**AutoTrust: A Complete Vehicle Ownership Platform**

**Functional Requirements (FR)**

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| **ID** | **Requirement** | **Description** |
| FR1 | **User Registration and Authentication** | Supports role-based access for car owners, buyers, sellers, service providers, and admins. Registration via OTP/email. JWT-based secure login. |
| FR2 | **Vehicle Listings** | Sellers can create, edit, and manage listings. Buyers can use advanced filters (brand, model, price) and a vehicle comparison tool with real-time updates. |
| FR3 | **Service Booking & Management** | Car owners can request quotes, compare service providers, and book services. Providers can manage their listings and appointments. Includes notifications and reminders. |
| FR4 | **Price Estimation Tool** | AI-powered module suggests fair market pricing for used vehicles. Aids buyers and sellers with transparent pricing insights. |
| FR5 | **Ratings & Reviews** | Users can review sellers and service providers, building trust within the community. |
| FR6 | **Document Upload and Storage** | Secure upload, storage, and access of vehicle documents such as RC, PUC, insurance, and service history. |
| FR7 | **Communication System** | In-platform chat system enabling secure communication between buyers, sellers, and service providers. |
| FR8 | **Admin Panel** | Admins can verify users, validate listings, resolve disputes, monitor platform activities, and generate insights. |
| FR9 | **Quote Request and Acceptance** | Service providers can submit quotes; car owners can compare and accept offers based on pricing and reviews. |
| FR10 | **Service History & Transaction Tracking** | Car owners can view service records, completed transactions, and upcoming bookings. |
| FR11 | **Notifications** | Real-time alerts for booking confirmations, service reminders, updates, and offers. |

**Non-Functional Requirements (NFR)**

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| **ID** | **Requirement** | **Description** |
| NFR1 | **Security** | End-to-end encryption, JWT-based authentication, secure storage of personal and vehicle data. Role-based access controls with OAuth. |
| NFR2 | **Performance & Scalability** | Microservices-based architecture using Node.js and MongoDB. Optimized for high concurrency and fast filtering with caching. |
| NFR3 | **UI/UX** | Mobile-first, responsive, and intuitive design ensuring seamless experience for all user roles. |
| NFR4 | **Real-Time Interactions** | Low-latency updates for listings, bookings, chats, and pricing. Smooth and dynamic interactions across the platform. |
| NFR5 | **Payment Integration** | Secure integration with payment gateways to handle transactions. |
| NFR6 | **Privacy Compliance** | Adheres to data protection norms ensuring privacy and integrity of user data. |