



ChatBot for an Educational Institution

Poonam Kurade¹, S.V.Shetage², A.S.Kamble³, A.S.Palkar⁴, S.P.Patil⁵

PG Student¹, Assist.Professor², Assist.Professor³, Assist.Professor⁴, Assist.Professor⁵

Shahid Virpatni Laxmi Mahavidyalaya, Titve

Abstract:-

In each university, there are several administration departments responsible for the upkeep of college information. This information might include general facts such as the infrastructure, address, about different branches and much more. The modules in college administration are all interconnected. They are manually maintained. As a result, they must be automated and consolidated since the information asked by one person will be required by another. Here, we're working on an android application and a website with a chatbot alliance. Chatbots usually have a text-based user interface that allows the user to submit commands and get text responses. Chatbots are often stateful systems that work on queries asked by someone and help them by delivering the required functionality. Our approach is beneficial for simple user interfaces. We want to make use of strong dataset, data retrieval, and data manipulation tools. We will make it easier to manage data and help to reduce human effort. Our work is beneficial in terms of saving time and reducing the wastage of human resource. Keywords : Machine Learning, Dataset Manipulation, Data Retrieval, User Interface

INTRODUCTION

A chatbot can hold intelligent conversations via text or voice. They are equipped with machine learning, which allows them to communicate with humans and become more nimble with each engagement. It detects using pattern matching, user input, and access information to offer a predetermined acknowledgment. They are employed in dialogue systems for a variety of practical purposes such as information acquisition or customer service. Simple chatbots scan keywords with input and then react with the most comparable matching keywords or patterns from a database, whereas more complex chatbots employ a database. Their applications improve communication between people and services, as well as the consumer experience. To improve customer engagement and operational efficiency, they present firms with new options by lowering the cost of customer service. The purpose of developing this project is based on chatbot which will deal with the academic activities like admission enquiry, fees structure, scholarship details, time table of every department and much more. With this chatbot system it will be easy for the students to directly clear their queries in lesser time. Also, if educational institution is receiving a lot of queries, having a chatbot integrated with the application (Android and Web Application) takes off the load from the support team. Having a chatbot clearly improves the response rate as compared to human support team. In addition, since millennials prefer live chat session over a phone call, if they find a chat bot which provides a highly interactive marketing platform which in-turn will be very attractive. Furthermore, a chatbot can automate the repetitive task. There can be several scenarios where the institute receives same queries in a day for many times and having a support team which must respond to each query repeatedly is quite tough. Lastly the most important advantage of having a chatbot is that it is available 24/7. No matter what time it is, a user can get a query solved by their own

MOTIVATION AND OBJECTIVE

The time it takes from when an inquiry is made to when a counsellor contacts the applicant for the first time is a significant factor in their decision-making process. Any institution simply cannot connect with all of their leads in real time, especially after hours or on holidays. Delayed, impersonal responses cause applicants to lose interest and have a negative impact on your enrollments.

The objective of this project is to contribute to the solution of the problem of direct communication between user and the university.

The main goal of the project are as follows:

Dataset: To develop a dataset where all the relevant information about questions, answers, keywords will be stored.

User Interface: To develop a mobile interface and web interface which aims to give the ability to potential students and their families or any other user to submit questions in a chat bot and get convincing replies

Module

Users will interact with the system using an android application and website. Users will enter their query in a text box provided in the front-end of the application which is an android application or a website. Once the user presses the enter button or submit the query, this request will be handled by bot controller logic.

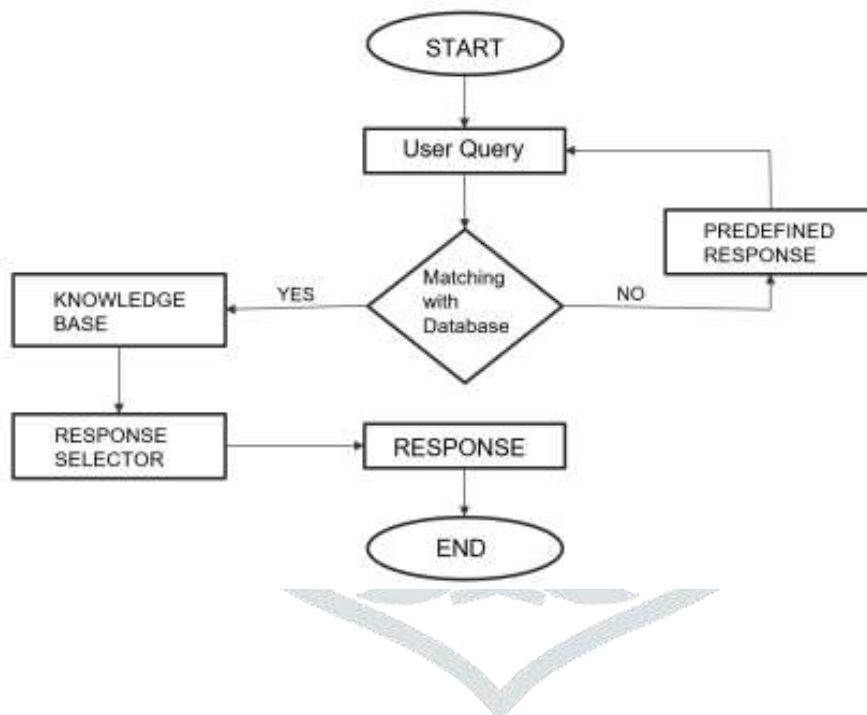
The bot controller logic contains implementation of Flask framework for handling user requests and sending answers to those queries as response. Then, the query will be sent to Machine learning logic.

