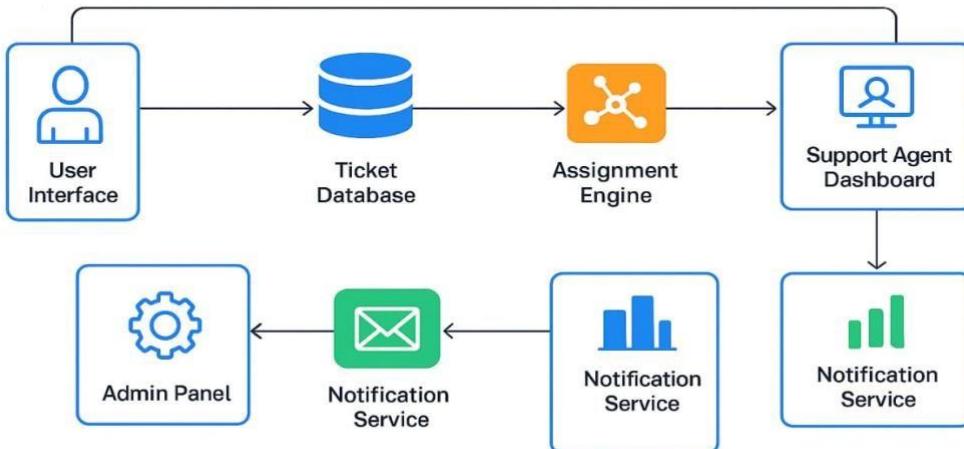


Project Design Phase-II

Technology Stack (Architecture & Stack)

Date	2 November 2025
Team ID	NM2025TMID07850
Project Name	Streamlining Ticket Assignment for Efficient Support Operations
Maximum Marks	4 Marks

Technical Architecture:



1. User Interface (Requestor Portal):

Users raise tickets via a self-service portal or web form.

2. Ticket Database:

Stores ticket details — ID, description, priority, requester info.

3. Assignment Engine:

Uses rules/AI logic to automatically assign the ticket based on agent skillset, category, and workload.

4. Support Agent Dashboard:

Displays assigned tickets to each agent for resolution.

5. Notification Service:

Sends alerts for new assignments and status updates.

6. Admin Panel:

Allows manual reassignment and viewing of analytics/reports.

7. Analytics & Reports Module:

Provides insights into ticket performance and SLA compliance.

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web portal/dashboard for users and support staff to create and track tickets.	ServiceNow Web UI / React.js / HTML5, CSS3
2	Application Logic-1	Handles ticket creation and input validation.	ServiceNow Workflow / Business Rules / JavaScript
3	Application Logic-2 (Assignment Engine)	Automatically assigns tickets based on skillset, priority, and workload.	ServiceNow Flow Designer / Python (AI logic optional)
4	Application Logic-3 (Notification Service)	Sends alerts when a ticket is created, assigned, or updated.	Service Now Notification Engine / Email & Push APIs
5	Database	Stores all tickets, users, and assignment details.	ServiceNow CMDB / MySQL (Cloudhosted)

6	Cloud Backend	Manages data storage, automation logic, and scalability.	ServiceNow Cloud / AWS Backend
7	File Storage	Stores any attachments (e.g., screenshots or logs) linked to a ticket.	ServiceNow File System / AWS S3
8	External API-1	Connects to external email or chat systems	REST API Integration
		for support updates.	
9	External API-2	Optional integration with AI analytics or chatbot.	OpenAI / Google Cloud AI (Optional)
10	Machine Learning Model (Optional)	Suggests best agent or predicts ticket priority (future use).	TensorFlow / ServiceNow Predictive Intelligence
11	Infrastructure (Server/Cloud)	Hosted and managed on ServiceNow SaaS Cloud or equivalent.	ServiceNow Cloud (SaaS) / AWS EC2

Table 2: Application Characteristics:

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	UI and automation may use open-source tools if outside ServiceNow.	React.js, Node.js
2	Security Implementations	Role-based access control to manage Requestor, Agent, and Admin access.	RBAC, ACLs, Secure Scripts

3	Scalable Architecture	Cloud-based, horizontally scalable for large ticket volumes.	ServiceNow Cloud Architecture
4	Availability	Always online and reliable due to SaaS hosting.	Load-balanced ServiceNow Instances
5	Performance	Optimized through asynchronous ticket assignment and indexed tables.	GlideRecord, Flow Designer Optimization
6	Integration	Can integrate with AI or thirdparty systems via REST APIs.	ServiceNow Integration Hub
7	Automation	Reduces manual workload using rule-based logic or AI models.	ServiceNow Flow Designer / Python Automation