

Smart AI Ticket Generating System For IT Support

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Abstract: *The Smart AI Ticket Generating System for IT Support enhances helpdesk efficiency by automating ticket creation, classification, and prioritization. Unlike traditional systems that depend on user-filled forms and rule-based methods—often causing incomplete details, delays, and misrouted issues—this system leverages AI technologies such as Natural Language Processing (NLP), Machine Learning (ML), and Optical Character Recognition (OCR). Users can report IT problems via text, voice, or images. Voice inputs are converted to text using speech recognition, and images or screenshots are processed with OCR to extract relevant information. The system then categorizes issues into types like Network, Hardware, or Software and assigns priority levels (High, Medium, Low) based on severity. All ticket information is stored in a centralized database, with an administrative dashboard enabling efficient tracking, management, and resolution of issues—ultimately delivering faster responses and improved IT support services.*

Keywords: Smart AI Ticket Generation ,Automatic Prioritization ,Multimodal Input ,IT Support Dashboard

I. INTRODUCTION

Traditional IT helpdesk systems rely on manual ticket creation and classification, which can lead to delays, incorrect issue categorization, and inefficient handling of support requests. Users are usually limited to text-based inputs, making it difficult to clearly explain technical problems. With the increasing number of IT issues in organizations, managing tickets manually becomes time-consuming for support teams. The Smart AI Ticket Generating System aims to improve this process by automating ticket creation, classification, and prioritization using AI, Machine Learning, NLP, and OCR. The system allows users to report issues through text, voice, and images, enabling more accurate problem descriptions. It automatically analyzes complaints, categorizes issues, and assigns priority levels. The system includes features such as user login, ticket creation, AI-based analysis, ticket tracking, and an admin dashboard for managing support requests. This approach improves response time, reduces manual workload, and enhances the efficiency of IT support services.

II. EXISTING SYSTEM

Traditional IT helpdesk systems allow users to report technical issues by filling out support forms with details such as problem description, category, and priority. IT support staff then manually review and classify the tickets before assigning them to the appropriate team. These systems mainly rely on manual processes and text-based inputs, which makes handling large numbers of support requests slow and less efficient.

Several challenges still exist:

1. Manual Ticket Processing

In traditional systems, IT staff must manually review and categorize each ticket. This increases the workload for support teams and slows down the overall issue resolution process, especially when the number of requests is high.



2. Limited Input Methods

Most helpdesk systems only support text-based input. Users cannot easily upload screenshots or voice descriptions, which makes it difficult to explain complex technical problems clearly.

3. Incorrect Issue Classification

Users are usually required to select the issue category themselves. If they choose the wrong category, the ticket may be assigned to the wrong department, causing delays in resolving the issue.

4. Lack of Intelligent Analysis

Traditional systems do not use advanced technologies such as Artificial Intelligence or Machine Learning to analyze user complaints. As a result, the system cannot automatically understand the problem or suggest appropriate solutions.

5. Slow Response Time

Since ticket processing depends on manual review and prioritization, it often takes longer for IT teams to identify and respond to urgent issues.

III. PROPOSED SYSTEM

The Smart AI Ticket Generating System for IT Support automates the process of registering, analyzing, categorizing, and prioritizing IT support tickets using Artificial Intelligence technologies such as NLP, Machine Learning, Speech Recognition, and OCR. Unlike traditional helpdesk systems that rely on manual processing, this system allows users to submit issues through text, voice, or images. The system analyzes the complaint, generates a ticket automatically, categorizes the issue, and assigns a priority level.

Key Features

- **Multi-Modal Issue Submission:** Users can report problems using text, voice, or screenshots.
- **Intelligent Ticket Generation:** The system automatically creates a ticket and stores the details in a database.
- **AI-Based Analysis:** NLP analyzes complaint text to understand the issue.
- **Automatic Categorization:** Issues are classified into categories such as network, hardware, or software.
- **Priority Assignment:** The system assigns priority levels (high, medium, low) based on issue severity.

Advantages of the Proposed System

1. Automated Ticket Creation

The system automatically generates support tickets, reducing the need for manual data entry.

