Report on Incident Visualization for Strawberry Support Team
A CAPSTONE PROJECT REPORT

Submitted by

T Sri Rangasuthan [RA2211003011319]
Jaden Daniel [RA2211003011328]
Nikhil Sharma [RA2211003011298]

Under the guidance of
Dr. M. Vimaladevi
(Assistant Professor, CINTEL Department)

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KATTANKULATHUR - 603203

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SRM INSTITUTE OF SCIENCE & TECHNOLOGY
COLLEGE OF ENGINEERING & TECHNOLOGY
S.R.M. NAGAR, KATTANKULATHUR – 603 203

BONAFIDE CERTIFICATE

Certified that this project report **"Report on Incident Visualization for Strawberry Support Team"** is the bonafide work of **"T Sri Rangasuthan [RA2211003011319], Jaden Daniel [RA2211003011328], Nikhil Sharma [RA2211003011298]"** of III Year/V Sem B.Tech (CSE) who carried out the capstone project work under my supervision for the course 21IPE416T- Scripting and Application Development Fundamentals in SRM Institute of Science and Technology during the academic year 2024-2025 (ODD sem).

M. vimaledug
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Dr. M. Vimaladevi,
Assistant Professor,
Department of Computational Intelligence

Dr. G. Niranjana,
Professor and Head,
Department of Computing Technologies

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ABSTRACT

In today's fast-paced technological landscape, effective incident management is crucial for maintaining operational continuity and enhancing service delivery. This project explores the implementation of a structured incident reporting system within ServiceNow, specifically focusing on the sFone category of incidents, categorized by varying priority levels. The primary objective is to design and generate a comprehensive report that provides insights into active incidents associated with the sFone category, thereby enabling the Strawberry Support group to enhance their incident review process.

The project encompasses several key components, including the creation of the Strawberry Support group, the categorization of incidents, and the design of a user-friendly report featuring a pie chart visualization to represent incident distribution. Additionally, a knowledge article detailing pie chart visualization techniques has been developed to facilitate understanding among team members.

To streamline the reporting process, the project includes the scheduling of automated reports to be shared with the Strawberry Support group every Monday. The efficacy of the scheduled notifications is validated through the impersonation of a user within the group, ensuring that all members receive timely updates. This project not only improves incident visibility and management but also fosters a culture of proactive problem resolution, ultimately leading to enhanced customer satisfaction and operational efficiency.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

In today's fast-paced digital environment, efficient incident management is essential for ensuring optimal service delivery and customer satisfaction. Organizations are increasingly relying on data-driven decision-making to monitor and address incidents effectively. The Strawberry Support team, tasked with managing incidents related to the "sFone" category, recognized the need for a structured approach to visualize incident data. This project aims to develop a comprehensive reporting solution that categorizes incidents by priority, facilitating timely responses and resource allocation.

1.2 User Plan

As a member of the Strawberry Support team, I want to view active incidents related to the "sFone" category in a clear and concise manner so that I can prioritize my actions based on the urgency of each incident. Additionally, I need guidance on interpreting the data presented in visual formats to enhance my understanding and support decision-making during our weekly incident review meetings.

1.3 Objectives

The primary objectives of this project are:

- Incident Visualization: To create a report that visually represents active incidents in the "sFone" category, grouped by their priority levels.

- User Empowerment: To provide the Strawberry Support team with the necessary tools and knowledge to interpret incident data effectively.

- Improved Incident Management: To enhance the overall incident management process by enabling quicker response times and better prioritization of tasks.

1.4 Scope and Application

This project focuses on developing a reporting solution specifically for the Strawberry Support team, addressing their unique needs concerning "sFone" incidents. The applications of this report extend to:

- Monitoring incident status and trends over time.

- Facilitating informed decision-making during incident review meetings.

- Improving communication and collaboration among team members.

1.5 Application checklist

Application Checklist for Capstone Project

The following checklist outlines the essential components of the developed capstone project:

- **Group Creation**: Establish a dedicated group for the Strawberry Support team.

