SMART INDIA HACKATHON 2025

TITLE PAGE

- **Problem Statement ID-**SIH20025
- **Problem Statement Title-**Smart Tourist Safety Monitoring & Incident Response System using Al, Geo-Fencing, and Blockchain-based Digital ID
- **Theme-**Travel & Tourism
- **PS Category Software/Hardware-**Software
- **Team ID-**
- **Team Name (Registered on portal**)-CodeCatalysts

GuideMyTrip – Your Companion for Safe Journeys

Detailed Explanation of the Solution

Implementation of a **Tourist Safety & Security System** integrating Blockchain-based Registration, AI Monitoring, Geo-fencing, and Emergency Response for safe travel experiences.

- **Blockchain** for secure digital registration with **QR-verified** IDs and emergency contacts.
- **Real-time GPS** tracking with AI safety scoring and **anomaly detection.**
- Geo-fencing to **identify danger** zones with time-based restrictions.
- Route analysis to detect deviations from planned paths.
- Emergency response system with **SOS button** and automatic alerts.
- Authority dashboard and **E-FIR system** for monitoring and reporting.
- User-friendly, **multilingual** interface for inclusivity and accessibility.

How it Addresses the Problem

- Blockchain-based digital ID **prevents fraud** & ensures trusted registration.
- AI-powered monitoring, geo-fencing & route analysis **detect risks early.**
- **SOS alerts**, auto E-FIR & authority dashboard enable **instant action**.

Innovation and Uniqueness

- Blockchain-secured Registration
- AI **Safety Score** (0–100)
- Integrated Authority Tools, **automated E-FIR.**
- Instantly **report incidents** or suspicious activity
- **AI Prediction** to anticipate incidents before they occur.
- **Multi-Lingual** support for instant translation for emergencies.

TECHNICAL APPROACH

Tech Stack

Backend: Express.js, Python (AI/ML microservices)

Frontend: React.js (authority dashboard UI), Flutter (tourist mobile app)

Security: AES-256 encryption, GDPR compliance framework

APIs: Twilio (SMS/emergency alerts), Google Maps API (geofencing & tracking)

AI Models: TensorFlow, Scikit-learn (anomaly detection analytics)

Blockchain: Ethereum (digital tourist IDs for identity verification)

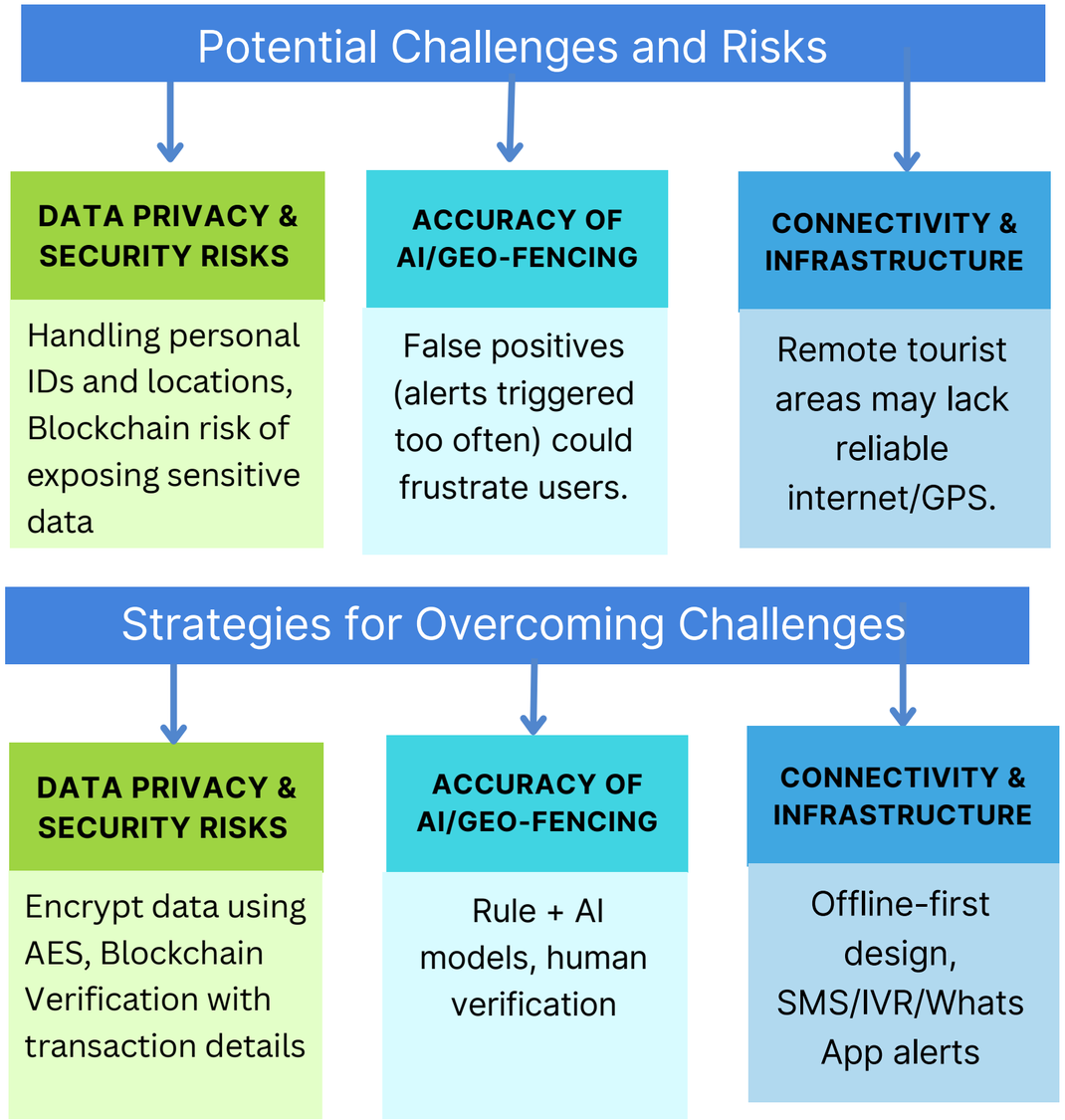
Database: PostgreSQL (user data storage)

Internationalization: i18n, Google Translate/i18next (multilingual support)

FEASIBILITY AND VIABILITY

Feasibility Analysis:

- **Technical**:
  - Prototype: Mobile/Web app + dashboard + blockchain
  - **APIs**: Maps, Firebase, QR, Twilio
  - Future: IoT integration, Chatbot
- **Operational**:
  - Tourists & authorities already **smartphone-ready**
  - Integrates with police & tourism workflows
- **Economic**:
  - Minimal **cloud costs** for prototype
  - Pilot rollout **low-cost** at state level
- **Scalability**:
  - Expand from one state → nationwide → global
  - Backend APIs + multilingual support



BENEFITS AND IMPACT

Benefits of the Solution

Social

Inclusive and accessible travel for elderly, disabled, and global tourists.

Economic

Strengthens local and national economies through safe, reliable tourism.

Environmental

Encourages sustainable tourism, reduces overcrowding, and protects heritage.

Potential Impact

Real-time monitoring + alerts → increased **confidence**

Authority Efficiency: Automated alerts + data-driven response

Tourism Growth: Builds **trust** → increased inflow & better crisis management

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RESEARCH AND REFERENCES

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- [Exploring the Potential of AI in Tourism Security]
- [A Blockchain-Based Framework for Smart Tourism]
- [Decoding Geo-Fencing: Practical Use Cases for Reducing Operational Risks.]
- [https://github.com/CHINMAYBHT/Smart-Tracking-System] <- find the prototype here