

# Collage Chatbot System using Natural Language Processing

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**Abstract:** Now-a-days students are facing many problems regarding the information of a college student details. There is no proper communication channel to know the required details of the students in a college. This paper focuses on the process of communication automation on web using computer programming. By using computer program a conversational agent is created which responds to the user statements called chat bot. Till today In many educational institutions in India and abroad there is no single window contact system for staff, students and parents. Because of this everyone needs to browse through the college website or contact the admin department via email or phone for any crucial information about a event. This process eventually observes more time and patience, which often creates the problem in running the educational institutes. Hence as a solution many college chatbot systems are created either as mobile applications or through browsers. But most of these apps are not well versed with the machine learning techniques, instead they are rely on just database information extraction process. Hence, to provide a better and faster solution for chatbot systems proposed model uses the machine learning process by incorporating the techniques of natural language process.

**Keywords:** College Information, Chat-Bot, Natural Language Processing, Research On Chatbot

## I. INTRODUCTION

Chatbot is a computer program that can interact with humans in natural language by using machine learning and Natural language processing, the way we interact with each other. A chatbot can replace a human from answering many queries. A chat bot is a program intended to counterfeit with smart responses on communication by text or speech yet, this project only concentrates on text. The Chatbots are motivated by the necessity of websites to provide a chat facility where a bot is required to be able to chat with user and solve queries. If required the system can also be trained by using human assistance. Where administrator can handle only one to two operations at a time, chat bots can operate without a limit which scales up the operations. Having a chat bot improves the response rate compared to human support team. Furthermore, a chat bot can relate to the repetitive tasks. In some situation's a college or school receives similar queries again and again in a day and it becomes tedious job to respond to each question repetitively. Lastly, the 24/7 availability is the most important feature of having a Chat-bot in the system. The user queries are covered without any time restrictions. All these advantages of a Chat- bot constitute the motivation of implementing a Chat-bot on College Information System. 'Chat-bot for College Information System' project is developed using Natural Language Processing algorithm that will analyse user queries and respond to it with required solution. Machine Learning will be used to answer the user queries. The answers are provided using the Machine Learning algorithms. Student's need not physically go to the college for college related questions which results in saving plenty of time and money. Moreover, the college staff is relieved from answering the same queries again and again. Whenever a user asks any query, the bot first recommend the similar type of the request which helps in identifying similar queries and then user can select the question from given suggestions else type their own question. In this the system stores the knowledge database to identify the sentence and make the decision to answer the question. For example, if a student wants to know the office hours of faculty, then the answer to this can be already stored in the Chatbot so that the replies are immediate.

On this system, the user has entered the information inside the shape of a voice. It uses two major assets specifically Mediawiki API, AB library. With these sources, the chatbot application can without difficulty solve the person queries in the voice or textual content format [1] The machine uses the seven main ideas. It makes use of the agile software program improvement method. The main seven principle states that exact interplay between the scholar and trainer, the student can mutually sharing the observe materials with their pals, the pupil can actively participate inside the courses, feedback, time control, presentation and suitable second[2] The survey shows an offering of this research is to support researchers to pinpoint research gaps. It uses both machine language and deep learning technology [3] The chatbot design is primarily based on the gadget getting to know the rule. For enforcing this chatbot there are three steps. within the starting, raw records are pre-processed. Hence a dataset is made. Inside the second step, the splitting process takes location. [4] The design of the gadget is constructed upon the seven elements. If the user is calling any inquiries to the chatbot, then it can be compared with the strings and information. ultimately the output is sent with the help of the chatbot. while executing the device the dialog field and information area unit created [5] Chatbot in an academic domain had developed targeted on the design of the unique structure, version to manage communique and provide the proper answers to the scholar. studying accuracy is increased [6]

II. LITERATURE SURVEY

Eliza [1] is considered as the first Chat-Bot which chips away at the example coordinating framework. It is created by the MIT Professor Joseph Weizenbaum in 1964. A.L.I.C.E [1] (Artificial Linguistic Internet Computer Entity), is created in 1995, is an all-inclusive language handling visit bot that utilizes, Heuristic Pattern coordinating to convey discussions. It has more than 40,000 characterizations, where each order has mix of model and its response. Md. Shahriare Satu and Shamim-AI-Mamun [2] demonstrated the overview of uses of the Chatbot which are made using the AIML substance. Thomas N. T. also, Amrita Vishwa [4] organized an AIML and LSA based chatbot to give the customer care organization over the E-exchange destinations. Their philosophy shows we can improve the chatbot limit by adding various models to it. In android working structure, we can execute the chatbot using the various systems. One of the methodologies is showed up by Rushabh Jain and Burhanuddin Lokhandwal [4] in their Android based Chat-Bot paper. Parry was constructed by Psychiatrist Kenneth Colby in 1972. It attempts to stimulate the disease. Jabberwacky, was created by developer in 1988 by Rollo Carpenter which is to stimulate a human conversation. Mitsuku [10] is in creative Labs for Ms-Dos in the year 1992. Also, this was the first step towards the A.I. Siri, was created by the tech giant Apple Inc. in the year 2010. It was as the personal assistant inbuilt into the mobile phones (i-phones). OK Google was developed by the Google Inc. in the year 2012. It is also the personal assistant which answers the questions asked by the users as well as performs the action. Cortona is a personal assistant which was developed by the Microsoft into their desktop systems. Alexa is just like the personal assistant as like the OK Google and Cortona which was developed by the Amazon.

