**Project Title: Travel-Based Application**

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**Problem Statement:**

We are developing a travel-based mobile application designed to assist users with trip planning, bookings, and navigating through travel itineraries. The app will provide features such as finding flights, hotels, local experiences (tours, events), and guides, offering travel recommendations based on user preferences, and facilitating easy bookings. It will include real-time notifications (flight changes, weather conditions), location-based services (local recommendations, transport options), and an intuitive interface to enhance user convenience.

**Detailed Project Explanation:**

Here's a detailed breakdown of the app's key modules and features:

**1. Log-in / Sign-up Module:**

**Purpose:** Allows users to create accounts and securely log in to the app.

**Key Features:**

* **Sign-Up Options:** New users can sign up using email, phone numbers, or third-party services (Google, Facebook, Apple).
* **Log-in Options:** Returning users can log in using the same credentials or via third-party services.

**2. Home Page:**

**Purpose:** Acts as the central hub for users to navigate through the app, discover destinations, and plan trips.

**Key Features:**

* **Trip Planner:** A quick-access tool where users can start planning a trip by entering dates, locations, and preferences.
* **Explore Destinations:** A section where users can explore popular and trending destinations across the globe.
* **Popular Destinations:** A curated list of top-rated, frequently visited destinations, categorized by region or type.
* **Travel Inspirations:** Displays destination ideas based on different themes like adventure, family trips, romantic getaways, and more. This section helps users discover new places they might not have considered.

**3. Explore Destination Page:**

**Purpose:** Helps users explore specific destinations through detailed information, maps, and thematic filters.

**Key Features:**

* **Interactive Map:** Users can click on different points on the map (e.g., cities, landmarks) to view detailed information such as points of interest, travel tips, and nearby hotels.
* **Themed Destinations:** Displays destinations sorted by themes like adventure, family-friendly, romantic, and more. Each theme will include a list of top-rated destinations and filters like budget, duration, and distance.
* **Popular Destinations:** Sorted by criteria like highest-rated, most-visited, or trending locations.
* **Search Bar with Filters:** Allows users to search for destinations based on filters like:
  + Duration: How long they want to travel (e.g., weekend getaway, 1-week trip).
  + Distance: Nearby or international destinations based on the user’s location.
  + Budget: Filtering destinations based on their cost of travel.

**4. User Profile Page:**

**Purpose:** Provides a personalized experience for users by displaying their account information, travel preferences, and history.

**Key Features:**

* **Personal Details:** Information such as the user’s name, email, contact number, and profile picture.
* **Travel History:** A record of the places the user has visited, including trip dates and destinations.
* **Language Options:** Allows users to select their preferred language for better accessibility.
* **Saved/Favourite Destinations:** Users can save destinations they’re interested in visiting in the future.
* **Preferable Theme Selection:** Users can select their preferred type of travel (e.g., adventure, luxury, budget-friendly) to get personalized recommendations.
* **Current Location on Map:** Displays the user's current location and nearby points of interest.
* **Emergency SOS Option:** Provides an SOS button that connects the user to local emergency services in case of an emergency while traveling.

**5. Planner Trip Page:**

**Purpose:** Allows users to organize all aspects of their trip, including accommodation, transportation, and travel dates.

**Key Features:**

* **Search Bar for Destinations:** Helps users search for and select destinations for their trip.
* **Calendar:** Allows users to select travel dates and duration.
* **Package Selection:** Users can choose from different packages (e.g., premium, budget-friendly), each offering different levels of service and amenities.
* **Number of Persons:** Users can input the number of people traveling to get relevant accommodation and transportation options.
* **List of Hotels:** Shows hotels available in the selected destination, filtered based on the package type. The rooms shown would be OYO as well as MakeMyTrip Verified. Each hotel includes detailed information such as room prices (based on the number of persons), amenities, and user reviews.
* **Room Selection & Booking Feature:** Users can select rooms and book them directly through the app.
* **Transportation Details:** Includes options for selecting transportation methods (e.g., flights, trains, buses) and agencies providing services. Users can view pricing, schedules, and availability.