2. Faster Issue Identification

AI and NLP technologies quickly analyze complaints and identify the type of problem.

3. Accurate Issue Categorization

Machine learning helps classify issues correctly into categories such as network, hardware, or software.

4. Automatic Priority Assignment

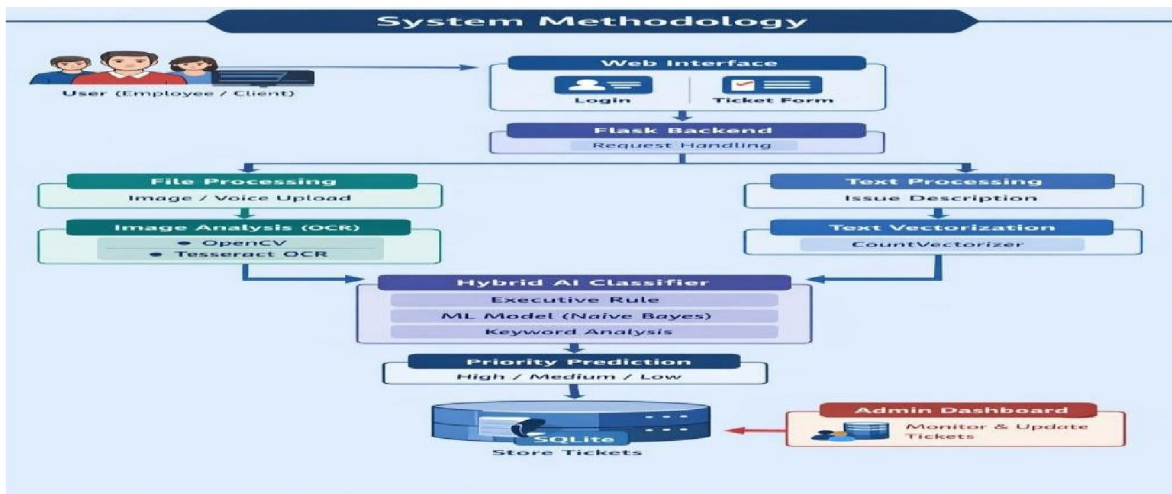
The system assigns priority levels (high, medium, low) based on the severity of the issue.

5. Multi-Input Support

Users can submit complaints through text, voice, or images, making the system more flexible.

