

REAL-TIME AI ASSISTANT FOR EDUCATIONAL INSTITUTIONS

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Abstract - Chat-bot is a conversational representative that act together with users using natural language. Traditionally to solve a query by a software program it involves search engine for filling outer form. A chat-bot permits a user to merely ask a query in a same style that they would talk a human. Chat-bots have turn out to be more widespread in business groups now as they reduce customer service cost and handle multiple users at a time. Recent advancement in machine learning and Artificial Intelligence(AI) have significantly enhanced the correctness and efficiency of Natural Language Processing (NLP), making chat-bot a great option for many organizations. This paper grants the proposal of a chat-bot, which offers proficient and precise answer for any query/FAQs related to a college by the help of ChatterBot, Flask and Chatterbot-Corpus using python. This system also stores the information of the person who enquires, this helps the college to follow up them. This chat-bot can be operated for any college to answer FAQs to interested students in a great fashion. User just has to provide the information (Name, Contact number and other details) before enquire. The chat-bots consists of core and interface that is accessing the core in Firebase DB.

Key Words: Chat-bot, Artificial Intelligence (AI), Natural Language Processing (NLP), ChatterBot, Flask, Chatterbot-Corpus and Firebase DB.

1. INTRODUCTION

Chat-bot is an automated software program that interacts with humans. A chat-bot is merely a computer program that fundamentally simulates human conversations. This functions through IOT and python application. For example, Facebook has a machine learning chat-bot that creates a platform for companies to interact with their consumers through the Facebook Messenger application. According to research, nowadays chat-bots are used to solve a number of business tasks across many industries like E-Commerce, Banking, Healthcare, Finance, Telecom, Entertainment and many others. Thus that was the moment to look at the chat-bots as a new technology in the communication field. Nowadays various companies are using chat-bots to answer quickly and efficiently some frequented asking questions from their own customers. Chat-bot is a computer application which may speak /text to human beings naturally, the way we interact with one another. It can replace a person's for several tasks of answering

queries. Chat-bot is an agent that interacts with the users using simple language. Several applications of chat-bots like Customer Service, call centres etc. uses AI terminology to talk with user.

2. MOTIVATION

Usually students enquire about the colleges/universities before joining. Students can get the information about the colleges either through website or receptionist of respective college. College website can't provide each and every information about it. On the other-side receptionist also can't convey all the details for the people who enquire. To overcome this problem, we are proposing a system which can provide all the necessary information for people.

3. LITERATURE SURVEY

A literature survey is a comprehensive summary of previous research on a topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research. It should give a theoretical base for the research and help you (the author) determine the nature of your research.

Prof. Ram Manoj Sharma [2] proposed a college enquiry chatbot system which has been built by using Artificial Intelligence algorithms. The bot analyses user's query and understands user messages. The system has modules like Online chatbot, Online Noticeboards etc[2].

P.Nikhila, G.Jyothi, K.Mounika, Mr. C Kishor Kumar Reddy and Dr. B V Ramana Murthy [3], they have designed using AIML (Artificial Intelligence Mark-up Language) to make response to queries. AIML is employed to make or customize alicebot that could be a chat-bot application supported ALICE free code.

Harsh Pawar, Pranav Prabhu, Ajay Yadav, Vincent Mendonca, Joyce Lemos [6], a chatbot is designed by them using knowledge in database. The proposed system has Online Enquiry and Online Chatbot System. The development is done using various programming languages by creating a user friendly graphical interface to send and receive response. The main purpose is it uses SQL (Structured Query Language) for pattern matching which is been stored in program.

Nitesh Thakur, Akshay Hiwrale, Sourabh Selote, Abhijeet Shinde and Prof. Namrata Mahakalkar [7], proposed an artificial chatbot using NLP (Natural Language Processing) which can be done in two ways the first via written text and the second is via verbal or voice communication. Written communication is much easier than the verbal communication. This paper introduces an interest in some emerging capabilities for evolving speed understanding and processing in virtual human dialogue system.

