Project Design Phase
Proposed Solution

DATE	1 NOV 2025
TEAM ID	NM2025TMID00759
PROJECT NAME	Optimizing User, Group, and Role Management with Access Control and Workflows
MAXIMUM MARKS	2 Marks

Proposed Solution Template :

S.No.	Parameter	Description
1.	**Problem Statement**	Current User, Role, and Group (URG) management is often decentralized, manual, and inconsistent, leading to "role bloat," unnecessary access privileges (risk of security breaches), slow onboarding/offboarding, and an inefficient, error-prone access request and approval workflow. Management lacks a clear, single view of who has what access and why.
2.	**Idea / Solution description**	Implement a centralized, Attribute-Based Access Control (ABAC) or Role-Based Access Control (RBAC) model with an automated workflow. The solution involves: a) Standardizing Roles/Groups based on the "Principle of Least Privilege." b) Integrating an Automated Access Request Workflow (e.g., using a Service Catalog) that routes requests based on the user's attributes (department, location, job title) and requires multi-level management approval. c) Introducing an Access Certification/Review process to periodically validate existing user privileges.
3.	**Novelty / Uniqueness**	The solution uniquely combines access standardization with a smart, attribute-driven workflow. Instead of just simplifying the UI, it fundamentally shifts to an "access as a service" model, minimizing manual intervention and providing management with a dedicated dashboard for real-time access oversight and compliance auditing, a feature often missing in basic URG tools.

4.	**Social Impact / Customer Satisfaction**	**Security:** Significantly reduces the risk of internal data breaches and compliance violations (e.g., GDPR, HIPAA). **Productivity:** Speeds up user onboarding by up to 75% and ensures employees have the correct tools/access from day one. Improves management satisfaction by providing clear accountability and audit trails for all access decisions.
5.	**Business Model (Revenue Model)**	Not directly a revenue source, but a powerful cost-saving and risk-mitigation tool. It reduces manual IT effort (freeing up staff for strategic work), lowers audit-related fines and compliance costs, and minimizes the financial impact of potential security incidents due to over-privileged access.
6.	**Scalability of the Solution**	The standardized access model can easily scale across the entire enterprise regardless of user count. It can be extended to integrate with other HR and IT systems (e.g., Identity Providers, HRIS) for automated provisioning/deprovisioning. The workflow engine allows for complex, multi-tier approvals for high-risk access (e.g., system admin roles) and simple, automated access for low-risk roles, adapting seamlessly to organizational growth.

Conclusion :

The proposed solution centralizes and automates access control, replacing manual processes with a secure and scalable system. This is a critical strategic upgrade that delivers stronger security, ensures compliance, and significantly improves operational efficiency by streamlining the entire user access lifecycle.

Solution Description :

The proposed solution involves implementing a centralized, Attribute-Based Access Control (ABAC) framework to standardize user, role, and group access based on the Principle of Least Privilege. This is achieved by defining a clear hierarchy of roles mapped to specific user attributes (like job title or department). The core of the solution is an automated workflow engine that routes all access requests through a self-service portal, applying conditional logic to trigger mandatory multi-level management approval based on risk. Finally, to ensure long-term compliance and security, the system will integrate a real-time management dashboard and enforce periodic Access Certification reviews, effectively transforming manual access granting into a governed, auditable, and repeatable "Access-as-a-Service" process.