REQUIREMENT ANALYSIS PHASE

Project Title: Optimizing User, Group, and Role Management with Access Control and Workflows

DATE	NOV 2, 2025
TEAM ID	NM2025TMID02832
PROJECT NAME	Optimizing User, Group, and Role Management with Access Control and Workflows
MAXIMUM MARKS	4 MARKS

1️⃣ Introduction

This phase identifies and defines both **functional** and **non-functional** requirements necessary to build a secure, automated task management workflow in ServiceNow.
The system involves two key users — **Alice (Project Manager)** and **Bob (Team Member)** — managed by the **Admin**, who configures all roles, ACLs, and workflows.

2️⃣ Functional Requirements

ID	Requirement	Description	Actor
FR1	Create User Roles	System must support two primary roles — Project Manager and Team Member.	Admin
FR2	Create Tasks	Alice should be able to create and assign tasks to Bob.	Alice
FR3	Update Tasks	Bob must be able to update only the *Status* and *Comments* fields of assigned tasks.	Bob
FR4	Apply ACLs	System should restrict Bob's access to only allowed fields.	Admin
FR5	Automate Workflow	The system should automatically trigger Flow Designer when a record is created/updated.	System
FR6	Request Approval	Once the task is marked "Completed," an approval request should go to Alice.	System
FR7	Approve Tasks	Alice should be able to approve or reject task completion requests.	Alice

FR8	Display Approvals	Approved/rejected requests must appear in "My Approvals."	System
FR9	Store Data	Task records, user data, and approval logs must be stored in ServiceNow tables.	System

3 Non-Functional Requirements

ID	Category	Description
NFR1	Platform	The solution will be built and tested on ServiceNow Personal Developer Instance (PDI).
NFR2	Security	All data access controlled by ACLs (Access Control Lists) ensuring least privilege.
NFR3	Reliability	Approval and update processes must execute consistently and record all status changes.
NFR4	Usability	Role-based interfaces to reduce user confusion and ensure easy task tracking.
NFR5	Maintainability	Configurations should be easily modifiable (roles, tables, and flows).
NFR6	Performance	Workflow execution and approvals should occur in under 3 seconds per event.
NFR7	Auditability	Each update or approval must be logged automatically by the platform.

4 System Actors

Actor	Description
Admin	Configures instance, creates users, roles, tables, ACLs, and workflows.
Alice (Project Manager)	Creates tasks, assigns to Bob, and approves completed work.
Bob (Team Member)	Updates assigned tasks (status/comments) and requests approvals.
ServiceNow System	Automates updates and approvals via Flow Designer.

5⬜ Requirement Matrix (Insert Screenshot)

User access management | × | chatgpt - Yahoo Search Re × | Web app or ServiceNow × | ServiceNow Developers × | ServiceNow × | Task Table Automation | W × | +

dev293411.service-now.com/now/workflow-studio/builder?table=sys_hub_flow&sysId=e33b24c783f43210ecdba6d0deaad3f9

Workflow Studio | Task Table Automation Flow ×

Task Table Automation Active

View: | Test | Deactivate | Activate | Save | ...

2 — Ask For Approval ⓘ

Data Collapse All

Action | Ask For Approval

* Record | Trigger - R... ▸ Task Table 2 R... ✕

Table | Task Table 2 [u_task_table_2]

Approval Field | Status ✕

Journal Field | Comment ✕

* Rules

Approve | When:

Anyone approves | alice p ✕ | OR | AND

Due Date | None

Add another OR rule set

Delete | Cancel | Done

Trigger - Record Created

▸ Flow Variables

▾ Trigger - Record Created

Task Table 2 Record | Record
Task Table 2 Table | Table
Run Start Time UTC | Date/Time
Run Start Date/Time | Date/Time

▾ 1 - Update Record

Task Table 2 Record | Record
Task Table 2 Table | Table
Action Status | Object

▾ 2 - Ask For Approval

Approval State | Choice
Action Status | Object

Status: Published | Application: Global

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servicenow | All | Favorites | History | Workspaces

