

Streamlining Ticket Assignment For Efficient Support Operations

--Final Report

1. INTRODUCTION

1.1 Project Overview

The Streamlining Ticket Assignment For Efficient Support Operations project focuses on building an automated ticket routing system using ServiceNow to improve IT service delivery. Traditional ticket assignments are often manual, error-prone, and result in uneven workload distribution, SLA breaches, and reduced customer satisfaction. This project aims to leverage ServiceNow's Flow Designer and automation capabilities to assign tickets based on issue types, enabling faster resolution, balanced workloads, and increased efficiency.

1.2 Purpose

The purpose of the project is to design and deploy a centralized, low-code/no-code automation solution that can:

- Automatically route support tickets to appropriate groups based on predefined conditions.
- Reduce manual workload and assignment delays.
- Enhance SLA compliance, customer satisfaction, and agent performance.
- Demonstrate how ServiceNow's capabilities can solve real-time ITSM challenges beyond traditional configurations.

2. IDEATION PHASE

2.1 Problem Statement

IT teams face challenges with manual ticket routing, leading to inefficiencies, delayed responses, SLA violations, and unbalanced workloads. Lack of automation tools for ticket triaging further affects visibility, agent morale, and operational transparency.

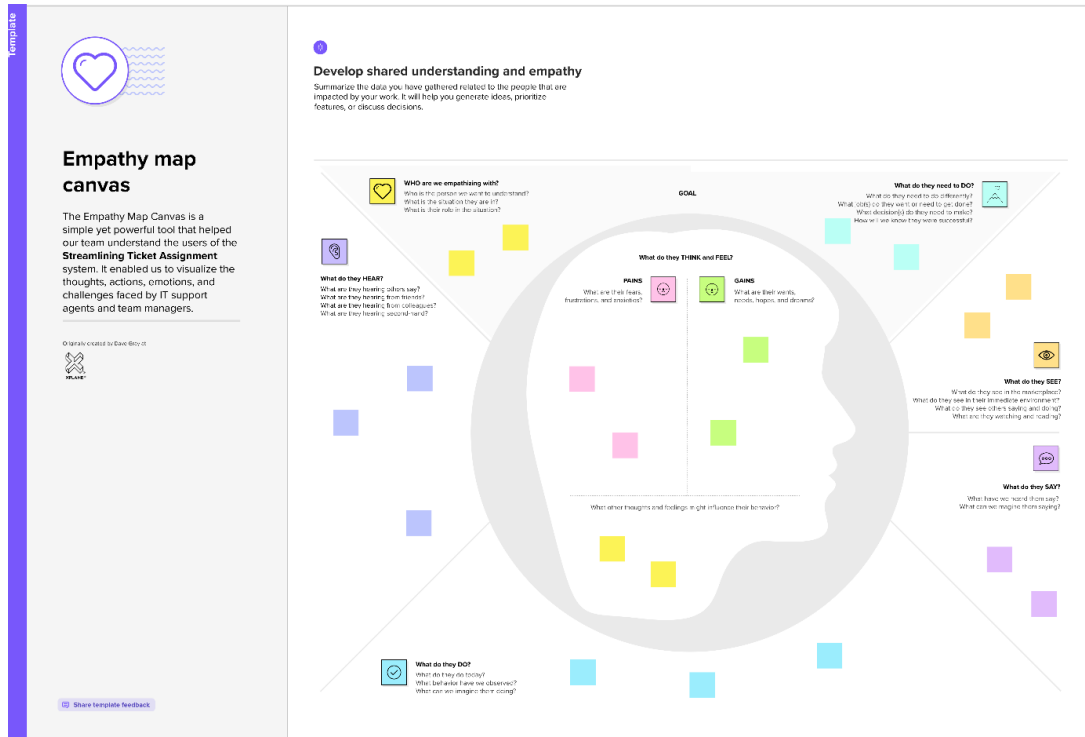
2.2 Empathy Map Canvas

Says: "I'm constantly overloaded with tickets." "Why aren't tickets assigned fairly?"

