| Date | 30/10/2025 |
|---|---|
| Team id | NM2025TMID07740 |
| Project name | Streamlining Ticket Assignment for Efficient Support Operations |
| Maximum mark | 4 marks |

# PROJECT DESIGN PHASE 2

**Data Flow Diagram (DFD) – Streamlining Ticket Assignment for Efficient Support Operations**

## Level 0 – Context Diagram

**Overview:**
This high-level diagram shows how data moves between external entities and the main ticket assignment system.

**External Entities:**

- **Customer/User:** Submits new support tickets.
- **Support Agent:** Receives assigned tickets and updates status.
- **Admin/Manager:** Monitors performance, workload, and system reports.

**Main Process:**

- **Streamlined Ticket Assignment System** – The central process that handles ticket creation, classification, routing, and monitoring.

**Data Flows:**

- From **Customer → System:** Ticket details (issue type, priority, description).
- From **System → Support Agent:** Assigned ticket notifications and workload updates.
- From **Support Agent → System:** Ticket progress, resolution updates, and status changes.
- From **System → Admin:** Analytics reports and performance summaries.

## Level 1 – Detailed Data Flow Diagram

**Process 1: Ticket Creation**

- Input: Ticket data (submitted by user).
- Output: Ticket record stored in the database.

- Data Store: *Ticket Database.*

**Process 2: Ticket Classification**

- Input: Ticket record from Ticket Database.

- Function: Analyze content using keywords, urgency, and category.

- Output: Ticket category and priority tag.

- Data Store: *Ticket Classification Rules.*

**Process 3: Ticket Assignment**

- Input: Classified ticket and Agent Database.

- Function: Match ticket with suitable agent based on skills, workload, and availability.

- Output: Assigned ticket sent to agent.

- Data Store: *Agent Profile Database.*

**Process 4: Ticket Tracking & Update**

- Input: Agent updates ticket status (in-progress, resolved).

- Output: Updated records and progress tracking.

- Data Store: *Ticket Tracking Log.*

**Process 5: Reporting & Analytics**

- Input: Ticket and agent performance data.

- Function: Generate insights for workload, resolution time, and performance efficiency.

- Output: Dashboards and reports

- for Admin.
- Data Store: *Analytics Database.*

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## Data Stores

1. **Ticket Database:** Stores all created tickets.
2. **Agent Profile Database:** Stores agent details, skills, and workload.
3. **Ticket Classification Rules:** Contains predefined keywords, rules, and AI models for classification.
4. **Ticket Tracking Log:** Tracks ticket progress and updates.
5. **Analytics Database:** Stores performance and efficiency data for reporting.

## Key Data Flows

- **Customer → System:** Ticket details.

- **System → Agent:** Assigned ticket and alerts.

- **Agent → System:** Ticket updates and resolution info.

- **System → Admin:** Performance analytics and reports.

