

# TravelMate - Your Personalized Travel Agency

## 1. Introduction

Tourism is a vital part of the global economy, and travelers often seek a centralized platform that provides detailed information about tours, accommodations, food options, and local attractions. TravelMate aims to simplify the travel planning process by offering users a mobile app that provides detailed tour packages with dynamic pricing, Google authentication, Captcha verification, and map integration.

## 2. Objective

- To create a user-friendly travel agency app that displays static tour details with comprehensive information on accommodations, food options, and local attractions.
- To implement dynamic pricing based on the number of participants in a tour.
- To provide secure user authentication and booking notifications.
- To integrate maps for visualizing tour locations.

## 3. Features

### 1. Tour Details:

- a. Static list of tour packages.
- b. Each tour includes:
  - i. **Accommodation:** Hotel details such as name, type, and contact information.
  - ii. **Food Options:** List of available cuisines and local delicacies.

- iii. **Attractions:** A detailed list of spots to visit.
- iv. **Price Details:** Cost per person and discounts for group bookings.

## **2. Dynamic Pricing:**

- a. The cost per person decreases as the group size increases, encouraging group bookings.

## **3. User Authentication:**

- a. Google Authentication for a secure and seamless login experience.
- b. Math-based CAPTCHA during login/registration to prevent bots.

## **4. Booking Notifications:**

- a. Real-time notifications upon successful booking.

## **5. Map Integration:**

- a. Interactive maps showing the locations of accommodations, attractions, and tour itineraries.

# **5. System Architecture**

## **1. User Interface (UI):**

- a. Users interact with the app for viewing tour details, booking, and receiving notifications.

## **2. API Gateway:**

- a. Facilitates secure communication between the app and the backend.

## **3. Backend Services:**

- a. Handles authentication, tour information, pricing calculation, and notifications.

## **4. Database:**

- a. Stores tour details, user profiles, booking history, and group discounts.

## **6. Modules Description**

### **1. Authentication Module:**

- a. Uses Google OAuth for secure login.
- b. Incorporates CAPTCHA to prevent bots.

### **2. Tour Management Module:**

- a. Displays static tour details, including accommodations, food options, attractions, and pricing.

### **3. Booking Module:**

- a. Users can select a tour and confirm bookings.
- b. Dynamic pricing adjusts based on the group size.

### **4. Notification Module:**

- a. Sends notifications via Firebase upon booking confirmation.

### **5. Map Module:**

- a. Displays the tour itinerary and locations of interest using Google Maps.

## **7. Advantages**

- Simplifies travel planning with all details in one app.
- Encourages group travel through dynamic pricing.
- Enhances user trust with secure authentication and CAPTCHA.
- Offers a visual itinerary via maps.

## **8. Challenges**

- Ensuring scalability for large numbers of users.
- Maintaining accuracy of static tour information.
- Optimizing notification delivery for high engagement.

## **9. Conclusion**

TravelMate bridges the gap between travel enthusiasts and tourism agencies, offering detailed, user-friendly, and secure features. With its dynamic pricing, map visualization, and real-time notifications, the app provides a comprehensive solution for travelers worldwide.

## **10. Future Scope**

- Include user reviews and ratings for tours, hotels, and attractions.
- Integrate payment gateways for direct bookings.
- Introduce AI-powered personalized tour recommendations.

By

Vaseekaran – 2022115100

Sree Ram T R – 2022115108