**Business Requirements Document (BRD)**  
**Project Title:** AutoTrust – A Complete Vehicle Ownership Platform  
**Prepared by:** [Mohammed Ashhad, David Johns Denny]

**1. Project Overview**

Vehicle ownership involves numerous challenges, particularly around buying, selling, and servicing vehicles. Issues such as inconsistent pricing, lack of verified service providers, and limited transparency hinder the user experience.  
**AutoTrust** addresses these concerns by offering a comprehensive digital platform that connects car owners with verified buyers, sellers, and service providers. It fosters trust, ensures price transparency, and elevates service quality throughout the vehicle lifecycle.  
Key functionalities include vehicle trading, service provider comparison, booking management, and digital maintenance tracking.

**2. Business Goals**

* **Enable Trust-Based Vehicle Transactions**  
  Establish user confidence with verified listings and transparent pricing.
* **Simplify Vehicle Service Management**  
  Empower users to discover, compare, and book reliable service providers.
* **Ensure Price Transparency**  
  Provide real-time market comparisons for both vehicle prices and service charges.
* **Expand Market Access**  
  Facilitate broader outreach for individual sellers beyond local markets.
* **Streamline Ownership Lifecycle**  
  Centralize maintenance tracking, service reminders, and document management.
* **Develop a Scalable & Secure Platform**  
  Implement a modular, secure architecture with robust authentication and scalable microservices.

**3. User Stories**

**Car Owner**

* As a car owner, I want to register and log in so I can list my car or access services.
* As a car owner, I want to upload my car’s images and specifications to attract buyers.
* As a car owner, I want to compare service providers to make informed decisions.
* As a car owner, I want to book vehicle services conveniently.
* As a car owner, I want to track my vehicle’s service history for better maintenance planning.

**Buyer**

* As a buyer, I want to filter and sort listings by price, model, and location to find suitable vehicles.
* As a buyer, I want to view complete vehicle details and maintenance history.
* As a buyer, I want to contact sellers or make offers directly through the platform.

**Service Provider**

* As a service provider, I want to register my workshop to increase visibility.
* As a service provider, I want to list services and pricing for potential customers.
* As a service provider, I want to manage service appointments efficiently.

**Admin**

* As an admin, I want to verify users and listings to ensure authenticity.
* As an admin, I want to monitor platform activity to maintain system integrity.
* As an admin, I want to resolve disputes and generate insights for business growth.

**4. Core Platform Features**

* **Unified Vehicle Marketplace**  
  Secure environment for vehicle buying and selling with verified users.
* **Verified Service Providers**  
  Access to reviewed and rated workshops and garages.
* **Transparent Pricing Engine**  
  Real-time comparisons for vehicle listings and service fees.
* **Service Booking & Maintenance Reminders**  
  Easy scheduling and timely alerts for vehicle services.
* **Digital Vehicle Dashboard**  
  Centralized tracking for service history, documentation, and vehicle health.
* **Role-Based Dashboards**  
  Custom user experiences for Car Owners, Buyers, Service Providers, and Admins.

**5. Stakeholders**

|  |  |
| --- | --- |
| **Stakeholder** | **Role** |
| Vehicle Owners | Primary users for buying, selling, and servicing vehicles |
| Service Providers | List services, manage bookings, and receive user feedback |
| Platform Administrators | Oversee platform operations, verify users, and maintain data |

**6. Assumptions**

* Users have reliable internet access and basic smartphone literacy.
* Service providers will undergo a structured onboarding and verification process.
* Access to regulatory vehicle data (e.g., RC, insurance) is available via public APIs such as mParivahan.

**7. Requirements**

**Functional Requirements (FR)**

|  |  |  |
| --- | --- | --- |
| **ID** | **Requirement** | **Description** |
| **FR1** | User Registration and Authentication | Support for buyers, sellers, service providers, and admins to register and log in via OTP/email. Role-based dashboards and access control. |
| **FR2** | Vehicle Listings | Ability to create, edit, and manage vehicle listings. Advanced search filters (e.g., brand, model, price). Vehicle comparison module with real-time updates for listings. |
| **FR3** | Service Booking & Management | Service provider onboarding, service listing management, and appointment scheduling with availability and pricing. Notifications and service reminders. |
| **FR4** | Price Estimation Tool | Uses AI to suggest realistic vehicle pricing. |
| **FR5** | Ratings & Reviews | Allows users to rate and review sellers and service providers based on their experience. |
| **FR6** | Document Upload and Storage | Secure upload and management of vehicle-related documents like RC, PUC, insurance, etc. |
| **FR7** | Communication | A chat system for communication between buyers and sellers. |
| **FR8** | Admin Panel | For user verification, listing validation, issue resolution, and reporting platform activity. |

**Non-Functional Requirements (NFR)**

|  |  |  |
| --- | --- | --- |
| **ID** | **Requirement** | **Description** |
| **NFR1** | Security | Secure handling of personal and vehicle data with SSL, OAuth, and end-to-end encryption. JWT-based authentication and secure document management. |
| **NFR2** | Performance & Scalability | Scalable microservices architecture using Node.js and MongoDB. High availability and performance under concurrent usage. Fast search and filtering with caching support. |
| **NFR3** | UI/UX | Mobile-first, responsive, and user-friendly interface. |
| **NFR4** | Real-Time Interactions | Real-time updates for bookings, listings, and low-latency interactions for smooth user experience. |

**8. Technology Stack**

* **Backend:** Node.js, Express.js, RESTful APIs
* **Frontend:** React.js / Angular
* **Database:** MongoDB
* **Authentication:** JWT, Bcrypt
* **Hosting:** AWS / Vercel / Netlify
* **Others:** Cloudinary/S3 for media storage, Email service for notifications

**9. Key Milestones**

1. **Backend Development** – Authentication, booking system, admin controls
2. **Frontend Design** – Role-specific dashboards and navigation flow
3. **Service Integration** – Calendar APIs for booking modules
4. **Admin Tools Setup** – Verification system and analytics
5. **Testing & QA** – Load, security, and usability testing
6. **Deployment** – Launch on cloud infrastructure

**10. Deliverables**

* **Car Owner Dashboard** – Vehicle listings, service history, and booking tools
* **Buyer Portal** – Search, compare, and connect with sellers
* **Service Provider Dashboard** – Workshop registration and appointment management
* **Admin Panel** – User and listing verification, analytics
* **Notification Engine** – Service reminders and booking alerts
* **Secure Login System** – Role-based access with encrypted storage