

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.