Project Design Phase

Data Flow Diagram & User Stories

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Team ID: C4B8E28377A600AAD9D4711008669C91
Project Name: *Optimize User, Group, and Role Management with Access Control and Workflow*
Maximum Marks: 2 Marks

Data Flow Diagram (DFD)

A **Data Flow Diagram (DFD)** visually represents how data moves through the system, showing how information is created, processed, and shared between different entities.

In the project *"Optimizing User, Group, and Role Management with Access Control and Workflow"*, the DFD illustrates how **ServiceNow** handles user permissions, role assignments, and automated approvals through its **Flow Designer**.

The system ensures that each data interaction — whether a task creation, update, or approval — follows proper access control, maintaining data integrity and accountability.

DFD Description (Level 1)

1. **Project Manager (Alice)** creates and assigns tasks to the **Team Member (Bob)**.

2. The **ServiceNow System** validates user permissions using predefined roles (Project Manager / Team Member).

3. When the task status is updated to *"In Progress"* or *"Feedback"*, the **Flow Designer** triggers an automation process.

4. The system automatically changes the task status to *"Completed"* upon meeting the required conditions.

5. The **Flow Designer** sends an **approval request** to the Project Manager for confirmation.

6. After approval, the task is officially marked as *"Completed"* and recorded in the system logs for auditing.

DFD Summary

The DFD demonstrates a seamless flow of data between users and the ServiceNow platform:

- **Input:** Task creation and status updates.

- **Process:** Validation, approval automation, and access control verification.

- **Output:** Approved task completion with logged audit records.

This structured data movement ensures that all workflow operations are both secure and transparent.

User Stories

User Stories express the requirements of different users in simple, goal-oriented statements.
They describe how the **access control system** and **automated workflows** help users perform their responsibilities efficiently while maintaining proper authorization.

User Story Table

User Type	Functional Requirement (Epic)	User Story No.	User Story / Task	Acceptance Criteria	Priority	Release
Project Manager (Alice)	User & Role Management	**USN-1**	As a Project Manager, I want to assign specific roles to users so that access is properly controlled within the system.	Roles are correctly assigned and reflected in user profiles.	**High**	**Sprint-1**

Team Member (Bob)	Task Workflow Automation	USN-2	As a Team Member, I want to update the task status and send it automatically for approval once the work is completed.	Task status changes to "Completed" after approval, visible in workflow logs.	High	Sprint-2
Administrator	Access Control & Audit Monitoring	USN-3	As an Administrator, I want to monitor all user permissions and workflows to ensure security compliance and auditing.	Access logs and role mappings are viewable within the system security module.	Medium	Sprint-2

Analysis

These user stories collectively define the system's functional flow:

- The **Project Manager** configures roles and initiates workflows.

- The **Team Member** performs assigned tasks and interacts with automated approvals.

- The **Administrator** maintains oversight of access controls and ensures audit readiness.

Through this design, the system achieves:

- **Automation** of task assignment and approvals.

- **Security** through role-based permissions (ACLs).

- **Accountability** with system-level logging and auditing.

Conclusion

The **Project Design Phase – II** bridges user needs with technical design.
By defining clear **data flow** and **user stories**, the project ensures that each stakeholder's

requirements are addressed efficiently.

This phase guarantees that **ServiceNow's automation and access control mechanisms** align perfectly with the organizational objectives of transparency, security, and operational efficiency.