4. PROPOSED METHODOLOGY

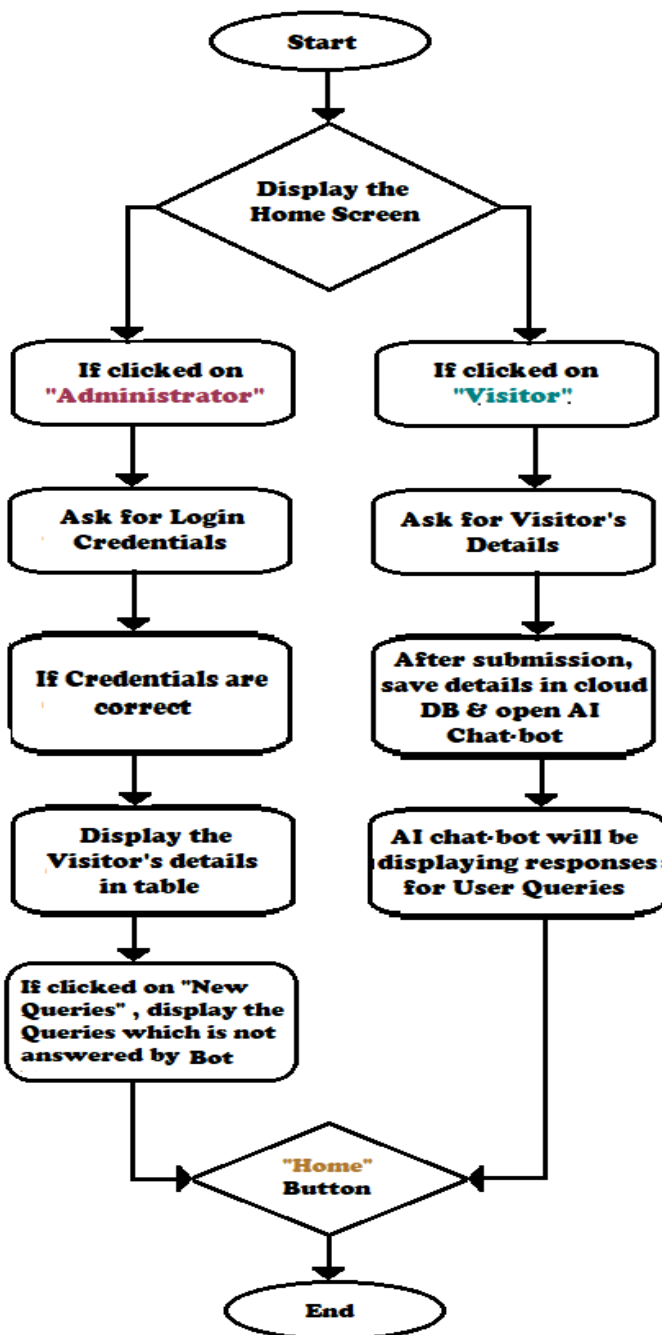


Fig-1: Flow Chart

If a student wants to enquire about the college for admission or any competition held in the college can query using chat-bot. Given below is the system architecture of this chat-bot: The basic algorithm that will be implemented for working of this proposed system is as follows:

Step 1 : In the beginning ,the home screen of a college website is as shown below. Mainly consists of two buttons namely

- (i) Visitor
- (ii) Administrator

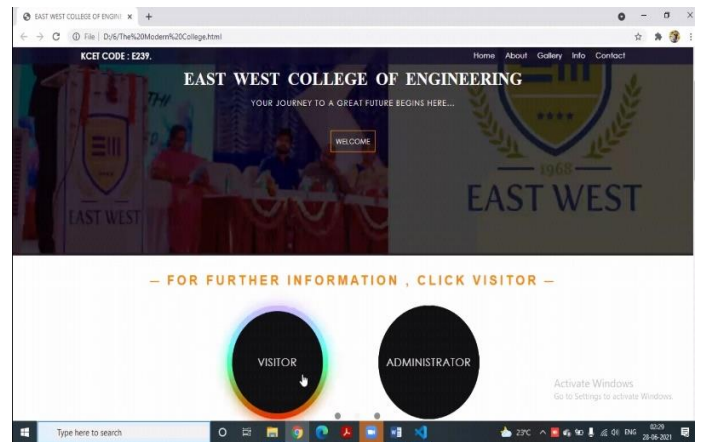


Fig-2: Home Screen of a College website

Step 2 : If a student wants to enquire about the college, they have to click on “Visitor” button to enquire. If clicked on “Visitor” button, user has to fill their details (Name, Contact number, Email ID, Gender & Branch interested).