## EXAMPLE

# Data Flow Diagram
## Streamlining Ticket Assignment for Efficient Support Operations
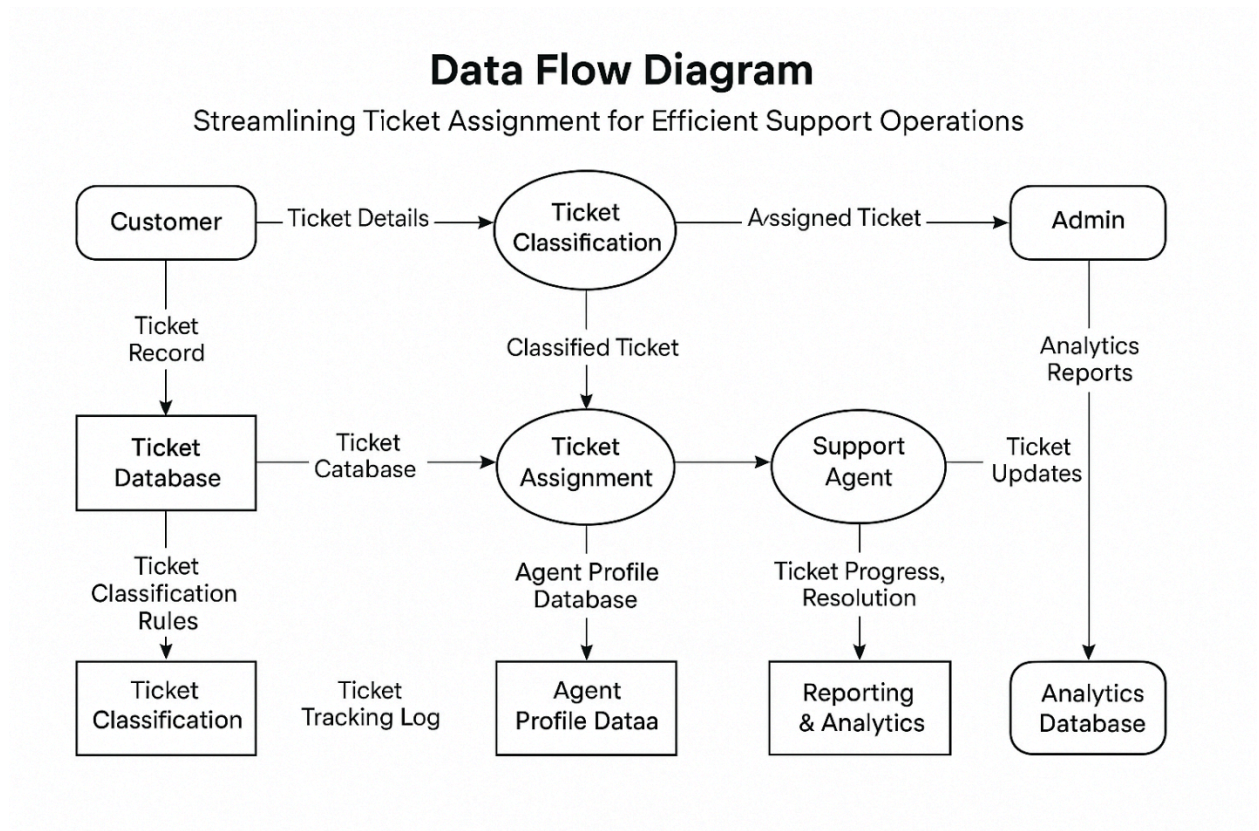


## User Stories

### 1. Support Agent

- *As a support agent,* I want tickets to be automatically assigned based on my skills and workload, so that I can focus on resolving issues efficiently without spending time on manual ticket selection.

### 2. Support Manager

- *As a support manager,* I want to monitor ticket distribution and agent performance in real time, so that I can ensure fair workload balance and improve overall team productivity.

### 3. End User (Customer)

- *As a customer,* I want my support tickets to be assigned to the right agent quickly, so that my issue gets resolved faster and communication is more effective.

### 4. System Administrator

- *As a system administrator,* I want to configure and maintain the ticket assignment rules and algorithms, so that the system remains flexible, accurate, and aligned with evolving business needs.

### 5. Quality Assurance Analyst

- *As a QA analyst,* I want to analyze ticket resolution trends and feedback, so that I can identify recurring issues and recommend improvements for system reliability.

| Support Agent | As a support agent, I want tickets to be automatically assigned based on my skills and workload, so that I can focus on resolving issues efficiently without spending time on manual ticket selection. |
|---|---|
| Support Manager | As a customer, I want my support tickets to be assigned to the right agent quickly, so that my issue gets resolved faster and communication is more effective. |
| End User (Customer) | As a system administrator, I want to configure and maintain the ticket assignment rules and algorithms, so that the system remains flexible, accurate, and aligned with evolving business needs |
| System Administrator | As a QA analyst, I want to analyze ticket resolution trends and feedback, so that I can identify recurring issues and recommend improvements for system *réa-* |
| Quality Assurance Analyst | As a QA analyst, I want to analyze ticket resolution trends and feedback, that I can identify recurring issues and |