MIZA CHATBOT

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Abstract— In this modern age where every detail of an organization is available on their respective website, a person looking for any information has to go through the entire website for the right information and nowadays people don't have the time to go through all the pages of that particular website to get some information instead they want time-efficient solutions to get their queries answered. So to solve this problem we are going to develop a chatbot that can provide users with the information that they need as quickly as possible. A chatbot is a software application that mimics a genuine person for reenacting a conversation. The main aim of chatbot development is to reduce the time that the user spends finding the correct information. Chatbot can be classified into many ways, but the easiest way to classify them is to specify them according to the user experience and user difficulties. We have used the chatterbot library and flask to create our chatbot.

Keywords—chatbot, college, enquiry, website, flask, chatterbot

I. INTRODUCTION

From the past two decades, everyone is using the internet to find out the information he/she wants. People are much more reliant on the internet to find out a lot of information. The Internet has websites which the person visits and finds out the relevant information. Websites have a lot of information that is interconnected to each other through web pages. Finding out the information through the web pages may sometimes be difficult for the user or the visitor to visit each page since there are a lot of web pages on the website.

In the fields of marketing, medical, education, and banking, chatbot are being used constantly. For example, if a student wants to get admission to a college, he/she would go to the website and look for that section but that can be made easier if there is a chatbot available on the website which can easily answer multiple queries of that student.

A chatbot is also used as an assistant to communicate with humans through the language they speak. Educational systems require chatbot to teach, learn and search for the necessary information for a specific subject area. Artificial intelligence systems that can chat with humans automatically are known as chatbot or conversational agents. The purpose of chatbot is to perform chat interactions automatically with humans. It is designed to serve as a virtual assistant for people to answer questions.

The role of chatbot in information technology and communication is widely utilized since they interact with computers to provide natural language interfaces. Using the knowledge base, the Chatbot would match the user's input with the pattern in the dataset. This system is simple, and it can answer the necessary queries for the users. A chatbot can also be helpful for the people who maintain the website as a chatbot is easy to maintain since updating the information in the chatbot can simply be done by updating the database. It is possible to chat using several different chat engines. Talking about availability and convenience, a chatbot is there to respond to your queries 24/7 and there is no delay whatsoever in providing the users with the answers as it fetches the replies from its database quickly and responds back to the user.

A few of the most famous chatbot are SimSimi, Mitsuku, A.L.I.C.E, as well as machine learning bots like Siri, Alexa, Cortana, and others. While today's chatbot can handle complicated questions using artificial intelligence, they still need some improvements for languages with low resources.

The ability of a computer program to understand human language, as spoken or written, is known as natural language processing (NLP). It is part of artificial intelligence (AI). The field of NLP has existed for over 50 years and is rooted in linguistics. It is used in many real-world fields, such as medical research, search engines, and business intelligence. Businesses use a large amount of unstructured, text-heavy data and must be able to manage it efficiently. Since most of the information created online and stored in databases is written in natural language, businesses were unable to effectively analyse it until recently. It is here where natural language processing can be useful.

In this project, we present a chatbot design that provides efficient and accurate responses to any user questions about college information. This system will be a web application that will provide answers to the analysed queries of the user. The user will get the response as the relevant answers to their queries. Basically, users won't have to go personally to the college for an inquiry.

This Chatbot is for our college, it is being used in the education system, we have thought about adding this chatbot to the website because of the many advantages such as time efficiency for the benefit of the users and cost efficiency for the college and it saves resources as well. It answers the queries in a better way because of the quick and accurate answers. The chatbot is trained by using the chatterbot library in python which will help to make the answers more accurate. The main objective of developing this chatbot is to help users with their queries about the academic activities like admission enquiry, fees structure, scholarship details, time-table of every department, details of the documents required to attach etc. and to help users solve their queries in a less amount of time.
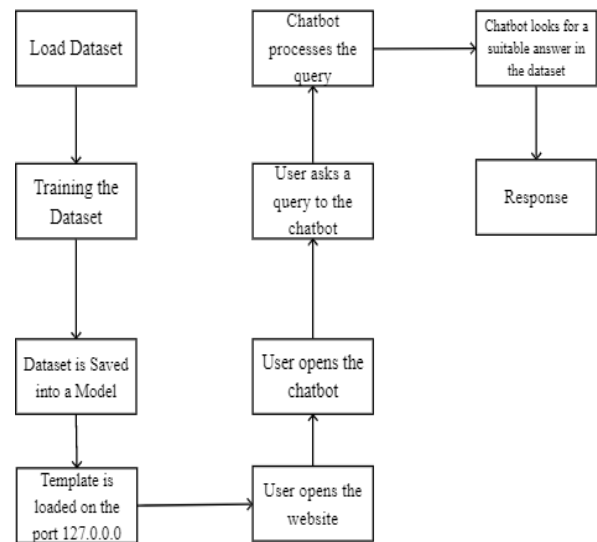