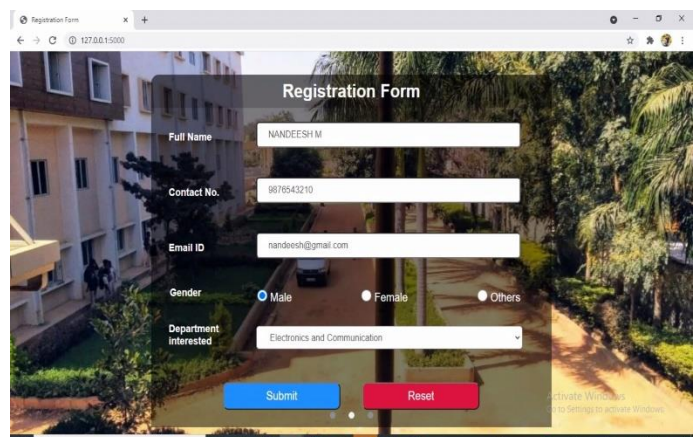


Fig-3: Registration Form

Step 3 : After filling and submission , the entered details will store in cloud database (Firebase DB) and AI enabled chat-bot screen will enable.

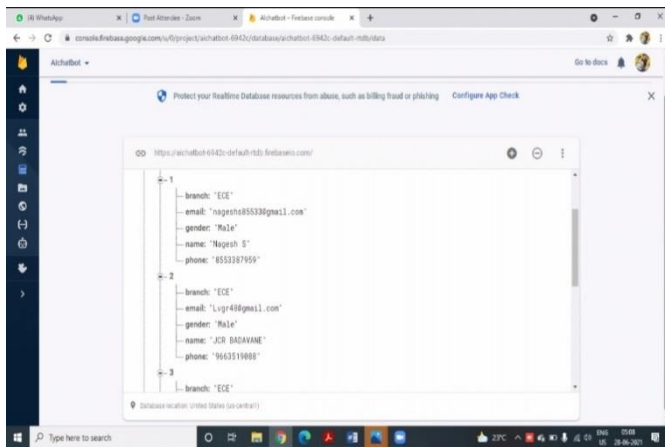


Fig-4: Entered details stored in Firebase DB

Step 4 : Get the input query from the user. The query is pre-processed. It will match the fetched keywords with the keywords in Knowledge base and provide an appropriate response. Further the Database module is used to call proper services to find respective response of the query. It returns the query response to the bot. Chat-bot packages the data into proper response for display to the User. If the user enters other than the pre-processed queries, it will give response as "I am sorry, but I do not understand" and it will notify the admin.

