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 and Tourism
- **PS Category-** Software
- **Team Name -** Caffeine Coders

Proposed Solution

- **WHAT IT IS:**
  - a **Tourist App** (with SOS button & Geo-fencing), with a real-time **Authorities' Dashboard**.
  - a **Blockchain Digital ID** (for tamper-proof verification)
  - a proactive **AI Anomaly Detector**
- **WHAT IT DOES:**
  - Speeds up emergency response with instant GPS and ID sharing.
  - Prevents incidents with proactive alerts for high-risk zones.
  - Helps law enforcement act fast with reliable real-time data.
- **WHAT MAKES IT UNIQUE:**
  - Uses AI to predict safety risks, not just react to alerts
  - Leverages blockchain for trusted, privacy-preserving identities
  - Creates a seamless, automated link from a tourist's distress signal to a fast, data-driven official response

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FEASIBILITY AND VIABILITY

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Feasibility:

- Uses well established technologies (AI, Blockchain, Geo-fencing).
- Scalable, modular system with area level deployment in phases.

Challenges & Risks:

- High setup cost.
- Data privacy & cybersecurity concerns.
- Hurdles in collaboration and real-world rollout.

Mitigation Strategies:

- Usage of relatively cheaper encryption instead of Blockchain.
- Strong encryption & compliance (DPDP Act, GDPR).

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TECHNICAL APPROACH

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- **Blockchain** for secure Digital Tourist ID & tamper-proof records. **(Hyperledger Fabric)**
- **AI/ML** for safety scoring, anomaly detection & predictive alerts. **(Regression, Neural Networks)**
- **Geo-fencing with GIS APIs** for real-time location risk monitoring.
- **Mobile App (Android/iOS)** for SOS alerts, notifications & multilingual support. **(Flutter)**
- **Backend** for data processing & integration. **(Node.js/Python, Encrypted DB)**
- **Dashboards** for police/tourism authorities with real-time visualizations. **(React)**

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IMPACT AND BENEFITS

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IMPACT

- Safer travel for tourists.
- Real-time alerts & quick emergency response.
- Reliable, data-driven incident handling for law enforcement.
- Real-time monitoring of high-risk areas.

BENEFITS

- Boosts confidence in tourism → higher economic growth.
- Strengthens India’s global image as a safe tourist destination.
- Promotes smart, privacy-preserving digital systems.

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FLOW CHART

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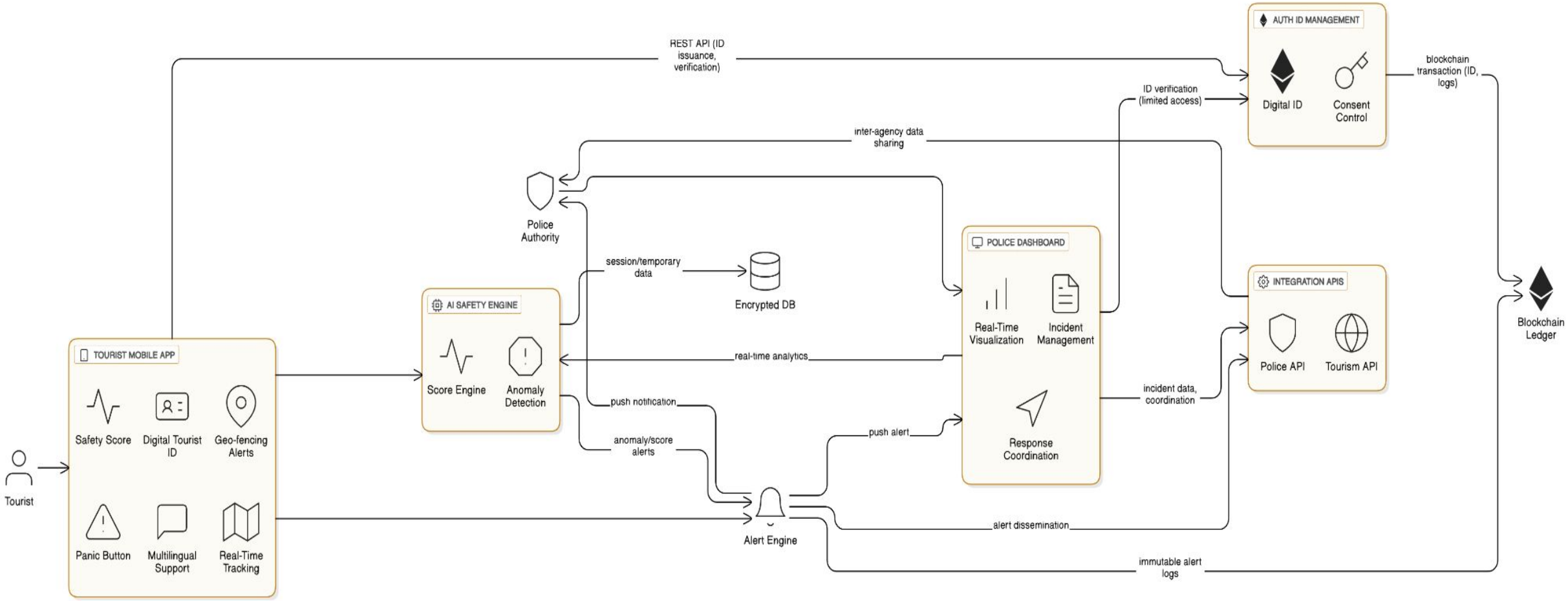

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RESEARCH AND REFERENCES

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- Studies on blockchain's role in secure identity management (e.g., decentralized digital IDs).
- Academic papers on using AI/ML models.
- Statistics from police reports on the types of incidents tourists face (e.g., missing persons, medical emergencies, theft)
- Research on predictive analytics and risk scoring based on historical data.

References:

- Nofer, M., Gomber, P., Hinz, O. *et al.* Blockchain. *Bus Inf Syst Eng* 59, 183–187 (2017).

- Cutter, S. L., Burton, C. G., & Emrich, C. T. (2008). Disaster resilience indicators for benchmarking baseline conditions. Journal of Homeland Security and Emergency Management, 5(1).