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Oceanic - A Beach Safety App

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Abstract: *Coastal tourism is a rapidly growing sector in India, and ensuring the safety of tourists is crucial. This project aims to develop a mobile application that provides real-time recreational suitability information for various beach locations across India. The application will utilize data from the Indian National Centre for Ocean Information Services (INCOIS) API to assess parameters such as ocean conditions (wave heights, currents, storm surges, tsunami alerts), meteorological factors (wind speed, weather conditions), and water quality. Using an intelligent algorithm, the app will classify beaches as suitable or not suitable for recreational activities.*

The app will feature an interactive geospatial map with color-coded indicators, push notifications for real-time alerts, and location-based recommendations. By integrating real-time data, user-friendly visualization, and alert mechanisms, the application will help tourists make informed decisions, ensuring both safety and convenience. This solution aims to support sustainable coastal tourism, enhance disaster preparedness, and promote responsible travel along India's coastline.

Keywords: Coastal tourism, beach suitability, ocean safety, real-time alerts, INCOIS API, water quality assessment, geospatial mapping, disaster preparedness, recreational activities, meteorological data, mobile application, travel safety, sustainability, smart tourism, wave height analysis.