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Chattery The Chatbot

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ABSTRACT: Chatbot is widely popular now-a-days and catching speed as an application of computer communication. Some programs respond intelligently like human. This type of program is called a Chatbot. This paper addresses the design and implementation of a Chatbot system. We will also study another application where Chatbots could be useful and techniques used while designing a Chatbot.

Speech and textual Information play a crucial role in communication between humans. Article in "The New York Times" published that now-a-days the adults are spending more than 8 hours a day on screens of computers or mobiles.

A chatbot based conversation user interface fits into the class of bots that have existed in the chat platform. The user can interact with them via graphical interface or widgets and the trend is in this direction.

Chatbot are an Artificial Intelligent (AI) and Natural Language Processing (NLP) algorithms. It was an effective user interface and answers the queries.

Chatbot can also help with creating course modules, setting and monitoring assignment deadlines, and lesson plans.

I. INTRODUCTION

Chatbots are considered to be a technology application model that effectively promotes interpersonal communication and learning; they provide various types of information and knowledge through interactive methods and easy-to-operate interfaces, and can even be used as a tool for personal consultation (Muniasamy&Alasiry, 2020; Poncette et al., 2020; Yamada et al., 2016). As the popularity of mobile technology grows, chatbot interactive learning method and the characteristics of not being restricted by time and place are making their use increasingly popular (Zhou et al., 2020).

In recent Years a growing number of studies have explored the ways and effects of chatbot application in education (Ferrell & Ferrell, 2020). Several studies have revealed the benefits of using chatbot in school settings, including providing users with a pleasant learning experience by allowing for real-time interaction (Kim et al., 2019), enhancing peer communication skills (Hill et al., 2015), and improving learners' learning efficiency (Wu et al., 2020).
With the advancement of Artificial Intelligence (AI) technology, scholars have begun to apply machine learning and natural language technology to the development of chatbot, making their application in education.

Academicresearch (Følstad&Brandtzæg, 2017). Smutuny and Schreiberova (2020) pointed out that these new technologies will enable chatbot to become a smart teaching assistant in the future; they also encouraged teachers to use AI-based chatbot in classroom activities. On the other hand, although some recent studies have conducted literature reviews on chatbot-related studies (Abd-alrazaq et al., 2019, 2020; Bendig et al., 2019; Kennedy et al., 2012), these review studies mainly focused on the research of chatbot in health care rather than in education. That is, there has been no review conducted to analyze the trends and challenges of chatbot in the field of education. Scholars have pointed out that systematic reviews can help scholars in this field, in particular novice scholars, to understand important research foci and application directions, which can be used as a reference for planning future research as well as curriculum design (Bond et al., 2019; Lai, 2020; Smith & Hill, 2019).

To review the comparative study opportunities(e.g. application domains and potential learning strategies) and challenges (e.g. researchDesignand research method) of the application of chatbot in education, this study reviewed articles Publishedin SSCI journals by referring to the Technology-based Learning Review (TLR) model (Chang & Hwang, 2019; Hsu et al., 2012).

We aimed to identify gaps in the application of and research on chatbot in education, as well as proposing possible solutions to the challenges and gaps.

II. LITRATURE SURVEY

The main contribution of this literature review is the finding that there is room for the development of the application of chatbot in education research.

This result shows that the research on chatbot in education has great development potential and is worthy of more investment by researchers in education technology. In addition, it is recommended that in the future, the performance of teachers and learners can be analyzed from different angles, including the graphical learning behavior analysis presented by chatbot in education systems, and the application of chatbot to improve students' learning process and learning effectiveness.

[1] A Chatbot is an intelligent agent capable of interacting with a user to answer a series of questions and provide the appropriate response (Clarizia et al., 2018, pp. 291–302). A Computer program that mimics and processes human communication, enabling people to interact with the various Chatbot platforms, as well as the degree of creativity and usefulness of existing Chatbots.

