System Requirements Specification (SRS)

on

" Tata Motors "

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Software Requirements Specification (SRS) for Tata Motors Website

1. Introduction

1.1 Purpose
This document serves as a comprehensive specification for the development of the Tata Motors official website. The platform will function as the primary digital interface between Tata Motors and its customers, dealers, and business partners. The website will showcase the complete range of Tata Motors vehicles, facilitate online transactions, provide after-sales support, and serve as an information hub for investors and stakeholders.

1.2 Document Conventions
- Bold text indicates critical system requirements

- Italicized text represents supplementary information

- Regular text for standard requirements

- Monospace for technical references and code-related items

- [Square brackets] for optional features

1.3 Intended Audience and Reading Suggestions
Primary Audience:

- Development Team: For implementation of all functional requirements

- QA Team: For test case preparation and validation

- Project Managers: For timeline and resource planning

Secondary Audience:

Tata Motors Executives: For business requirement validation

Marketing Team: For content strategy alignment

Third-party Vendors: For integration requirements

Suggested Reading Order:

System Features (Section 3)

External Interfaces (Section 4)

Non-functional Requirements (Section 5)

1.4 Project Scope

The Tata Motors website will encompass the following key functional areas:

1.4.1 Vehicle Showcase

- Complete catalog of passenger and commercial vehicles

- Detailed specifications with comparison tools

- Virtual showroom with 360° views and augmented reality features

1.4.2 Sales and Booking

- Online configuration for vehicle customization

- Test drive scheduling system

- Booking and reservation management

- Financing options with EMI calculators

1.4.3 Service and Support

- Service center locator with real-time availability

- Online service booking system

- Warranty and maintenance tracking

- Recall information and notifications

1.4.4 Corporate Information

- Investor relations portal

- Press releases and media center

- Career opportunities

- Sustainability initiatives

1.4.5 User Management

- Customer registration and profiles

- Dealer portal access

- Admin control panel

Out of Scope:

- Direct online payment for vehicle purchases

- Inventory management at dealer level

- Manufacturing system integration

2. Overall Description

2.1 Product Perspective
The Tata Motors website will serve as the central digital platform connecting multiple stakeholders:

System Context Diagram:

Key Integration Points:

Dealer Management System (DMS)

Customer Relationship Management (CRM)

Payment Gateway Processors

Inventory Management Systems

Service Center Scheduling Systems

2.3 Operating Environment
2.3.1 Hardware Environment

- Web servers: Minimum 8-core processors, 32GB RAM

- Database servers: SSD storage, failover configuration

- Load balancers for high availability

2.3.2 Software Environment

- Frontend: React.js with Next.js framework

- Backend: Java Spring Boot microservices

- Database: MongoDB for content, PostgreSQL for transactions

- Search: ElasticSearch implementation

- Analytics: Adobe Analytics integration

2.3.3 Network Environment

- Minimum 100Mbps dedicated connection

- CDN implementation for global delivery

- DDoS protection services

2.4 Design and Implementation Constraints
Technical Constraints:

- Must support legacy browsers (IE11 compatibility mode)

- Integration with existing Tata Group SSO

- Compliance with Tata IT security standards

- Business Constraints:

- Regional pricing variations

- Dealer-specific promotions

- Inventory display rules based on location

- Regulatory Constraints:

- Automobile disclosure requirements

- Data privacy laws (GDPR, India's DPDP Act)

- Accessibility standards (WCAG 2.1 AA)

2.5 User Documentation
Planned Documentation:

- Online Help Center

- Vehicle selection guides

- Booking process walkthroughs

- Service FAQ

- Dealer Training Materials

- Portal operation manuals

- Inventory management guides

- Customer engagement protocols

- Admin Documentation

- Content management procedures

- User access controls

- Analytics reporting

3. System Features and Requirements
3.1 Functional Requirements
3.1.1 Vehicle Catalog System

FR1.1 - Product Display

Display vehicles with high-resolution images and videos

Organize by category (SUV, Sedan, EV, Commercial)

