

AI Chatbot for Student Support

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Abstract

In higher educational institutions, effective communication between students and administrative departments plays a vital role in ensuring smooth academic operations. This case study examines the communication challenges faced by ABC Engineering College, where students frequently require information related to examination schedules, attendance, assignment submissions, and tuition fees. During peak periods, the administrative department experiences a high volume of repetitive queries, which are handled through manual methods such as emails and verbal communication. This leads to delays, inefficiency, and lack of support outside working hours.

To overcome these challenges, the study proposes the implementation of an AI-based chatbot system. The chatbot leverages Artificial Intelligence (AI) and Natural Language Processing (NLP) to provide instant, accurate, and 24/7 responses to student queries. The system is designed to handle multiple requests simultaneously without human intervention and is integrated with existing databases such as student records and academic calendars. The implementation of this solution enhances communication efficiency, reduces administrative workload, and improves student satisfaction by providing timely and reliable information access.

Information regarding examination schedules, attendance, assignment submission, and tuition fees should always be the needs of the students from the ABC Engineering College. This would be the case especially when dealing with the peak periods where many similar questions would come up from the students to the administrative department. Communication would remain manual, where emails and verbal interaction remained the major modes of communication. Further, the administration did not provide customer care services during out of working hours. Information could not be obtained from the department outside working hours.

Many challenges existed in the ABC Engineering College, but one of them included the need for an efficient communication platform. It would be necessary to implement automation in the communication system, which could help address the problem of answering repeated queries. It would be difficult for the administrative department to carry out its duties because of the many queries coming up from the students. At the same time, the students would be in difficulty trying to get answers to the inquiries made; therefore, providing wrong information.

In order to solve these issues, some key aspects that were required for the implementation of the system were considered. Firstly, the solution had to be available round the clock and give immediate results along with retrieving the accurate information. At the same time, the solution also needed to respond to more than one request at any point in time without any human interaction. Secondly, the solution was to be integrated with the pre-existing databases like student's database and academic calendar database.

1. What is the primary problem faced by ABC Engineering College in student communication?
2. Why is automation necessary in the communication system?

3. What are the key requirements for implementing the AI chatbot system?
4. How does the lack of real-time communication affect students?