

LAPTOP REQUEST CATALOG ITEM

PROJECT DESIGN PHASE

1. Introduction

The design phase focuses on translating the project's functional requirements into a detailed technical framework. It defines the architecture, components, data flow, and workflow for the laptop request catalog item in ServiceNow. This ensures the system is user-friendly, scalable, and aligns with organizational IT service management goals.

2. System Architecture Design

2.1 Architectural Overview

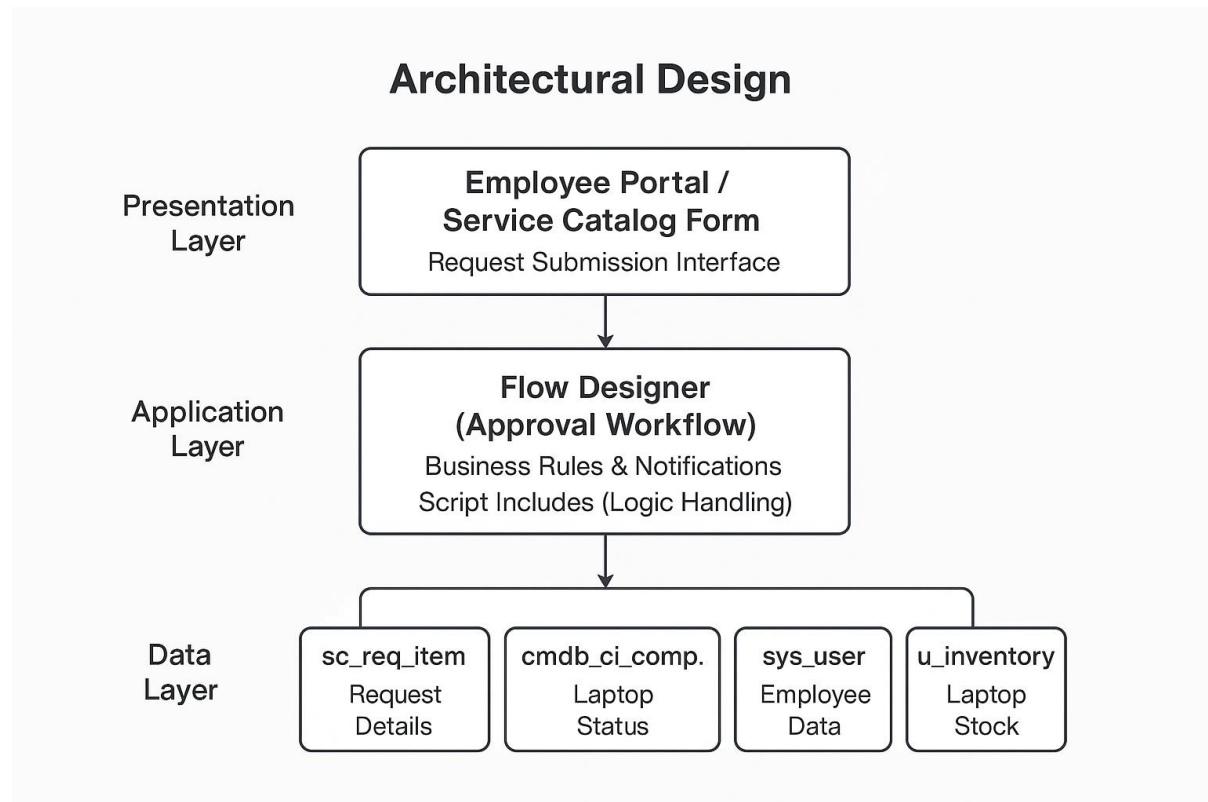
The system follows a three-tier architecture:

- **Presentation Layer:** The ServiceNow Service Catalog interface, where users request laptops.
- **Application Layer:** Handles business logic, approval workflows, and catalog item rules through ServiceNow Flow Designer and Business Rules.
- **Data Layer:** Stores request details, approvals, and inventory data in ServiceNow's internal database.

2.2 Components

1. **Catalog Item Form** – The user interface to submit laptop requests.
2. **Workflow Engine** – Automates the approval process (Manager → IT Team).
3. **Inventory Module** – Manages available laptops and stock levels.
4. **Notification System** – Sends email or ServiceNow notifications at each stage.

Reporting Dashboard – Displays request statistics and inventory analytics.



3. User Interface (UI) Design

3.1 End-User Form

Fields included in the form:

- Employee Name
- Department
- Laptop Model / Specification Dropdown
- Business Justification
- Manager's Email (for approval)

3.2 IT Admin Dashboard

- Displays pending and completed requests.
- Shows available inventory and alerts for low stock.
- Provides analytics (number of requests, approval time, etc.).

4. Data Flow Design

4.1 Data Flow Description

1. The employee fills out the laptop request form.
2. The system validates the request and triggers a workflow.
3. The request goes to the manager for approval.
4. Upon approval, it's sent to the IT team for allocation.
5. Inventory data is updated once the laptop is issued.
6. The requester receives a completion notification.

5. Workflow Design

5.1 Workflow Steps

1. Request Submission → Employee submits request.
2. Approval Stage → Manager reviews and approves/rejects.
3. Fulfillment Stage → IT team processes approved requests.
4. Notification Stage → Automatic updates sent to stakeholders.
5. Closure → Ticket is closed after successful laptop handover.

5.2 Flow Designer Implementation

- Use ServiceNow Flow Designer to define triggers, actions, and approval steps.
 - Include conditions such as “Auto-approve if urgent” or “Notify IT if stock < 5”.
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Laptop Request Form

Laptop Request

Employee Name

Department

Laptop Model / Specification

Manager's Email

Submit

Manager Approval Page

Laptop Request

Employee	Department	Manager	
			Approve
			Reject

IT Admin Dashboard

IT Admin Dashboard

Pending Requests

Employee	Request Status	Availability

Request Status Page

Laptop Request

Request ID	Status
	In Review

6. Database Design

6.1 Tables

Table Name	Description	Key Fields
sc_req_item	Stores request details	Request ID, User ID, Model
cmdb_ci_computer	Tracks laptop assets	Asset Tag, Model, Status
u_inventory	Custom table for stock tracking	Model, Quantity
sys_user	Stores employee data	User ID, Department, Manager

6.2 Relationships

- Each request (sc_req_item) is linked to a user (sys_user).
- Upon fulfillment, an asset entry in cmdb_ci_computer is updated.
- u_inventory quantity reduces automatically after allocation.

7. Security and Access Design

- **Role-Based Access:**

- Employee → Submit request
 - Manager → Approve request
 - IT Admin → Fulfill and close requests
 - Data Validation: Mandatory fields, input restrictions, and request duplication checks.
 - Audit Logs: Every workflow step recorded in the system for traceability.
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8. Design Validation

The design will be validated through:

- Prototype testing of the catalog item in ServiceNow sandbox.
 - Stakeholder feedback sessions for usability and process efficiency.
 - Data integrity and workflow consistency checks.
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9. Tools and Technologies

- Platform: ServiceNow
 - Modules: Service Catalog, Flow Designer, Notifications, CMDB
 - Languages: JavaScript (for client/server scripts)
 - Database: ServiceNow internal relational database
 - Design Tools: Lucidchart / Draw.io for diagrams
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10. Conclusion

This design ensures a structured, automated, and transparent process for managing laptop requests within ServiceNow. It supports efficient IT service delivery, reduces manual approvals, and maintains accurate inventory data for IT administrators.