Thinks: "Will I miss another SLA?" "There must be a more efficient way."

Does: Manually checks ticket queues. Handles multiple issues unaware of others' workloads.

Feels: Stressed and frustrated with the existing assignment logic.



2.3 Brainstorming and Prioritization

The team ideated around automated flows, custom tables, routing logic based on issue type, SLA monitoring, and notifications. Solutions were prioritized based on feasibility, automation potential, and business impact.

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

TIP
You can select a sticky note and hit the pencil (switch to sketch) icon to start drawing!

Group ideas

Take turns sharing your ideas with the cluster group or related notes on your pc. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than 10 sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

10
Cluster ideas into groups of 10 or less sticky notes. Write a sentence-like label for each cluster.

Jahnavi

Create Assignment Rules Based on Skill Level

Implement Last Working Agent

Enable Auto-Assignment Using Availability Status

Chandu

Configure Email & SMS Alerts for Ticket Updates

Develop a Real-Time Dashboard for Ticket Monitoring

Use Business Rules for Ticket Categorization

Create Assignment Rules Based on Skill Level

Implement Load Balancing Among Support Agents

Enable Auto-Assignment Using Availability Status

Renuka

Set up SLA-Based Escalation Workflow

Integrate Priority-Based Ticket Routing

Configure Email & SMS Alerts for Ticket Updates

Kathyayani

Design Workflow for Agent Management & SLA Breaches

Enable Round-Robin Ticket Distribution

Include Custom Fields in Customer Issue Complexity

3. REQUIREMENT ANALYSIS

3.1 Customer Journey Map

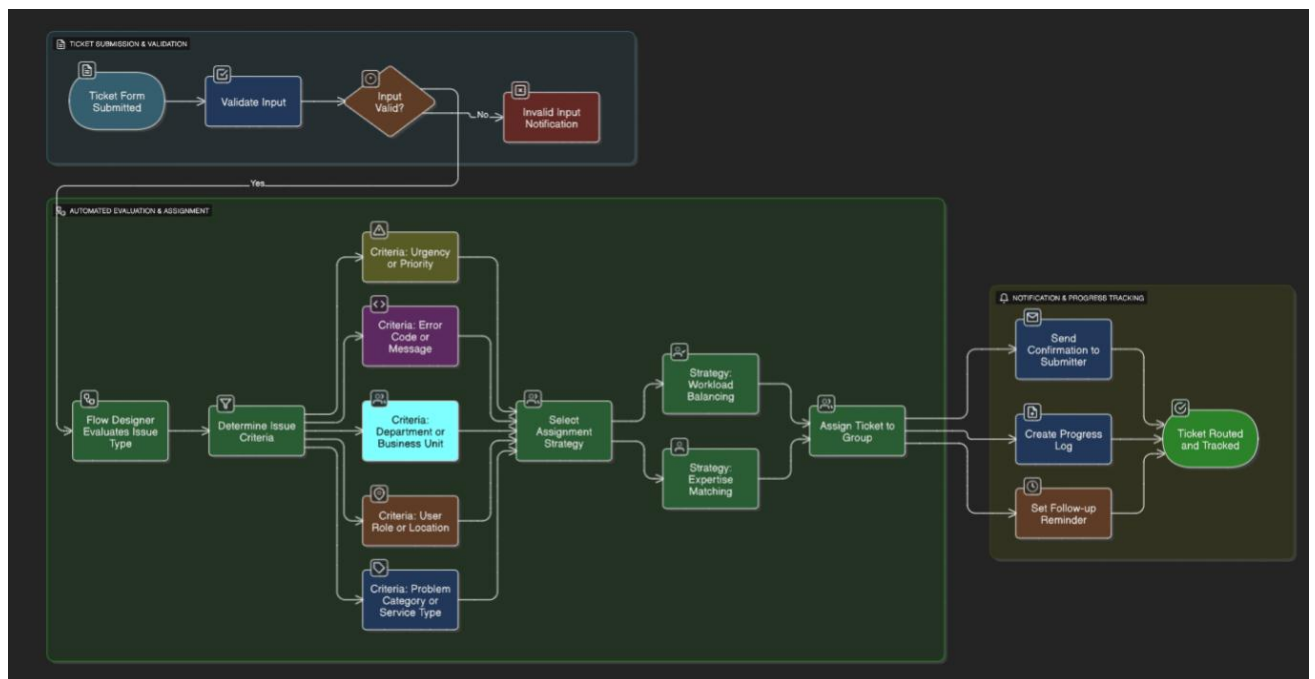
Users raise tickets → System captures issue type → Automated flow assigns ticket → Assigned group receives and resolves → SLA status is tracked