Show pricing with regional variations

FR1.2 - Vehicle Configuration

Interactive configurator with real-time price updates

Save and share configurations

Compatibility checker for accessories

FR1.3 - Comparison Tool

Side-by-side comparison of up to 3 vehicles

Highlight key differences

Print/email comparison results

3.1.2 Sales and Booking System

FR2.1 - Test Drive Management

- Online scheduling with dealer integration

- SMS/email confirmations

- Calendar integration

FR2.2 - Online Booking

- Refundable booking amount

- Booking status tracking

- Automated follow-ups

FR2.3 - Financing Options

- EMI calculator with multiple bank options

- Loan eligibility checker

- Document upload for pre-approval

3.1.3 Service Management

FR3.1 - Service Booking

- Intelligent scheduling based on service type

- Parts availability indicator

- Reminder system

FR3.2 - Service History

- Digital service records

- Warranty tracker

- Recall notifications

3.1.4 User Management

FR4.1 - Registration

- Multi-step verification process

- Social media login options

- Profile completion incentives

FR4.2 - Personalization

- Saved vehicles and configurations

- Price drop alerts

- Recommended services

3.2 Non-Functional Requirements

3.2.1 Performance

- NR1.1 - Load Times

- Homepage load under 2 seconds

- Vehicle pages under 3 seconds

- 95th percentile performance metrics

- NR1.2 - Capacity

- Support 10,000 concurrent users

- Handle 1M+ page views daily

- Peak traffic management for launches

3.2.2 Security

NR2.1 - Data Protection

End-to-end encryption

Regular security audits

PCI DSS compliance for payments

NR2.2 - Access Control

Role-based access with 2FA

Session timeout policies

Failed login restrictions

3.2.3 Reliability

NR3.1 - Availability

99.99% uptime SLA

Disaster recovery provisions

Geographic redundancy

NR3.2 - Data Integrity

Automated backups

Transaction logging

4. External Interface Requirements
4.1 User Interfaces
4.1.1 Web Interface

- Responsive design for all devices

- ADA-compliant accessibility

- Consistent branding across pages

4.1.2 Mobile Interface

- Progressive Web App functionality

- Offline mode for key content

- App-like experience

4.2 Hardware Interfaces
4.2.1 Dealer Hardware

- Integration with dealer kiosks

- Tablet-optimized interfaces

- Print queue management

4.3 Software Interfaces
4.3.1 Payment Processors

- Razorpay integration

- UPI payment options

- International payment support

4.3.2 CRM Integration

- Salesforce API connections

- Lead management workflows

- Customer data synchronization

4.4 Communication Interfaces
4.4.1 Notification System

- Email templates and triggers

- SMS gateway integration

- Push notification service

5. Other Non-Functional Requirements
5.1 Business Rules

BR1 - Pricing Rules

- Regional pricing variations

- Dealer-specific discounts

- Promotional period handling

BR2 - Inventory Rules

- Real-time availability indicators

- Dealer allocation logic

- Waitlist management

5.2 Legal and Compliance
LC1 - Data Privacy

- GDPR compliance mechanisms

- Data localization requirements

- Cookie consent management

LC2 - Industry Regulations

- Automobile disclosure requirements

- Advertising standards compliance

- Warranty documentation rules

6. Other Requirements
6.1 Appendices
Appendix A - Glossary

- Technical and business terms

- Acronym definitions

- Industry terminology

Appendix B - References

- Tata Motors brand guidelines

- Technical architecture documents

- Compliance standards

Appendix C - Change Management

- Version control history

- Change approval process

- Impact assessment framework

6.2 Future Enhancements
FE1 - Advanced Features

- AI-powered recommendation engine

- Virtual reality showroom

- Predictive maintenance alerts

FE2 - Integration Roadmap

- Electric vehicle charging network

- Smart home integration

- Connected car features