

Project Design Phase-II

Technology Stack (Architecture & Stack)

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| Date | 31 January 3035 |
| Team ID | LTVIP2025TMID30467 |
| Project Name | Automated Car Catalog System For Enhanced Showroom Management |
| Maximum Marks | 4 Marks |

Technical Architecture:

The Car Catalog System – Mahendra Showroom is designed on the ServiceNow platform to automate and streamline the cataloging and booking of cars through a digital showroom experience. The architecture is based on cloud deployment with ServiceNow's native application logic, table extensions, workflow engine, and service portal. The platform provides role-based access control, user and task management, and dynamic email notifications.

The architecture includes:

- A Web UI (Service Portal) for interaction
- ServiceNow Application logic (catalog setup, workflows, notifications)
- Table-based data storage
- Role-based access and group control
- Notification engine

Infrastructure is entirely cloud-based on the ServiceNow environment.

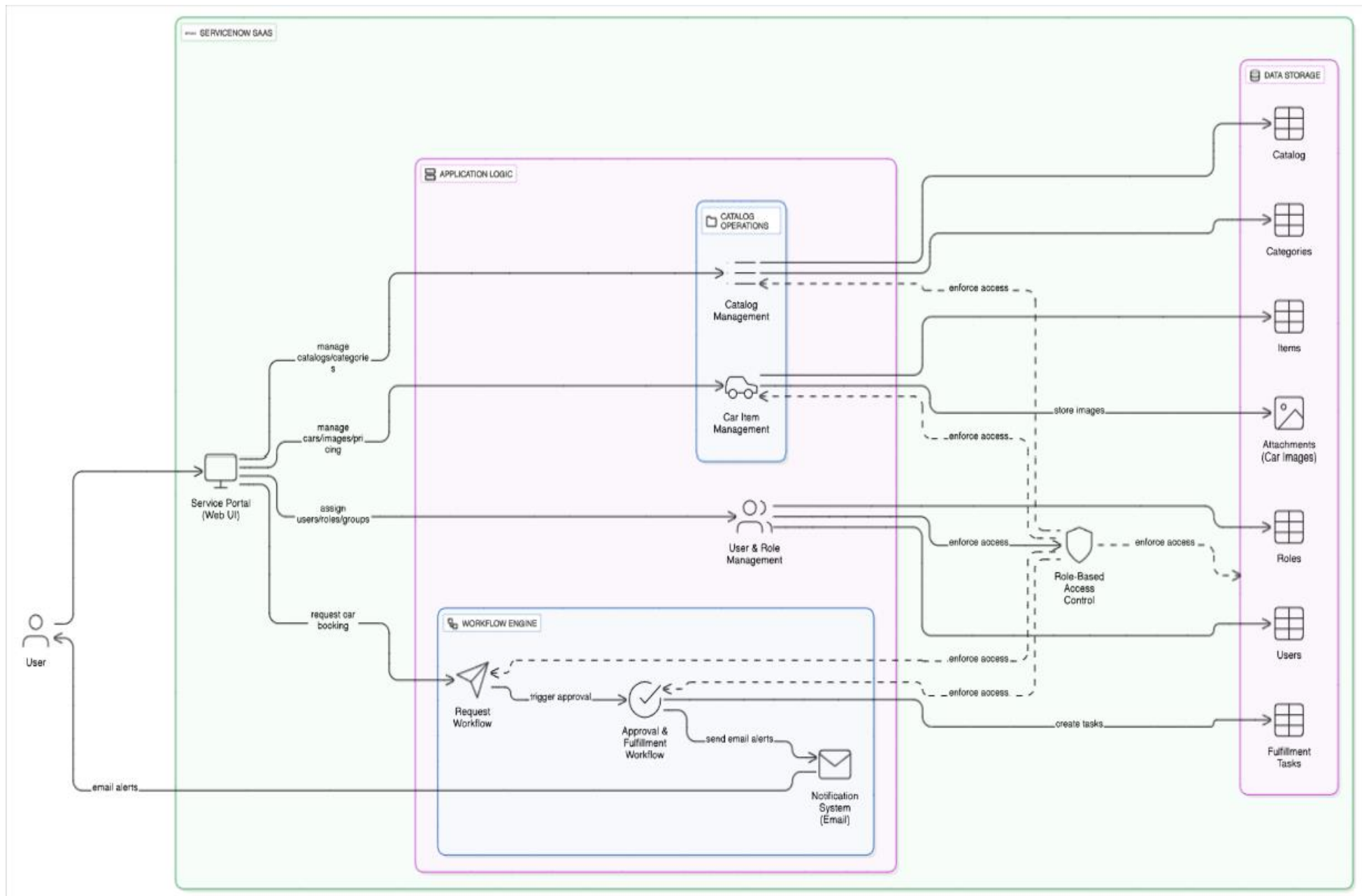


Table-1 : Components & Technologies:

| S.No | Component | Description | Technology |
|------|---------------------------------|---|---|
| 1. | User Interface | Users access the catalog via a web interface. | ServiceNow Service Portal (HTML, JS) |
| 2. | Application Logic-1 | Catalog creation, category setup, item addition. | ServiceNow Flow Designer / Server Scripts |
| 3. | Application Logic-2 | Workflow creation for approvals and tasks. | Workflow Editor (Graphical Designer) |
| 4. | Application Logic-3 | Email notifications for booking approval/rejection. | Notification Engine + HTML Templates |
| 5. | Database | Stores catalog, users, items, and request data. | ServiceNow Tables (Custom + Core Tables) |
| 6. | Cloud Database | Native ServiceNow table storage in cloud. | ServiceNow Platform Storage |
| 7. | File Storage | Image files for cars added during catalog item creation. | ServiceNow Attachment Handling |
| 8. | External API-1 | Not applicable in this phase. | N/A |
| 9. | External API-2 | Not applicable in this phase. | N/A |
| 10. | Machine Learning Model | Not applicable in this phase, may be explored for future recommendations. | N/A |
| 11. | Infrastructure (Server / Cloud) | Fully cloud-based ServiceNow deployment. | ServiceNow Cloud Instance |

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Table-2: Application Characteristics:

| S.No | Characteristics | Description | Technology |
|------|--------------------------|--|---|
| 1. | Open-Source Frameworks | ServiceNow uses internal proprietary tools; UI supports web standards (HTML/CSS/JS). | Web Standards |
| 2. | Security Implementations | Role-based access, permission lists, and user group restrictions in ServiceNow. | RBAC, ACLs, Encryption (at rest/in transit) |
| 3. | Scalable Architecture | Scalable via ServiceNow's multi-instance cloud architecture. | 3-tier layered on ServiceNow |
| 4. | Availability | ServiceNow cloud offers high availability and redundancy. | Cloud Infrastructure (SLA-backed uptime) |
| 5. | Performance | Optimized workflows, table indexing, and ServiceNow caching improve performance. | GlideRecord APIs, Indexes, Caching |