Automated Car Catalog System for Enhanced Showroom Management

Requirement Analysis

Date	**27-06-2025**
Team ID	**LTVIP2025TMID31351**
Project Name	**Automated Car Catalog System for Enhanced Showroom Management**
Maximum Marks	**4 Marks**

Overview

The Requirement Analysis phase is a critical stage in any software development lifecycle. It involves gathering, analyzing, and documenting both the **functional** and **non-functional requirements** needed to fulfill the business objectives identified during the ideation phase.

For the **Automated Car Catalog System**, this phase focuses on determining exactly what functionalities the system must perform and under what conditions it should operate. These requirements will guide the development, testing, and deployment processes, ensuring alignment with stakeholder expectations.

Functional Requirements

Functional requirements define **what the system should do** — the features and services it must provide to users and administrators.

1. Catalog and Category Management

- The system must support the creation and maintenance of **multiple catalogs** (e.g., "Mahendra") and their respective **categories** (e.g., Sudden, Sports, XUV).
- Each category should logically group cars based on market segment or type.

2. Catalog Item Details

- Each car listing must include:

    - A **detailed description** (engine type, seating, fuel type)
    - **Pricing information**
    - **Availability status**
    - **High-resolution images** or media files
- Admins or authorized users should be able to **add, edit, or delete** these items.

🔷 3. Role-Based Access Control (RBAC)

- System users must be assigned roles such as:
    - emp1 (Salesperson)
    - Manager
    - Catalog Admin
- Each role should have specific permissions, such as viewing, requesting, approving, or editing catalog items.
- Groups like showroom will include team members with shared responsibilities.

🔷 4. Request and Ordering Mechanism

- End-users should be able to **browse and order** catalog items through the **ServiceNow Service Portal**.
- The ordering process must support:
    - Form-based submissions
    - Confirmation messages
    - Request tracking

🔷 5. Workflow Automation

- Once an order is placed, it must trigger an **automated approval workflow**.
- The workflow should:
    - Notify the responsible approver via email
    - Log the decision (approved/rejected)
    - Notify the end-user of the outcome

- If no action is taken within a defined period, escalation or re-notification rules should apply.

Non-Functional Requirements

Non-functional requirements define **how the system should perform**, focusing on user experience, performance, security, and scalability.

◈ 1. User Interface (UI) and Responsiveness

- The system must offer a **clean and intuitive user interface**.
- The Service Portal should be **responsive across devices**, including desktops, tablets, and smartphones.
- UI elements should follow accessibility and usability standards (e.g., proper contrast, keyboard navigation).

◈ 2. Security and Access Control

- Role-based access should ensure **data privacy and protection**.
- Sensitive actions (like approvals or deletions) must be **restricted** to authorized users.
- All user actions should be **logged** for auditing.

◈ 3. System Scalability

- The system should be designed to handle **increased load** without performance degradation:
    - Multiple users browsing the catalog simultaneously
    - Bulk uploads or changes to catalog items
    - High volumes of order submissions

◈ 4. Performance and Reliability

- Page load time and catalog search should be **fast (<2 seconds)**.
- The system must maintain **99.9% uptime**, especially during business hours.
- Redundancy and regular backups should be part of the deployment strategy.

◈ 5. Integration and Extensibility

- The system should be designed in a **modular** way to allow:
    - Integration with CRM or ERP platforms in the future
    - Extension to include additional services (e.g., insurance, financing)

Business Alignment

These requirements ensure the project:

- Meets **organizational goals** by improving showroom efficiency and decision-making.
- Improves **customer satisfaction** through faster service delivery and easy-to-navigate portals.
- Provides a **secure and scalable infrastructure** that can evolve with the business.

The balance of well-defined functional features and robust non-functional attributes ensures that the **Automated Car Catalog System** is **practical, usable, and future-ready**.