ISSN No:-2456-2165

Virtual Assistant for College Enquiry

Navigating College Enquiries Made Easy with Virtual Assistant Technology

Yash Mahajan
Dept. of Information Technology
Vidyalankar Institute of Technology
Mumbai, India

Vidya Chitre
Dept. of Information Technology
Vidyalankar Institute of Technology
Mumbai, India

Pankaj Kataria
Dept. of Information Technology
Vidyalankar Institute of Technology
Mumbai, India

Anuj Kokane
Dept. of Information Technology
Vidyalankar Institute of Technology
Mumbai, India

Abstract:- Software applications offer various user interfaces, including command line, graphical user interface (GUI), menu driven, form-based, and natural language, among others. While GUI and web-based interfaces are the most commonly used, there are situations where an alternative user interface is necessary. In the context of college websites, finding specific information can be challenging for visitors who are not students or employees. To address this issue, college inquiry chatbots can be implemented as a fast, standardized, and informative widget to enhance the user experience and provide relevant information. One such interface is the chatbot-based conversational user interface, which is a type of bot that operates within chat platforms. These chatbots allow new students to interact with graphical interfaces or widgets, and they typically provide a stateful service by saving data from each session. These chatbots are intelligent systems that utilize artificial intelligence (AI) and natural language processing (NLP) algorithms to answer a range of queries related to academic, examination, placement, and other miscellaneous activities.

Keywords:- *Graphical User Interface (GUI), Chatbot-based Conversational User Interface, College Inquiry Chatbot, Artificial Intelligence (AI), Natural Language Processing.*

I. INTRODUCTION

In recent times, chatbots have become ubiquitous, providing answers to users' questions in a variety of domains. One popular example of this is Amazon's Alexa, which has gained widespread adoption. Chatbots are increasingly present on many websites, serving as a useful tool for providing answers to users' queries related to information that may not be readily accessible on the website. As a result, chatbots have become virtual assistants in our daily lives, with many websites now providing them as a means of facilitating user navigation and engagement.

A. Basics of ChatBot.

A chatbot is an artificially intelligent entity capable of conversing with humans either through text or voice-based queries. Its primary function is information acquisition, and it can be accessed on local devices such as PCs and mobile phones, as well as through the internet. Chatbots are designed to interact with users within specific domains or on topics through natural language sentences. Essentially, chatbots are software agents that mimic human behavior, using AI and NLP to answer user queries based on predefined knowledge bases. They are compelling and captivating conversational agents that can provide spell-binding responses to user questions. Chatbots operate by responding to user-initiated queries or topics of discussion [1].

B. ChatBot for College.

There are several reasons why a college inquiry system is necessary, including slow website response times, difficulty in locating specific information for those outside of the college domain, and challenges in extracting information. To address these issues, a smart solution is needed, and this is where the college inquiry system comes into play. This system offers several features, including summarizing user queries and providing selective information in response. It covers various domains such as admission, examination cell, notice board, attendance, placement cell, and other miscellaneous areas. With this chatbot-based system, users can easily obtain answers to their college-related queries. Key features of the chatbot include answering admission-related queries, retrieving user profiles and attendance/grade-point average information, providing information about upcoming examinations, and offering details about placement activities.

The college inquiry system aims to improve the user experience of the college website by serving as a fast and informative widget that provides accurate information. By utilizing AI and NLP, the chatbot will analyze and understand user queries before providing effective answers, thus saving users both time and effort. The main objectives of this application include analyzing user queries, providing effective responses, and keeping students updated on college

activities. Additionally, the chatbot's user interface will create a more personalized and human-like experience for users [1].

