

# SMART TRAVEL PLANNER

## 1. Introduction

The Smart Travel Planner is a Flutter-based mobile application designed to help users plan their trips easily. The application provides information about tourist destinations, basic weather details, and a simple itinerary planner. It uses free public APIs and demonstrates core concepts of mobile application development.

## 2. Objectives of the Project

- To develop a mobile application using Flutter
- To understand REST API integration
- To implement JSON parsing
- To design a user-friendly interface
- To store data locally for offline access

## 3. Scope of the Project

The scope of this project is limited to destination discovery, basic itinerary planning, and weather information. The application is suitable for college-level learning and does not include paid services or real-time booking features.

## 4. Technologies Used

Frontend: Flutter

Programming Language: Dart

APIs: OpenTripMap, OpenWeatherMap, Unsplash

Database: SharedPreferences / Hive

IDE: Android Studio / VS Code

## 5. System Architecture

The application follows a simple layered architecture where the user interface interacts with API services which fetch data and convert it into model classes for display.

## 6. Functional Requirements

- Destination search by city
- Display tourist places
- Show basic weather details
- Generate simple travel itinerary
- Save trips for offline access

## 7. Non-Functional Requirements

- Simple and clean UI
- Fast response time
- Reliability during no-internet scenarios
- Easy maintenance

## 8. API Description

OpenTripMap API is used to fetch tourist places.

OpenWeatherMap API provides weather details.

Unsplash API is used to display destination images.

## 9. User Interface Description

The application consists of multiple screens such as Login Screen, Home Screen, Place List Screen, Place Detail Screen, Itinerary Screen, and Saved Trips Screen.

## 10. Limitations

- Free APIs have limited data
- No online booking feature
- Internet required for initial data load

## 11. Future Enhancements

- Google Maps integration
- Hotel and transport booking links
- Multi-language support
- User reviews and ratings

## 12. Conclusion

The Smart Travel Planner project provides hands-on experience in Flutter development, API integration, and mobile UI design. It is an ideal project for college-level submission.