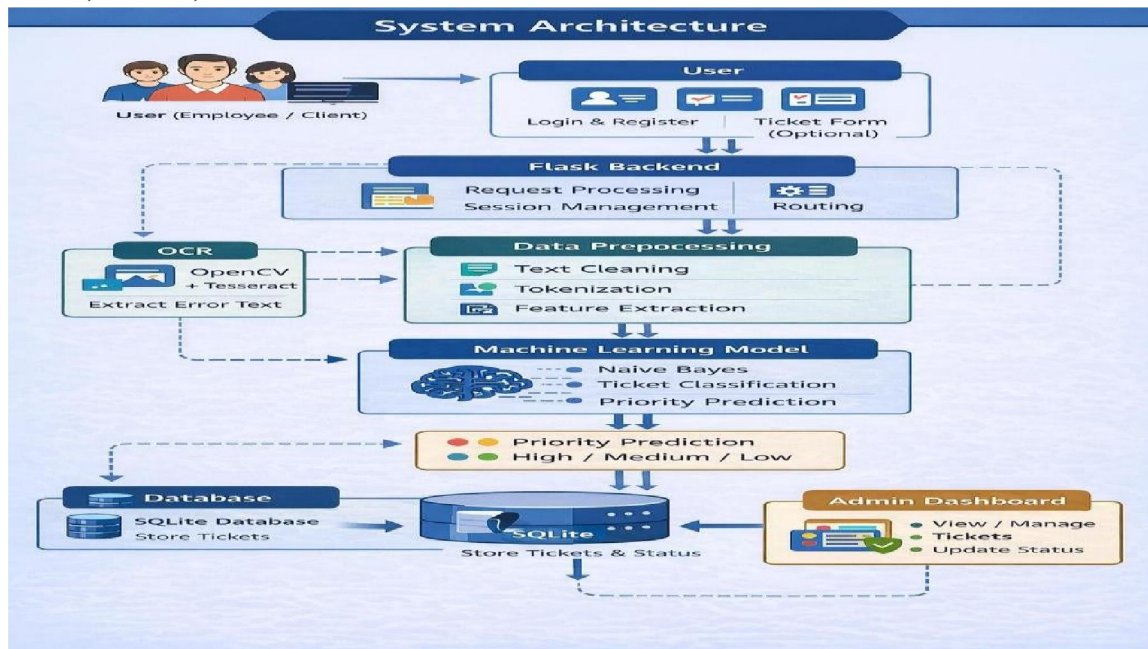


IV. METHODOLOGY



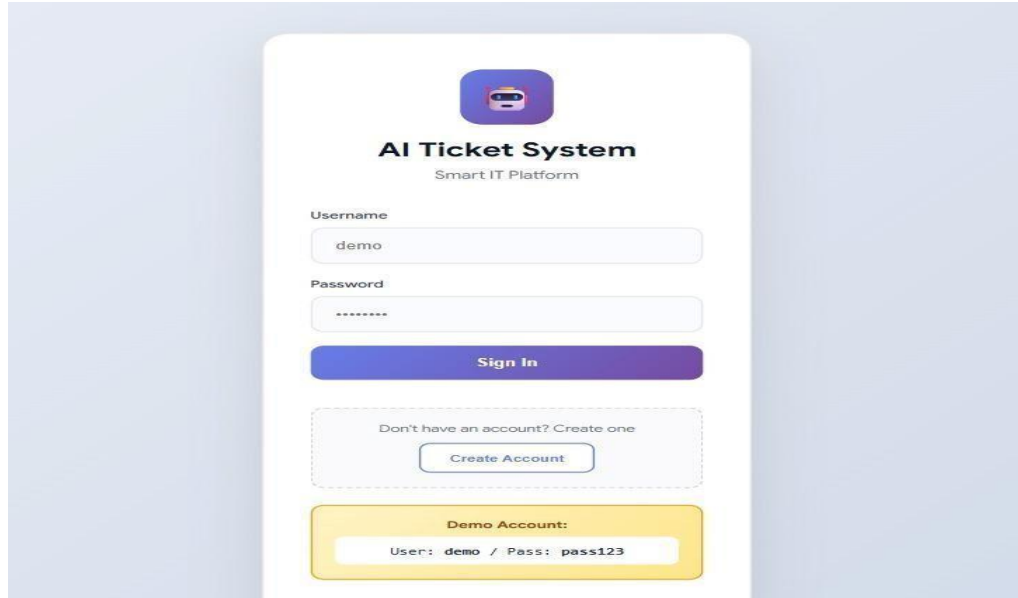
V. SYSTEM ARCHITECTURE

The system architecture of the Smart AI Ticket Generating System follows a layered structure to manage IT support requests efficiently. Users submit complaints through a web interface by entering text or uploading screenshots. The Flask backend processes these requests and sends the data to the preprocessing layer, where the input text is cleaned and prepared for analysis. If screenshots are uploaded, the OCR module extracts error messages from the images. The processed data is then analyzed using a machine learning model (Naive Bayes) to classify the issue into categories such as network, hardware, or software.



