PHASE-I IDEATION PHASE DOCUMENT

Streamlining Ticket Assignment for Efficient Support Operations

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Problem Statement:

This repository contains a ServiceNow update set (.xml format) developed to automate and streamline the assignment of support tickets in a ServiceNow environment. The customization is built on the Global scope and includes enhancements to ACLs, dictionary entries, table definitions, roles, and a Flow Designer flow. In large organizations, support tickets often pile up across departments — from IT to customer service — creating bottlenecks and del There is a need for a smart and automated ticket assignment system that can analyze incoming tickets, categorize them, and assign them to the most suitable support agent based on priority, skill, and availability.

Proposed Solution:

We propose developing an AI-powered ticket assignment system that intelligently routes support tickets to the right agent or department. Pays. Manual ticket assignment can result in misrouting, uneven workload distribution, and slower issue resolution. The system will use Natural Language Processing (NLP) to understand the content of each ticket, automatically categorize it (e.g., technical issue, billing, access request), and assign it based on agent expertise, workload, and priority level.

The solution aims to:

- Reduce ticket response and resolution time.
- Balance workload among agents.
- Enhance overall support efficiency and customer satisfaction.

Features:

- Custom Table: Operations related (u_operations_related) to track ticket operations.
- Fields:
  - Assigned to user (Reference field to sys_user)
  - Priority (String)
- Roles:
  - Custom role u_operations_related_user to manage access.
- Access Controls:
  - Field-level and record-level ACLs for secure data access.
- Flow Designer Flow:
  - Triggered on record insert/update based on u_issue field conditions.
  - Automates actions like notifications or assignments.

File Structure:

- sys_remote_update_set_aa878a87c3fa26109d92b6fdd401317d.xml: The ServiceNow update set containing all configuration changes.

How to Use:

- Login to your ServiceNow instance.
- Navigate to System Update Sets → Retrieved Update Sets.
- Import the XML file from this repository.
- Preview and commit the update set.
- Verify the table Operations related and its related configurations.

Requirements:

- A valid ServiceNow admin account.
- Access to update sets and Flow Designer.
- The instance must be in a version compatible with Flow Designer.

Objectives:

- Automate the ticket categorization and assignment process.
- Implement AI-driven decision-making to match tickets with suitable agents.
- Provide a real-time dashboard for ticket tracking and workload management.
- Enable quick prioritization of high-impact issues.
- Improve the efficiency and transparency of support operations.

Innovation / Uniqueness:

- Uses **NLP and machine learning** to understand and classify ticket content.
- Assigns tickets dynamically based on **agent skillset, workload, and historical resolution data**.
- Integrates with existing support platforms (like **Jira, Zendesk, or Freshdesk**).
- Provides an intelligent **recommendation engine** for manual overrides.

Target Users / Audience:

- IT Helpdesk Teams
- Customer Support Centers
- HR & Admin Support Systems
- Large Enterprises with internal support ticket systems
- SaaS Platforms offering support to clients

Technical Approach / Tools:

Component	Technology	Description
Frontend	React / Angular	Web interface for dashboard & analytics
Backend	Python (Flask / FastAPI)	API and business logic
Database	PostgreSQL / MongoDB	Stores ticket & agent data
AI/ML	Scikit-learn / TensorFlow / OpenAI API	Ticket classification & agent matching
NLP	SpaCy / BERT model	Ticket text processing & categorization
Integration	REST / Webhooks	Connect with ticketing tools (e.g., Jira, Freshdesk)
Deployment	Render / AWS / Azure	Cloud hosting and scaling

Feasibility and Impact:

- **Feasibility:** Can be integrated easily with existing support tools using APIs.
- **Impact:**
    - Reduces manual ticket triage time by up to 70%.
    - Improves first-response time and overall SLA adherence.
    - Enhances agent productivity by balancing workload.
    - Provides analytics for team performance and issue trends.

Expected Outcome:

- A functional prototype of the automated ticket assignment platform.
- Dashboard showing ticket flow, workload distribution, and resolution metrics.
- AI module capable of understanding and classifying ticket text.
- Integration with a sample ticketing dataset or live system (mock data).

Timeline / Milestones:

Phase	Duration	Key Deliverables
Ideation	Week 1	Problem definition, research
Design	Week 2	System architecture, UI mockups
Development	Week 3–4	NLP model + backend API
Integration	Week 5	Frontend dashboard + API connection
Testing	Week 6	System testing, debugging
Deployment	Week 7	Final hosted version and demo

Future Scope:

- Integration with voice-based support and chatbots.
- Predictive analytics for workload forecasting.
- Real-time escalation management for high-priority tickets.
- Multi-language ticket handling and sentiment analysis.
- Automated report generation for management insights.