COLLEGE ENQUIRY CHATBOT

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Abstract--Today's widespread use of smartphones is proof that technology is always evolving. Nowadays, artificial intelligence is crucial to numerous industries, including manufacturing, human resources, and customer service. There are numerous chatbots that help people discover solutions to their questions. As a result, we are developing an AI-powered chatbot that can address all questions about colleges. It serves as an intelligence tool with an emphasis on higher education. This artificially intelligent machine will respond to queries from users regarding matters related to higher education. The information is kept in the chatbot's database so that it can be used to spot trends and decide how to respond to questions. The chatbot for college inquiries was developed using an NLP system that evaluates questions and comprehends messages. People react to each other differently based on emotions and attitude. Because chatbots must go by rules just like humans do, they will communicate with customers in a courteous and correct manner. Students can ask the chatbot any questions at any time of the day or night, and they will receive a prompt and accurate response. A chatbot can respond to thousands of users simultaneously. Chatbot can work 24 x7 without getting tired. It has minimal errors, which increases productivity.

Keywords--chatbot, NLP, enquiry, query, artificial intelligence, college, chatterbot, and student

I. INTRODUCTION

Users can more easily speak naturally with one another thanks to a type of software called a chatbot. Artificial intelligence has gotten trickier as communication and information technology have advanced. Artificial intelligence systems profit from human traits like the ability to solve problems rapidly, make split-second decisions, carry out repetitive jobs, and respond to users. There are several electronic firms, such as those in e-business, entertainment, and virtual assistants. The Internet is a part of everything in this generation. It is quite effective to control everything at your doorway using this method. By doing this, users can make chatbots believe they are conversing with real people. There is no method to maintain the runtime knowledge base because it is relatively little. For AI to grasp user inquiries and concerns and give consumers the right answers, chatbots use machine learning as an interface. To engage or connect with users, they are designed utilising an artificial intelligence markup language. Chatbots are commonly referred to as answering machines. Your knowledge was used to pre-program this application, which makes it incredibly simple to use. Pattern matching, natural language processing, and data mining are techniques used in applications. The chatbot compares the user's input sentences with existing pattern sentences in the knowledge base. Each recorded pattern was compared to the chatbot's knowledge, and this knowledge was obtained from various sources.

II. LITERATURE REVIEW

The information that chatbots use in their chats is typically stored in databases built by human professionals, even though many apps attempt to incorporate human figures and replicate human interactions. There are numerous sections, including how to contact us, the cost of the course, a description of our qualifying requirements, admissions, etc. Chabot receives user input in natural language, searches informational databases, and provides responses with information on students in natural language.

[1] AIML (Artificial Intelligence Mark-up Language) is used to create Alicebot, a chatbot application that enables ALICE-free programming. [6] a chatbot that draws from database knowledge. Online Inquiry System and Online Chatbot are available. A straightforward graphical user interface for sending and receiving responses is created using a variety of computer languages. Its main goal is to compare SQL-based programming patterns (Structured Query Language). [10] AI chatbots are created utilising two distinct techniques, which NLP (Natural Language Processing): the first is through text, and the second is through voice or vocal communication. This study focuses on recently developed understanding and processing speed capabilities for artificial

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intelligence systems that simulate human speech. [5] Questions on an electronic application are competently answered. Also, we provide clients with the option to seek private instruction or pay for training, as well as clinic visitors who want to gather information about the doctors who are accessible. It is a crucial message from the school and a task for his assistant in the form of a text archive or PDF design. [13] a computer programme that makes use of data mining and clustering. It enables the client to view any arrangement type. The records are used to prepare this framework, which is then used to respond to subsequent requests. The time and date of college drills, including anniversaries, sporting events, and other exercises, are displayed in this frame. Although generative models frequently use machine translation techniques, they are more likely to identify commonalities between input terms.

III. PROPOSED SYSTEM

The chatbot was developed using the Chatterbot algorithm. The Chatterbot Algorithm is a Python programme that makes it easier to create automated user query responses. It enables programmers to make chatbots that engage users automatically. A few tasks are carried out by chatbots, including data collection and user input. A web application that functions online and responds to inquiries from the university administration is the suggested fix. People that use chatbots to conduct conversations can ask questions. The inquiry procedure, course specifics, descriptions of the eligibility requirements, and eligibility are all subject to questions. The response is based on what the user wants. A user need not physically travel to her college to submit a request. A chatbot analyses the user's request and then responds. This framework reacts to user requests as if it were a person. Parents or children using the suggested method would only submit requests, and a chatbot would connect those requests to the knowledge base and the necessary response.

Users can compile all actions related to higher education using the College Inquiry chatbot. A chatbot system responds to inquiries as though it were a live person. The chatbot's response implies that a genuine person is correcting the user because of its respectable interface. This chatbot can help students navigate the college referral procedure with only one click. The suggested system can also provide information about the university's standard research procedures. The complete algorithm is explained in the following flowchart.

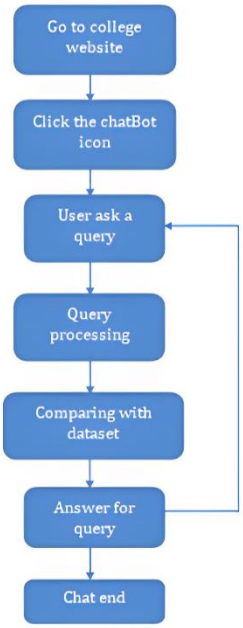

Fig 3.1 Flow Diagram of Chatbot

IV. METHODOLOGY

Our chatbot works as a client-server-based web application. The bot will learn to answer on the server using a web application that acts as the front end.

