README — Optimizing User Group and Role Management with Access Control and Workflows

Project Overview

This project focuses on automating and securing user group and role management within the ServiceNow platform. The goal is to replace manual role updates and access handling with automated workflows, ACL-based security, and approval mechanisms that ensure proper authorization, compliance, and auditability.

The system helps administrators manage access privileges efficiently while maintaining data integrity, transparency, and security across all user and role-related operations.

Objectives

- Automate user role and group assignment workflows.
- Implement approval flows for access changes using Flow Designer.
- Enforce Access Control Lists (ACLs) for secure role modification.
- Maintain audit logs for all access and workflow actions.
- Prevent unauthorized or conflicting access updates.
- Improve overall governance and reduce administrative effort.

System Architecture

The architecture is designed around native ServiceNow components for reliability and scalability.

Key Components:

- ServiceNow Web UI: Interface for admins to create and manage roles and groups.
- Flow Designer: Handles workflow automation and approvals.
- GlideRecord Scripts: Perform server-side validation before updates or deletions.
- ACLs (Access Control Lists): Ensure only authorized users can modify access.
- System Tables: `sys_user`, `sys_user_group`, `sys_user_role`
- Notifications & Audit Logs: Track and alert every access change.

Infrastructure:
Entirely hosted and managed on ServiceNow's SaaS cloud environment.

Functional Requirements

1. Manage users, groups, and roles through the ServiceNow interface.
2. Automate approval workflows for role assignments.
3. Validate access privileges using ACLs and GlideRecord scripts.
4. Block unauthorized or conflicting role updates.
5. Log all activities and notify relevant stakeholders.
6. Allow safe role modification after manager approval.

Non-Functional Requirements

- Usability: Simple, clean, admin-friendly interface.
- Security: Enforced ACLs and scoped app restrictions.
- Reliability: Consistent access validation across all workflows.
- Performance: Quick execution through asynchronous flows.
- Availability: Always available via ServiceNow SaaS.
- Scalability: Handles large user and group data volumes smoothly.

Technical Stack

Component	Technology
Platform	ServiceNow SaaS
UI	ServiceNow Web UI
Workflow	Flow Designer
Server Logic	GlideRecord, Script Includes
Security	ACLs, Scoped Applications
Database	sys_user, sys_user_group, sys_user_role
Notifications	ServiceNow Notification Engine

Agile Planning

Sprint	Focus Area	Key Deliverables
Sprint-1	User & Group Setup	User and group creation, basic role mapping
Sprint-2	Workflow Automation	Flow Designer approvals and ACL validation
Sprint-3	Notifications & Auditing	Alerts, logging, and access traceability
Sprint-4	Final Integration	Testing, documentation, and submission

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Features

- Automated role approval workflows.
- Real-time access validation via ACLs.
- Admin notifications for all access changes.
- Secure and auditable access modification.
- Easy scalability to integrate with HR or identity systems.

Team Members

- Team Leader: Devisree S
- Team Member: Esakki Raj
- Team Member: Harishma M
- Team Member: Heavelin R G

Learning Outcomes

- Hands-on experience with ServiceNow development, Flow Designer, and ACLs.
- Understanding of access control models, workflow automation, and role-based permissions.
- Exposure to real-world ITSM governance and security practices.

Deliverables

- Solution Requirements Document
- Data Flow Diagrams & User Stories
- Technical Architecture Document
- Proposed Solution & Architecture Description
- Product Backlog and Sprint Schedule
- Velocity & Burndown Chart