- **Incident Categorization**: Implement incident categorization under the "sFone" category with varied priority levels (High, Medium, Low).

- **Knowledge Article Development**: Create a Knowledge Article detailing how to interpret pie chart visualizations.

- **Report Design**: Develop a report that includes a pie chart for incident priorities.

- **Scheduling:** Implement a scheduling system to send reports weekly to the Strawberry Support group.

- **Testing Notifications:** Conduct impersonation testing to verify notification delivery to users.

1.6   Software Requirements specification

1. Operating System: We choose an OS that is widely used and supported, such as Windows, macOS, or Linux.

2. Processor (CPU): A modern dual-core processor with supporting multi-user and multi-threaded operations, a quad-core processor.

CHAPTER 2

PORTAL DESIGN

2.1 Front end (UI) Design

The front-end design focuses on user experience and accessibility, ensuring that the Strawberry Support team can easily navigate and interpret the incident report. Key features of the UI include:

- **Dashboard Layout**: A clean and organized dashboard that highlights key metrics, including the pie chart visualization of incidents.
- **Interactive Elements**: Users can hover over pie chart segments to view details about the number of incidents per priority level.
- **Responsive Design**: The interface adjusts seamlessly across devices, ensuring usability on desktops, tablets, and mobile devices.
- **Navigation**: Clear and intuitive navigation menus allow users to access reports and additional resources quickly.

2.2 Backend (Database) Design

The back-end design encompasses the data management system that supports the incident reporting solution. Key components include:

- **Incident Table**: A structured database table containing records of incidents categorized under "sFone." Key fields include:
  o **Incident ID**: Unique identifier for each incident.
  o **Category**: Specifies the category (e.g., "sFone").
  o **Priority**: Indicates the priority level (High, Medium, Low).
  o **Status**: Current status of the incident (Active, Resolved, etc.).
  o **Creation Date**: Date and time when the incident was reported.
- **Data Relationships**: Relationships defined between incidents, categories, and user roles to streamline data access and reporting.

CHAPTER 3

Creation of the Strawberry Group

Step 1: Log into ServiceNow

- Open your preferred web browser and enter the URL for your ServiceNow instance.
- Enter your administrator credentials to access the admin dashboard.

Step 2: Navigate to User Administration

- In the left-hand menu, search for and select **User Administration**.
- Click on **Groups** to view existing user groups.

Step 3: Create a New Group

- Click the **New** button to start creating a new user group.
- In the **Group Name** field, enter "Strawberry Support" to identify the group.

Step 4: Add Description

- In the **Description** field, provide a brief overview of the group's purpose: "Group responsible for managing incidents related to the sFone category, focusing on timely responses and effective resolution."

Step 5: Define Group Roles

- Under the **Roles** tab, click **Edit** to add relevant roles such as **ITIL**.
- This will help determine access levels within the group.

Step 6: Add Members

- In the **Members** tab, click on **Edit**.
- Search for team members who will be part of the Strawberry Support group.
- Select their names and click **Add** to include them in the group.

Step 7: Set Group Notifications (Optional)

- Configure any specific notifications for the group, such as alerts for new incidents or report summaries, under the **Notifications** tab.

Step 8: Save the Group

- Click the **Submit** button to create the group officially.
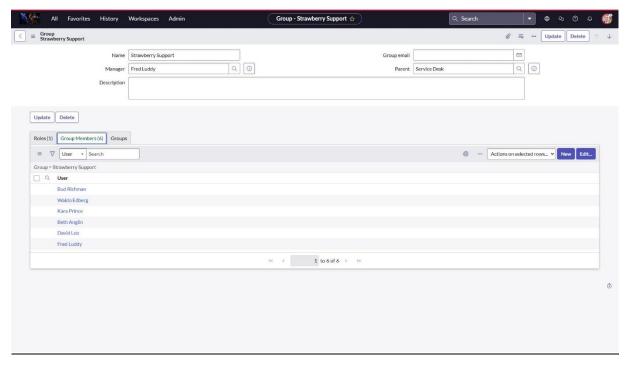- Verify that the Strawberry Support group appears in the list of user groups.