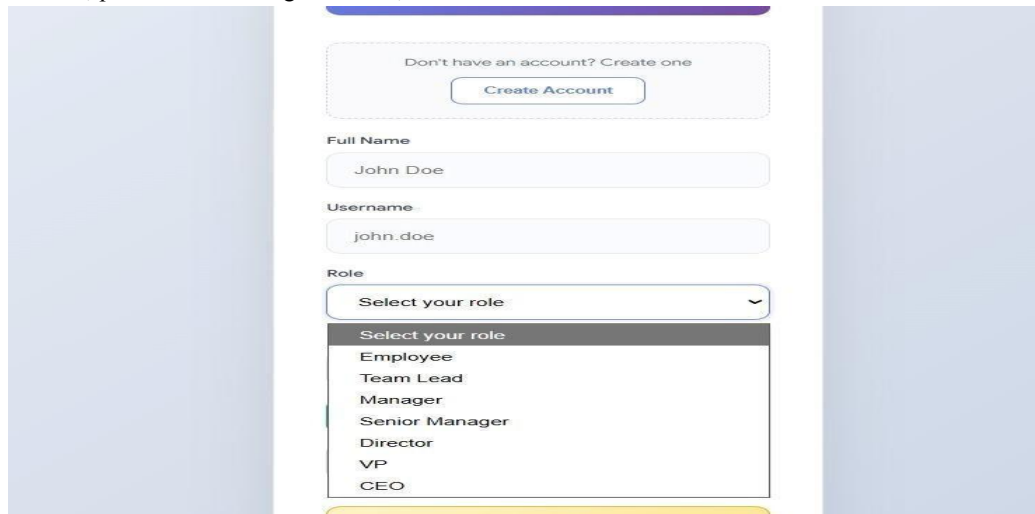
VI. RESULTS AND OUTPUT

Step-1: Click on the login page then, start login in to the application if you are existing user login with the credentials which you have used while creating the account.



The screenshot shows the login interface for the 'AI Ticket System', a Smart IT Platform. It features a purple header with a ticket icon. Below the header, there are input fields for 'Username' (containing 'demo') and 'Password' (masked with dots). A prominent purple 'Sign In' button is centered below the password field. Underneath, a dashed box contains the text 'Don't have an account? Create one' and a 'Create Account' button. At the bottom, a yellow box labeled 'Demo Account:' displays the credentials 'User: demo / Pass: pass123'.

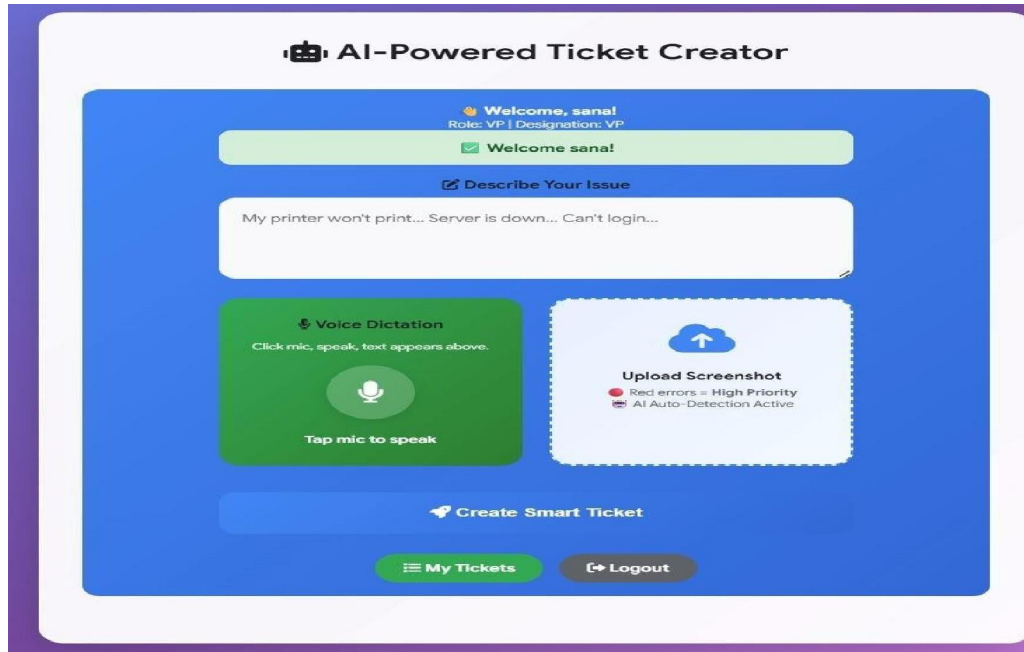
Step-2: Or if you new to create the account after clicking the login page create the new account using email id, full name, username, password and designation. So, that the account will be created.



