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Student Information Chatbot System

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Abstract: ***Conversational agents, also known as chatbots, are automated systems for engaging in two-way dialogue with human users. Nowadays the use of Chatbots is very popular in a large scale of applications especially in systems that provide an intelligence support to the user. In fact, to speed up the assistance, in many cases, these systems are equipped with Chatbots that can interpret the user questions and provide the right answers, in a fast and correct way.***
Chatbots typically provide a text-based user interface, allowing the user to type commands and receive text as well as text to speech response. When chat bot technology is integrated with popular web services it can be utilized securely by an even larger audience. The student information chat bot will analyse user's queries and understand user's message for appropriate response generation.
This System will be a web application which provides answer to the query of the student very effectively. Students just have to put their query to the bot which is used for chatting. The system will use the algorithms to give appropriate answers to the user. If the answer is found invalid, then there is an option to report to admin so that the users query will be satisfied. These invalid questions can be deleted or modified by the admin of the system and an appropriate answer can be embedded in the database. The student will not have to go to the college for enquiring something. Student can use the chat bot to get the answers to their queries. Students can use this web based system for making enquiries at any point of time. This system may help students to stay updated with the college activities.
Keywords: Conversational agents, Chatbots, Response generation.

I. INTRODUCTION

A Chabot (or Chatterbot) is software (machine) that talks with a user (human), it is a virtual assistant able to answer a number of fuser questions, providing the correct responses. In the last few years there has been a fast growing up of the use of Chatbots in various fields, such as Health Care, Marketing, Educational, Supporting Systems, Cultural Heritage, Entertainment and many others. Major companies have developed several Chatbots both for industrial solutions and for research. Some of the most famous are Apple Siri, Microsoft Cortana, and IBM Watson.
These are just some of the most popular systems. There is a wide range of a less famous Chatbots that have a greater relevance for research and for their applications. One of the most challenging research tasks is the development of effective Chatbots, the emulation of human dialogues, in fact, is a really difficult task and involves problems related to the NLP (Natural Language Processing) research field.
Thanks to the use of NLP algorithms and techniques it is possible to understand what the user is writing and which are his requests. Generally, this task represents the core of system but there are some problems, it is not possible to map all user requests, and the current Chatbots do not show remarkable performances because of the unpredictability of user thought during a conversation .The correct design of conversational flow plays an important role in the development of a Chatbot. In fact, for a successful conversation, it is important to handle with all user requests and provide the right answers.

II. MODULE IDENTIFICATION

1) Module 1: Admin Module
a) To handle the train responses generated by the Chabot.

2) Module 2: Chatbot Module
a) To process the query of user and give out the valid response.

3) Module 3: Text to Speech and Speech to Text Module
a) To convert the speech to its corresponding text and text to speech.

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III.MODULE DESCRIPTION

The Student Information Chatbot System is an application which will enable users to ask queries related to college and the chatbot will give out the response. The input can be in speech or in text format. The speech to text and text to speech module will be inaction whenever the user inserts the query. This module will use NLP to process the natural language queries entered by the user which may be in voice or text format and then convert it into a database specific query. If the query entered by the user gives an invalid result then the user has the option to report that query to admin. The admin module contains the list of the invalid questions reported by the user and also the admin can insert those questions with its answer to the database so whenever the user enters the same query it would get a valid answer. Admin module can insert new questions and its corresponding answers into the database. The text to speech and speech to text module will convert the input given by the user into it's appropriate format so that the query generated after the conversion can be fetched in the database and an response will be generated as an answer to the query .The Chatbot module will do the work of fetching the appropriate answer for the given query

IV.LITERATURE REVIEW

Considerable body of work is associated with Chabot and they have recently become a promising technique for Human- computer interaction. Dialogue system has been built to meet a variety of applications and can be appliedin a number of fields. A number of selected studies between 2003 and 2013 are reviewed and explained below.