Approvals ☆

Search

Approvals | Created | Search

All

	State	Approver	Comments	Approval for	Created ▾
	Requested	alice p		(empty)	2025-10-30 23:29:19
	Requested	alice p		(empty)	2025-10-30 23:20:19
	Requested	alice p		(empty)	2025-10-30 23:20:19
	Approved	alice p		(empty)	2025-10-30 03:18:23
	Approved	alice p		(empty)	2025-10-30 03:18:21
	Approved	alice p		(empty)	2025-10-30 02:46:26
	Approved	alice p		(empty)	2025-10-30 02:46:23
	Approved	alice p		(empty)	2025-10-30 02:43:12
	Approved	alice p		(empty)	2025-10-30 02:43:03
	Approved	alice p		(empty)	2025-10-30 02:42:32
	Approved	alice p		(empty)	2025-10-30 02:42:25
	Approved	alice p		(empty)	2025-10-30 02:29:24
	Approved	alice p		(empty)	2025-10-30 02:29:21
	Approved	alice p		(empty)	2025-10-30 02:26:23
	Approved	alice p		(empty)	2025-10-30 02:13:10
	Approved	alice p		(empty)	2025-10-30 01:59:21
	Approved	alice p		(empty)	2025-10-30 00:17:23

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dev293411.service-now.com/now/nav/ui/classic/params/target/sysapproval_approver_list.do%3Fsysparm_clear_stack%3Dtrue

servicenow   All   Favorites   History   Workspaces

Approvals ☆

Search

Approval
Task Table 2: Created 2025-10-29 07:32:04

Update | Approve | Reject | Delete

Approver	alice p
State	Requested

Approving | Task Table 2: Created 2025-10-29 07:32:04
Approval for

Comments

Comments

Post

Activities: 1

System Administrator

Field changes • 2025-10-30 23:29:19

Approver | alice p
State | Requested

Update | Approve | Reject | Delete

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Workflow Studio | Task Table Automation Flow

Task Table Automation

Deactivate | Activate | Save

TRIGGER

Task Table 2 Created where (Status is I...

ACTIONS   Select multiple

1   Update Task Table 2 Record

2   Ask For Approval

Add an Action, Flow Logic, or Subflow

ERROR HANDLER
If an error occurs in your flow, the actions you add here will run.

Test flow   ✕

Run your flow to make sure it has no errors before you activate it. When the test finishes running, check the execution details to see each action's configuration, runtime values, and the log messages for any errors that occurred.

✳ Task Table 2 Record | Select Task Table 2 Rec... | 🔍 | +

☐ Run test in background ⓘ

Cancel | Run Test

Data   Collapse All

▶ Flow Variables

▼ Trigger - Record Created

Trigger - Record Created

Task Table 2 Record	Record
Task Table 2 Table	Table
Run Start Time UTC	Date/Time
Run Start Date/Time	Date/Time

▼ 1 - Update Record

Task Table 2 Record	Record
Task Table 2 Table	Table
▶ Action Status	Object

▼ 2 - Ask For Approval

Approval State	Choice
▶ Action Status	Object

Status: Published | Application: Global

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dev293411.service-now.com/u_task_table_2.do?&sysparm_clear_stack=true&sysparm_reference=u_task_table_2&sysparm_domain_restore=false&sysparm_use_polaris=true

Task Table 2
New record

Submit

Due Date			Description	
Priority	-- None --		Comment	
Status	-- None --		Assigned To	
Task Name				

Submit

dev293411.service-now.com/now/workflow-studio/builder?table=sys_hub_flow&sysId=e33b24c783f43210ecdba6d0deaad3f9

Workflow Studio | Task Table Automation Flow

Task Table Automation

Test | Deactivate | Activate | Save

TRIGGER

Task Table 2 Created where (Status is I...

ACTIONS Select multiple

1 Update Task Table 2 Record ⓘ

2 Ask For Approval ⓘ

Add an Action, Flow Logic, or Subflow

ERROR HANDLER ⊙

If an error occurs in your flow, the actions you add here will run.

Status: Published | Application: Global

Test flow ✕

Run your flow to make sure it has no errors before you activate it. When the test finishes running, check the execution details to see each action's configuration, runtime values, and the log messages for any errors that occurred.

