

# PROJECT PLANNING PHASE

## PROPOSED SOLUTION

Date	02 NOV 2025
Team ID	NM2025TMID06943
Project Name	Streamlining Ticket Assignment for efficient support operations
Maximum mark	2 marks

The proposed solution for streamlining ticket assignment is the implementation of a **Hybrid Intelligent Routing System**, designed to ensure that each ticket is directed to **the right agent, with the right skills, at the right time**.

This system integrates **automation, machine learning, and intelligent workload management** through three core mechanisms:

### 1. Automated Skill-Based Routing

- A detailed **Agent Skill Matrix** is established, mapping each agent's expertise across products, technologies, languages, and issue categories.
- When a new ticket is created, a **Machine Learning (ML)-powered triage engine** automatically analyzes its content, category, and urgency to predict relevant skill tags.
- Based on these tags, the system routes the ticket to the most appropriately skilled group or agent.

### 2. Dynamic Load Balancing

- To prevent **agent overload and assignment bias**, the routing logic dynamically considers each agent's **current queue size, recent workload history, and real-time availability** before assigning new tickets.
- This intelligent approach replaces static or round-robin allocation methods with **data-driven, fairness-oriented**

**distribution**, ensuring optimal utilization and response speed.

### 3. **Triage Queue and Continuous Learning Loop**

- A specialized **Triage Queue** is introduced for cases where the system's confidence score falls below a defined threshold.
- These tickets are handled by senior agents who manually review, categorize, and route them.
- Their feedback forms a **continuous improvement loop**, retraining the ML model and enhancing prediction accuracy over time.

---

## **Expected Outcomes**

By combining skill-based automation, intelligent capacity management, and human-in-the-loop refinement, this Hybrid Intelligent Routing System is expected to:

- **Reduce ticket re-assignment rates** by ensuring accurate first-time routing.
- **Lower Mean Time to Resolution (MTTR)** through faster, skill-aligned ticket delivery.
- **Improve team efficiency and morale** by balancing workloads and minimizing manual triage.