II. NEED OF STUDY

A virtual assistant for college-related inquiry can provide numerous benefits to students, faculty, and staff. Here are some of the reasons why such an assistant is needed: Improved Accessibility: A virtual assistant can provide immediate and accessible information to students, faculty, and staff, eliminating the need to search for information through multiple resources. This can save time and effort and ensure that everyone has access to the same information. Increased Efficiency: A virtual assistant can handle routine inquiries and tasks, freeing up college staff to focus on more complex issues. This can improve the efficiency of college operations and reduce the workload of staff. Personalized Responses: A virtual assistant can use machine learning algorithms to learn from previous interactions and provide personalized responses. This can help students find information and resources that are relevant to their needs. 24/7 Availability: A virtual assistant can be available 24/7, aiding students, faculty, and staff outside of normal business hours. This can improve customer service and ensure that everyone has access to assistance when they need it. Cost Savings: A virtual assistant can reduce the need for additional staff to handle routine inquiries and tasks. This can lead to cost savings for the college. Overall, a virtual assistant for college-related inquiry can provide numerous benefits to students, faculty, and staff. It can improve accessibility, increase efficiency, provide personalized responses, be available 24/7, and reduce costs. The following are some Specific Domain Assistant Chatbot:

- Ivy Chatbot: Developed by Ivy Tech Community College, Ivy Chatbot is an AI-powered virtual assistant that assists students with admissions, financial aid, registration, and other college-related inquiries. It uses NLP and ML algorithms to understand and respond to student inquiries in real-time [2].
- ChatGPT for Education: ChatGPT is a popular language model developed by OpenAI, and it has been used in various educational institutions as a chatbot for handling inquiries related to college programs, courses, and general information. It can provide personalized responses based on the user's inputs and interactions [3].
- ASK-IITM: This is a chatbot developed by the Indian Institute of Technology Madras (IITM) in India. It provides information about admissions, academic programs, campus services, and more. Students can ask questions related to application procedures, curriculum, faculty, and other college-related inquiries [4].

III. OVERCOMING EXISTING PROBLEMS

Virtual assistants for college-related inquiries have numerous benefits, including improved accessibility, increased efficiency personalized responses, 24/7 availability, and cost savings. However, these systems have some limitations that need to be addressed. These limitations include limited domain knowledge, lack of personalization, inability to handle complex questions, language limitations, and a lack of emotion understanding. Addressing these limitations will require further research and development in NLP, ML, and UX design. Despite these limitations, virtual assistants for college-related inquiries have shown significant progress in recent years and have the potential to provide valuable assistance to students, faculty, and staff in the future.

IV. PROPOSED SYSTEM

When navigating college websites, freshers or outsiders often struggle to find the information they need. To improve their experience and provide relevant information quickly, college inquiry chatbots can be implemented. Our proposed chatbot utilize artificial intelligence (AI) and natural language processing (NLP) algorithms to answer a variety of queries related to academic, admissions, and upcoming events. One of the key benefits is the personalized experience they provide. Users can ask questions in their own words rather than having to use a specific search syntax. Additionally, chatbots are available 24/7, providing users with help even outside normal business hours. This can be especially beneficial for students who may need assistance outside of regular school hours.

Following are the main features of our chatbot:

A. Domain related queries

In summary, a chatbot can assist students by providing them with details about professors who have expertise outside of their field of study, enabling them to explore interdisciplinary topics and seek guidance from experts in diverse domains. This can enhance the students' learning experience, foster mentorship opportunities, and facilitate interdisciplinary collaboration.

B. Real-time Lecture Information:

The chatbot can be integrated with the institution's database or scheduling system to access real-time information about ongoing lectures. This could include details such as the subject or topic of the lecture, the location or room number where the lecture is being held, and the name of the lecturer or professor conducting the lecture.

C. Location and Directions:

In addition to providing the lecture subject and lecturer information, the chatbot can also offer the location of the lecture, including the building or room number. It can further assist by providing directions or a map to the lecture location, if available, to help the student navigate to the right venue.

D. Lecturer Information:

The chatbot can also provide additional details about the lecturer, such as their name, department, and contact information. This could help the students reach out to the lecturer for further inquiries or clarifications related to the lecture.

E. Timetable

Our chatbot can provide information about current lecture including the lecture subject, its location and the lecturer.

