**Document for the Developers**

**1. User Roles and Access Control**

**Website:**

* Admin Dashboard with access levels: Admins, Drivers, Taxi Companies, Passengers.
* Login/registration for passengers, drivers, and companies using email, phone, or social media accounts.
* Admin access to manage system settings, user roles, and activity monitoring.

**Mobile App:**

* Login and registration functionality with email, phone, or social media.
* Role-based access control for passengers, drivers, and taxi companies.
* Secure verification for drivers, including documents (MOT, insurance, background checks).

**2. Registration and Profile Management**

**Website:**

* Admin panel to approve driver registration after document verification (vehicle condition, insurance).
* User management for drivers and passengers: profile updates, viewing past rides, and preferences.
* Allow taxi companies to manage their fleet and drivers through a dedicated interface.

**Mobile App:**

* User registration and profile management for passengers and drivers.
* Drivers can upload verification documents (vehicle insurance, background checks) directly through the app.
* Passengers can update payment methods, preferences, and view booking history.

**3. Ride Booking and Matching System**

**Website:**

* Admin panel to view and manage real-time ride bookings, with algorithms to match drivers with passengers based on proximity and availability.

**Mobile App:**

* A user-friendly ride booking interface allowing passengers to select pickup and drop-off locations.
* Intelligent matching system to minimize passenger wait times, distribute ride requests fairly among drivers, and enable surge pricing during peak demand.
* Notifications for booking confirmations, ride status updates, and estimated time of arrival.

**4. GPS Tracking and Navigation**

**Website:**

* Integration with a map interface for admins to monitor the real-time locations of both drivers and passengers.
* Backend GPS data management to ensure accurate location updates and route tracking.

**Mobile App:**

* Real-time GPS tracking for both drivers and passengers.
* In-app navigation for drivers to locate passengers and navigate to drop-off points.
* Passengers can track their taxi in real-time via the app and receive arrival time estimates.

**5. Pricing and Fare Calculation**

**Website:**

* Admin control over base fare settings, surge pricing, and additional charges (tolls, waiting time).
* Fare adjustment settings based on distance, traffic, and time of day.

**Mobile App:**

* Automated fare calculation based on the distance, time, and dynamic demand conditions (surge pricing).
* Display of estimated fare to passengers before ride confirmation.
* Automatic fare updates for waiting time, traffic delays, and route changes.

**6. Payment Gateway Integration**

**Website:**

* Integration with multiple payment gateways (credit/debit cards, mobile wallets) and secure transaction processing.
* Admin access to transaction logs, refunds, and promotional discounts.

**Mobile App:**

* Seamless payment processing within the app, supporting digital wallets, cards, and cash.
* Option for passengers to save payment methods for future use.
* Transaction history for both passengers and drivers, with receipts sent via email or SMS.

**7. Customer Support and Dispute Resolution**

**Website:**

* Admin interface for managing complaints, disputes, and refunds between drivers and passengers.
* Chat support system integrated with real-time user management and ticketing.

**Mobile App:**

* In-app customer support with live chat, email, and call options for resolving issues (e.g., lost items, fare disputes).
* Easy reporting of service issues directly within the app.

**8. Rating and Feedback System**

**Website:**

* Admin dashboard to monitor ratings and feedback for both drivers and passengers, allowing intervention when necessary.

**Mobile App:**

* Both passengers and drivers can rate each other after a trip, influencing future bookings.
* Display average ratings and feedback history on user profiles to improve transparency.

**9. Availability and Dispatching**

**Website:**

* Predictive dispatch system based on historical data to position taxis strategically during high-demand times or underserved areas.
* Admin access to manage and adjust dispatch algorithms and demand forecasting.

**Mobile App:**

* Real-time taxi availability for passengers.
* Drivers can update their availability status, with recommendations for peak areas based on predictive analytics.

**10. Scalability and Performance**

**Website:**

* Backend infrastructure with cloud-based architecture, load balancing, and failover mechanisms to handle high volumes of traffic.
* Regular performance monitoring with analytics tools for uptime and resource management.

**Mobile App:**

* Optimized for high-performance across devices, ensuring smooth user experience during peak usage.
* Ability to scale and add new features without compromising speed or reliability.

**11. Data Privacy and Security**

**Website:**

* Encryption of sensitive data (user profiles, payment information) with secure authentication (OAuth, 2FA).
* Compliance with GDPR for data handling, consent management, and privacy protection.

**Mobile App:**

* Secure data storage for user information with encryption protocols.
* Multi-factor authentication (MFA) for users and drivers to protect accounts from unauthorized access.

**12. Multi-language and Localization Support**

**Website:**

* Admin controls to configure region-based pricing, regulations, and language preferences.
* Mobile App:
* Support for multiple languages based on user location, with localization of pricing and regulatory information.
* Region-based compliance to address specific laws and requirements for different areas.

**13. Loyalty Programs and Promotions**

**Website:**

* Admin interface for setting up promotional discounts, referral programs, and customer loyalty rewards.

**Mobile App:**

* Loyalty programs for passengers, offering rewards points or discounts for frequent use.
* Referrals for both drivers and passengers to incentivize inviting new users.
* In-app notifications for active promotions and offers.

**14. Admin Dashboard and Reporting**

**Website:**

* Comprehensive reporting tools for ride history, driver performance, passenger usage patterns, and revenue analytics.
* Admin control over user management, ride disputes, driver approval, and payment settings.

**Mobile App:**

* Driver-focused dashboard showing ride history, earnings, and performance metrics.
* Alerts for maintenance schedules, driver compliance updates, and income insights.

**15. Legal and Regulatory Compliance**

**Website:**

* Legal documentation management and audit trails for driver verification, insurance, and vehicle checks.
* Admin compliance reports for local taxi laws and insurance requirements.

**Mobile App:**

* Driver verification workflow to ensure compliance with local transportation laws (background checks, insurance).
* Legal documentation uploading and renewal notifications.