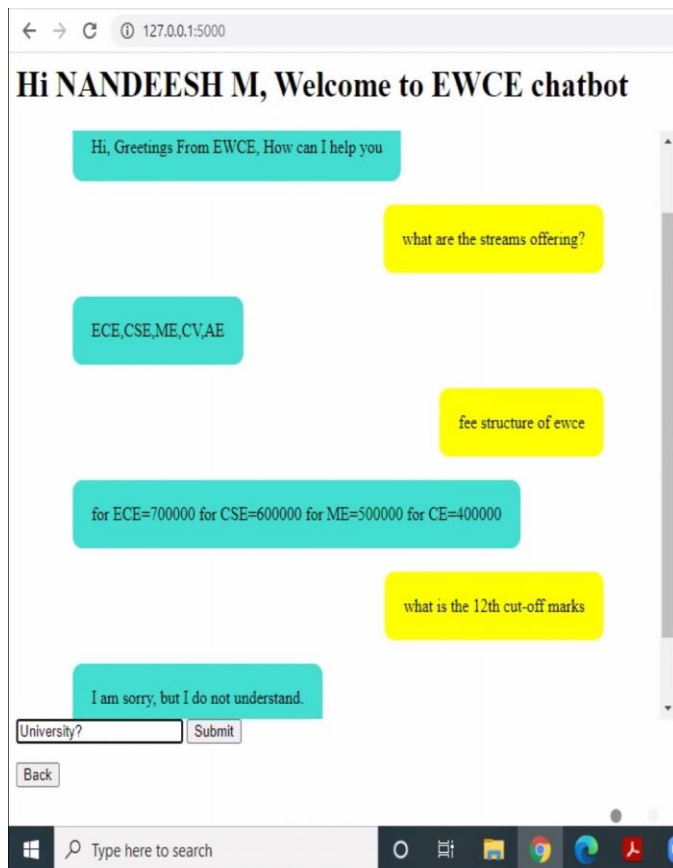


Fig-5: AI Chat-Bot

Step 5 : The Admin can use this facility by clicking on "Administrator" button in the Home Screen of a College Website. It will ask for admin login credentials (Username and Password).

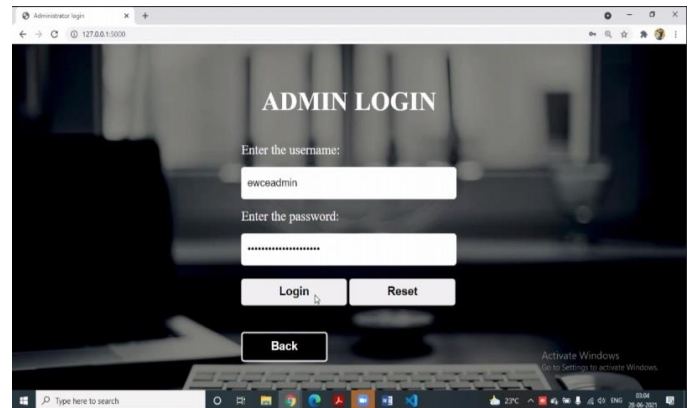


Fig-6: Admin Login Page

Step 6 : If Login credentials (Username and Password) are correct, then it display the Visitor's details (Name, Contact number, Email ID, Gender & Branch interested). In the form of table. So that Admin can access this and it helps the college to follow up them regarding admission.

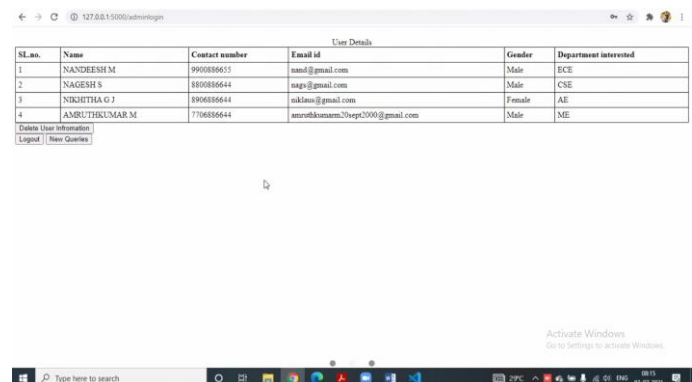


Fig-7: Visitor's Details

Step 7 : The Admin can view the New Queries which is not pre-processed by clicking on a button labelled as "New Queries", so that Admin can update the respective response to the New Queries entered by the Visitors.



Fig-8: New Queries

5. CONCLUSION

We have created a chatbot in python through the ChatterBot library using the flask framework. The goal of our proposed system is to enquire and gather necessary information about the college in a simple way and stores the details of the user which may help the college to follow up them. We have developed a Chat-bot which will make a conversation between human and machine and will satisfy the questions raised by the user. The main motive of this project is to reduce the work load on the college's office staff and reduce the response time to a user's query. In the future enhancement of our project, we can include speech based questions and responses. The users just need to provide voice-based input and the developed bot will provide the text-based output

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