1. Solution Requirements

- Operations Related table with issue types
- Choice field for routing logic (e.g., login issues, certificates)
- Users, Groups, Roles setup
- Automated flows using Flow Designer
- ACL and Role-based access control

2. Data Flow Diagram

Ticket form → Validated input → Flow Designer evaluates issue type → Assign to group → Notify/Track progress



3. Technology Stack

- Flow Designer
- Tables, ACLs, Roles, Groups
- GlideRecord (optional for scripting)

4. PROJECT DESIGN

4.1 Problem-Solution Fit

The solution resolves inefficiencies in manual ticket handling through rule-based automated routing, fair distribution, SLA alignment, and transparent tracking.

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS IT support teams and help desk agents Support operations managers End-users who raise support tickets at ABC Corporation	6. CUSTOMER CONSTRAINTS CC Limited team availability during certain hours Need for minimal system downtime Budget constraints for purchasing third-party tools Lack of training or knowledge of ServiceNow automation features	5. AVAILABLE SOLUTIONS AS Manual assignment by team leads Shared email inboxes for issue tracking Use of external ticket routing plugins (non-native to ServiceNow) Limitations: error-prone, slow, not scalable, no real-time updates	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS J&P Automatically assign support tickets to the correct team Reduce delays in responding to user issues Balance workload between support groups Avoid SLA violations due to misrouted or unassigned tickets	9. PROBLEM ROOT CAUSE RC No standardized logic for ticket assignment Reliance on human decision-making for every incoming issue Lack of automation tools customized to internal issue categories	7. BEHAVIOUR BE Manually checking ticket content and assigning to groups Using email notifications to track pending assignments Logging updates manually for SLA tracking Escalating delayed tickets after deadlines are missed	
Focus on J&P, tap into BE, understand RC				Focus on J&P, tap into BE, understand RC
Identify strong TR & EM	3. TRIGGERS TR Users complaining about slow ticket resolution Repeated misassignments causing extra work Need for audit trails and faster reporting SLA penalties due to unresolved issues	10. YOUR SOLUTION SL Use ServiceNow Flow Designer to automatically route tickets Create condition-based triggers for issues like "404 Error", "Login Issues", etc. Assign tickets to specific support groups (Platform, Certificates) based on issue type Implement business rules, flows, and auto-assignment to reduce manual effort and errors	8. CHANNELS of BEHAVIOUR CH Interacting with ServiceNow platform Using internal dashboards to monitor ticket queues Team chats for routing discussion	Extract online & offline CH of BE
	4. EMOTIONS: BEFORE / AFTER EM Before: Frustrated, confused, under pressure to respond quickly After: Confident, in control, relieved due to automation and transparency		8.2 OFFLINE Verbal hand-offs or manual notes for ticket escalation Whiteboard assignments in physical war rooms (for major outages)	

4.2 Proposed Solution Summary

Identified Problem	Proposed Solution
Manual ticket routing	Automated routing via Flow Designer
Unbalanced agent workload	Group-level routing based on issue category
SLA violations	Immediate routing reduces response time
Lack of routing logic	Transparent flow with rule-based criteria

4.3 Solution Architecture

The architecture includes:

- Data Layer: Operations Related Table
- Logic Layer: Flow Designer, Issue Criteria
- UI Layer: Custom forms, issue selection
- Security Layer: ACLs, Roles
- Configuration: Update sets for versioning

- Log in to the instance using the provided credentials.
- The instance is ready for development and customization

Milestone 2: User creation

- Open ServiceNow by logging into your instance.
- In the left-hand navigation pane, click on "All" to expand the application list.
- In the filter search bar, type "Users" and select "Users" under the System Security module.
- Click on the "New" button to begin creating a new user.
- In the form that appears, fill in the necessary details such as User ID, First Name, Last Name, and Email.

