Project Design Phase - II

Technology Stack (Architecture & Stack)

Date	02 November 2025
Team ID	NM2025TMID05884
Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
Maximum Marks	4 Marks

Technical Architecture:

Optimizing User, Group, and Role Management with Access Control and Workflow Automation using ServiceNow.

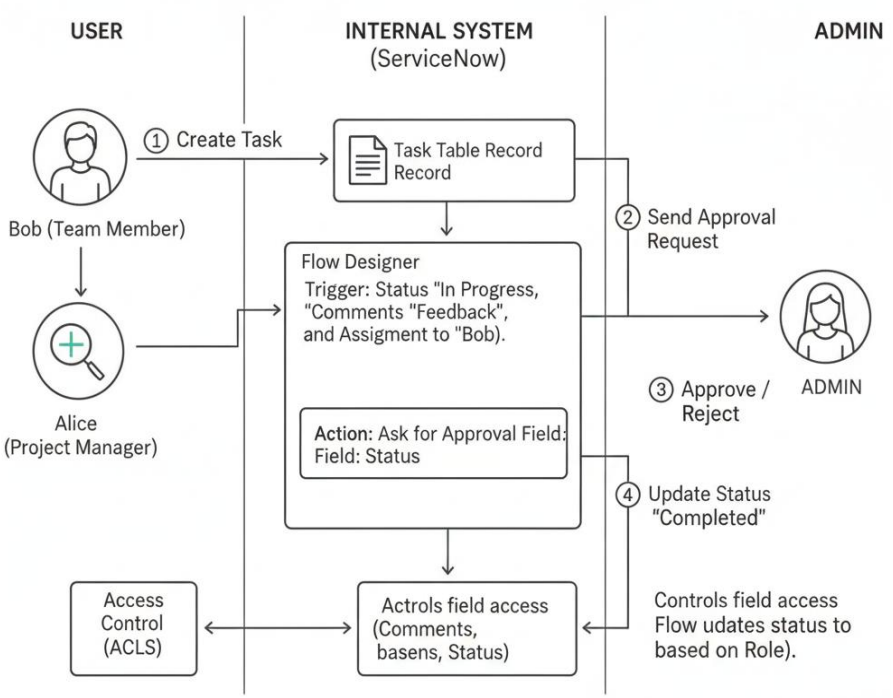

Table-1: Component & Technology:

S.No.	Component	Description	Technology
1.	User Interface	Administrators, Project Managers, and Team Members access user, role, and task management forms through the ServiceNow interface.	ServiceNow Platform UI

2.	Application Logic-1	Handles creation of users, groups, and roles under **System Security**, ensuring proper structure for access management.	ServiceNow System Security Module
3.	Application Logic-2	Manages role assignments and access permissions for project tables and task tables.	ServiceNow User and Role Tables
4.	Application Logic-3	Defines Access Control Lists (ACLs) to restrict or allow specific actions (view/edit) on fields like *Status* and *Comments*.	ServiceNow Access Control (ACL)
5.	Workflow Logic	Automates task approval when a team member updates a task status or comment; routes approval to Project Manager (Alice).	ServiceNow Flow Designer / Workflow
6.	Database	Stores all user, group, role, and task data required for project management operations.	ServiceNow Tables (User, Group, Role, Task)
7.	Role Management	Defines custom roles such as *Project Manager* and *Team Member* for access segregation and accountability.	ServiceNow Role Configuration
8.	Access Management	Ensures only authorized roles can access project or task data, maintaining data integrity and security.	ServiceNow ACL & Role-Based Access
9.	Audit and Governance	Tracks all configuration changes, ACL updates, and role assignments for compliance and traceability.	ServiceNow System Logs / Update Sets
10.	Infrastructure (Server / Cloud)	Entire solution is deployed on ServiceNow's SaaS cloud platform ensuring scalability, availability, and security.	ServiceNow Cloud (SaaS Platform)

Table-2: Application Characteristics:

S.No.	Characteristics	Description	Technology
1.	Open-Source Frameworks	Not applicable, as ServiceNow is a proprietary, cloud-based platform.	—

2.	Security Implementations	Role-based access control (RBAC) and Access Control Lists (ACLs) ensure only authorized users can view or modify data.	ServiceNow Roles, ACLs
3.	Workflow Automation	Automated task approvals and updates are handled through Flow Designer based on defined conditions.	ServiceNow Flow Designer
4.	Scalable Architecture	The application leverages ServiceNow's multi-tenant SaaS architecture, allowing smooth scaling for additional users and workflows.	ServiceNow Cloud Architecture
5.	Availability	Ensures high availability and continuous uptime through ServiceNow's globally distributed cloud infrastructure.	ServiceNow Cloud Instances
6.	Performance	Efficient data handling achieved through optimized tables, role-based filtering, and asynchronous workflow execution.	Glide Record, Background Scripts
7.	Maintainability	Configuration changes like ACLs, roles, and workflows are easily updated and versioned through Update Sets.	ServiceNow Update Sets
8.	Auditability	Tracks user actions, configuration changes, and approval records for transparency and governance.	System Logs, Audit History