

Conversational AI Chatbot for Education Institute

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Abstract: Now a days everything was online and becoming easy for humans in order to get any information in the place where they are. On this note most of the websites were creating the human like chatbots in order to give the solutions for the human queries about the particular things. The chatbots are the software which provides a platform for the humans by interacting with them. Because so many peoples are not able to visit a for particular place for clarifying the doubts maybe of different reasons like long distance, no proper transportation etc.... Such kind of people can utilize the option of chatbot in there specific websites. Here we mainly discussed about the chatbot for the college website. Because most of the students will be having the lots of doubts before joining like about college ,staff, placements, transportation etc...Even though the college administration are not able to answer for all the queries which makes them burden .And it is also not practically good because so many students will visit, they cannot answer for each of them's queries. So that we are focusing to get rid from this problem and make a easy way to know know all information about the college.

Keywords: Artificial Intelligence, Natural Language Processing, DNN, Chabot.

I. INTRODUCTION

At present the most fascinating one in the world is internet(online). Because of this the tasks are becoming very easy and quick Chatbots are the computer programs that will interact in natural language. It is an replacement of a humans by an artificial intelligence. The chatbots will have a several applications where they are used for conversations. The chatbots will make use of the machine learning along with the artificial intelligence ,so that it can understand the user query and can provide an appropriate responses for them with the help of DNN model. Chatbots are one of the very trendy computer software that provides human like interaction. Here we specially focusing on the students about there college information like admissions, transportations, placement etc...One among primary goal is to act like an intelligent human. So we built this software for an useful purpose. This software has been made by using Python, HTML, CSS and Flask framework.

II. LITERATURE SURVEY

[1].College Enquiry Chatbot Using A.L.I.C.E

Author: Balbir Singh Bani, Ajay Pratap Singh

Year: 2017

Abstract: In this paper, a suggestion is carried directly to provide an explanation for the layout of a chatbot in particular tailor-made asan utility which goes to assist new college students to remedy all of the troubles they face and the questions which arises of their thoughts throughout and after the admission . In particular, the suggestion investigates the implementation of ALICE chat bot device as an utility named as university enquiry chat bot. A keywords-primarily based totally human-laptop conversation device makes it viable that the person ought to chat with the laptop the use of a herbal language, i.e. in English.

Advantages: The fundamental inference factor is it'll be less difficult to construct a gadget gaining knowledge of for ALICE because it makes use of easy patterns, templates to symbolize enter and output.

Disadvantages: It consumes extra time to get reply.

[2].Chatbot for University Related

FAQs

Author: B. R. Ranoliya, N. Raghuwanshi and S. Singh,

Year: 2017

Abstract: Chatbots are packages that mimic human communication through the use of Artificial Intelligence (AI). It is designed to be the final digital assistant, amusement purpose, assisting one to finish obligations starting from answering questions, getting riding directions, turning up the thermostat in a clever home, to gambling one's favourite tunes etc. Chatbot has grown to be greater famous in commercial enterprise organizations proper now as they could lessen customer support value and handles more than one customer at a time. To deal with this problem, on this paper we offer the layout of a chatbot, which presents a green and correct solution for any question primarily based totally at the dataset of FAQs the use of Artificial Intelligence Markup Language (AIML) and Latent Semantic Analysis (LSA). Template primarily based totally and widespread questions like welcome/ greetings and widespread questions could be answered the use of AIML and different provider primarily based totally questions makes use of LSA to offer responses at any time in an effort to serve person satisfaction. This chatbot may be utilized by any University to reply FAQs to curious college students in an interactive fashion.

Advantages: It offers greater accuracy upto 74% in text.

Disadvantages: It offers greater incorrect answers.

[3]. College Information ChatBot System

Author: Amey Tiwari, Rahul Talekar, Prof. S. M. Patil

Year: 2017

Abstract: User interfaces for software program packages can be available in a number of formats, starting from command-line, graphical, internet application, or even voice. While the maximum famous consumer interfaces consist of graphical and internet-primarily based totally packages, once in a while the want arises for an opportunity interface. Whether because of multi-threaded complexity, concurrent connectivity, or info surrounding execution of the service, a chatbot primarily based totally interface might also additionally healthy the want. Chat bots are generally a stateful offerings, remembering preceding instructions (and possibly even conversation) so that it will offer functionality. When chatbot generation is included with famous internet offerings it may be applied securely via way of means of a good large audience

Advantages: User does not need to pass in my view to university workplace for the enquiry.

Disadvantages: It consumes greater time to teach the model.

[4]. An intelligent Chatbot using deep learning with Bidirectional RNN and attention model

Author: Manyu Dhyani, Rajiv Kumar G. L. Bajai

Year: 2020

Abstract: This paper presents modeling and implementation in deep learning computing for a conversational assistant agent (chatbot). Using the Tensorflow software library, specifically the Neural Machine Translation (NMT) model. Acquiring knowledge for modeling is one of the most important tasks and its preprocessing is very difficult. It uses bidirectional recurrent neural networks (BRNN) with attentional layers to respond to input sentences with a large number of characters (or sentences longer than 20-40 words) with more appropriate conversation. The dataset used in the paper to train the model comes from Reddit. The model is designed to perform English to English translation. Experiments are performed with Tensorflow using Python 3.6. The difficulty, learning rate, blue score, and average time per 1000 steps are 56.10, 0.0001, 30.16, and 4.5, respectively. The cycle ends at 23,000 steps. The article also discusses the MacBook Air as a neural network and deep learning system.

Advantages: For domain specific chat applications (such as healthcare, education, etc.), a domain specific subnet can be downloaded.

Disadvantages: It works only for this specific dataset.