Fig. Conceptual Model of our chatbot

II.   LITERATURE SURVEY

In this paper, Florence- A Health Care Chatbot 2021 7th International Conference on Advanced Computing & Communication Systems (ICACCS), it describes that People normally have to go to the hospital for the diagnostics of simple things. This chatbot will help with that problem as they won't have to wait in a queue to receive a diagnosis. For this chatbot, they are using the RASA framework which is a framework used for developing AI-powered and Industrial grade chatbots and is used by developers to create chatbots and contextual assistants. It is also used for making voice- based chatbots. In this, the chatbot would take in the symptoms the user is facing as input and find the best diagnosis that applies to the chatbot and will also recommend a treatment along with it. This kind of chatbot isn't widely known and used.

In this paper, University Chatbot using Artificial Intelligence Markup Language, it describes that Chatbots can interact with people in effective ways. There are many chatbots in English and other languages by using different algorithms and models but there is a chatbot using the Myanmar language. This is one of the University Chatbots using Myanmar Language to fulfil the information gaps between the university and its related users. The authors have implemented a chatbot for the University of Computer Studies, Yangon. This is a simple chatbot using Artificial Intelligence Markup Language and implemented on the Pandorabots server. The user can ask useful questions about the university-related academic sectors through the chatbot.

The chatbot will be time-efficient and the user or the visitor will get the information every time.

In this paper, Infini – A Keyword Recognition Chatbot, it describes that People sometimes have to go through the entire website to find an answer for their query. To overcome this problem, the governing organizations need to spend resources on manpower which would help them to help the user but manpower is not the only solution to efficiently work on this problem. So the convenient solution is to develop a chatbot that will work on your behalf. The paper has demonstrated the keyword recognition chatbot that reads the query from the user and provides the most suitable answer from its database. According to the paper, the chatbot is the best software tool to give respond to queries instead of spending resources on manpower. So the user or the visitor of the website will get the accurate answer in one touch.

In this paper, A Chatbot for Changing Lifestyle in Education, it talks about the fact that due to the pandemic, education has become online. The main drawback is the interaction between the students and the teachers has become very less. According to the authors, the chatbot is the most convenient way of studying for students and clarifying student doubts at any point in time without the support of humans. The main aim of the paper is to approach the typical way to design a chatbot for MATLAB practical dataset. The chatbot answers the queries of the student by processing the questions with the help of Natural Language Processing and Deep Learning technology. So this chatbot can be useful for both students and teachers. With the help of the chatbot, it will improve the practical performance of the E-learner.

In this paper, Development of an e-commerce Sales Chatbot, The paper talks about an ecommerce sales chatbot for the convenience of the customer. Their system uses machine learning and natural language processing and a framework which routes user request to specific controller for processing and serves the response. It is a web based platform. They have made this to have it available on more platforms. It is also based on SVM, NLU and ANN.

In this paper, Chatbot Application in Laboratory Equipment Management and e-assistant, the authors have described that most of the school employees usually meet a difficult task to manage a lot of equipment. For example, recording their status, malfunction and repair history. According to the authors, the purpose of this study was to design a chatbot system to help these people effortlessly. As the technology advances in artificial intelligence and communication, the user can not only access the chatbot service everywhere but for Natural Language Understanding helps, the chatbot can handle complex requests through simple natural language. The database helps in collecting and tracking their status. Researchers discovered that the causes of malfunction and repair methods for similar types of equipment were similar after reviewing older equipment records. It can also be found by looking through the system's database. As a result, the system not only displays and records the state of the equipment but also provides quick and flexible troubleshooting based on their malfunction and repair history. They also intend to open-source the design of this system to assist individuals who need to process the state of items such as books in a library, equipment status, and product quality in manufacturing.