A. Web Application:

Our web application will seek to collect user inputs and present the produced output. The user will have to open the college website, then he/she clicks the chatbot icon in the right bottom corner.

An example of the web application that will be created is shown below. Depending on the user's mood, bots react similarly. When the icon is clicked, a chat window will open. The bot will greet users while it is active by displaying a message on its side. The user can then take pleasure in conversing with this virtual friend.

B. Components

User’s Input: A user input area receives input from the user through a webpage that can be used as a front end for the user.

Recognizing System: We will identify the data keywords and phrases in the user's query in this step before moving on to the template matching portion.

Template Matching: The template records in this section correspond to words from the user's input data. The user receives the desired result, i.e., the answer to their question, when the phases line up.

C. Chatbot approach

NLP (Natural Language Processing):

Natural language processing is the most important algorithm and the most crucial chatbot technology. (NLP). How well a chatbot can comprehend human language and give precise responses is determined by NLP. The algorithm should function effectively if engaging in meaningful conversations with users is the chatbot's primary goal. Even though the effectiveness of NLP-based chatbots is debatable, it is frequently assessed using various iterations of the iconic Turing test. In this, a user and a chatbot are conversing while the user tries to distinguish between the two. We can infer that the NLP algorithm is effective if the Turing test results show that people cannot distinguish the chatbot from a human. Although this is a choice, it might not be the most effective because chatbots are made to work fields. It is a representation of terms from a user's inquiry that the chatbot picked up to determine what the user wanted. The keyword makes it easier to determine the action the chatbot should do in response to user input.

D. Flask server:

Flask Server is a server software that is packed and dedicated to running web applications over the public World Wide Web on one or more computers. It can execute HTTP requests across the public WWW, private LANs, and WANs. includes a server that is already present in Flask, but it also permits programmers to use additional servers. A server can fulfil HTTP requests for one or more websites. The server's responsibility is to accept incoming HTTP requests and provide completed HTTP requests back to the client. Jinja2 template engine and WSGI tools are used to build Flask. A server-side interface called WSGI enables running of Python application. This module wasn't required; it was merely a workaround for serving Python scripts. The Python community created a standardised way to run Python code because there were many potential issues, even though there were none.

E. Training

The built-in capability of Chatterbot makes training chatbots simpler. The process of adding sample chats into the chatbot database is one phase in the ChatterBot training process. It either develops or constructs the graph structure that characterises the collection of queries and responses. Several training classes have used ChatterBot. These tools range from those that let you train your chatbot using an existing corpus of training data to those that let you totally update the knowledge graph of the chatbot database using a list of statements that reflect an argument. With ChatterBot, there is an integrated training class that enables the training of the bot to use a collection of strings that constitute a dialogue. To move through a list of statements where the order of each statement is determined by its appearance in each discussion, you will need to apply the training strategy.

V. RESULTS AND DISCUSSION

The proposed system's efficiency and usability have been successfully evaluated. For university administrators, it means less work, more time, and more paperwork. Students spend less time driving to the college to learn about the faculty, costs, and facilities. In this article, we've created a chat that converses with users and offers all the university-related information. Chat is used to communicate between the student/parent and the college administrator. When the bot cannot provide an answer, the university administrator modifies the query.

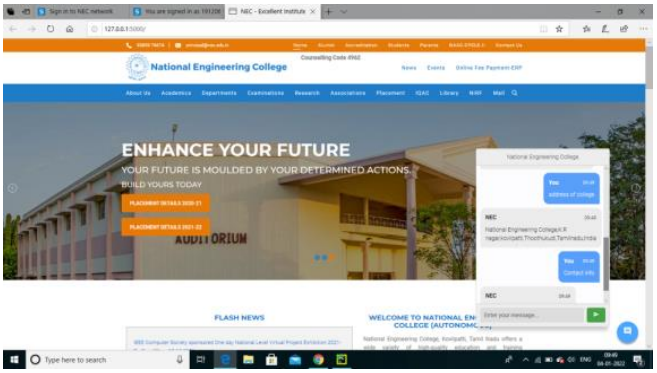

Fig 5.1 – Image of chatbot with college website

VI. FUTURE SCOPE

As we continue to improve our project, by making it more interactive for users by making in different regions in different languages. For those who are unable to read and write, we can add voiced questions and responses. The future bot should not just respond, but also a resolution to a parent's or student's issue. Not only should the Chatbot include admission details, but also provide details on college subject, placement, and scholarships.

VII. CONCLUSION

The chatbot's main goal was to develop an algorithm that could recognise and analyse user inquiries or requests and offer the most pertinent responses. When a query is made, all pertinent data is stored and connected to it to build the database. The scenario of limited computational and data resources is the focus of this Chabot outcome (response) technique. Findings indicated that this method necessitates training with a significant amount of new data. Language processing can be used to locate relevant and matching answers trained on a huge database and for other uses in a situation with a small data set (question and answer) and a task to be completed Although there is some process improvisation going on here, there is still a lot of optimizations to be done. Several approaches can be planned for in upcoming work to get a precise answer prediction (result) that can be provided in a shorter amount of time. Students and/or parents can ask inquiries regarding the college application process, specifics of a course, a description of the eligibility requirements, and access using a chatbot we've developed. The chat analyzes the question and gives an appropriate answer.

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