Fig 3.1 – Group form

CHAPTER 4

Incident Categorization with "sFone" and Varied Priorities

Step 1: Access Incident Table

- From the ServiceNow dashboard, type "Incident" in the navigation filter.
- Select **All Incidents** to open the incident management interface.

Step 2: Create New Incident

- Click the **New** button to log a new incident.
- Fill in the required fields:
- **Short Description**: Provide a brief overview of the incident.
- **Description**: Offer detailed information about the incident.

Step 3: Assign Category

- In the **Category** dropdown, select "sFone" to categorize the incident appropriately.

Step 4: Set Priority

- In the **Priority** field, choose one of the following:
- **Critical**
- **High**
- **Medium**
- **Low**

Step 5: Add Additional Details

- Include relevant details such as the **Affected User**, **Assignment Group**, and any **Attachments** related to the incident.

Step 6: Save Incident

- After filling in all necessary fields, click the **Submit** button to save the incident.

Step 7: Filter Incidents

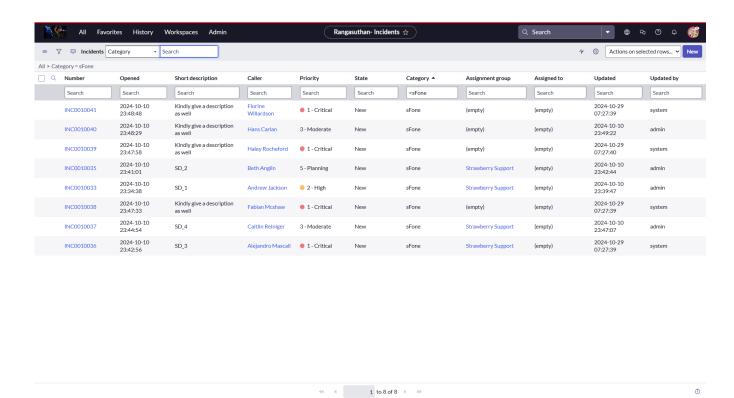- Use filters to view incidents specifically under the "sFone" category for quicker resolution.

Fig 4.1 – Incident list with "sFone category"

CHAPTER 5

Knowledge Base for Pie Chart Visualization

Step 1: Navigate to Knowledge Management

- On the ServiceNow dashboard, search for **Knowledge** in the left-hand menu.
- Click on **Knowledge Base** to view existing articles.

Step 2: Create a New Knowledge Article

- Click the **Create New** button to start drafting a new article.
- In the **Title** field, enter "Interpreting Pie Chart Visualizations."
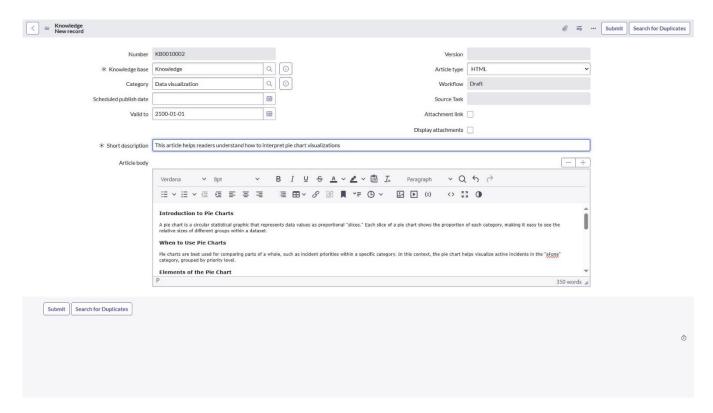

Fig 5.1 – New Knowledge Article Record

Step 3: Article Structure

- Create a structured format for the article, including:
- ○ **Introduction**: Briefly explain what pie charts are and their relevance in incident management.

o **How to Interpret Pie Charts**: Discuss how to read the chart segments and what the size of each segment indicates.