The screenshot shows the 'User' form for 'Manne Niranjan' in ServiceNow. The form is divided into two main sections. The left section contains fields for 'User ID' (manne.niranjan), 'First name' (Manne), 'Last name' (Niranjan), 'Title' (empty), and 'Department' (empty). Below these are checkboxes for 'Password needs reset', 'Locked out', 'Active' (checked), 'Web service access only', and 'Internal Integration User'. The right section contains fields for 'Email' (niranjanreddymanne2507@gr), 'Language' (-- None --), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los_Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone', and 'Mobile phone'. There is also a 'Photo' field with a 'Click to add...' link. At the top right, there are buttons for 'Update', 'Set Password', and 'Delete'.

- After completing the form, click on "Submit" to save the new user.
- To create another user, click on the "New" button again.
- Enter the required information for the second user in the same manner.

The screenshot shows the 'User' form for 'Katherine Pierce' in ServiceNow. The form is divided into two main sections. The left section contains fields for 'User ID' (Katherine Pierce), 'First name' (Katherine), 'Last name' (Pierce), 'Title' (empty), and 'Department' (empty). Below these are checkboxes for 'Password needs reset', 'Locked out', 'Active' (checked), 'Web service access only', and 'Internal Integration User'. The right section contains fields for 'Email' (empty), 'Language' (-- None --), 'Calendar integration' (Outlook), 'Time zone' (System (America/Los_Angeles)), 'Date format' (System (yyyy-MM-dd)), 'Business phone', and 'Mobile phone'. There is also a 'Photo' field with a 'Click to add...' link. At the top right, there are buttons for 'Update', 'Set Password', and 'Delete'.

- Once all fields are filled, click on "Submit" to add the second user to the system.

Milestone 3: Group creation (Certificates, Platform)

- Open ServiceNow by logging into your instance.
- Click on "All" in the left-hand navigation panel to expand the application menu.

- In the filter search bar, type "Groups" and select "Groups" under the System Security module.
- Click on the "New" button to create a new group.
- In the form that appears, fill in the required details such as the Group Name and Description.

- Once the details are entered, click on "Submit" to save the group.
- To create another group, click on the "New" button again.
- Fill in the necessary details for the second group, just as you did for the first one.

- After completing the form, click on "Submit" to save the second group.

Milestone 4: Role creation and assignment

- Open ServiceNow by logging into your instance.
- Click on "All" in the left-hand navigation pane to expand the application modules.
- In the filter search bar, type "Roles" and select "Roles" under the System Security section.
- Click on the "New" button to begin creating a new role.
- In the form that appears, fill in the necessary details such as the Role Name and Description.

- After entering all the required information, click on "Submit" to save the new role.
- To create another role, click on the "New" button once more.

- Enter the relevant details for the second role in the form provided.

Name	Platform_role	Application	Global	
Requires Subscription	Unspecified	Elevated privilege	<input type="checkbox"/>	
Description	Can deal with platform related issues			

- Once completed, click on "Submit" to save the second role.

Milestone 5: Table creation with issue choices

- Open ServiceNow by logging into your instance.
- Click on "All" in the left-hand navigation pane to expand the application modules.
- In the filter search bar, type "Tables" and select "Tables" under the System Definition section.
- Click on the "New" button to begin creating a new table.
- In the form that appears, enter the Label as "Operations related".
- Check the boxes for "Create module" and "Create mobile module" to generate the respective modules automatically.
- Under the New Menu Name, enter "Operations related" to define where the module will appear.
- In the Table Columns section, define the required fields for your table.

