Project Design Phase-II

Technology Stack (Architecture & Stack)
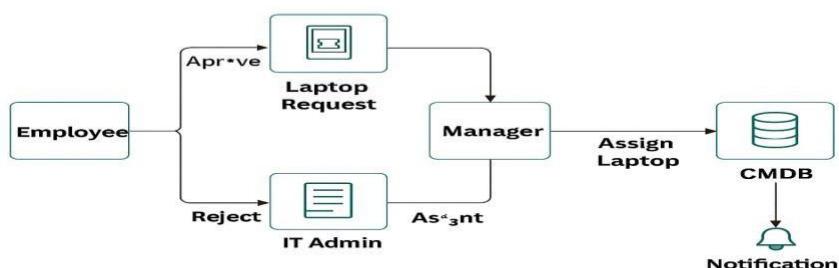
Date	02 NOVEMBER 2025
Team ID	NM2025TMID08280
Project Name	Laptop Request Catalog Item
Maximum Mark	4 Marks

Technical Architecture:

The Laptop Request Catalog Item streamlines the IT asset provisioning process within ServiceNow.

Employees can submit laptop requests directly through the Service Catalog interface. Once submitted, the system automatically sends the request for manager review and approval. After approval, the IT administrator processes and fulfills the request. Throughout each step, automated notifications are generated to keep all stakeholders informed.

Data Flow in Laptop Request Catalog System

The Laptop Request Catalog Itemuhlimeslines taccei provisioning process within ServiceNow. Employees can raise a request for a laptop through the Service C···.

This architecture enhances visibility, minimizes manual work, and ensures accurate tracking of all laptop assets in the organization.

Guidelines:

Include all processes (Application Logic / Technology Blocks)

Provide infrastructural demarcation (Local / Cloud)

Indicate external interfaces (APIs, HRMS, Email, etc.)

Indicate Data Storage components / services

Indicate interface to machine learning models (if applicable)

Table 1: Components & Technologies

S.No	Components	Description	Technology
1	User Interface	Employee submits laptop request via Service Catalog	ServiceNow Service Portal
2	Application Logic-1	Captures catalog request and routes to manager	Flow Designer
3	Application Logic-2	Manager approval logic (approve/reject)	ServiceNow Approval Engine
4	Application Logic-3	Assigns laptop asset and updates inventory	GlideRecord Script

5	Database	Stores request, approval, and asset details	ServiceNow CMDB, Request Tables
6	Cloud Databas	Managed via ServiceNow backend	ServiceNow Cloud Database
7	File Storage	Minimal; attachment logs (e.g., employee ID proof)	ServiceNow Attachments
8	External API-1	Optional integration with HRMS for user validation	REST API in ServiceNow
9	External API-2	Not applicable	-
10	Machine Learning Model	Not applicable for current use case	-
11	Infrastructure (Server/Cloud)	Hosted on ServiceNow SaaS platform	ServiceNow Cloud (SaaS)

Table 2: Application Characteristics

S.No	Components	Description	Technology
1	Open-Source Frameworks	Not applicable (ServiceNow is proprietary)	-
2	Security Implementations	Role-based access control, ACLs, secure scripts	Scoped Applications, ACLs

3	Scalable Architecture	SaaS-based, horizontally scalable via ServiceNow	ServiceNow Cloud Architecture
4	Availability	High availability with ServiceNow hosting	Load-balanced ServiceNow Instances
5	Performance	Optimized through Flow Designer and indexed tables	GlideRecord, Background Scripts