Introduction to Pie Charts

A pie chart is a circular statistical graphic that represents data values as proportional "slices." Each slice of a pie chart shows the proportion of each category, making it easy to see the relative sizes of different groups within a dataset.

When to Use Pie Charts

Pie charts are best used for comparing parts of a whole, such as incident priorities within a specific category. In this context, the pie chart helps visualize active incidents in the "sFone" category, grouped by priority level.

Elements of the Pie Chart

1. Slices: Each slice corresponds to a priority level (e.g., High, Medium, Low, Critical).
2. Labels and Legends: Labels within each slice or a legend beside the chart show what each slice represents.
3. Percentage or Count Labels: Each slice may display the number or percentage of incidents within that priority level.

Interpreting the Pie Chart for Incident Reports

1. Analyze Slice Size: Larger slices represent higher numbers of incidents in that priority category. For instance, if the "High" priority slice is the largest, it suggests that most incidents are categorized as "High" priority.
2. Review Proportion Trends: If "Critical" incidents form a small slice, it indicates fewer critical issues, which may suggest stable system performance in urgent areas.
3. Use for Quick Comparison: Pie charts allow you to quickly compare the relative frequency of incidents across priorities without needing detailed analysis.

Best Practices

- Use the pie chart as a starting point for a more in-depth analysis of trends.
- For categories with a high volume, consider supplementary charts (like bar charts) for more detailed breakdowns.

Scheduling and Sharing Insights

In your scheduled reports, the pie chart will update weekly to reflect any shifts in incident priority proportions, ensuring that the Strawberry Support team can track changes in real-time and prioritize resources effectively.

Conclusion:
Pie charts are effective tools for visualizing the proportion of incidents by priority, aiding quick decision-making for support teams. This visualization helps maintain an overview of incidents, showing where resources should be focused.

For Further Information: Contact the reporting team for help with pie chart interpretation or adjustments to the report.
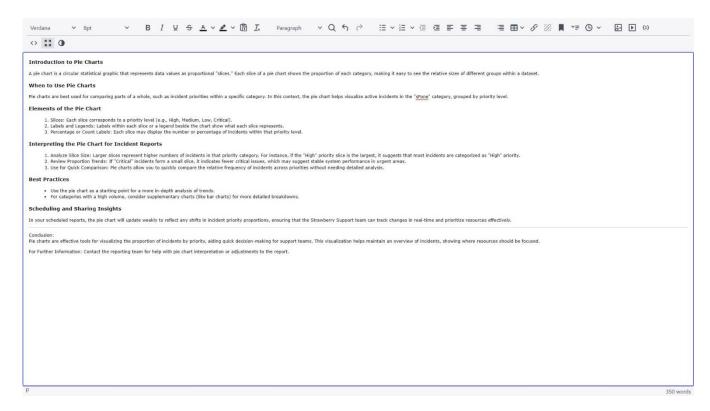
Fig 5.2 – Article Structure

Step 4: Best Practices

• Include a section outlining best practices for using pie charts effectively, such as ensuring data accuracy and choosing appropriate color schemes.

Step 5: Add Tags

• Use relevant tags to make the article searchable, such as "Pie Chart," "Visualization," "Incident Management."

Step 6: Publish Article

• Review the article for accuracy.

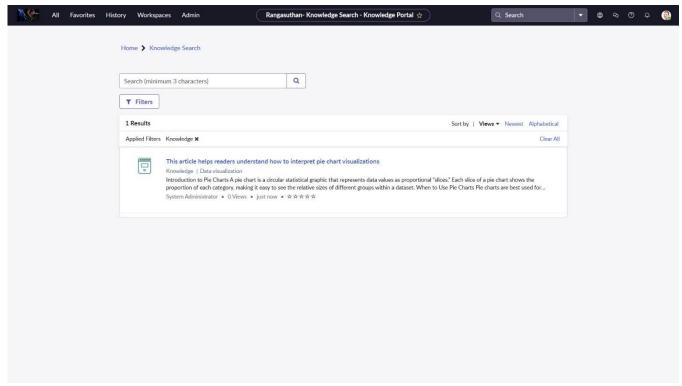• Click the **Publish** button to make the article accessible.