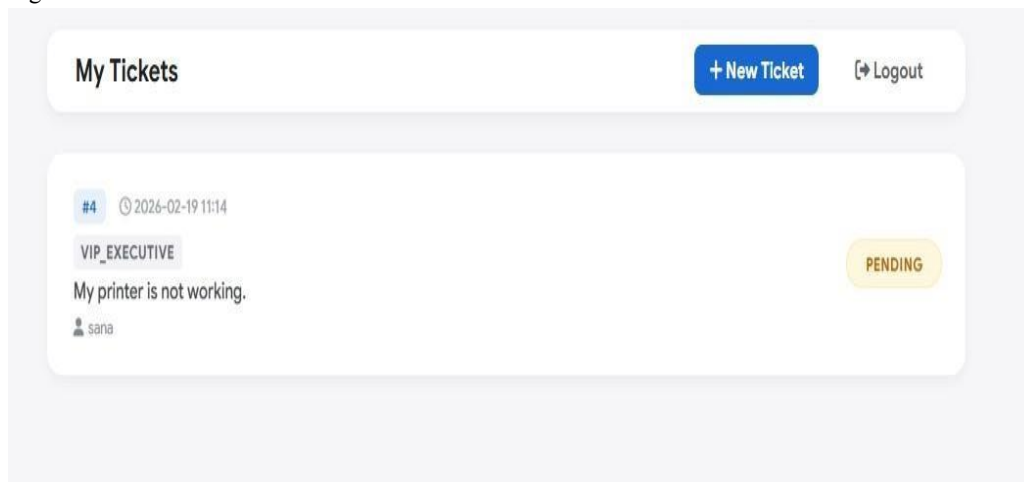
The screenshot shows the account creation form. At the top, it says 'Don't have an account? Create one' with a 'Create Account' button. The form includes fields for 'Full Name' (filled with 'John Doe'), 'Username' (filled with 'john.doe'), and 'Role'. The role is selected from a dropdown menu with the following options: Employee, Team Lead, Manager, Senior Manager, Director, VP, and CEO.



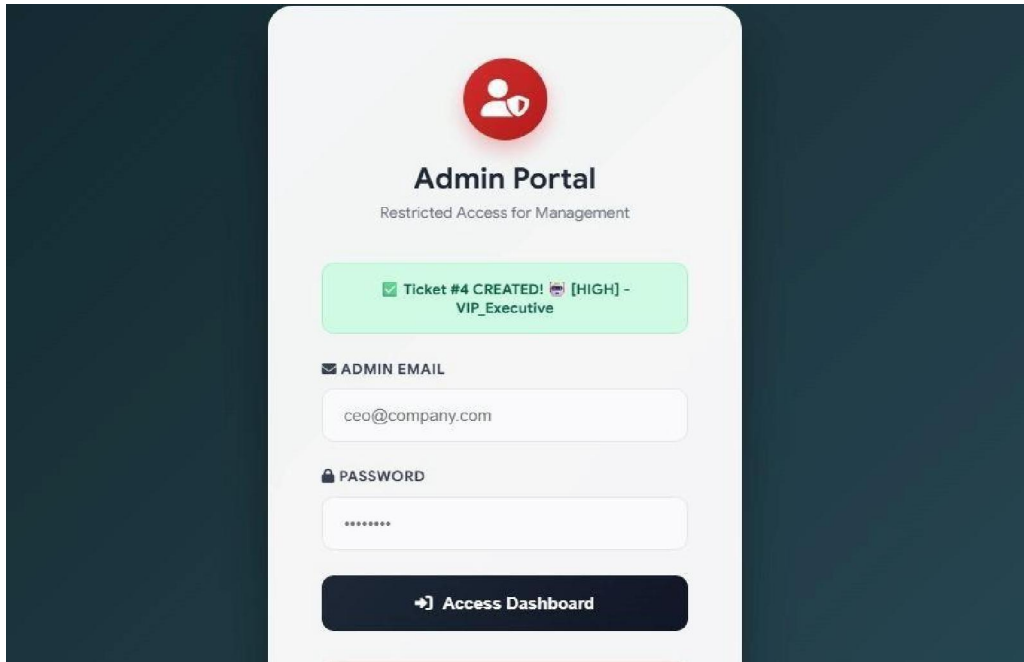
Step-3: Start creating your ticket using various modes like text, image and voice inputs enter your issue and submit the ticket.