＊ Task Table 2 Record | Created 2025-10-3... ✕▾ | 🔍 | ＋ | ⓘ

☐ Run test in background ⓘ

Cancel | **Run Test**

Data Collapse All

▸ Flow Variables

Trigger - Record Created

▸ Task Table 2 Record — Record
　Task Table 2 Table — Table
　Run Start Time UTC — Date/Time
　Run Start Date/Time — Date/Time

▾ 1 - Update Record

▸ Task Table 2 Record — Record
　Task Table 2 Table — Table
▸ Action Status — Object

▾ 2 - Ask For Approval

　Approval State — Choice
▸ Action Status — Object

Trigger - Record Created
Trigger - Record Created

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Workflow Studio   Task Table Automation Flow   Task Table Automation Flow execution

EXECUTION DETAILS   **Task Table Automation**

Test Run - Waiting ●   Cancel flow   Open flow   Open context record

Show Action Details | | State | Start time | ⏱

FLOW STATISTICS   Run as: System Administrator   Open flow logs ⧉   Waiting   2025-10-31 23:31:31   91ms

TRIGGER

Task Table 2 Created   Open current record ⓘ

ACTIONS

1   Update Record   Core Action   **Completed**   2025-10-31 23:31:31   17ms

2   Ask For Approval   Core Action   Waiting   2025-10-31 23:31:31   74ms

ERROR HANDLER

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dev293411.service-now.com/now/workflow-studio/builder?table=sys_hub_flow&sysId=e33b24c783f43210ecdba6d0deaad3f9

Workflow Studio   Task Table Automation Flow

Task Table Automation

TRIGGER

Task Table 2 Created where (Status is...

ACTIONS   Select multiple

1   Update Task Table 2 Record ⓘ

2   Ask For Approval ⓘ

➕ Add an Action, Flow Logic, or Subflow

Error Handler section is unavailable due to ...

Status: Published | Application: Global

Data   Expand All

▶ Flow Variables
▶ Trigger - Record Created
▶ 1 - Update Record
▶ 2 - Ask For Approval

Create Created | Task Table 2 | ServiceNow - Google Chrome

dev293411.service-now.com/u_task_table_2.do?&sysparm_clear_stack=true&sysparm_reference=u_task_table_2&sysparm_do...

Task Table 2
New record   📎   ⚙   •••   Submit

Due Date	2025-11-01 📅	Description	HELLO
Priority	-- None --	Comment	HELLO
Status	In progress	Assigned To	BOb p
Task Name	NM TODAY		

Submit

User access management | × | chatgpt - Yahoo Search Re | × | Web app or ServiceNow | × | ServiceNow Developers | × | Task Table 2s | ServiceNow | × | Task Table Automation | W | × | +

dev293411.service-now.com/now/nav/ui/classic/params/target/u_task_table_2_list.do%3Fsysparm_clear_stack%3Dtrue

**servicenow**   All   Favorites   History   Process Mining Workspace   Task Table 2s ☆

Task Table 2s   Assigned To ▾   Search

All

	Assigned To ▲	Comment	Description	Due Date	Priority	Status	Task Name
	(empty)	Due date passed auto Approved task				approved	
	(empty)	alice p approved the task.		2025-10-31		approved	
	Bob p	alice p approved the task.	FINAL TEST	2025-10-31		approved	FINAL
	Bob p	alice p approved the task.	esting approval workflow"	2025-10-31		approved	Test Approval Flow
	Bob p	alice p approved the task.	AGAIN FINAL TEST	2025-10-31		approved	AGAIN FINAL
	Bob P	alice p approved the task.	hello	2025-10-31		approved	Frotend
	Bob p	alice p approved the task.	NOTHING	2025-10-31		approved	NAAN MUTHALVAN
	Bob p	alice p approved the task.	HELLO	2025-10-31		approved	HELLO
	Bob p	Due date passed auto Approved task	Vanakkam	2025-10-31		alice p approved the task.	Name Find
	BOb p	alice p requested to approve task	HELLO	2025-11-01		In progress ✓ ✕	NM TODAY
	Bop P	Initial draft assigned to Bob	Create homepage layout for project	2025-10-31		approved	Design UI Layout
	HELLO	alice p requested to approve task	HELLO	2025-11-01			NM TODAY

