



## Project Proposal

### IntelliTour

*An AI-Powered Smart Tourism Mobile Application*

**Course:** Mobile App Development (Fall 2025)

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## Introduction

Tourism applications are becoming essential in providing smart, modern, and personalized travel experiences. With the integration of Artificial Intelligence (AI), travel solutions can generate custom itineraries, recommend optimized trips, forecast weather, and assist in navigation using map-based technologies.

**IntelliTour** is an advanced Android application developed in Java and XML that provides personalized tourism plans using AI-driven insights. The application integrates Google Maps, real-time weather updates, billing modules, and Firebase services for authentication and cloud data storage.

## Problem Statement

Travelers often face multiple challenges, including:

- Difficulty in planning personalized trips according to budget, weather, and preferences.
- Lack of real-time navigation support in unfamiliar destinations.
- Absence of reliable real-time weather forecasting during travel.
- Manual and unorganized handling of bookings, invoices, and package billing.

There is a strong need for an intelligent, all-in-one tourism application that can address these issues seamlessly.

## Project Objectives

The primary objectives of IntelliTour are:

- To provide AI-generated personalized tourism itineraries.
- To integrate Google Maps for advanced route guidance and destination search.
- To deliver real-time weather forecasts for safe and smart travel planning.
- To enable tourism package management with automated billing.
- To ensure secure login and cloud data storage using Firebase.
- To provide a responsive, modern, and user-friendly interface.

## Scope of the Project

The IntelliTour application includes:

- Android development using Java and XML.
- Firebase Authentication for secure user login.
- Cloud Firestore for booking, user preferences, and package storage.
- AI itinerary generation via cloud APIs (OpenAI/Gemini) using Firebase Cloud Functions.

- Google Maps SDK integration for navigation.
- Weather API integration (OpenWeatherMap).
- Tourism package billing and cost calculations.
- A clean, modern graphical user interface.

## Tools and Technologies

- **Frontend:** Java, XML (Android Studio)
- **Backend:** Firebase Firestore, Firebase Cloud Functions
- **AI Layer:** REST APIs (OpenAI, Gemini)
- **Third-Party APIs:** Google Maps SDK, OpenWeather API
- **Platform:** Android SDK (API Level 24+)

## Expected Outcomes

Upon completion, IntelliTour will:

- Provide customized, AI-driven travel plans.
- Enable users to explore destinations with powerful navigation tools.
- Deliver accurate weather updates to support travel decisions.
- Manage bookings, packages, and billing automatically.
- Securely store user and trip information in the cloud.

## Conclusion

**IntelliTour** aims to modernize the travel planning experience by integrating AI, navigation tools, weather services, and cloud-based data management. The project will deliver an advanced, user-friendly, and efficient platform to assist travelers in discovering smarter ways to plan, explore, and manage their journeys.

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