PROJECT DESIGN PHASE II

TECHNOLOGY STACK (ARCHITECTURE AND STACK)

Date	02 NOV 2025
Team ID	NM2025TMID04283
Project Name	Streamlining Ticket Assignment for efficient support operations
Maximum mark	4 marks

Architecture&Platform Core

The streamlined assignment solution operates entirely within the ServiceNow cloud environment, leveraging its foundational data model and workflow engines.

Component	Description	Role in Assignment Streamlining
Now Platform	The foundational cloud-based PaaS layer hosting all applications and data.	Provides the core database, application services, and UI for the entire solution.
IT Service Management (ITSM)	The application suite that hosts the **Incident** and **Task** tables.	The primary application where tickets are created and managed.
Common Service Data Model (CSDM)	A standard framework for classifying and managing data on the Now Platform.	Ensures consistent categorization, links tickets to the correct **Service/Offering** and **Configuration Item (CI)**, which are critical for routing.
Agent Workspace	A unified, focused interface for support agents.	Provides a modern, real-time environment where agents receive and manage their auto-assigned tickets.

Technology Stack: Automation&Intelligence

The "streamlining" aspect is delivered by combining various automation and AI tools within the platform.

1. Core Workflow Engine

Technology	Purpose	Assignment Use

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Flow Designer	The primary tool for building, automating, and managing workflows.	Used to orchestrate the multi-step assignment process (e.g., *Check Priority $\rightarrow$ Run AI Prediction $\rightarrow$ Execute Assignment Logic $\rightarrow$ Send Notification*).
Business Rules	Server-side scripting/logic execution on records.	Used for simple, conditional automatic group or user assignment *before* a record is saved to the database (e.g., if Category is 'Email', set Assignment Group to 'Messaging').
Assignment Rules	Dedicated configuration table for defining group assignment criteria.	Used for declarative, condition-based assignment of the **Assignment Group**.

2. AI and Machine Learning (Predictive Intelligence)

This is the key technology for making ticket assignment "intelligent."

- **Predictive Intelligence (PI):** ServiceNow's proprietary machine learning framework.
    - **Classification Solution:** The PI model is trained on historical, resolved ticket data (Short Description, Category, Assignment Group). When a new ticket is created, this model predicts the correct **Category, Subcategory, and Assignment Group**.
    - **Similarity Solution:** Can be used to suggest the most appropriate **Knowledge Article** or **Similar Incident** based on the ticket's text, which aids the agent if manual triage is needed.

3. Queue Management&Capacity

This technology ensures fair and efficient distribution to individual agents.

- **Advanced Work Assignment (AWA) / Agent Chat Routing:** A dedicated system for routing work items (like Incidents) to agents based on capacity and skills.
    - **Capacity Logic:** Uses a metric (e.g., number of open tickets, time on a task) to track the **current workload** of an agent.
    - **Skill Matching:** Matches required ticket skills (e.g., Linux, SAP) to the skills recorded on the agent's user profile.
    - **Load Balancing:** Uses AWA's built-in strategies (like **Round Robin** or **Agent Capacity**) to assign the ticket to the next best-suited individual (Assigned To field).

4. Reporting and Feedback

- **Performance Analytics (PA):** The integrated reporting solution for trending, forecasting, and historical analysis. | Used to measure the success of the solution (**NFR3.2**), tracking metrics like:

    - **Assignment Accuracy Rate** (PI model performance).
    - **Mean Time to Assignment (MTTA)**.
    - **Ticket Reassignment Count** (identifying bottlenecks).
- **Data Feedback Loop:** The final outcome of the ticket (resolved group/user) is the training data that is fed back into the **Predictive Intelligence** model to continuously improve its future predictions (**NFR1.3**).