**6. Feedback Module:**

**Purpose:** Allows users to share their experiences, rate destinations, and provide feedback.

**Key Features:**

* **Share Experiences:** Users can post detailed trip reviews, including their thoughts on destinations, hotels, and activities.
* **Ratings:** Users can give ratings to destinations, hotels, transportation services, and other travel-related experiences.
* **Social Sharing:** Provides an option for users to share their experiences on social media or with other app users to inspire future travellers.
* **Additional Features:**
* **Notifications & Alerts:** Push notifications for booking confirmations, travel reminders, or special offers.
* **User-Friendly Interface:** Simple and intuitive navigation to ensure a smooth user experience across all modules.
* **Payment Integration:** Seamless payment options for booking hotels, transportation, and other services within the app.
* **Real-Time Data Integration:** Information such as weather conditions, local events, or travel advisories will help users make informed decisions during trip planning.

**Affordances, Signifiers, Mapping, and Constraints**

By addressing the affordances, signifiers, mapping, and constraints within the travel app, we can significantly improve the user experience, helping users better navigate the platform and complete their desired actions without confusion or frustration.

**1. Affordances:**

*Affordances* refer to the possible actions a user can take within the app. These should be intuitive to users, allowing them to easily understand how to interact with the application.

* **Booking affordances**: Users should understand that they can tap on flight, hotel, or experience listings to book them. The affordance for booking would be clearly presented through actionable buttons like "Book Now," with a clear path to select dates, number of travellers, and other options.
* **Search affordance**: The app would provide an easily accessible search bar where users can input their destinations, travel dates, and preferences. The affordance to search is intuitive, visible at the top of the home screen.
* **Navigation affordances**: The ability to navigate between different sections of the app (e.g., flights, hotels, local guides) will be made clear by using a bottom navigation bar or a hamburger menu.
* **Location-based affordances**: Users could easily find options to enable or disable location services, with an option to provide suggestions or route guidance based on real-time location data.

**2. Signifiers:**

*Signifiers* are cues that indicate where and how actions can be performed. Clear signifiers can eliminate user confusion and reduce the cognitive load in using the app.

* **Actionable buttons**: The "Book Now" button would be clearly visible with appropriate color contrast (e.g., bright green for "Book Now"). Icons such as a shopping cart/movie ticket for bookings and a calendar for dates would act as strong signifiers for relevant actions.
* **Search bar**: A magnifying glass icon is a familiar signifier to indicate a search function. It would be placed in a prominent location, i.e at the top of the homepage.
* **Interactive map**: When viewing a location-based recommendation, an interactive map icon signifies that users can tap to see the map in full screen or access additional details.
* **Real-time alerts**: Notification symbols (e.g., bell or exclamation mark icons) act as signifiers for changes in travel plans, such as flight delays or hotel check-in reminders.

**3. Mapping:**

*Mapping* refers to the relationship between controls and their outcomes, ensuring that the user’s input leads to the expected result.

* **Booking flow mapping**: When users input travel dates and preferences, the results page would accurately reflect those inputs. If a user selects a date in the future, only available options for that date would appear. Filters will be applied in real-time.
* **Navigation mapping**: The interface will ensure that users can easily jump between sections (e.g., "Hotels," "Flights," and "Experiences") and back to the home screen without confusion. Each button on the bottom navigation will correspond to a specific section, and back buttons must lead to the last visited screen logically.
* **Map integration**: Users expect that tapping on an address or location will show it on a map, and that tapping on the map icon will zoom into the location.
* **Real-time data mapping**: Notifications regarding travel changes would immediately update the relevant itinerary. For instance, if a flight time changes, the itinerary reflects that new time automatically.

**4. Constraints:**

*Constraints* limit the possible actions that can be performed by users, preventing errors and ensuring smoother interaction.

* **Input constraints**: When users search for flights or hotels, input fields will restrict invalid entries. For example, date pickers would not allow past dates for future travel, and location searches would auto-complete based on real places to avoid invalid searches.
* **Contextual constraints**: Certain features would be disabled when not relevant. For instance, the "Check-In" button for a flight would only be clickable when the check-in window is open.
* **Payment constraints**: Users would be allowed to proceed with a booking only after filling out all required information such as traveller names and payment details. Incomplete forms would display a message explaining why the action cannot be completed.
* **Location-based constraints**: When location services are disabled, certain features such as nearby recommendations or real-time route guidance would be unavailable or show a message prompting the user to enable location services.