[2] To identify answers related to user-submitted questions, the main objective was to develop an algorithm. To create a database for storing all related data and to build a web interface. There were two parts to the developed web interface - one for regular users and one for the administrator. The research included a review of the conversation process and any relevant chat bots available, as a background. All the information about questions, answers, keywords, logs, and feedback messages are stored in a database that we created. The team designed, developed and deployed a system that is now usable on the web server.

[3] In this project in the following manner: If data is not available in a static database then it will be fetched from online sources. Because of this, every answer of the user will be generated either from online sources or static database. So in this way we have implemented an automated response generation system.

[4]A college-specific chatbot system that can be custom and fits in an education domain chatbot, the addition of this chatbot system in the college website will make the webpage more user interactive as it responds to the user queries very accurately .

Domain-specific chatbot system for college-specific chatbot system that can be custom and fits in an education domain chatbot the addition of this chatbot system in the college website will make the webpage more user interactive as it responds to the user Queries very accurately as it is a domain-specific chatbot system.

To improve the current functionalities of College Enquiry Chatbot, in the future, the scope of the chatbot can be increased by inserting data for all the departments, training the bot with varied data, testing it on live website, and based on that feedback inserting more training data to the bot. Some of the new features which can be added to the bot are:-
1) Speech recognition feature through which students can ask their queries verbally and get the answers from the bot.
2) Integration with multiple channels such as phone call, SMS, and various social media platforms like Skype, Facebook and Twitter,
3) Handling context aware and interactive queries in which botwill be aware of the context of an ongoing conversation with a student.
 4) Integration with services such as password reset and course enrollment, event information, library book details, etc.
5) Adding a capability for the bot to perform analytics based on user's sentiment based on which the bot can be re-trained on human emotions so that more empathy can be added to the bot.

III. METHODOLOGY

During the system analysis and planning stage, measurable targets and achievements are established by identifying the business objectives. The system must define certain functionalities to achieve the business objectives.

In this step, the main components of the system and their relationship to each other are described. During this phase, the logical design is created, which specifies the functions to be performed, databases to be used, and security procedures and controls to be implemented.

This phase also includes the physical design, which is the materialization of the logical design.

Testing the system:Once thecodingiscomplete thesystemhastobethoroughly tested. Unit testing :
Involves the testing of the website's modulesSystem testing aims to test the site as a whole and ensure its functionality for the user. Acceptance testing is used to verify that the system meets the businessobjective thatweredefinedinthe systematization.

Implementationandmaintenance:Thisstep areveryimportant, sincewebsites as any other software, may break down. They need continuous checking, testingand repair. A perfectly designed website, which is often unavailable due to technical reasonsisnot asuccessful one.

PROBLEM DEFINATION

To build a User-Friendly, Interactive, Fast Chat Bot Algorithm that analysis the whole chat of end user and reply naturally for the specific query asked.

FEATURE EXTRACTION:

- Remove duplicate/matching studies
- Remove studies based on quality evaluation criteria.
- It provides structured and up-to-date information on previous studies and their application areas.
- It identifies the major challenges association with the use of chatbot systems in education.
- It will aid in the identification of some important areas of education that require further investigation to advance the educational system.
- Roll of existing chatbot :
  - └ Providing course information.
  - └ Providing faculty details.
  - └ Shoving academy calendar.
  - └ Other department information.

TECHNIQUES USED:

First we created a file contains the data. It will train the chatbot. It contains different iterations of sentences for different categories. For example, under the category "goodbye", we have "Bye", "See you later", "Goodbye", "See you later, thanks for visiting", "Have a nice day", "Bye come back again soon".

So, we have multiple categories like this. The categories are called tags and each potential input has an associated tag. The data also contains different sets of responses for each tag.

Then we pre-process the data and use a "Bag-of –words" model to create multiple vectors with the same dimensions to represent each input.

Finally, we pass each vector through a 3-layer feed forward neural network in which the output
Is the predicted tag of the vector, or in other words the predicted category of the sentence.
The chatbot then chooses a random response from its set of responses associated with the predicted tag.

1. **DEVELOPMENT:**

- Chatteryis created to save userstime.

- User canaccessfromanydeviceconnectedtotheInternet.

- Iftheuserhasanyqueries,then theysend theirquery to chattery.

