HACKX 2025

- **Industry Name –**AI-ML
- **Problem Statement Title -**AI-Powered

  Safe Route & Emergency Alert WebApp
- **Theme –**Open Innovation
- **Team Name –**The Optimizers

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IDEA TITLE

❑Proposed Solution (Describe your Idea/Solution/Prototype)

Comprehensive Description

- Mobile & web app for safe travel guidance.
- Uses crime data, streetlights, crowd density & user reviews.
- Ranks routes: Safe / Moderate / Risky.
- Emergency SOS with live tracking.
- Predictive AI model for high-risk alerts.

Ways it Solves the Issue

- Ensures safer navigation by avoiding dark/isolated/crime-prone areas.
- SOS system alerts trusted contacts & authorities instantly.
- Community-driven safety ratings build trust and reliability.

Distinctive Features

- AI + Maps → not just shortest route, but safest route.
- Real-time crowd density to avoid deserted streets.
- User safety ratings create a living, dynamic safety map.
- **ML-based crime hotspot prediction** for proactive safety.

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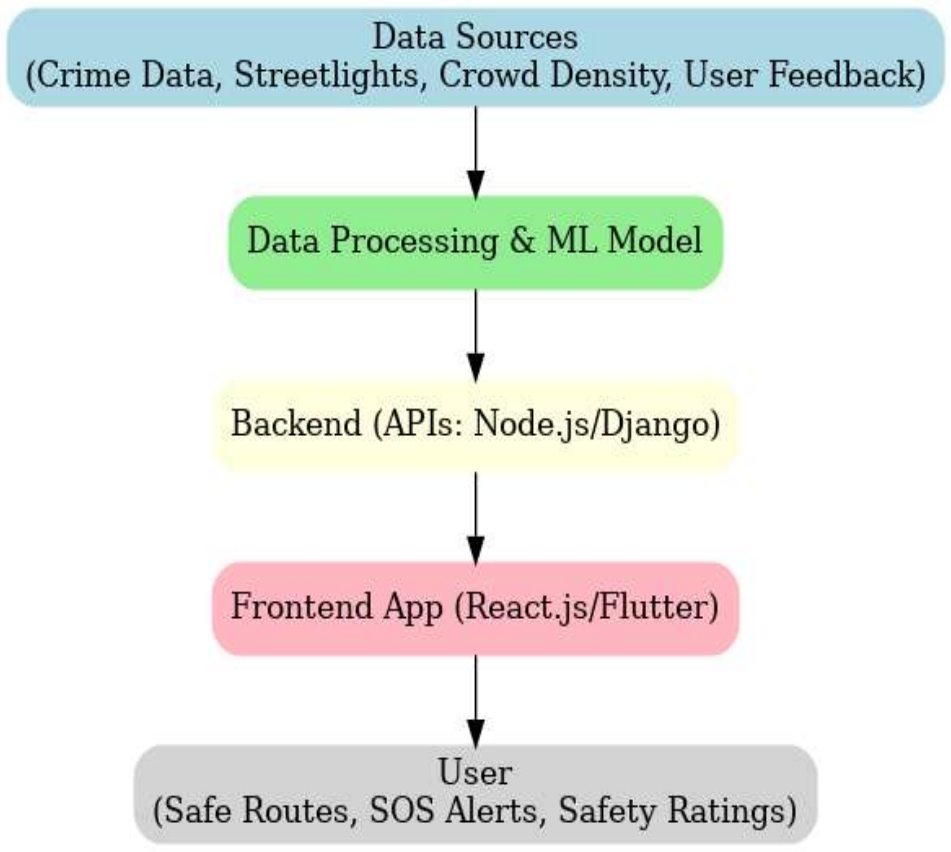
TECHNICAL APPROACH

Frontend: React.js / Flutter ,Web Dev
Backend: Node.js / Django (API handling, user management)
Machine Learning: Python (crime data analysis, hotspot prediction)
Database: PostgreSQL / MongoDB (store user data, route data, safety ratings)
APIs & Integrations:
Google Maps API / OpenStreetMap (map & routing)
Twilio API (SMS alerts)
Crowd density data APIs / IoT streetlight data
Hosting/Deployment: AWS / Heroku / Firebase



