**4. System Features**

In this section, we define the core features of the system that will fulfill the business requirements. Each feature will describe its functionality and behavior within the system.

**4.1 User Management**

User management ensures that all users, including customers, vendors, and administrators, are authenticated, authorized, and their data is securely stored and managed.

**Key Features:**

1. **Customer Registration & Login**:
   * Customers can create an account using their email or social media accounts (Google/Facebook).
   * Authentication using email/password or via single sign-on (SSO) options.
   * Password recovery functionality for forgotten credentials.
2. **Profile Management**:
   * Customers can view, edit, and update their profiles, including personal details, contact information, and travel preferences.
   * Customers can also track their booking history and loyalty program points.
3. **Role-Based Access Control (RBAC)**:
   * **Admins**: Full access to system features such as user management, reservations, payments, reports, and configuration of system settings.
   * **Customers**: Access only to personal booking details, payment history, and customized travel packages.
   * **Vendors**: Access to their service management, payment history, and booking status.
4. **Customer Data Privacy**:
   * Ensure that all personal and financial data of customers is securely stored and comply with data protection regulations
   * Customers should have access to their data and the ability to delete their account.

**4.2 Booking and Reservation Management**

This feature allows customers to search, book, manage, and track their travel and accommodation reservations. Admins and vendors will also use this feature to monitor and manage bookings.

**Key Features:**

1. **Search and Filters**:
   * Customers can search for available services based on destination, travel dates, vehicle type, or package preferences.
   * Filters to narrow down results based on price, rating, and other criteria.
2. **Booking Creation**:
   * Customers can book transportation (cars, buses, etc.), accommodation, or entire travel packages with detailed customization options (e.g., vehicle size, travel dates).
   * Instant booking confirmation with an email or SMS notification sent to the customer.
3. **Reservation Modification & Cancellation**:
   * Customers can modify or cancel their bookings up to a specified deadline.
   * Admins and vendors can approve or reject booking modifications based on availability.
4. **Real-Time Availability**:
   * The system ensures that only available services (vehicles, accommodations, etc.) are shown to customers during the booking process.
   * A calendar view for customers to pick available dates.
5. **Payment Integration**:
   * Once a booking is confirmed, customers are directed to a secure payment page to finalize the transaction.
   * Allow different payment methods like credit/debit cards, wallets, and online banking.
6. **Booking Tracking**:
   * Customers can track the status of their booking (e.g., upcoming travel, transport location).
   * Admins can view all customer bookings and their current statuses.

**4.3 Payment and Billing Management**

This feature ensures that payments are securely processed, and billing is accurate. It also provides an interface for tracking financial transactions.

**Key Features:**

1. **Payment Gateway Integration**:
   * Integration with third-party payment gateways (e.g., Stripe, PayPal, Razorpay) to handle secure payment processing.
   * Support for multiple payment methods: credit/debit cards, bank transfers, and digital wallets.
2. **Invoice Generation**:
   * Automatic invoice generation once payment is processed, which includes service details, pricing, taxes, and payment method.
   * Customers receive a PDF invoice via email after completing payment.
3. **Refund Management**:
   * Admins can process refunds for canceled or modified bookings.
   * Automated refund rules based on booking policies (e.g., full refund before 48 hours, partial refund after 24 hours).
4. **Tax and Discount Calculation**:
   * The system automatically calculates applicable taxes and discounts based on the service type, location, and customer’s loyalty status.
   * Special discount codes and promotions can be applied at the checkout.
5. **Transaction History**:
   * Customers can view their transaction history, including past payments and invoices, in their profile.
   * Admins and vendors can track payments made, and payment status (pending, completed, refunded).

**4.4 Transportation Management**

This feature focuses on the management of transportation services, including vehicle availability, fleet tracking, driver assignments, and real-time updates.

**Key Features:**

1. **Fleet Management**:
   * Admins can add, remove, or update information about vehicles in the fleet (type, capacity, availability).
   * Each vehicle’s status (e.g., available, on a trip, under maintenance) is tracked in real-time.
2. **Vehicle Booking**:
   * Customers can choose from available transportation options based on their requirements (e.g., car size, number of passengers).
   * Integration with booking system to ensure vehicle availability for the selected dates/times.
3. **Driver Management**:
   * Assign drivers to specific bookings based on their availability.
   * Track driver schedules and shift hours.
   * Real-time tracking of drivers via GPS.
4. **Route Optimization**:
   * The system calculates the optimal route for each booking based on real-time traffic data.
   * Provide estimated arrival times for customers and admins.
5. **Real-Time Tracking**:
   * Customers can track the location of their booked vehicle in real-time via GPS.
   * Admins can monitor all vehicles in the fleet on a map, ensuring efficient dispatching.

**4.5 Chatbot and Customer Support**

This feature provides a chatbot-driven support system for assisting customers with queries, providing information, and resolving issues 24/7.

**Key Features:**

1. **Customer Queries**:
   * Customers can interact with the chatbot to get instant answers to common questions related to bookings, payment status, and travel details.
2. **Booking Assistance**:
   * The chatbot can guide users through the booking process, suggesting travel options, providing pricing details, and helping with payment steps.
3. **Escalation to Human Agents**:
   * If the chatbot cannot resolve an issue, it automatically escalates the query to a human customer support agent.
   * The chatbot provides context to the human agent, improving efficiency.
4. **FAQs and Help Articles**:
   * The chatbot can also serve as a self-help guide, offering customers access to frequently asked questions (FAQs) and travel guides.
5. **Live Chat**:
   * In addition to the chatbot, live chat support can be provided for customers who need more complex assistance.

**4.6 Customizable Travel Packages (Including Weddings and Special Events)**

This feature allows customers to customize travel packages, including special event services like weddings, corporate travel, or VIP services.

**Key Features:**

1. **Package Builder**:
   * Customers can select from a variety of services (transportation, accommodation, catering, photography, etc.) to build their ideal travel package or special event (e.g., a wedding package).
2. **Vendor Integration**:
   * Integrate vendors (e.g., photographers, caterers) into the platform, allowing customers to choose service providers based on ratings, budget, and availability.
3. **Price Calculator**:
   * Automatically calculate the total cost of a customized package based on the selected options.
4. **Special Requests**:
   * Allow customers to make special requests for events (e.g., luxury transportation, security services) and send them to vendors for approval.
5. **Event Timeline Management**:
   * For special events like weddings, customers can set up a timeline for each service to ensure that all tasks are coordinated (e.g., arrival of transportation, food delivery).