PROJECT DESIGN

Project Name : Automated Car Catalog System for Enhanced Showroom Management

Proposed Solution Template

S. No	Parameter	Description
1	Project Objective	To automate the cataloging and management of cars in a showroom by using a centralized system that improves efficiency, reduces manual errors, and enhances customer experience.
2	Functional Requirements	The system should allow adding, updating, deleting, and searching car details (model, price, features, availability). It should also support customer queries, filtering, and reporting.
3	Technology Stack	Software and hardware technologies required such as database (MySQL/Oracle), frontend (React/Angular), backend (Java/Python/Node.js), and server/cloud deployment.
4	User Roles & Access Control	Defines permissions for Admin, Salesperson, and Customer (view-only). Each role gets controlled access to ensure security and workflow clarity.

5	Workflow & Automation	Automated process for car listing, stock updates, generating quotations, and sending notifications to customers and management.
6	Integration	Ability to integrate with payment systems, CRM tools, and inventory systems.
7	Reporting & Analytics	Dashboards for management to track sales trends, car demand, and showroom performance.
8	Security & Data Privacy	Data encryption, secure login, and compliance with data protection standards.
9	Challenges	Possible resistance to change, cost of system implementation, and need for staff training.
10	Benefits	Improved efficiency, reduced manual work, real-time data availability, better customer experience, and competitive advantage.

Detailed View (Types, Purpose, Uses)

1. **Project Objective**
    - **Types**: Operational objective, Strategic objective.
    - **Purpose**: Defines the main aim (automation & management).

- **Uses**: Guides development direction and project success measurement.

2. **Functional Requirements**

    - **Types**: Core (CRUD operations), Advanced (reporting, search filters).
    - **Purpose**: Specifies what the system should do.
    - **Uses**: Acts as blueprint for developers.

3. **Technology Stack**

    - **Types**: Frontend, Backend, Database, Deployment.
    - **Purpose**: Provides technical foundation for system.
    - **Uses**: Ensures scalability, performance, and maintainability.

4. **User Roles & Access Control**

    - **Types**: Admin, Salesperson, Customer.
    - **Purpose**: Maintain security and workflow efficiency.
    - **Uses**: Prevents misuse, ensures smooth role-based operations.

5. **Workflow & Automation**

    - **Types**: Inventory updates, Quotation generation, Notifications.
    - **Purpose**: Reduce manual tasks and improve speed.
    - **Uses**: Saves time, minimizes errors, enhances productivity.

6. **Integration**

    - **Types**: CRM integration, Payment integration, Inventory sync.
    - **Purpose**: Connects system with other tools.
    - **Uses**: Provides seamless operations and better data consistency.

7. **Reporting & Analytics**

    - **Types**: Sales reports, Inventory reports, Customer demand reports.
    - **Purpose**: Provide insights for decision-making.
    - **Uses**: Helps management in strategic planning.

8. **Security & Data Privacy**

    - **Types**: Authentication, Encryption, Compliance checks.
    - **Purpose**: Protect sensitive customer and company data.
    - **Uses**: Builds trust and ensures legal compliance.

9. **Challenges**

    - **Types**: Technical, Financial, Human resource.
    - **Purpose**: Identify risks early.
    - **Uses**: Helps in planning mitigation strategies.

10. **Benefits**

- **Types**: Operational, Customer-centric, Strategic.
- **Purpose**: Highlight advantages of system adoption.
- **Uses**: Justifies investment and project execution.