The query will be tokenized using NLP, which will also eliminate any additional spaces or stop words before extracting lemmas for each token. Then, using vectorization, this text-format query will be transformed into a vectorized format.

The classification method will now be applied to this altered query using ML reasoning to determine the class to which it belongs. The classification method will be used in accordance with the previously run, stored model on train data.

All input questions with classes matching the retrieved classes will be retrieved, and similarity will be assessed. The most comparable response will be sent to the user as a response in accordance with the similarity values we obtain.

Flow Chart

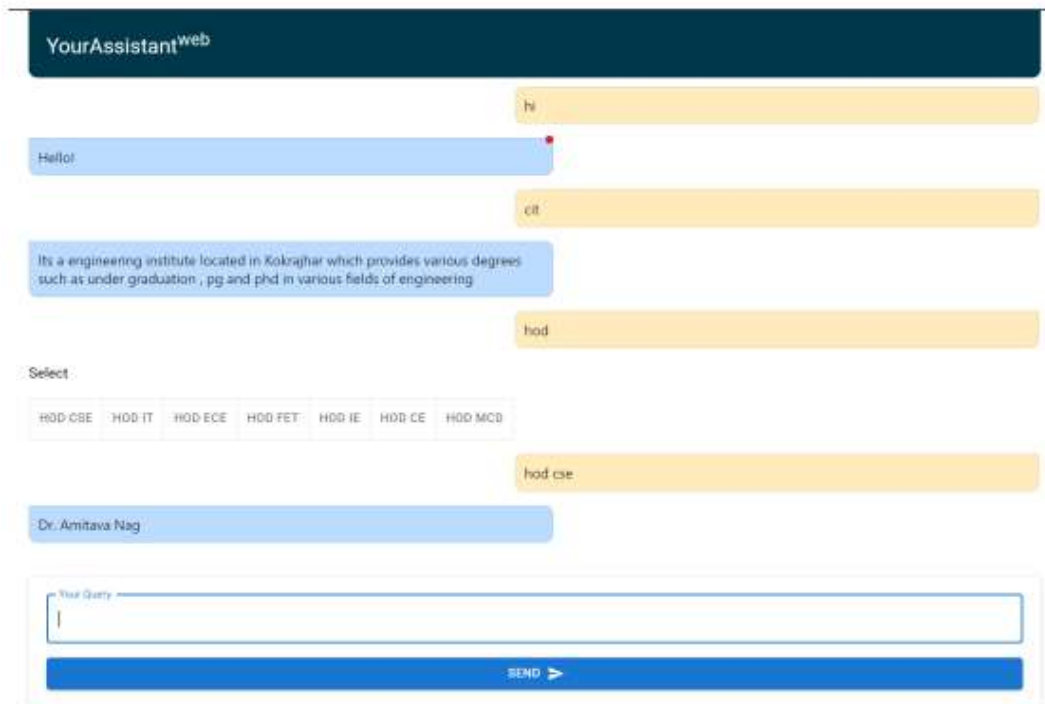


Problem Statement

1. People who are not into technology are not familiar with the chat bot system.
2. Even if a chat bot system exists, it is not very accurate in providing answers or solutions.
3. Students must physically visit the college to get their questions answered by the campus support desk.
4. This process takes a significant amount of time and money because the consumer must travel to college if it is located a long distance away from home.
5. Furthermore, this approach may result in a communication gap between the student and the college.

RESULTS

The result shown below consists of both the interfaces namely Android Application and Website.