- Answerwill begivenaccording totheQuestion Asked.

2. TRAINING AND TESTING

- In module testing, a single component is tested and later integrated withothercomponents

- EachoftheQuestionsare goingtobetestedfor answer, according to the tags for each pattern in data intense structure collected from the dynamic website scraping.

IV. PROPOSED SYSTEM

In this work we have developed an interactive chatbot. This chatbot user discussion as a rule beings with welcome or general questions. This paper presents the chatbot for educational sector, where user (a student or parents) can ask relevant information about college and also providing basic information our department. Performing course various management task and shows regular attendance update in class. In this chatbot delivers course content and providing voice assistance in English and Marathi language. This chatbot also proving all information about academic calendar. Giving on time information about college events and extra circular activity, such as events, gathering, sports, department events, national events, international events all about information available in this chatbot and also giving information about internal examination external examination, POE's, CIE's etc.

Providing information about lectures, particles, workshops, visits, trips, office. Giving specific details about Library (books), corresponding to specificstudent and also providing administrative information such as office works, scholarships, College Fees, Exam Fees, Exam Form Filling Dates, Certificates etc.

Hardware And Software used in proposed system:

Hardware:-
- Processor – RYZEN 5
- System Type – 64-bit Operating System
- Mouse, keyboard – Any Standard

Software Requirements: -
- IDE : Pycharm, VS Code, Intellij
- Prebuild Library's : Selenium, Beautifulsoup,nltk,etc
- Language – Java Script ,Python,Java,Html , Css.

V.RESULTS

This model is made up with the help of ML, NLU and NLP to give relevant answers to the questions that are predefined or typed manually.
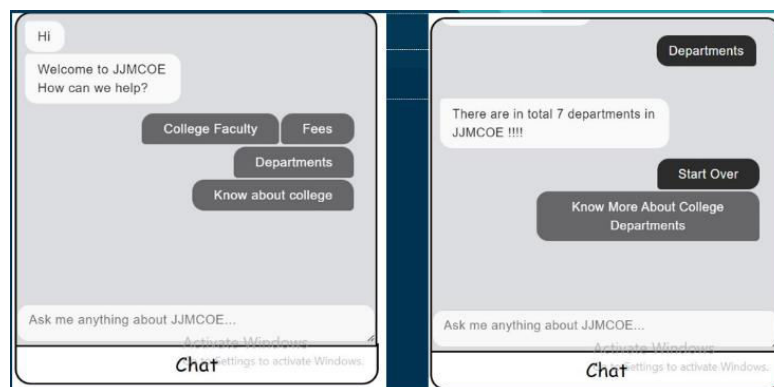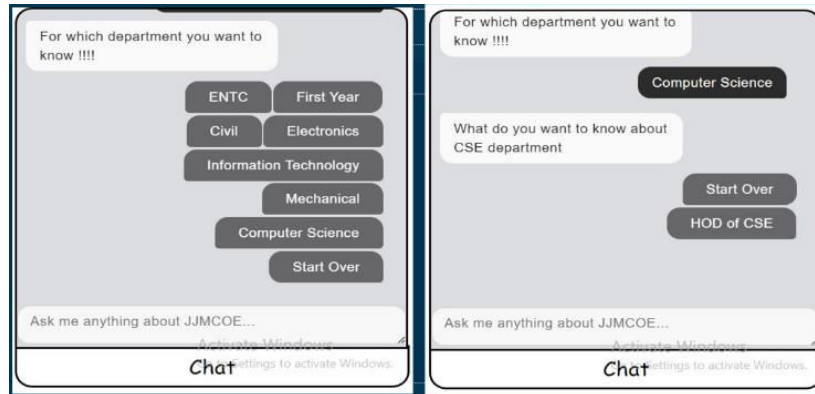

Figure 1

Figure 2

V. CONCLUSION

Through various papers, we have analysis an automatic response giving system which will give a reply to the student's questions.

The use of artificial intelligence and machine learning is used for implementing this system.

The user will type his or her queries and then the system will extract the proper keyword from the given query and will produce the response.

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