Project Design Phase

Solution Architecture

Date	2 November 2025
Team ID	NM2025TMID06773
Project Name	Laptop Request Catalog Item
Maximum Marks	2 Marks

Goals of the Architecture

- Automate the laptop request and approval process using **ServiceNow Service Catalog**

- Ensure **workflow transparency** between requester, approver, and IT administrator

- Maintain **data consistency** across request, approval, and allocation records

- Reduce **manual intervention** in laptop request handling

- Provide **real-time tracking and notifications** to all stakeholders

Key Components

- **Service Catalog Item:** Laptop Request form (input for employees)

- **Request Table:** Stores request details such as model, justification, and requester info

- **Flow Designer Workflow:** Manages request approvals, notifications, and task automation

- **UI Policy & UI Actions:** Enforces field validation and dynamic form behavior

- **Notification Engine:** Sends email and in-app alerts for each workflow stage

- **CMDB (Configuration Management Database):** Logs laptop assets and assignment details

- **Business Rules & Script Includes:** Handle validation logic and process automation

Development Phases

1. **Create the Laptop Request Catalog Item**
   - Define variables such as laptop model, specifications, and justification.

2. **Implement Validation and UI Policies**
   - Ensure mandatory fields are filled and visible based on user selections.

3. **Configure Workflow in Flow Designer**
   - Automate approvals, routing, and fulfillment steps between employees, managers, and IT teams.

4. **Set Up Notification Logic**
   - Send automated alerts for submission, approval, rejection, and fulfillment.

5. **Develop and Apply Business Rules**
   - Use server-side logic to validate data integrity and prevent invalid requests.

6. **Testing and Verification**
   - Simulate multiple request scenarios (valid, invalid, approved, rejected) to verify end-to-end behavior.

Solution Architecture Description

The **Laptop Request Catalog Item Solution Architecture** is designed to automate and streamline the process of requesting and approving laptops within the **ServiceNow** platform.

Employees initiate requests via the **Service Catalog**, where data is validated through **UI Policies** before submission. The **Flow Designer** workflow then routes the request to the appropriate **manager for approval**. Upon approval, the request moves to the **IT fulfillment stage**, where the administrator allocates and records the laptop delivery details.

Throughout the process, the **Notification Engine** provides real-time updates to users about status changes. The **CMDB** maintains asset tracking, ensuring every laptop assigned is recorded with accurate user and configuration details.

Additionally, **Business Rules and Script Includes** ensure consistency and prevent incomplete or unauthorized actions, such as fulfilling unapproved requests. This architecture eliminates

manual tracking, ensures data integrity, and promotes operational transparency within IT asset management.

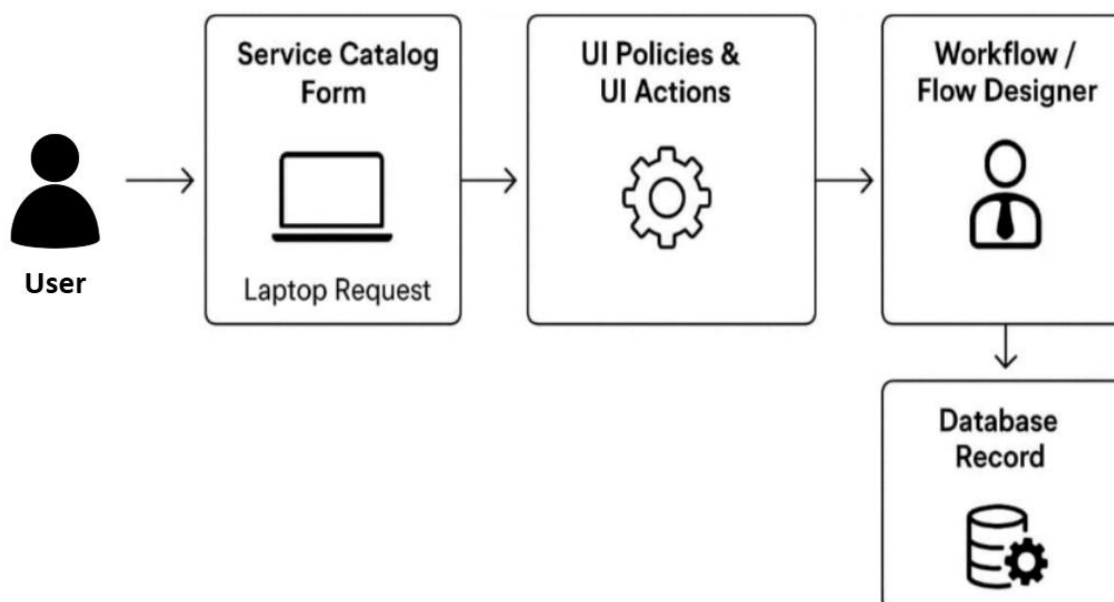**Example – Solution Architecture Diagram Description**

Figure 1: Architecture and Data Flow of the Laptop Request Catalog Item

Reference:

ServiceNow Documentation – *Service Catalog Design and Configuration*
https://www.servicenow.com/docs/bundle/washingtondc-servicenow-platform/page/product/service-catalog-management/concept/configuring-service-catalog.html

ServiceNow CMDB Overview
https://www.servicenow.com/docs/bundle/zurich-servicenow-platform/page/product/configuration-management/concept/cnfig-mgmt-and-cmdb.html

ServiceNow UI policies
https://www.servicenow.com/docs/bundle/zurich-platform-administration/page/administer/form-administration/task/t_CreateAUIPolicy.html