III. EXISTING SYSTEM

In the earlier days the students themselves have to visit the college in order to enquire any information like admissions, fee structure, courses, placements, transportation details etc... which was the time consuming process for both students

as well as to the parents. But at the current days the technology has evolved a lot, where everything has become online. By having an advantage from the technology we can overcome the above problem. With the help of technology we can reduce manpower and time consumption by designing a computer software like Chatbots.

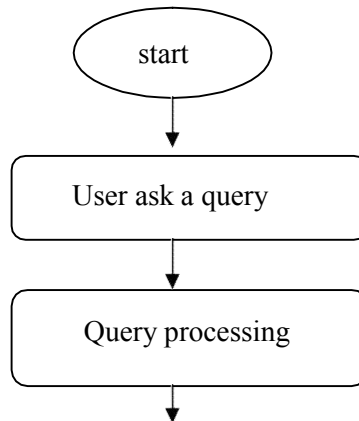
IV. PROPOSED SYSTEM

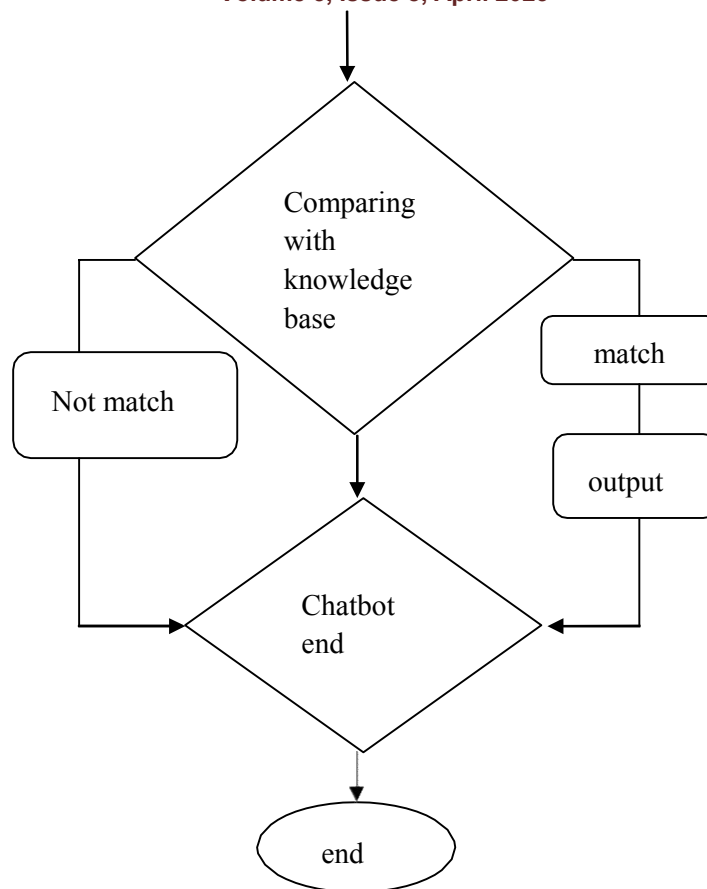
A Student Chatbot project will be a response retrieval-based chatbot that uses AI concepts to process conversations with humans.

Once a user asks any question, the bot has to first analyze the request, then build a response and send it back to the user with the help of DNN. The chatbot can break down the user sentence into tokenization, stop word removal, stemming. A retrieval-based chatbot already consists of predefined input patterns and set responses. Once the query is entered, the chatbot uses a TF-IDF approach to deliver the suitable response. ChatBots use pattern matching methods to classify the text and produce an appropriate or best response for the user queries. The chatbots are developed using “Artificial Intelligence Markup Language” (AIML). Users can just ask the question through the chatbot so that the responses are generated based on their queries. Students can chat with the bot so that it recognizes a particular key word and based on that word the responses will get generated must follow. The answers are applicable only based on the user queries. The user can raise any questions on college connected activities through the system. The user does not need to personally move to the college for any enquiry. The system itself analyzes the question and then answers to the user queries. The system answers to the query same as like it answered by the real person. The user can question about the college connected activities through on-line with the help of this web application. This technique helps the students, parents, to get updated about the college related information.

V. DESIGN

The chatbots are designed in order to work without getting assistance from the humans. It provides a response to a query in a natural language as like humans. It uses the Natural language processing (NLP) for preprocessing the text. Here the chatbot works based on DNN in order to identify the patterns of the sentences which was given by the users as a query and for that it picks a random response related to that query. The TF-IDF (Term Frequency – Inverse Document Frequency) is used which is a retrieval based chatbot which used to match user queries with relevant sentence. This can be built by using NLTK (Natural Language Tool Kit). The chatbot uses machine learning algorithms to recognize the user intent then it classifies the query into one or more predefined categories. The chatbot learns the user interaction and keeps on improving its performance. The student/user will ask the Chatbot for the problems that they believe they are facing. The text will be processed by separating sentences, raw text or documents in the form of tokens. Tokens are nothing but words or characters or subwords. When we process raw data, it may contain lots of words that are not necessary for the processing purpose so while performing a search operation for a query, those words should be filtered out. The system will efficiently analyze the questions and detect it, and provides the correct reply to the students using NLP. These replies are the responses for the queries given by the users to the chatbot.





VI. CONCLUSION

The main objective of this project is to develop an algorithm that is used to identify the responses for the user associated queries. The related data has been stored in a database. The web interface had developed, which provides an environment for the users to interact. The database system has been designed in such a way that stores all information about questions, answers, keywords etc...By the help of technology we can reduce the workload of the administration of college and also can overcome from time consumption. This helps the students, parents, faculty to know better information about college activities. This software specially developed for the betterment of students.

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