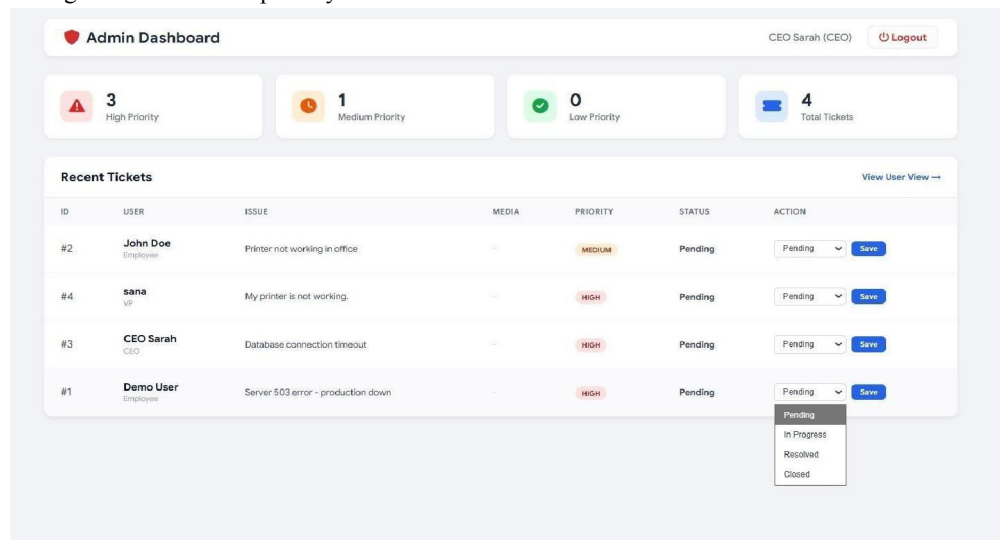
Step-4: You can check the status of the ticket by clicking on the my tickets so that you can check the ticket status either it is pending or not.



Step-5: To update the status of ticket, to check the number of ticket like category wise and information regarding tickets by login in to the admin portal which can only be done by company CEO or Manager.



Step-6: After login in to the admin portal you will be directed to the dashboard to check the ticket information.



VII. CONCLUSION

The Smart AI Ticket Generating System for IT Support improves the efficiency of IT helpdesk operations by automating ticket creation, classification, and prioritization. Traditional helpdesk systems rely on manual processes, which often cause delays, incorrect ticket routing, and increased workload for IT staff. The proposed system uses technologies such as Artificial Intelligence (AI), Natural Language Processing (NLP), Machine Learning (ML), and



Optical Character Recognition (OCR) to automatically analyze user complaints submitted through text, voice, or images. Voice inputs are converted into text using speech recognition, while screenshots are processed with OCR to extract error messages. The system then classifies the issue into categories like hardware, software, or network problems and assigns a priority level based on the severity of the issue. The system is implemented using HTML, CSS, and JavaScript for the frontend, Python with Flask for the backend, and SQLite for the database. It also includes an admin dashboard for managing tickets and allows users to track their ticket status in real time. Overall, the system reduces manual workload, improves issue classification accuracy, and enables faster resolution of technical problems, making IT support services more efficient and reliable.

VIII. FUTURE SCOPE

1. Advanced Machine Learning Models

More advanced ML and deep learning models can be integrated to improve the accuracy of issue classification and priority prediction.

2. Real-Time Notification System

The system can include email, SMS, or push notifications to inform users and administrators about ticket updates and issue resolutions.

3. AI Chatbot Integration

An AI-powered chatbot can be added to provide instant responses to common technical problems and guide users with basic troubleshooting steps.

4. Cloud-Based Deployment

Deploying the system on cloud platforms will improve scalability, remote access, and data management for large organizations.

5. Mobile Application Support

A mobile application for Android and iOS can allow users to submit tickets, upload images, record voice complaints, and track ticket status easily.

6. Integration with Enterprise IT Tools

The system can be connected with enterprise IT service management tools to improve coordination and automate support workflows.

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Information: This research explains how machine learning techniques can be used to automatically classify helpdesk tickets and improve the efficiency of IT service management systems by reducing resolution time and improving user satisfaction.

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