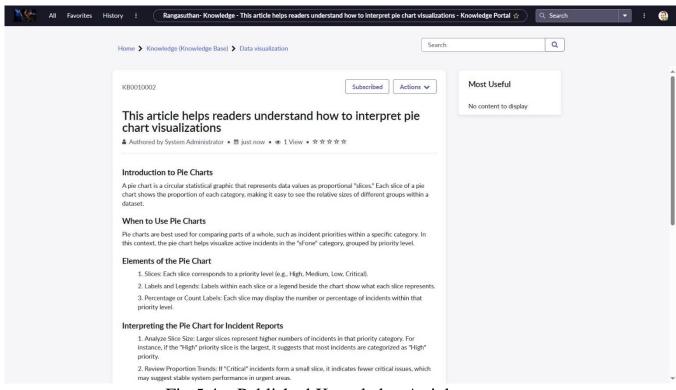Fig 5.3 – Knowledge Article in Knowledge Portal

Fig 5.4 – Published Knowledge Article

CHAPTER 6

Report Design

Step 1: Open Report Module

- In the ServiceNow dashboard, type "Reports" in the navigation filter.
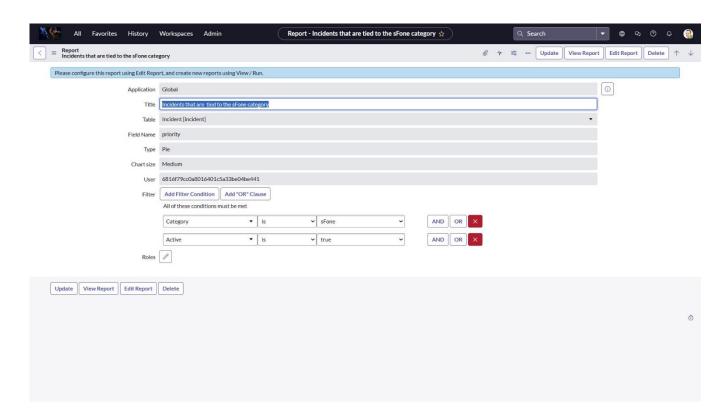- Select **Create New** to start designing a report.

Fig 6.1 – New Report for Incident that are tied to the sFone category

Step 2: Select Data Source

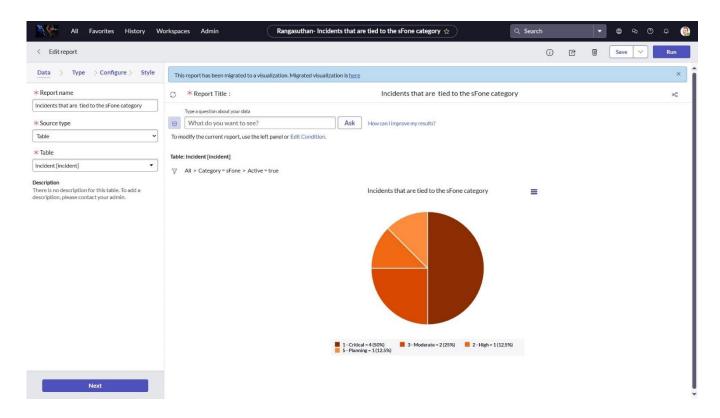- Choose the **Incident** table as the primary data source for the report.

Fig 6.2 - Data Source

Step 3: Choose Report Type

- Select **Pie Chart** as the report type for visualization.

Fig 6.3 – Report Type (Pie Chart)

Step 4: Group By Priority

- Under the **Group By** section, select the **Priority** field to categorize incidents based on priority.

Fig 6.4 Configuring Report (Group by Priority)

Step 5: Set Filters

- Click on the **Add Filter** button to filter incidents:
    - **Category** = "sFone"
    - **State** = "Active"

Step 6: Configure Visualization Settings

- Adjust chart settings, such as colors, labels, and legends for clarity.

