

Project Design Phase II

Data Flow Diagram & User Stories

Date	01 NOVEMBER 2025
Team ID	NM2025TMID01728
Topic Name	Streamlining Ticket Assignment for efficient support operation

The Data Flow Diagram illustrates how information moves through the system, from the ticket's entry to its final assignment, emphasizing the role of the **ML Routing Engine** as the core process.

Context-Level Flow:

- Input:** The **Customer** submits a **New Ticket** (data flow) into the **Ticketing System** (process).
- Output:** The **Support Agent** receives an **Assigned Ticket** (data flow).
- External:** The **Agent Profile Database** provides agent skill and capacity data.

Process Flow Details:

- Process 1: Ticket Ingestion & Event Generation:** The Ticketing Platform receives the new ticket and extracts key fields (description, subject, priority).
- Process 2: Intelligent Routing (ML Engine):**
 - Data In:** Ticket Details, Historical Ticket Data (from Data Warehouse), Agent Status (from Agent Profile DB).
 - Logic:** NLP classifies the ticket category. Skill and Load Balancer logic calculate the best fit agent.
 - Data Out:** Optimal Agent ID and Assignment Decision.
- Process 3: Assignment Execution:** The Ticketing Platform receives the Assignment Decision and updates the ticket record, triggering the agent notification.

User Stories and Project Estimation

This section details the functional requirements (User Stories), priority, and estimated effort (Story Points) for implementing the automated assignment system.

Product Backlog Requirement (Epic)	User Story Number	As A/I want to...	Story Points	Priority	Team Members
Intelligent Routing Logic	US-1	As a Support Manager , I want tickets to be	5	High	K. Manoj, M. Meena

Product Backlog Requirement (Epic)	User Story Number	As A/I want to...	Story Points	Priority	Team Members
		automatically categorized based on the description's keywords, so assignment can be instant and accurate.			
Skill-Based Assignment	US-2	As a Team Lead , I want tickets to be assigned based on the agent's certified skills and expertise level , so the right specialist handles the issue immediately.	5	High	K. Manoj, S. Sivapriya
Load-Balanced Distribution	US-3	As a Support Agent , I want the system to check my current workload before assigning a new ticket, to prevent burnout and ensure fair distribution.	3	High	N. Gowtham
Assignment Failure Mechanism	US-4	As a Developer , I should ensure that if the automatic assignment fails, the ticket is routed to a Supervisor Queue with an alert, to prevent tickets from being missed.	2	Medium	G. Srinithi

Product Backlog Requirement (Epic)	User Story Number	As A/I want to...	Story Points	Priority	Team Members
Performance Monitoring	US-5	As an Admin , I want a dashboard showing the Assignment Accuracy Rate (AAR) and Ticket First Assignment Time (TFAT) , to measure the system's effectiveness.	3	Medium	N. Usha, M. Meena

Data Flow Diagram: Streamlined Ticket Assignment

