

REQUIREMENT ANALYSIS PHASE

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

1 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.

2 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 <i>Status</i> and <i>Comments</i> 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
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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)

Suggested screenshot:

Task Table Automation

TRIGGER

Task Table 2 Created where (Status is In progress; Assigned To is Bob p; Comment is feedback)

Trigger: Created

* Table: Task Table 2 [u_task_table_2]

Condition All of these conditions must be met

Status is In progress

Assigned To is Bob p

Comment is feedback

New Criteria

Advanced Options

Data

Flow Variables	
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

Task Table Automation

1 Update Task Table 2 Record

Action: Update Record

* Record: Trigger - R... Task Table 2 R...

* Table: Task Table 2 [u_task_table_2]

* Fields: Status Completed

+ Add field value

Delete Cancel Done

2 Ask For Approval

+ Add an Action, Flow Logic, or Subflow

Data

Flow Variables	
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

ERROR HANDLER

javascriptvoid(0) | Application: Global

Task Table Automation

2 Ask For Approval

Action: Ask For Approval

* Record: Trigger - Record Created

Table: Task Table 2 [u_task_table_2]

Approval Field: Status

Journal Field: Comment

* Rules

Approve When: Anyone approves

alice p

Due Date: None

Add another OR rule set

Delete Cancel Done

Data

Flow Variables

- 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

Assigned To	Comment	Description	Due Date	Priority	Status	Task Name
(empty)	Due date passed auto Approved task				requested	
(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		requested	Name Find
Bop P	Initial draft assigned to Bob	Create homepage layout for project	2025-10-31		approved	Design UI Layout

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serviceNow

AllFavoritesHistoryWorkspaces

Approvals

Search

Actions on selected rows...

ApprovalsCreatedSearch

	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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Workflow Studio

Task Table Automation

Task Table Automation

TRIGGER

Task Table 2 Created where (Status is I

ACTIONS Select multiple

1 Update Task Table 2 Record

2 Ask For Approval

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 Select Task Table 2 Rec...+

☐ Run test in background

CancelRun 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

Workflow Studio

Task Table Automation

Flow

Task Table Automation

Flow

Deactivate

Activate

Save

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

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

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

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

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

User access management | chatgpt - Yahoo Search Re | Web app of ServiceNow | ServiceNow Developers | ServiceNow | Task Table Automation | V |

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Workflow Studio | Task Table Automation Flow | Task Table Automation Flow execution

EXECUTION DETAILS | Task Table Automation | Test Run - Completed | Open flow | Open context record

Show Action Details

StateStart time

FLOW STATISTICSRun as: System AdministratorOpen flow logsCompleted2025-10-31 23:34:2769ms

TRIGGER

Task Table 2 CreatedOpen current record

ACTIONS

1Update RecordCore ActionCompleted2025-10-31 23:34:276ms

2Ask For ApprovalCore ActionCompleted2025-10-31 23:34:2763ms

ERROR HANDLER

- 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
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.