SMART INDIA HACKATHON 2025

TITLE PAGE

- **Problem Statement ID** – SIH25002
- **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
- **Team ID –** SIH25
- **Team Name –** SURAKSHA YATRI

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Smart Tourist Safety Monitoring & Incident Response System

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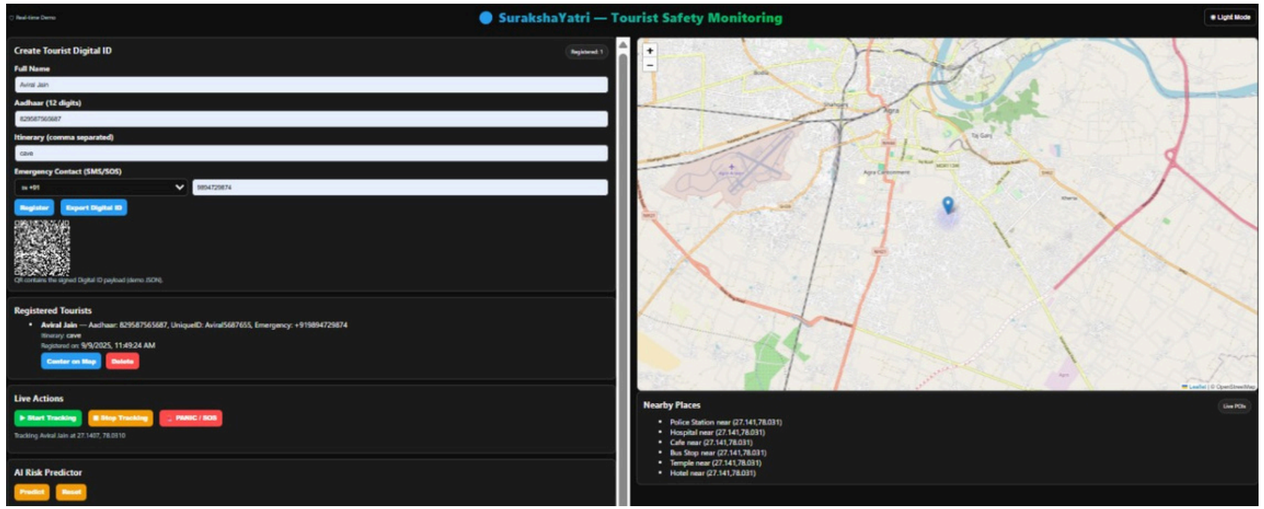
IDEA:

- **Tourism** is a **major contributor** to India's economy, especially in sensitive regions like the Northeast.
- Tourists often face risks like **getting lost**, entering restricted zones, health issues, or emergencies.
- **Existing systems** rely on **manual tracking,** police reports, or delayed response, which are slow, fragmented, and unreliable.
- **Need**: A tech-driven, real-time safety monitoring & rapid incident response ecosystem that builds trust, safety, and transparency for tourists, families, and authorities.



SOLUTION:

- **Digital Tourist ID:**
  - Blockchain-based.
  - Issued at airports/hotels with Aadhaar/Passport KYC.
  - Valid only during the trip, ensuring privacy & security.
- **Tourist Mobile App:**
  - Auto-assigns a Tourist Safety Score based on patterns.
  - Geo-fencing alerts when tourists enter high-risk/restricted zones.
  - Panic Button with instant live location sharing to police & family.
  - Optional real-time tracking (opt-in).
- **AI/ML Anomaly Detection:**
  - Detects sudden drop-offs, prolonged inactivity, deviation from itinerary.
  - Flags potential distress or missing person cases automatically.
- **Tourism & Police Dashboard:**
  - Heatmaps & cluster visualization of tourist density & risk zones.
  - Access to tourist ID records, alert history, and last known locations.
  - Automated e-FIR generation for missing persons.
- **IoT Smart Bands:**
  - Wearables for tourists in forests, caves, or high-risk areas.
  - Monitor location, vitals, SOS triggers.
- **Multilingual Support:**
  - App in 10+ Indian languages + English.
  - Voice/text-based emergency access for elderly & disabled travelers.