Fig 6.5 – Styling for Report

Step 8: Save Report

- After confirming the report meets requirements, click **Save.**

Fig 6.6 -Final Report

CHAPTER 7

Scheduling the Report

Step 1: Open the Created Report

- Navigate back to the report created for the pie chart visualization.

Step 2: Click on Schedule

- In the report view, find the **Schedule** option and click on it.

Step 3: Set Schedule Frequency

- Choose the frequency as **Weekly** and set it to run every **Monday** at a specified time.

Step 4: Select Recipients

- In the **Recipients** section, select the Strawberry Support group to receive the report.

Step 5: Include Message

- Write a brief message in the notification email body about the report's content.

Step 6: Attach Knowledge Article

- Include a link to the Knowledge Article about pie chart visualization in the email notification.

Step 7: Save Schedule
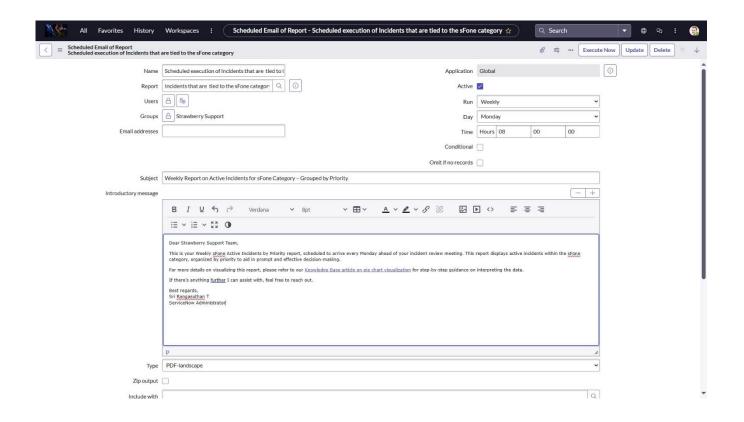
- Click the **Save** button to finalize the scheduling.

Fig 7.1 – Scheduling the Report

CHAPTER 8

Impersonation of a Strawberry User for Testing Notifications

Step 1: Navigate to User Profiles

- In the ServiceNow dashboard, search for **User Administration** in the left-hand menu.
- Click on **Users** to view all user profiles.

Step 2: Select User to Impersonate

- Search for a member of the Strawberry Support group and click on the user's name.

Step 3: Activate Impersonation Mode

- Click the **Impersonate User** button to log in as the selected user.

Step 4: Check Notification Settings

- While impersonating, navigate to the user's notification settings to ensure they are set up to receive email alerts.

Step 5: Manually Trigger Report

- Access the scheduled report and click on the **Run** option to generate the report manually.

