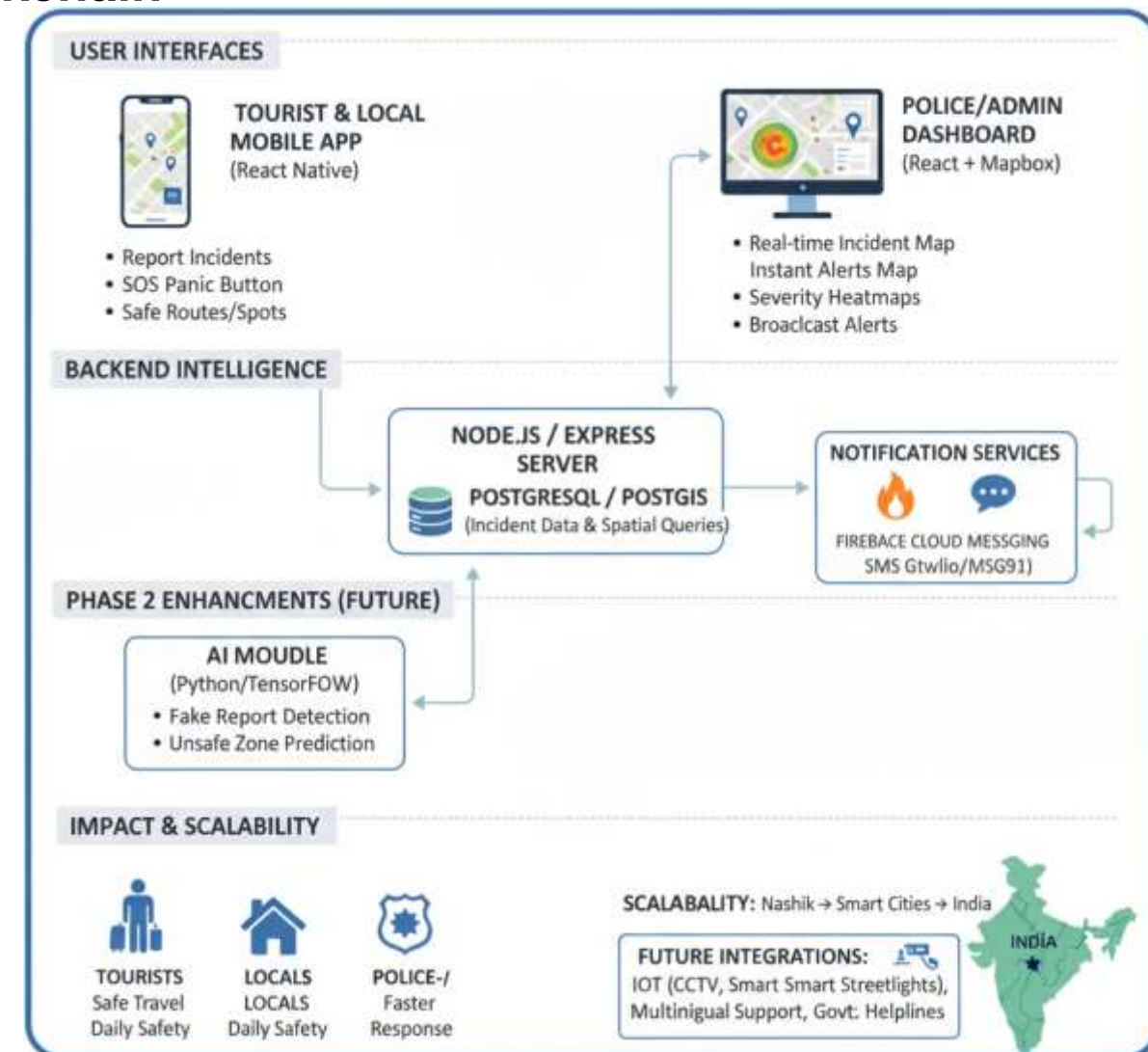
Police/Tourism Dashboard:

- Shows heat maps, alerts
- Tourist digital IDs
- Last known locations

Multilingual app (10+ Indian languages + English)

Innovation & Uniqueness:

- AI + Geo-fencing for proactive safety
- **Auto-Missing Report** If offline for 2+ hrs, it files a missing report & alerts family
- Family-accessible real-time tracking (opt-in)
- Works even in low-connectivity areas



TECHNICAL APPROACH

FrontEnd

BackEnd



([Portfolio Link](#))
([GitHub](#))

Create Tourist Account

Name:

Email:

Choose Tourist Type:

Ticket Number:

Visa Number:

Passport Number:

Upload Visa Photo: No file chosen

Upload Ticket Photo: No file chosen

Password:

Choose OTP Verification Method:

Email Address:

Create Account



Processed Data



AI/ML



Map API's



Geo Fencing API's



SMS/Notifications

KYC

Tech Used :




- **OCR** (Optical Character Recognition) for scanning passports/Aadhaar QR codes
- e-KYC APIs like **UIDAI Aadhaar e-KYC** (for domestic tourists)
- **MRZ Reader** for passports (for foreign tourists)

KYC Data Collection :


Personal Details : Name, Date of Birth, Nationality
Government ID: Aadhaar (for Indians), Passport (for foreign tourists)


Trip Details: Expected duration of stay, hotel details

Future Scope


-  **IoT Integration** – Smart street lights & CCTV alerts
-  **Wearable Biometrics** – Health monitoring & alerts
-  **AR Emergency Help** – Step-by-step crisis guide


Challenges

Blockchain scalability & GPS accuracy. 