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TECHNICAL APPROACH

Flowchart/Techstack

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Frontend Devlopment:

Backend devlopment:

ML Deployment:

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FEASIBILITY AND VIABILITY

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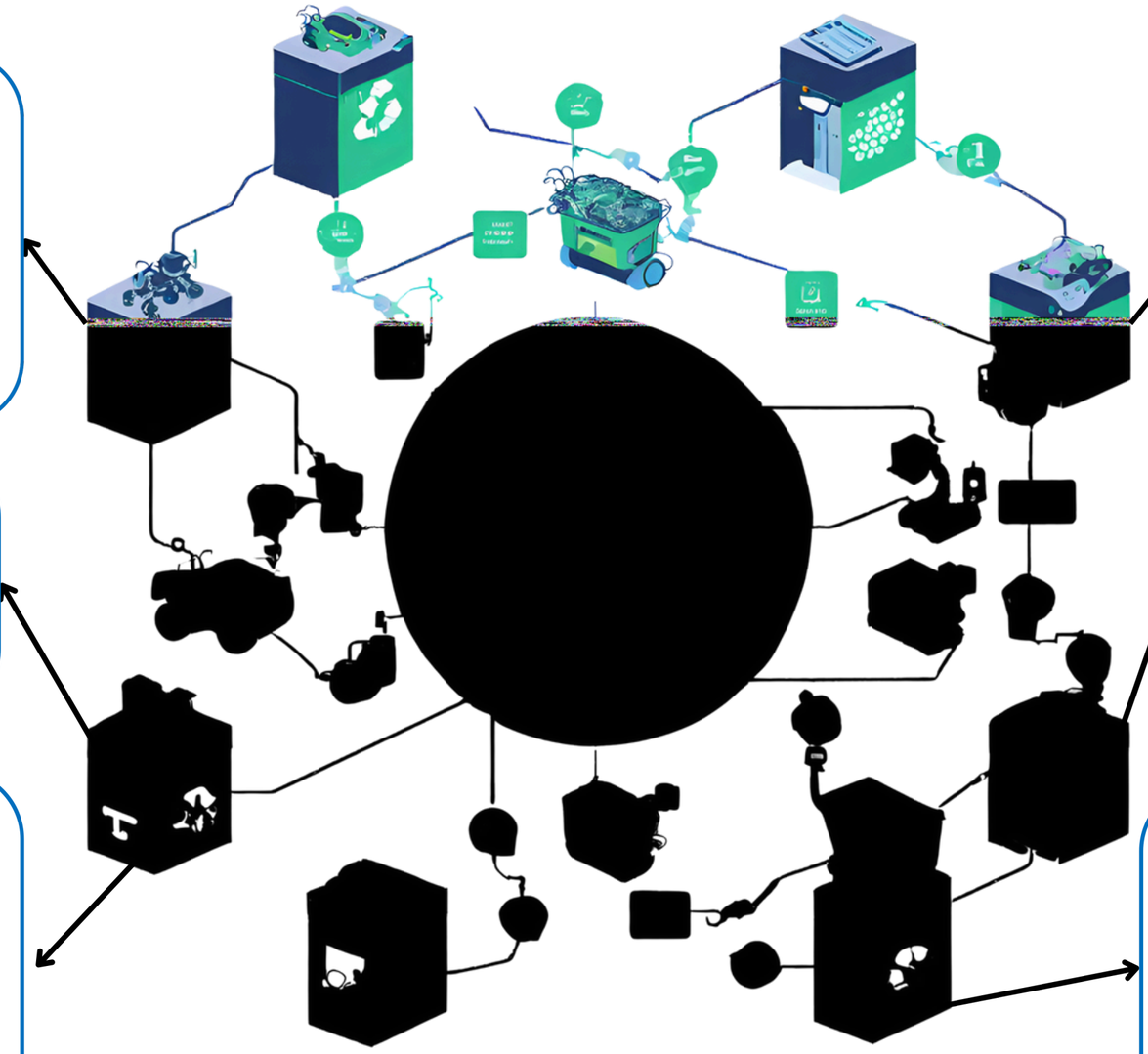
Technical Feasibility:

