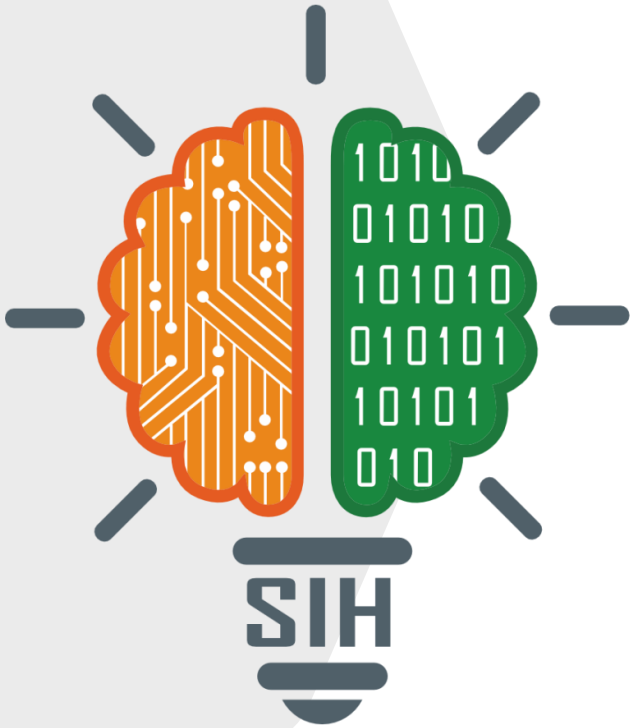
SMART INDIA HACKATHON 2024

- **Problem Statement ID:** SIH1656
- **Problem Statement Title:** Development of a mobile application to provide recreational suitability information of beach locations across India.
- **Theme:** Travel & Tourism
- **PS Category:** Software
- **Team ID:** 38733
- **Team Name:** RookieSquad



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Development of a mobile application to provide recreational suitability information of beach locations across India.

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IDEA / SOLUTION :

"**BlueHorizon :** Your Coastal Companion"

BlueHorizon is a mobile app that provides real-time beach safety updates, alerting users to hazards like high waves and strong currents. With color-coded maps and nearby beach suggestions, it ensures a safe and enjoyable coastal experience.

How it addresses the problem?

- Ensures tourist safety by leveraging real-time data from reliable sources like INCOIS and OpenWeather APIs.
- Alerts tourists of potential hazards, such as high waves, Swell Surge, Ocean Currents, Storm Surge, Tsunami, High Winds or poor water quality before they engage in recreational activities.
- Reduces risks associated with coastal tourism and helps prevent accidents.
- According to our research We're the first to develop an app that offers comprehensive beach safety across the country.

Uniqueness of Solution

- **Real-time Safety Alerts**: Notifies users of dangerous beach conditions.
- **Nearby beach Suggestions**: Instantly discover nearby safe beaches.
- **Geospatial Visualization:** Utilizing geospatial maps and color code indicators for beaches.
- **Safety Forecasts**: Utilizes a regression machine learning model to predict future beach safety based on real-time and historical data..
- **User Ratings**: Provides beach ratings based on user feedback.
- **Multilingual Support.**