Battery drain  & AI false alerts.


Privacy & legal compliance. 


IoT device loss & cyber threats. 


High initial cost, adoption issues. 


Solution

 Permissioned blockchain + hybrid storage.


Event-driven tracking + GPS + cell data. 


 encrypted, anonymized data.


Training , pilot rollouts, PPP funding.


Rugged, low-cost IoT wearables. 

Potential Impact (Target Audience)

- 

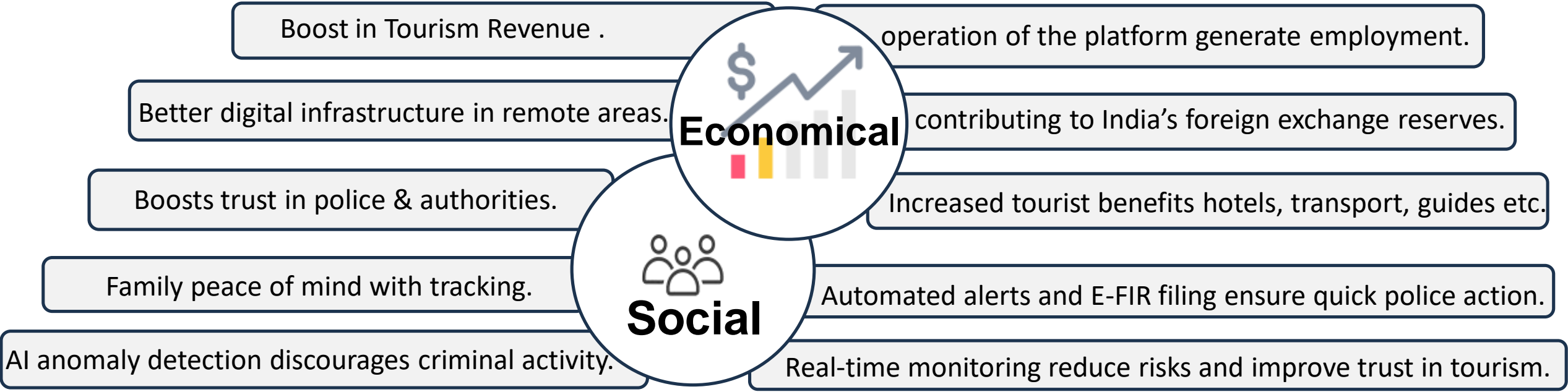
Tourists: Safer travel, quick emergency help, peace of mind.
- 

Families: Real-time tracking & alerts for loved ones.
- 

Police/Tourism Dept.: Faster response, better monitoring, fewer manual efforts.
- 

Government: Improved tourism image, higher tourist inflow, trust building.

Benefits



Government Reports & Policies

- [Ministry of Tourism, Government of India – Annual Tourism Report \(2024-25\)](#)
- [NCRB \(National Crime Records Bureau\) – Missing Persons & Tourist Safety Data \(2022\)](#)

Academic Research Papers

- [Blockchain-Based Digital Identity for Secure Travel – IEEE Access, 2022 – IEEE Access, 2022](#)
- [Mobility Management With AI– IEEE Access, 2022](#)
- [GEO Fencing System Using Machine Learning – International Journal of Research Publication and Reviews, 2024](#)

Industry Case Studies & Reports

- [UNWTO \(United Nations World Tourism Organization\) – Global Tourism Safety Guidelines](#)
- [World Economic Forum Report on Digital Trust: Supporting Individual Agency \(2024\)](#)
- [NITI Aayog Whitepaper on Blockchain for Governance \(2020\)](#)
- [KPMG Report on why government needs AI more than ever \(2021\)](#)

Existing Solutions / Projects

Solution	Key Features	Limitations / Gaps
Atithi Bharat	A digital travel ID for tourists: KYC via Aadhaar/DigiLocker or passport, and verification at hotels to avoid manual document checking.	Doesn't seem to include real-time tracking, geo-fencing, anomaly detection, or integrated dashboard for police. More focused on hotel-check-ins.
CitizenCOP	Mobile app coordinating with police departments; allows citizens to report crimes, send alerts etc.	Does not integrate travel itineraries, digital IDs, or geo-fencing; not specifically designed for tourists; lacks anomaly
Safetipin	Safety-score mapping of areas; users can mark safe/unsafe zones; uses maps, GPS; emergency contacts etc.	Not linked to a formal identity; misses digital ID, blockchain, broader incident response with law enforcement; may not have device-oriented tracking.

Key Features	Secure ID	Geo Tracking	Geo Fencing	Auto/E-FIR	Place Safety score	No Network Solution
	✓	✓	✓	✓	✓	✓