III. EXPERIMENTAL SET-UP

In this project, We have built a chatbot which will communicate with the user or visitor of the website by using the chatterbot library. Chatterbot is a Python library that loads a dataset as text file, trains it and adds it to a model and uses it to answer the queries of the user. This project can be implemented by using Jupyter notebook. The coding languages used in this project for the frontend is HTML, CSS, JavaScript and Python & flask are used as the backend. Flask uses the Jinja template engine to load the HTML, CSS and JavaScript pages using Python Concepts. This chatbot takes the query from the user then processes that query and then answers the query which is asked. Websites contain multiple information which sometimes makes user difficult to find the information that they want. So we have integrated the chatbot into the website which makes the user find out information easily for their queries.

IV. PROPOSED SYSTEM

A. Explanation of Proposed System

This system aims to help students stay updated with their college activities. Ultimately, this project aims to reduce the workload on the col-

lege's office staff and to reduce the response time to a user's query.

An educational Chatterbot can be retrieval-based, or keyword-based, that uses AI (Artificial Intelligence) to have conversations with humans. Whenever a user asks a question, the bot can first analyze it, build a response, and send it back to the user.

Chatterbots are used for chatting with users so they can ask questions as they wish. The student can chat in any format they choose; there isn't any particular format that must be followed. Answers are relevant to the user's query.

Any college-related activity can be raised by the User through the system. It is not necessary for the user to physically visit the college to inquire. After analyzing the question, the System responds to the user. In other words, the system responds to the query as if it were answered by someone in person.

Users can use Chatterbots to reduce paperwork, manpower and time spent on administration.

Here we describe an application that enables the user to communicate with the college by reducing the amount of time the user has to spend travelling to the college to seek out details and information related to admissions, college activities, etc.
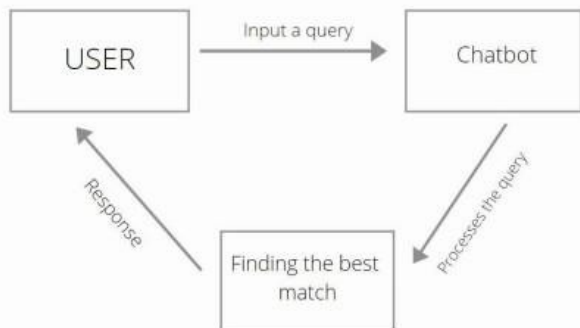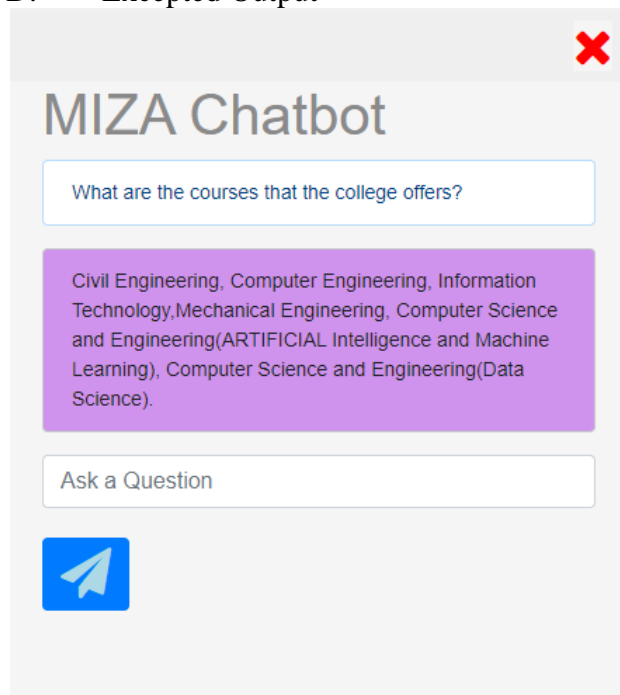

Fig. Block Diagram of the proposed system

C.   Algorithm in Pseudo Code Start
Create the bot
Load dataset into the chatbot Train the model
Saving the model to memory Import the templates Creation of html & css pages
routing the templates for query processing rendering template to display the pages
user opens the chatbot and the query is entered by the user
bot searches for a response from the dataset End

D.   Excepted Output

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