1) An extension has been made to the chat bot ViDi when the authors in queries proposed the entire redesign of the vidi chatbot by employing the advantages of a relational database. They added extension and prerequisite algorithm to update ViDi into web-based chatbot. The authors used web programming languages such as PHP, HTML and XHR to implement the coding of the chatbot addition to Asynchronous JavaScript +XML (AJAX). Again Malaysian is used .The extension of ViDi designed makes it available to users on the internet through a web browser.de

2) Introducing new matching models it represents true innovation in chatbot. In the author proposed a new models that produces a new sentence from two existing sentences. The study proposes employing a Genetic Algorithm (GA) to build a new international journal.

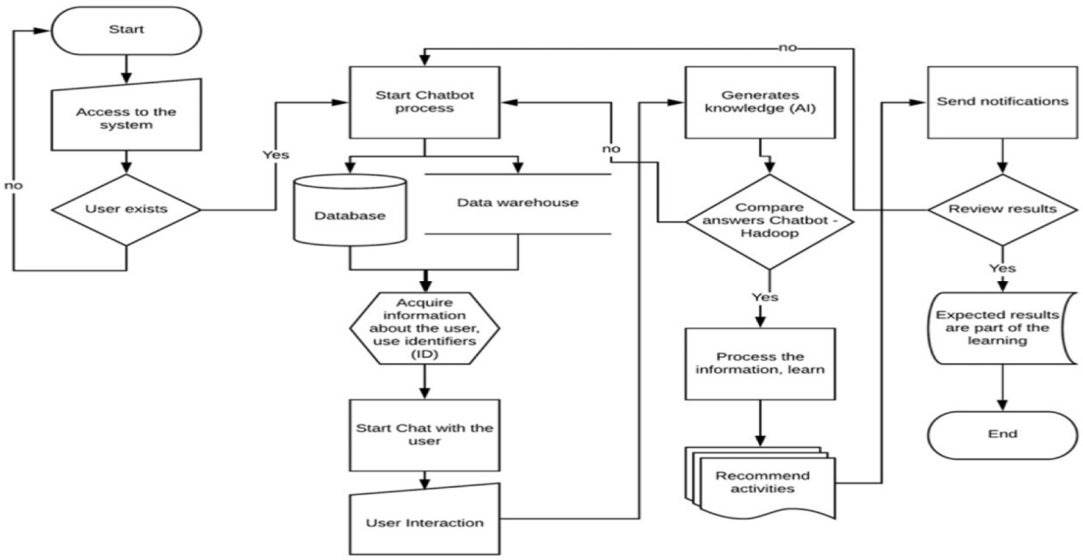
3) The approach combines indexing and query matching methods with pattern matching and applies information Retrieval (IR) techniques to produce a new sentence from existing ones. In this study, the existing sentences became the initial population of the GA, then it swap and crossover operators were applied to produce the new sentence as a new generation of the GA. Experiment evaluation for the chatbot before and after applying the sentence combination approach was presented. The purpose was to improve the diversity of the Chatbot response. The two main contributions of the study are

a) Converting two sentences into one and

b) Applying information retrieval techniques to Chatbot.

As seen in the above review, conversational techniques can be applied to a variety of different application involving the interaction between people and computers.

V. SYSTEM ARCHITECTURE



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VI. PROPOSED METHODOLOGY

1) Step 1: Start.
2) Step 2: Get the user query. (INPUT)
3) Step 3: Pre-processing of the query E.g. suppose there is this query "what is the timing of the college" So, we are going to remove theses stop words like "is", "the" using pre-processing technique
4) Step 4: Fetch the remaining only keywords from the query.
5) Step 5: Match the fetched keywords with the keywords in Knowledge base, and provide an appropriate response.
6) Step 6: Return the query response as an output to the user.
7) Step 7: Exit

A. Hardware and Software Requirements

1) Software Requirements
a) Windows 7 and above
b) MY SQL
c) Pycharm

2) Hardware Requirements
a) Processor – i3
b) Hard Disk – 5 GB
c) Memory – 1GB RAM

3) Technology Used
Machine Learning

VII. CONCLUSION

The main objective of the project is to develop a chatbot application that will be used to identify answers related to user submitted questions/queries. The need is to develop a database where all the related data will be stored and to develop a web interface. The desktop application developed will have two parts, one for simple users and one for the administrator. A usable system will be designed, developed and deployed to the web server. This desktop application is very useful for the students who cannot go college and also want the information about college. Students can use the chat bot to get the answers to their questions. Students can use this desktop application system for making queries at any point of time. An evaluation took place from data collected by potential students of the college. Also after received feedback from the first deployment, extra requirements were introduced and implemented. Nevertheless, active helps to improve the bot performance for handling off-script series. So the conclusion is the student chatbot are very useful for the students as well as colleges.