ISSN No:-2456-2165

F. Upcoming College Events:

The chatbot can provide schedules or timetables of upcoming events, allowing students to plan their attendance and participation accordingly. This could include information about multiple events happening on a particular day, week, or month, and their respective timings and locations. It can offer brief descriptions of the events, providing information about the theme, purpose, and activities planned for each event. This can help students understand the nature and scope of the events and decide which ones to attend based on their interests and preferences. Acts as a College Guide.

Students find it difficult to locate administrative offices, our chatbot can help them locate different administrative offices.

Overall, the proposed system for a college inquiry chatbot should be user-friendly, incorporate NLP and ML techniques, have a well-organized database, provide efficient search and retrieval functionality, conduct background research, offer personalization, focus on continuous improvement, be accessible on multiple platforms, include an administrator interface, and prioritize security and privacy.

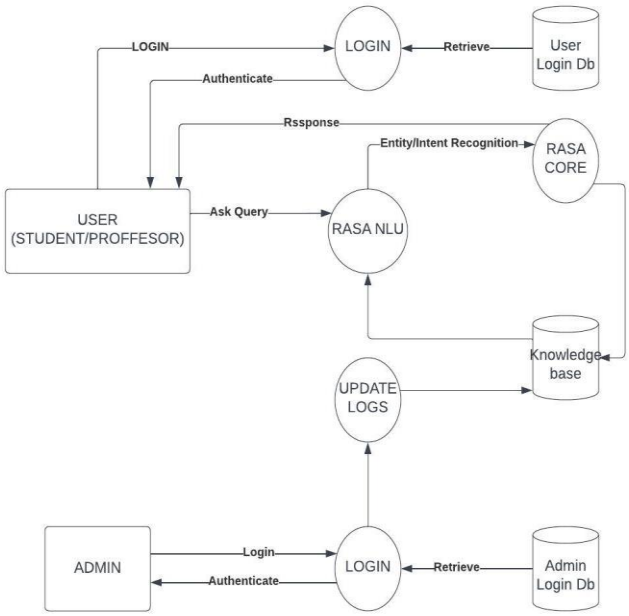

Fig 1. Flow Diagram of the Project

V. CONCLUSION

Acquiring all necessary information through a single interface can be difficult and time-consuming, requiring users to navigate through multiple forms and windows. To simplify this process, the college chatbot was created to provide a user-friendly interface for students and teachers to submit their inquiries. The chatbot system utilizes a language model and computational algorithm to simulate human conversation and facilitate communication between users and the system using natural language. Users can easily upload their questions, and the chatbot provides fast and efficient search results, returning relevant links to the queries. The database includes information about the questions, answers, keywords, and logs. Additionally, the interface has been developed with two parts - one for users and the other for the administrator.

REFERENCES

[1]. IBM Chatbots - https://www.ibm.com/in-en/topics/chatbots
[2]. Ivy Chatbot - Ivy Tech Community College - https://ivy.ai/
[3]. ChatGPT for Education - OpenAI ChatGPT - https://platform.openai.com/docs/chatgpt-education
[4]. ASK-IITM - https://www.askiitm.com/
[5]. RASA Architecture for clever bots - https://images.app.goo.gl/ZQhtCjhvTWnqiyre8
[6]. A. Rane, C. Ranade, H. Bandekar, R. Jadhav and V. Chitre, "AI driven Chatbot and its Evolution," 2022 5th International Conference on Advances in Science and Technology (ICAST), Mumbai, India, 2022, pp. 170-173, doi: 10.1109/ICAST55766.2022.10039515.
[7]. N. N. Khin and K. M. Soe, "University Chatbot using Artificial Intelligence Markup Language", 2020 IEEE Conference on Computer Applications ICCA 2020, 2020.
[8]. R. Parkar, Y. Payare, K. Mithari, J. Nambiar and J. Gupta, "AI and Web-Based Interactive College Enquiry Chatbot", Proceedings of the 13th International Conference on Electronics Computers and Artificial Intelligence ECAI 2021, 2021.