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TECHNICAL APPROACH

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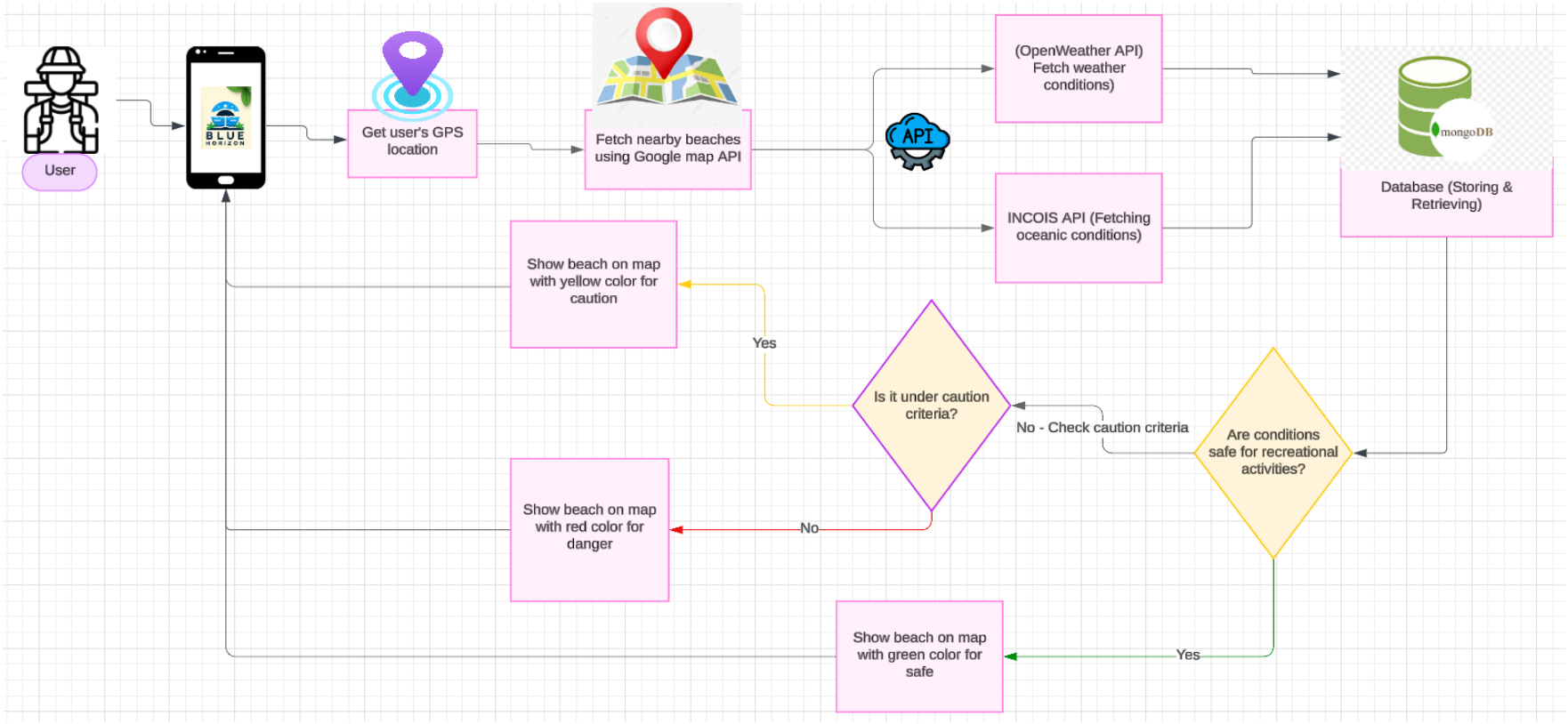
• Process flow Architecture



• Technology used

- ❖ **Frontend:** React Native
- ❖ **Backend:** node.js TensorFlow
- ❖ **APIs:** OpenWeather API, INCOIS, Google Maps API
- ❖ **Database:** mongoDB

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FEASIBILITY AND VIABILITY

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Feasibility of Idea

➢ **Technical Feasibility**

- Real-time data from **INCOIS** and **Weather Api.**
- **Geospatial visualization** via maps and color codes enhances user experience.

➢ **Economic Feasibility**

- Low-cost app with scalable infrastructure.
- Monetization potential via tourism board partnerships

➢ **Legal**

- Follows **data-sharing regulations**.
- Protects **user location privacy**.

01

Challenges and Risks

- **Data accuracy** Ensuring reliable real-time updates
- **User adoption**: Building trust in app's safety features.
- **Network issues**: Poor connectivity in remote areas.

02

Strategies to Overcome

- **Collaboration**: Continuous updates from INCOIS.
- **Intuitive UI**: Clear visuals and color-coded alerts.
- **Offline mode**: Access pre-downloaded data when offline.

03

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IMPACT AND BENEFITS

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IMPACT

- **Social Impact**: Improves tourist safety with real-time alerts and enhances awareness of beach conditions.
- **Economic Impact:** Boosts local tourism revenue and helps tourists plan better.
- **Government Alignment:** Supports India's Blue Economy policy and aids disaster preparedness.

BENEFITS

- **Safety and Confidence:** Real-time alerts ensure tourist safety and boost confidence in visiting coastal areas.
- **Builds confidence** in coastal tourism.
- **Long-Term Benefits** Scalable globally with potential for partnerships to expand impact.
- **Promotes conservation** through awareness.

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RESEARCH AND REFERENCES

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- Refrences:

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- Patel, K. A., & Padhya, H. J. (2020). Sustainable Tourism Planning for a Coastal Region: A Case Study of Dumas in Gujarat State in Western India. International Journal of Research and Analytical Reviews (IJRAR), 7(1), 798-807.
- Beach Vigil(An app by Goa tourism Dept.) : https://goatourism.gov.in/BeachSurvillancePrivacyPolicy.html
- BeachSafe(Australian BeachSafety App) : https://beachsafe.org.au/