Step 6: Verify Email Notification

- After running the report, check the email account of the impersonated user to confirm receipt of the scheduled report notification.
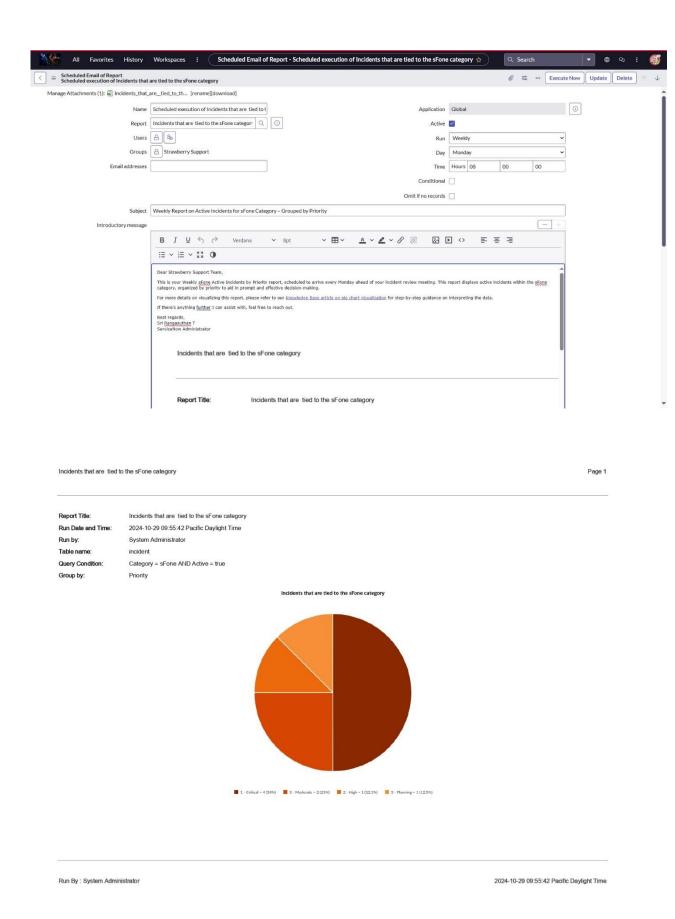
Report Title: Incidents that are tied to the sFone category
Run Date and Time: 2024-10-29 09:55:42 Pacific Daylight Time
Run by: System Administrator
Table name: incident
Query Condition: Category = sFone AND Active = true
Group by: Priority

Incidents that are tied to the sFone category

■ 1 - Critical – 4 (50%)   ■ 3 - Moderate – 2 (25%)   ■ 2 - High – 1 (12.5%)   ■ 5 - Planning – 1 (12.5%)

Fig 8.1 - Impersonation of a Strawberry User for Testing Notifications

CHAPTER 9

TESTING AND DEPLOYMENT

After the development of the reporting solution, thorough testing and deployment processes were implemented to ensure functionality and reliability.

9.1 Testing Procedures

- **Unit Testing**: Each module was tested individually to ensure proper functionality.
- **Integration Testing**: Modules were tested together to verify that they work seamlessly.
- **User Acceptance Testing (UAT)**: Feedback was gathered from actual users to identify any issues or improvements needed.

9.2 Deployment Steps

1. **Prepare Deployment Environment**: Ensure the production environment is ready for deployment.
2. **Backup Current Data**: Backup existing incident data to prevent data loss during deployment.
3. **Deploy New Features**: Implement the reporting solution in the production environment.
4. **Monitor System Performance**: After deployment, monitor the system for any performance issues or bugs.

CHAPTER 10

CONCLUSION

This project successfully developed a comprehensive incident reporting solution for the Strawberry Support team. By categorizing incidents under the "sFone" category, implementing varied priority levels, and providing visualizations, the team is now better equipped to manage incidents efficiently. The incorporation of a Knowledge Article ensures that team members can interpret data effectively, enhancing decision-making processes. Overall, this solution improves the incident management framework and fosters collaboration within the team.

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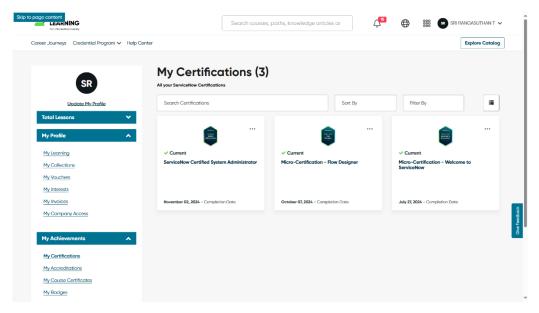
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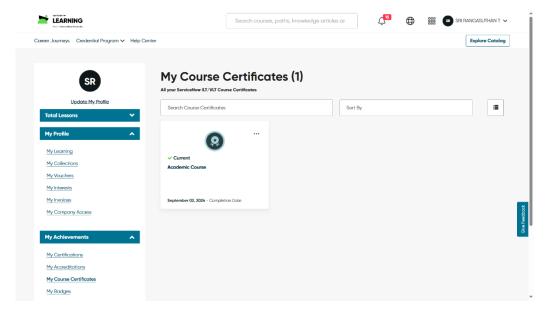
ANNEXURE 1
Now Learning Profile Page

