Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 3035
Team ID	LTVIP2025TMID30392
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.

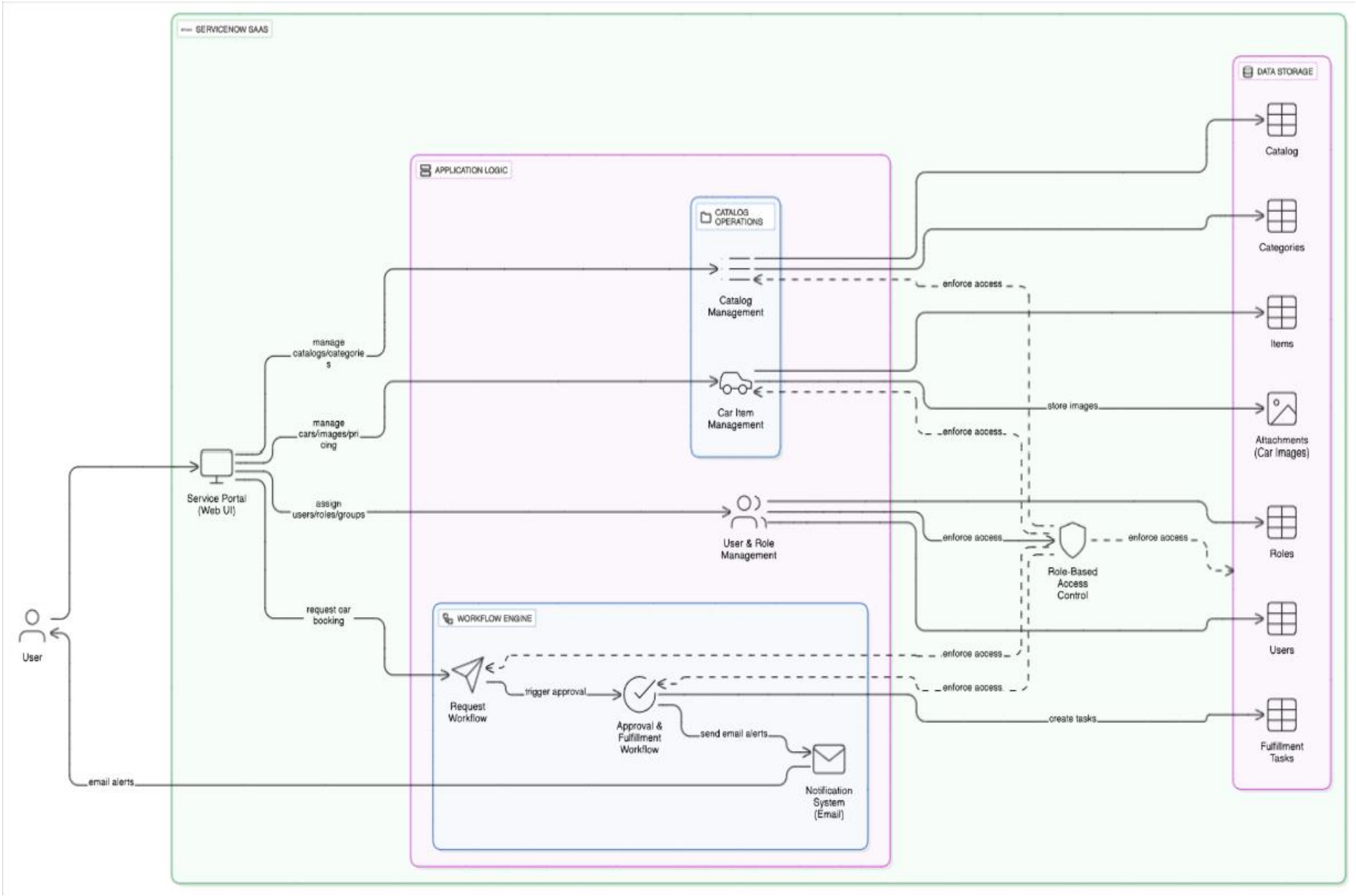
SERVICENOW SAAS
DATA STORAGE
APPLICATION LOGIC
CATALOG OPERATIONS
Catalog
Categories
Items
Attachments (Car Images)
Roles
Users
Fulfillment Tasks
Catalog Management
Car Item Management
User & Role Management
Role-Based Access Control
WORKFLOW ENGINE
Request Workflow
Approval & Fulfillment Workflow
Notification System (Email)
User
Service Portal (Web UI)
manage catalogs/categories
manage cars/images/pricing
assign users/roles/groups
request car booking
email alerts
enforce access
store images
trigger approval
send email alerts
create tasks

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

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