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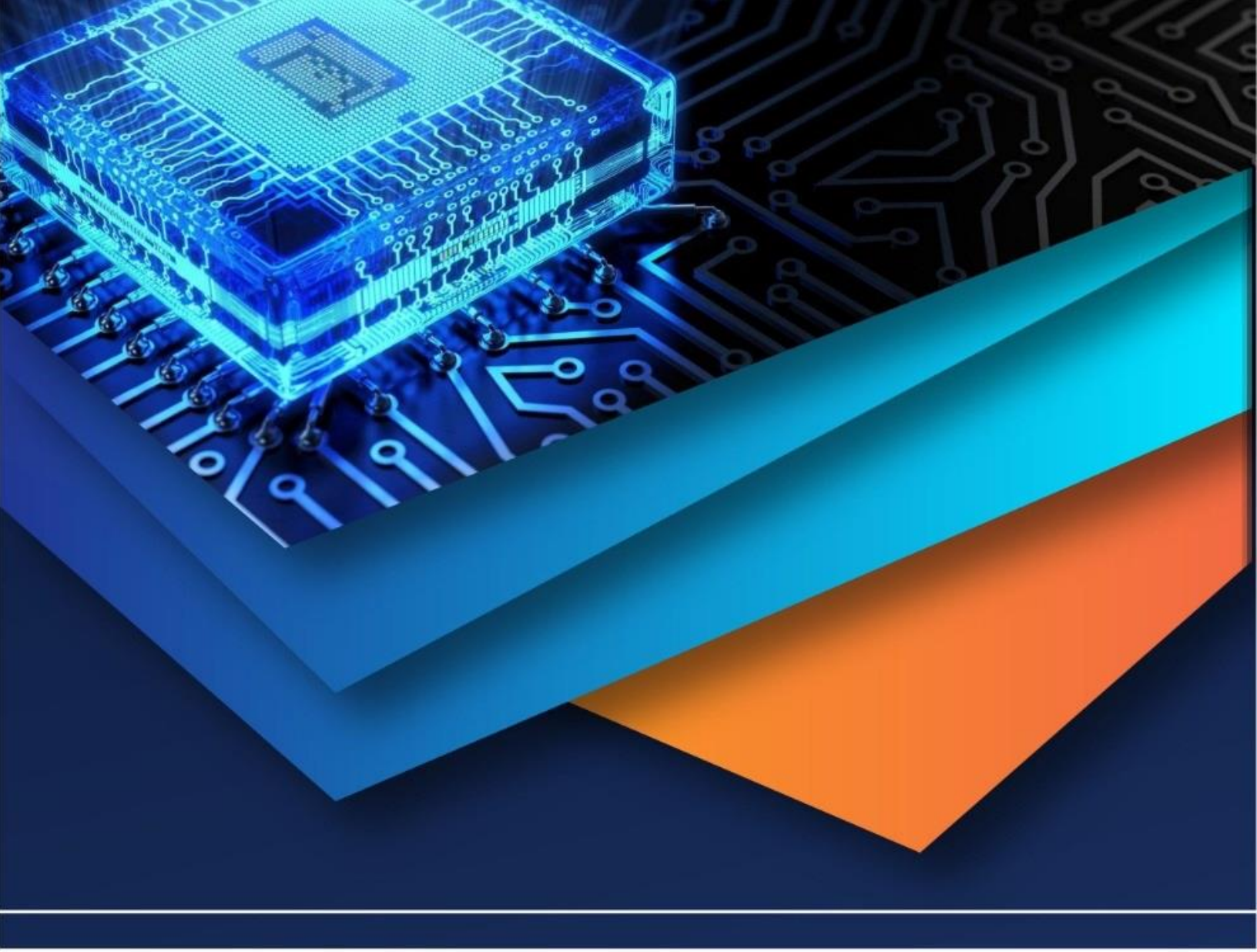

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