YourAssistant^{web}

hi

What information do you need

who is hod

Select

HOD CSE	HOD IT	HOD ECE	HOD FET	HOD IE	HOD CE	HOD MCD
---------	--------	---------	---------	--------	--------	---------

hod it

Dr. Amitava Nag

Your Query

SEND >

YourAssistant^{web}

hello

What information do you need

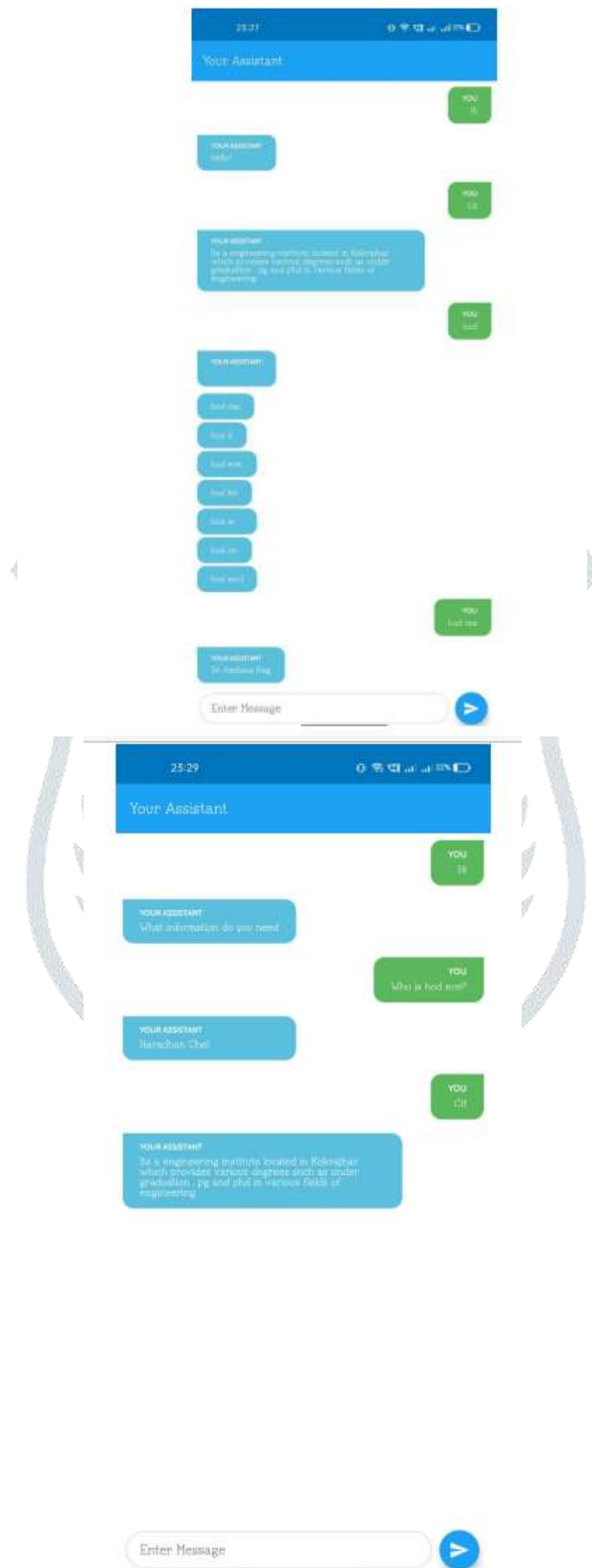
hod cse

Dr. Amitava Nag

Your Query

SEND >





CONCLUSION

The main objective of the project was to develop a Chatbot which will use some algorithms that would be used to identify responses related to questions posted by users. To create a database all related data will be stored and upgraded to the android and web interface.

Background research has taken place, which includes a chat process framework and any relevant chat bots available.

AIML-based chatbots have a wide range of capabilities and applications, with only our imaginations serving as a restriction. It is a versatile and varied tool that may be both basic and complicated, with the only restriction being the creator's ingenuity. It can function effectively on its own and offer instructional value, but when integrated with other technologies, it may produce even greater outcomes.

That a chatbot may be used as a tutor, a student assessor, for questions and answers, to engage with a teacher, or just for casual conversation could be a more precise response. These positions appear to have countless applications.

A data set was developed, which stores information about queries, answers, key words, and reply messages.

Benefits of the Project

1. It removes the communication gap between user and college by giving easy accessibility to the information.
2. This app enables students to be updated on cultural activities of the college.
3. This app saves student time as well as teaching and non-teaching staff.

Drawback

1. Limited number of queries as the dataset doesn't contain information about non-teaching staffs and few other aspects.
2. Currently the chatbot cannot be accessed by ios users as there is no such user interface for ios devices.
3. It requires an active internet connection otherwise the chatbot will not be able to clarify the queries raised by the users.

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