Column label	Type	Reference	Max length	Default value	Display
Created by	String	(empty)	40		false
Created	Date/Time	(empty)	40		false
Sys ID	Sys ID (GUID)	(empty)	32		false
Updates	Integer	(empty)	40		false
Updated by	String	(empty)	40		false
Updated	Date/Time	(empty)	40		false
✗ Assigned to group	Reference	Group	40		false
✗ Assigned to user	Reference	User	32		false
✗ Comment	String	(empty)	40		false
✗ Issue	String	(empty)	40		false
✗ Name	String	(empty)	40		false
✗ Priority	String	(empty)	40		false
✗ Service request No	String	(empty)	40	javascript:getNextObjNumberPadded();	false
✗ Ticket raised Date	Date/Time	(empty)	40		false
+	Insert a new row...				

- After completing the form, click on "Submit" to save the table.
- Create Choices for the Issue Field**
 - Open the newly created table using **Form Design**.
 - Locate the field labeled **"Issue"** or create a new field if it doesn't exist.
 - Change the field type to **Choice** to allow multiple options.
 - Add the following choices under this field:
 - Unable to login to platform**
 - 404 error**
 - Regarding certificates**
 - Regarding user expired**
 - Save the form to apply the changes.

Milestone 6: Assign users and roles to groups

Assign Roles & Users to Certificate Group

- Open ServiceNow and log into your instance.
- Click on "All" in the left-hand navigation panel to expand the application modules.
- In the filter search bar, type "Groups" and select "Groups" under the System Security section.
- From the list of available groups, select the group named "Certificates".
- Under the Group Members related list, click on the "Edit" button.
- In the user selection window, search for "Katherine Pierce", select her name, and click on "Save" to add her to the group.
- Next, navigate to the Roles related list within the same Certificates group form.
- Click on the "Edit" button under the Roles section.
- Search for "Certification_role", select it, and click "Save" to assign the role to the group.

Assign Roles & Users to Platform Group

- Open ServiceNow and log into your instance.
- Click on "All" in the left-hand navigation panel to expand the application modules.
- In the filter search bar, type "Groups" and select "Groups" under the System Security section.
- From the list of groups, select the group named "Platform".
- Scroll down to the **Group Members** related list and click on the "Edit" button.
- In the user selection window, search for "Manne Niranjan", select the user, and click on "Save" to add them to the group.
- Now scroll to the **Roles** related list within the Platform group form and click on the "Edit" button.
- In the role selection window, search for "Platform_role", select the role, and click on "Save" to assign it to the group

Milestone 7: Assign roles to tables

- Open ServiceNow and log into your instance.
- Click on "All" in the left-hand navigation pane to expand the application menu.
- In the filter search bar, type "Tables" and select the "Tables" option under **System Definition**.

- From the list of tables, select the table named "**Operations related**".
- In the table record, scroll down and click on the "**Application Access**" tab.
- In the list of access controls, click on the **u_operations_related Read** operation to open its configuration.
- Now, click on the **profile icon** in the top-right corner of the screen.
- Select "**Elevate Role**" from the dropdown.
- Choose "**security_admin**" and click on "**Update**" to elevate your privileges.
- Back in the Read operation form, scroll down to the "**Requires role**" section.
- Double-click inside the field to insert a new row.
- Enter "**platform_role**" as the first role and "**certificate_role**" as the second role.
- Click on "**Update**" to save the changes to the Read access control.

Access Control
u_operations_related

Definition

Access Control Rules allow access to the specified resource if *all three* of these checks evaluate to true:

1. The user has one of the roles specified in the **Role** list, or the list is empty.
2. Conditions in the **Condition** field evaluate to true, or conditions are empty.
3. The script in the **Script** field (advanced) evaluates to true, or sets the variable "answer" to true, or is empty.

The three checks are evaluated independently in the order displayed above.

[More Info](#)

Requires role

Role
✗ u_operations_related_user
✗ Platform_role
✗ Certification_role
+ Insert a new row...