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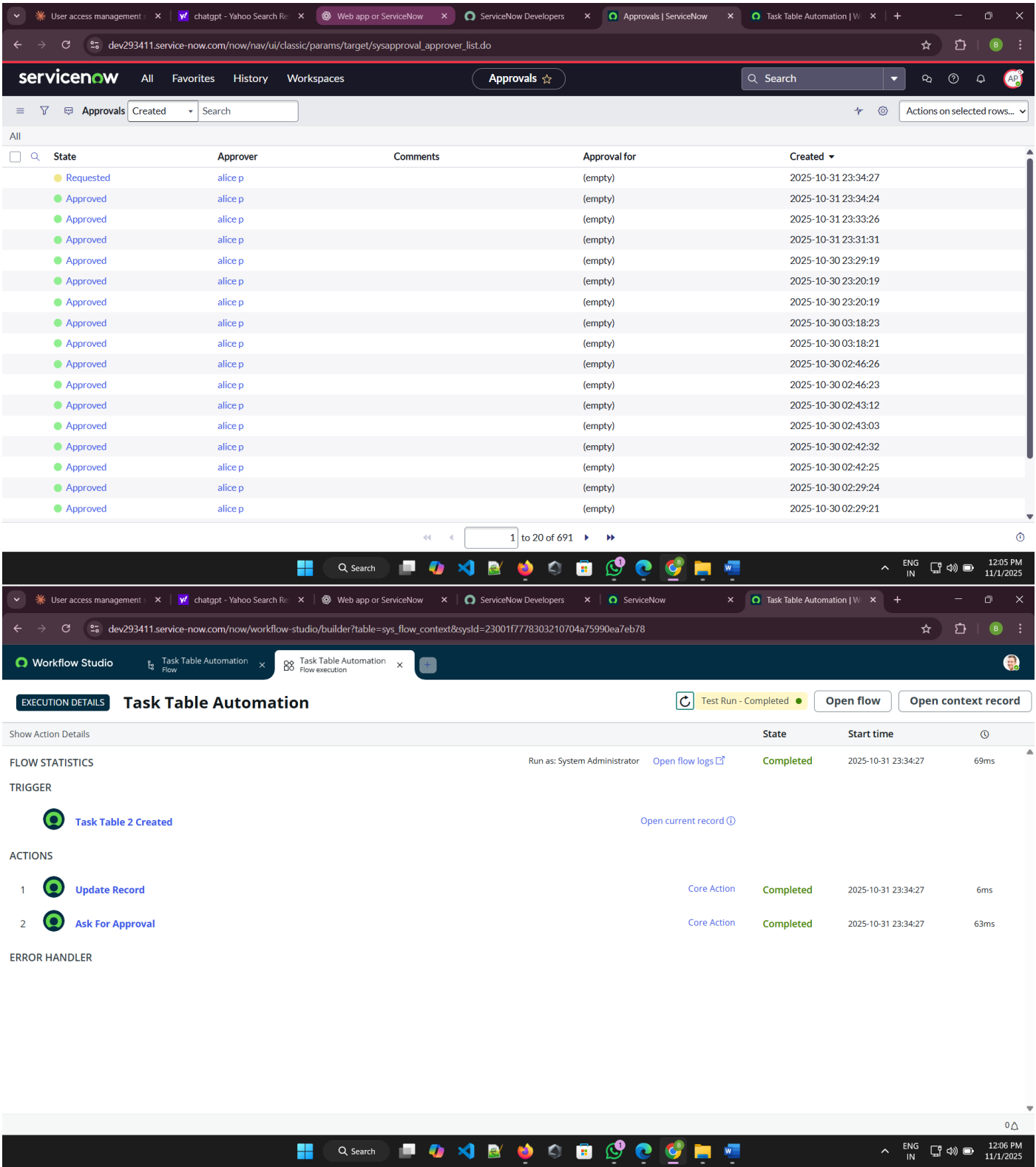
Suggested screenshot:

- A table showing FR1–FR9 and NFR1–NFR7 mapped to "Test ID" or "Flow Step".

- Example:

  - FR5 → "Flow Trigger: Record Created/Updated"

  - FR6 → "Ask for Approval (Alice)"

  - FR7 → "My Approvals → Approved → Flow Complete"

6 Traceability

Requirement Implementation Component Verification

Requirement	Implementation Component	Verification
FR1–FR3	User & Role Module	Check users/roles under System Security
FR4	ACL Configuration	Impersonate Bob and validate restricted fields
FR5–FR6	Flow Designer	View execution logs
FR7–FR8	My Approvals Module	Alice's approval visible
FR9	Table Data	u_task_table_2 records persist correctly
NFR2–NFR7	ServiceNow System Logs	Verify via audit and response times

7 Conclusion

The requirement analysis confirms that the system must focus on *role-based task management, secure access, and automated workflows*.
ServiceNow's native ACLs, Flow Designer, and Approval engine fully meet these needs.
This foundation ensures accurate task tracking, efficient approvals, and minimal administrative overhead.