Optimizing User, Group, and Role Management with Access Control and Workflows

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Project Name	Optimizing User, Group, and Role Management with Access Control and Workflows
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Requirement Analysis

The requirement analysis phase of the project **Optimizing User, Group, and Role Management with Access Control and Workflows** focused on identifying and documenting the functional and non-functional requirements necessary to develop an effective solution within the ServiceNow environment. This phase ensured a clear understanding of system expectations, user needs, operational constraints, and performance goals before proceeding to system design and implementation.

The analysis began with understanding the problem context and identifying the stakeholders involved. The primary users of the system included the Project Manager, responsible for oversight and approvals, and the Team Member, responsible for executing assigned tasks. The system administrator role was also considered for configuring and maintaining platform settings. The requirements gathered from this context emphasized the need for structured user management, controlled access permissions, efficient data organization, and automated workflow processing.

Functional requirements were defined to describe the core operations that the system must perform. These included the ability to create and manage user accounts, organize users into groups, and assign roles that regulate system access. The system was required to support the creation of custom tables for storing project and task data, enabling entry, update, and retrieval of records. Additionally, the system needed to enforce access control rules ensuring users could only view or modify information permitted by their assigned roles. Workflow automation was

another key functional requirement, where task status changes would trigger automatic updates and approval requests. The system also needed to support impersonation testing to verify permission enforcement for different user roles.

Non-functional requirements addressed system quality attributes and operational expectations. Performance requirements ensured the system remained responsive during administrative actions and data operations. Security requirements emphasized strong access control, ensuring protection of sensitive project information and prevention of unauthorized modifications. Usability requirements focused on providing an intuitive interface that allows users to navigate modules, update records, and manage tasks efficiently. Scalability requirements ensured that the system design could accommodate additional users, roles, or tables without major restructuring. Reliability requirements emphasized stable operation during repeated use, minimizing downtime or functional inconsistencies.

Technical requirements were identified based on the chosen implementation environment. The system required access to a ServiceNow Personal Developer Instance with necessary administrative privileges. Development relied on platform tools such as Application Navigator, Table Designer, Access Control configuration, and Flow Designer. Internet connectivity and compatible web browsers were necessary to interact with the cloud-based environment. Documentation tools were also required to record system configuration and project progress.

Data requirements were analyzed to ensure proper structuring and handling of information. The system needed to store user identities, role assignments, group memberships, project attributes, and task details. Data validation mechanisms were required to ensure accurate entry of dates, identifiers, and status values. Proper indexing and referencing were considered to enable efficient retrieval and maintain data consistency across tables.

Constraints and assumptions were also documented during this phase. The project was limited to a controlled academic environment and utilized default platform capabilities without external integration. It was assumed that users would possess basic familiarity with system navigation and follow defined procedures during operation. Time constraints and resource limitations influenced the scale and complexity of implementation decisions.

In conclusion, the requirement analysis phase provided a comprehensive understanding of system expectations and operational boundaries. By identifying functional behaviors, quality attributes, technical dependencies, and constraints, this phase established a clear specification for system development. The structured documentation of requirements ensured alignment between project objectives and implementation outcomes, enabling the creation of a secure, efficient, and scalable solution within the ServiceNow platform.