**TRAVELS-FLIGHT,BUS,TRAIN BOOKING SYSTEM**

**ARCHITECTURE:**

**Microservices architecture**

**1.User Onboarding**

* **User Registration/Login** (Email, phone, social login)
* **Guest Mode** (Limited browsing without login)
* **Profile Management** (personal details, ID proof upload)
* **Multi-language**
* **Travel History** and saved bookings

**2. Search & Booking Engine**

* **Multi-mode Search:**
* **From – To** location selection
* **Date & Time** selection
* **One-way / Round-trip / Multi-city (for flights)**
* **Passenger Details Input**
* **Filter Options: (**Price, duration, stops, etc**)**
  + **Class (economy, business, sleeper, etc.)**
  + **Operators (Airlines, IRCTC, Bus, Cab, moto brands)**
  + **Departure/Arrival time, Price, Duration**
* **Live Availability of seats**
* **Sort Options** (Cheapest, Fastest, etc.)

**3. Search Results & Booking Flow**

* **Live schedules and availability (API integration)**
* **Pricing with tax breakdown**
* **Real-time seat/berth/flight class availability**
* **Interactive seat/class selection**
* **Detailed Trip Info Page before checkout**

**4. Payment Module**

* **Dynamic Pricing based on demand**
* **Secure Payments (UPI, Cards, Wallets-** PCI DSS compliant**)**
* **Booking Confirmation & E-ticket generation (PDF/email/SMS)**
* **E-Ticket Management**
* **Multiple payment options: UPI, Credit/Debit Cards, Wallets, Netbanking**
* **Save payment methods**
* **Coupon / Promo code support**

**5. E-Ticket Management**

* **Booking confirmation (with PNR, ticket number)**
* **E-ticket generation & sharing**
* **QR code or barcode for ticket verification**
* **Download as PDF**
* **Ticket cancellation and refunds (if applicable)**

**6. Notifications & Alerts**

* **Booking confirmation via email/SMS/push**
* **Real-time updates: gate changes, delays, cancellations**
* **Reminders for upcoming trips**

**7. Trip Management**

* **Upcoming Trips**
* **Past bookings**
* **Rebook feature**

**8. Cancelation & Refunds**

* **View cancellation policy**
* **Initiate cancellation**
* **Track refund status**

**9. Admin Module**

* **Manage Listings: Flights, trains, buses**
* **Operator/Partner Portal**
* **Booking Analytics & Reports**
* **User Feedback & Issue Management**
* **Promo Codes & Discounts setup**

**10. Security & Compliance**

* **OTP Verification for bookings**
* **GDPR Compliance (for international users)**
* **Secure Data Storage (Encryption, TLS)**
* **Fraud Detection Systems**

**11. Integration APIs**

* **Airline APIs (e.g. Amadeus, Galileo)**
* **IRCTC Integration**
* **Bus Aggregators (Redbus, Abhibus, etc.)**
* **Google Maps / Location services**
* **SMS & Email Gateways**
* **Payment gateways (Stripe, Razorpay, PayPal, etc.)**

**12.Support Feature:**

* **Chatbot**
* **In-app chat support / chatbot**
* **FAQs**
* **Contact support via call/email**