- **Strengths:** AI/ML, Blockchain, Cloud & IoT support.
- **Challenges:**Connectivity in remote areas.
- **Strategies**: Edge + cloud integration, offline sync.

Economic Feasibility:

- **Strengths:** Govt. schemes, tourism partnerships.
- **Challenges:** High initial infra cost.
- **Strategies:** PPP model, phased deployment.



Operational Feasibility:

- **Strengths:**Simple mobile app, multilingual support.
- **Challenges:** Adoption by tourists & authorities.
- **Strategies:** Awareness drives.

Market Feasibility:

- **Strengths:** Growing tourism & Digital India push
- **Challenges:** Competing safety.
- **Strategies:** Position as official nationwide platform.

Social Viability:

- **Strengths:** Boosts trust, safer travel experience.
- **Challenges:** Data privacy concerns
- **Strategies:Blockchain-based** secure & consent-driven IDs.

Tourism Data Utilization:

- **Insights:** Anonymous data for planning & safety.
- **Services:** Demand forecasts for hotels/transport.
- **Analytics:** Hotspot prediction for authorities.

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IMPACT AND BENEFITS

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Benefits:

Social:
- Safer travel for tourists
- Faster emergency response

Economic:
- Boost in tourism revenue
- Reduced law & order costs

Environmental:
- Reduces pollution
- Lower carbon footprint

Positive Impacts:

- Enhanced Tourist Safety

- Improved Trust in Tourism Sector

- Efficient Emergency Handling

- Community Confidence

Negative Impacts:

- Initial High Costs

- Privacy Concerns if mismanaged

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RESEARCH AND REFERENCES

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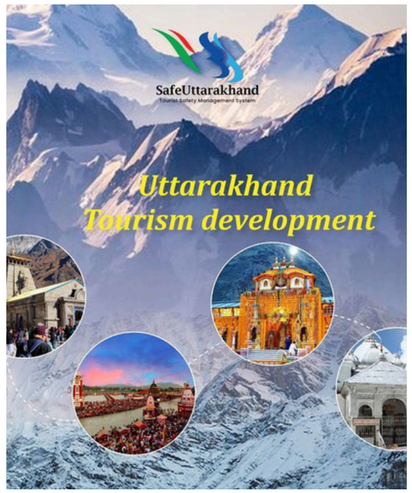

Journal link: https://www.sciencedirect.com/science/article/pii/S277 2375524000881

Abstract:
Tourist safety is a critical concern in modern travel, as visitors are often exposed to risks such as entering unsafe zones, losing orientation, or facing emergencies in unfamiliar environments. Current systems lack real-time monitoring, secure identity verification, and quick incident response, leading to delayed assistance and reduced trust in tourism services. There is a need for an intelligent, transparent, and tamper-proof solution that ensures tourists' security while enabling authorities to act promptly.

Journal link: https://www.sciencedirect.com/science/article/pii/S2 214317318302580

Abstract:
This project proposes a Smart Tourist Safety Monitoring & Incident Response System that integrates Artificial Intelligence (AI) for anomaly detection, Geo-fencing for real-time location-based alerts, and a Blockchain-based Digital ID for secure and unique tourist identification. The system automatically detects unusual behavior, notifies relevant authorities when tourists enter restricted or high-risk areas, and enables transparent, immutable identity management through blockchain. By combining these technologies, the solution enhances safety, accelerates emergency response, and fosters trust in tourism ecosystems, contributing to safer and more sustainable travel experiences.