RA2211003011319 (SRI RANGASUTHAN T)

My certifications

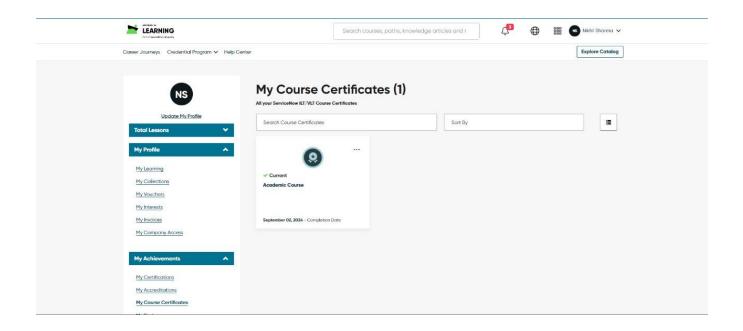# My course certificates

My badges :

(RA2211003011298) Nikhil Sharma

My badges :
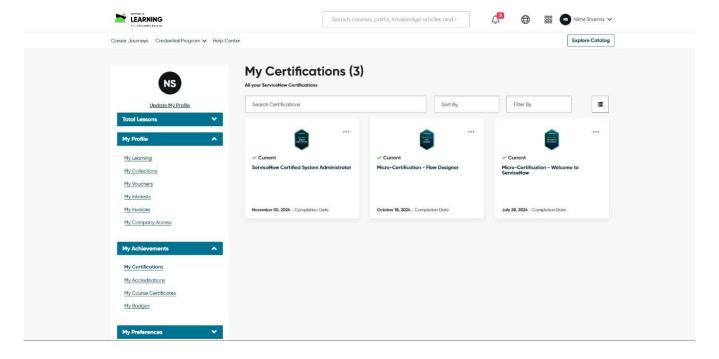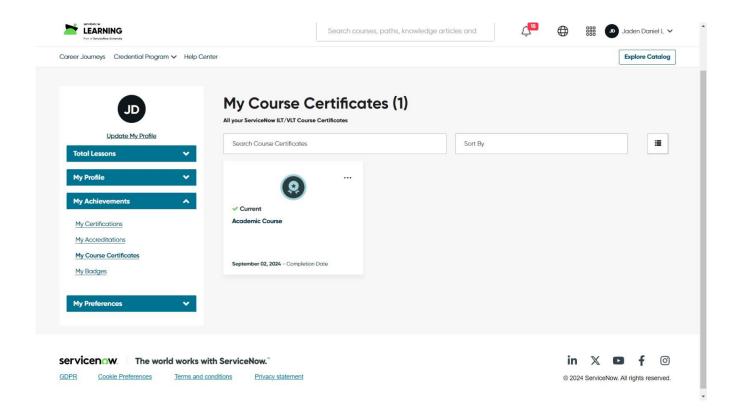
My course certificates

My certifications

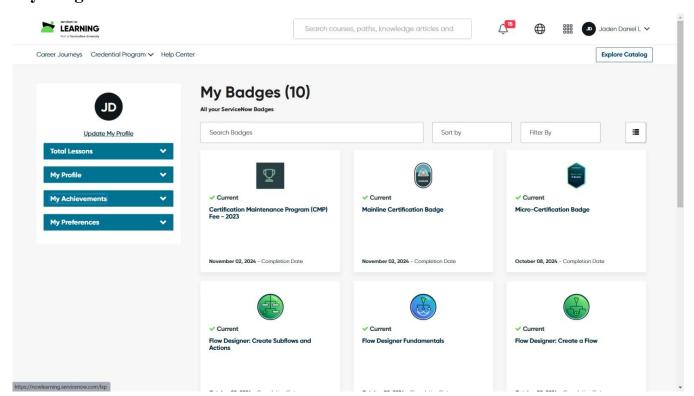# (RA2211002011328) JADEN DANIEL

My course certificates

My badges :

My certifications :