- Now, return to the access list and click on the **u_operations_related Write** operation.
- In the **Requires role** section, double-click to insert new rows.
- Again, enter "**platform_role**" and "**certificate_role**" as required roles.
- Click on "**Update**" to save the Write access control.

Milestone 8: Create ACL for security

- Open ServiceNow and log into your instance.
- Click on "All" in the left-hand navigation pane to expand the application modules.
- In the filter search bar, type "ACL" and select "Access Control (ACL)" under the System Security section.
- Click on the "New" button to create a new access control rule.

- In the form that appears, fill in the necessary details such as:
 - Type: record
 - Operation: read / write / create / delete (as applicable)
 - Name: Select the appropriate table, e.g., u_operations_related or its fields

Access Control
u_operations_related.u_service_request_no

* Type: record Application: Global

* Operation: write Active: ☒

Admin overrides: ☒ Advanced: ☐

Protection policy: -- None --

* Name: Operations related [u_operations_related] Service request No

Description:

Condition: 4 records match condition

Add Filter Condition Add "OR" Clause

-- choose field -- -- oper -- -- value --

- Scroll down to the "Requires role" section.
- Double-click inside the empty field to insert a new row.
- Enter the role name admin to give administrative access.
- Click on "Submit" to save the ACL rule.

<input type="checkbox"/>	<input type="radio"/>	u_operations_related.u_priority	write	record	true	admin
		u_operations_related.u_ticket_raised_date	write	record	true	admin
		u_operations_related.u_name	write	record	true	admin
		u_operations_related.u_issue	write	record	true	admin
		u_operations_related.u_service_request_no	write	record	true	admin

Milestone 9: Automate ticket routing using Flow Designer

Assign "Regarding Certificate" Tickets to Certificates Group

- Open ServiceNow, go to Flow Designer from the All menu, and click New → Flow.
- Name the flow "Regarding Certificate", set the application to Global, and choose System User as the Run As user. Submit to create the flow.
- Click Add a Trigger, choose Create or Update Record, select the table "Operations related", and set the condition where the Issue is "Regarding Certificates". Click Done.
- Click Add an Action, select Update Record, drag the record from the data panel, and set Assigned to group to "Certificates". Click Done.
- Finally, click Save, then Activate the flow.

Assign Platform-Related Tickets to Platform Group

- In ServiceNow, open Flow Designer and create a new flow named "Regarding Platform", set the application to Global, and the Run As user to System User. Submit to proceed.
- Add a trigger with type Create or Update Record, select table "Operations related", and set three conditions using OR logic:
 - Issue is "Unable to login to platform",
 - Issue is "404 Error",
 - Issue is "Regarding User expired".
 Click Done.
- Add an action of type Update Record, drag the record variable from the data panel, and set Assigned to group to "Platform". Click Done.
- Save the flow and click Activate to enable it.

6. FUNCTIONAL & PERFORMANCE TESTING

- Verified user creation, group linkage, and role assignments
- Tested table creation, issue field options
- Validated role permissions with ACLs
- Successfully ran test flows for all issue types

7. RESULTS & OUTPUTS

- Certificates group receives tickets with “Regarding Certificates”
- Platform group receives tickets with login, 404, user expired issues
- Workload is distributed evenly based on logic
- Ticket routing is instant and accurate

8. ADVANTAGES & DISADVANTAGES

Advantages:

- No-code automation via Flow Designer
- Reduced human errors
- SLA improvement
- Modular and scalable logic

Disadvantages:

- Requires understanding of ServiceNow roles and flow logic
- PDI has time-limited access

9. CONCLUSION

This project successfully automated ticket assignment in ServiceNow based on real-world support team challenges. The system is efficient, maintainable, and provides a scalable blueprint for future enhancements. Manual intervention has been minimized while SLA compliance and support quality have been enhanced.

10. FUTURE SCOPE

- Add email/SMS notifications to agents
- SLA time tracking and escalations
- Visual dashboards for performance monitoring
- Skill-based agent assignment
- Integration with external systems