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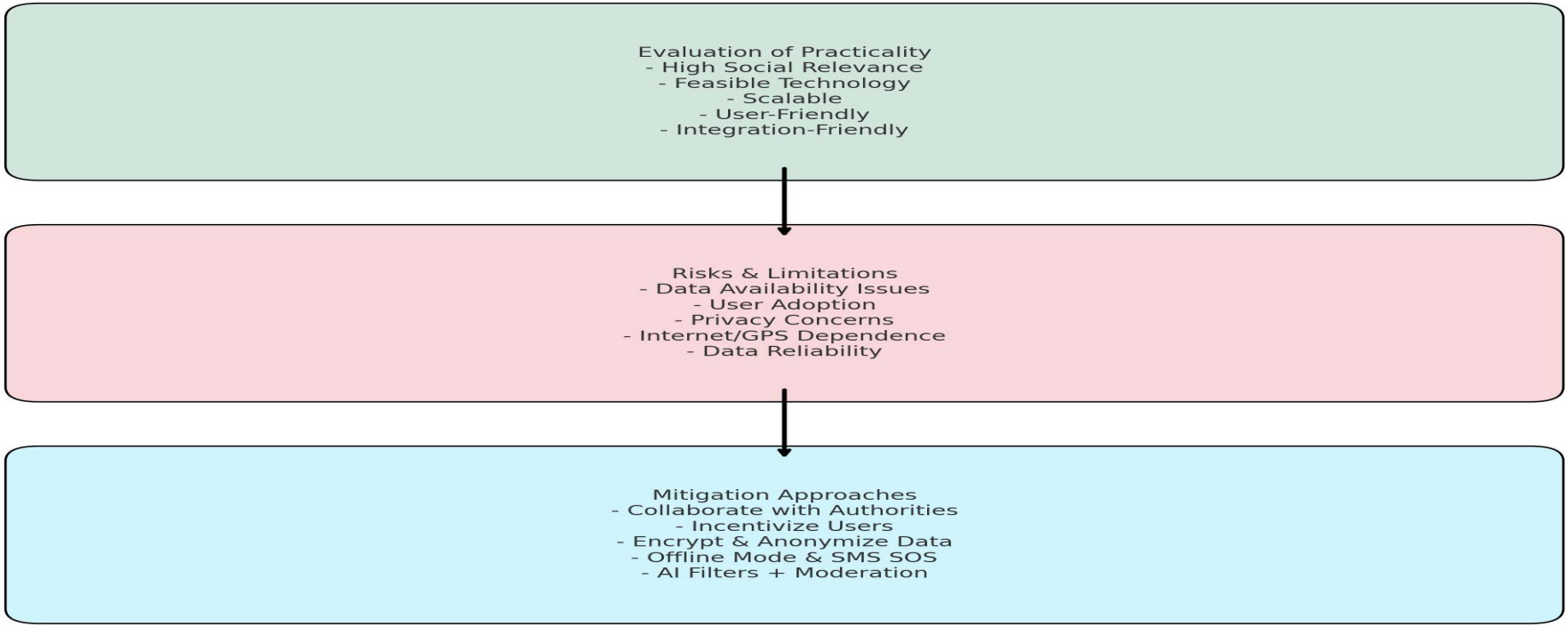
PRACTICALITY AND SUSTAINABILITY



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IMPACT AND BENEFITS

Expected Influence on the Intended Users

- **Enhanced Safety:** Women feel more confident while traveling at night.
- **Peace of Mind:** Families can track loved ones in real time.
- **Empowerment:** Users gain control over choosing safe routes.

Value & Advantages of the Solution

✅ **Social Impact**

Reduces harassment & crime risk.

Builds safer communities through **crowdsourced safety data**.

✅ **Economic Value**

Decreases law enforcement & emergency costs by **preventing incidents**.

Opens new opportunities for **safety-tech startups & collaborations**.

✅ **Environmental Impact**

Encourages **walking & sustainable transport** by ensuring safe routes.

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RESEARCH AND REFERENCES

1. Crime & Safety Data Sources

- National Crime Records Bureau (NCRB), India – Crime statistics & hotspot data.
- Open Government Data (OGD) Platform, India – Datasets on cities, transport, and safety.
- Kaggle Datasets – Crime Data – Global datasets for ML model training.

2. Mapping & Geospatial Data

- Google Maps API – Real-time maps & routing.
- OpenStreetMap – Free, community-driven map data.

3. Related Research Papers & Articles

- *SafeRoute: Using Machine Learning to Suggest Safer Walking Routes* – ACM Digital Library.
- *Smart City Applications for Women Safety Using IoT & AI* – IEEE Xplore.
- *Predictive Crime Analytics: Machine Learning Approaches* – Springer.

INSTRUCTIONS

- ➔ **Limit the presentation to a maximum of six (6) slides, including the title slide.**
- ➔ ***Avoid long paragraphs* — present your idea using points, diagrams, infographics, or images.**
- ➔ **Keep the explanation *clear, concise, and easy to understand*.**
- ➔ **The idea must be *unique* and *innovative*.**
- ➔ **Use only the given template without altering the predefined idea detail pointers (from earlier slides).**
- ➔ **Save the final file in *PDF format* and upload it to the portal. (Other formats like PPT, Word, etc. will not be accepted.**

Note - You can delete this slide (Important Pointers) when you upload the details of your idea with us.