

Project Design Phase–II
Data Flow Diagram & User Stories

Date	31/10/25
Team ID	NM2025TMID09014
Project Name	Optimization User, group and role management with access control and workflow
Maximum marks	4 Marks

Data Flow Diagrams (DFD)

A Data Flow Diagram (DFD) is a graphical representation of how data moves within a system. It shows how inputs are transformed into outputs through processes, where data is stored, and how entities interact with the system.

In the project "Optimization of User, Group and Role Management with Access Control and Workflows", the DFD explains how user-related information (user details, groups, and role permissions) flows within the system, ensuring secure and controlled access through defined workflows.

This DFD illustrates:

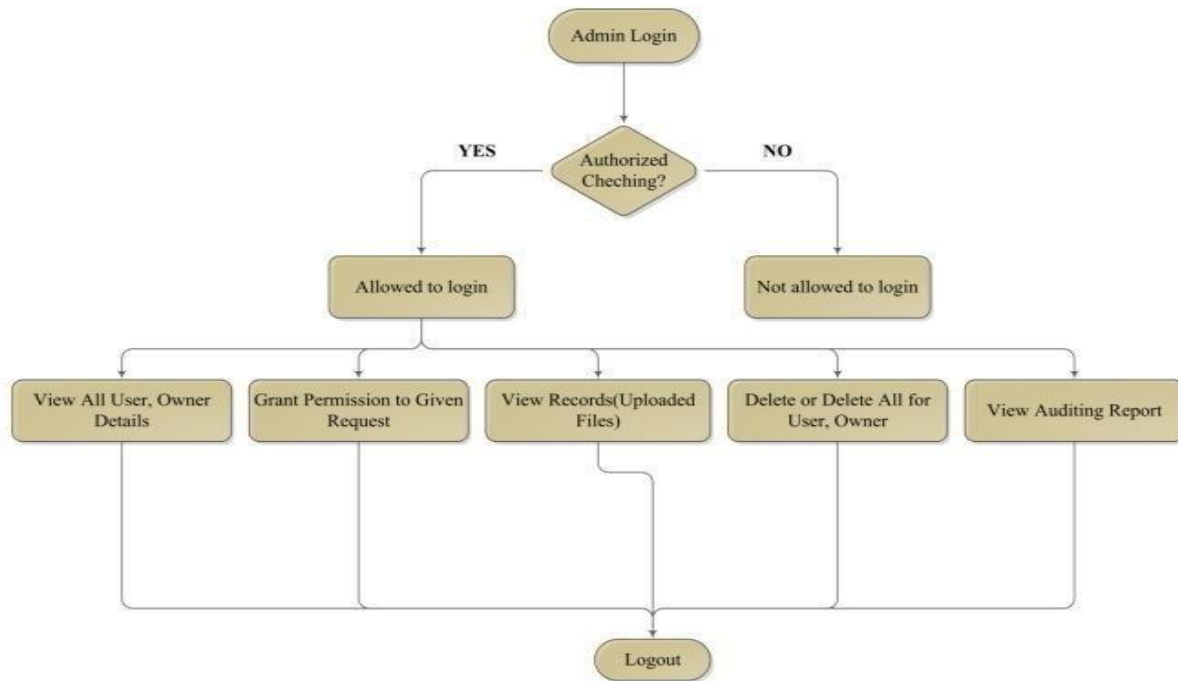
How admins create users, assign them to groups, and allocate roles.

How the system enforces role-based access control (RBAC) to manage permissions.

How workflow automation handles access approval and notifications.

Example:

1. Admin/User logs in to the system.
2. System verifies credentials and retrieves permissions from the Role Database.
3. Admin performs operations such as creating or modifying users, groups, and roles.
4. Workflow Engine triggers approval flows for role changes or access requests.
5. Access Control Module checks role-based permissions before granting access.
6. Audit Log Database records all user activities and workflow approvals.



User Stories

User stories describe the system's functionality from different user perspectives using simple, goal-oriented language. They help capture the functional requirements for user, group, and role management with workflows.

User Type	Functional Requirement (Epics)	User Story Number	User Story / Tasks	Acceptance Criteria	Priority	Release
Administrator	User Management	USD-1	As an admin, I want to create, edit, and delete users so that I can manage system access.	The system should allow CRUD operations only for admins with valid permissions.	High	Sprint - 1
Admin / Security officer	Role Management	USD-2	As an admin, I want to assign specific roles	The system should enforce RBAC and	High	Sprint 1

			and permissions to users or groups to maintain access security.	restrict unauthorized changes.		
Workflow Manager	Workflow Automation	USD-3	As a manager, I want to review and approve access requests through automated workflows.	Workflow requests must require approval before access is granted.	Medium	Sprint 2
System (auto check)	Access validation	USD-4	As a system, I must verify user roles and permissions before granting access to any resource.	Access should only be granted after successful validation.	High	Sprint - 2
Auditor/ Compliance	Audit logging	USD-5	As an auditor, I want to view logs of all user and role changes to ensure accountability.	Logs must be automatically generated and tamperproof.	Medium	Sprint 3