III. RESEARCH CHALLENGES

This system is for those who're not indulged into the technology or not active into this term and the inaccurate answers to the respected questions. It helps to fill up the communication gap between students and college. Traditionally, Students no need to go to the college from miles away just to enquire about any information related to college.

BACKGROUND OF PROJECT: The earlier versions of chatbots communicated by matching user questions with scripted responses entered into its database. knowledge is limited, and therefore, it can discuss only in a particular domain of topics. Also, it cannot keep long conversations and cannot learn or discover context from the discussion. Later, Live Chatbots released a framework that lets users build chatbots without coding. It establishes long emotional relationships with its users, taking into account cultural peculiarities and ethical issues. Chatbots are used by help desk tools, automatic telephone answering systems, e-commerce and so on.

IV. PROPOSED SYSTEM

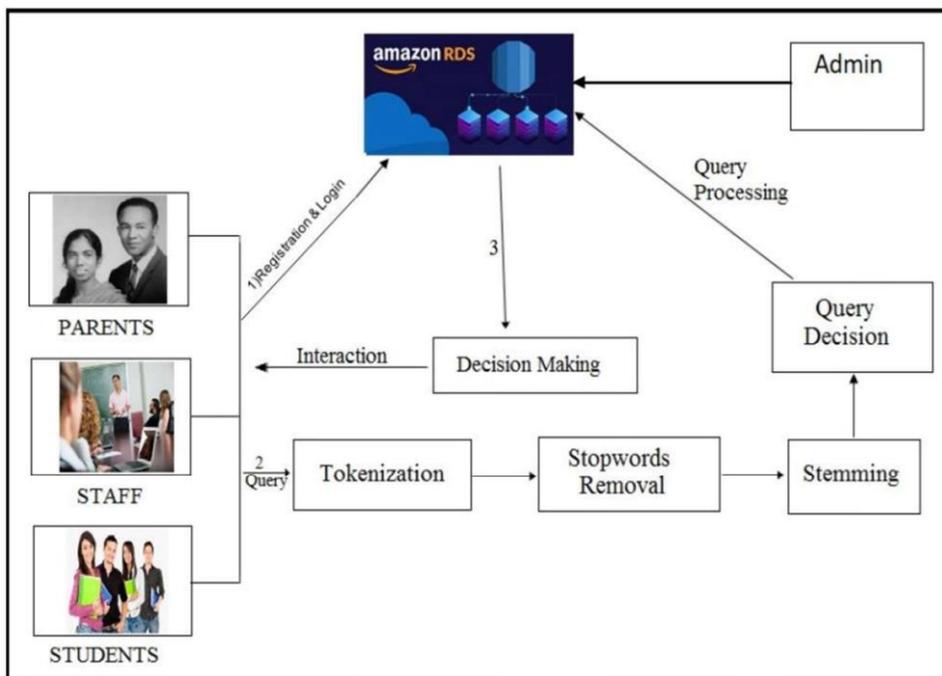


Fig. 1. Block Diagram

## A. Modules & Description

### Admin Login

User has to login with their credentials (i.e. User Id and Password) on the portal to access the various pages and to ask the queries or to complain with the assistance of the bots.

### Chat with Bot

User can interact with the bot which allows asking or to enquire about the college related activities rather than help from the college helpdesk or college staff.

### Text to Speech

This module describes that, it converts the text to the speech which helps to get the response in the verbal form. So it can be called as the verbal conversation.

## B. PROJECT ANALYSIS

### EXISTING SYSTEM:

- There are many applications that are incorporating a human appearance and intend to simulate human dialog.
- But in most cases the knowledge of the conversational bot is stored in a database created by human experts.
- However, very few researchers have investigated the idea of creating a chatbot with an artificial character and personality starting from a web page.

### DISADVANTAGES OF THE EXISTING SYSTEM:

- using Java developers implemented, a simple agent framework developed specifically for achieving AI chatbot, but they are not that much efficient in performance.

### PROPOSED SYSTEM:

- AI chatbot can understand the intent of the user query and respond with an exact answer.
- Students can chat using any format there is no specific format the user has to follow in the query.
- A Student bot project is built using artificial algorithms that analyse users' queries and understand users' messages.

The System uses built-in artificial intelligence to answer the query.

- Admin can view invalid answers through the portal via a login.

## V. CONCLUSION

Chatbot is appreciable tool for solving and query in desired field. Here the software application is developed for providing quality of answers in a short duration of time. One of the greatest use of Chat-bot is relieving the answer provider by directly delivering the answer to the user using expert system. In this project we developed a system using artificial intelligence, machine learning and natural language processing for extracting the keyword from the user query. To recapitulate, Chatbot for College Information System is found to be exceedingly helpful in guiding students with correct queries and up to date sources of information. Students receive the information at any desired time on their fingertips rather than visiting college office. Our result proves that the total time required to perform all the task, which include visiting the college, spending hours in travelling, waiting for the administrative team to answer the query and waiting in the queue is reduced after application of our designed system.

The system uses a deep learning approach to build this educational chatbot. As the number of e-learners is increasing nowadays, the framework can be made used to get instant replies rather than waiting for someone to respond. When the student asking any questions to the lab manual, in this case, the bot can correctly answer the user questions. In this way, the user's queries and questions can be sorted out without human help. This chatbot will improve the practical performance of Elearner.

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