Institute Enquiry using Chatbot

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Abstract

Students almost always need to visit colleges or universities to obtain various data, such as information about the college, tuition costs, term schedules, and so on, during their confirmation interactions or for their daily needs. This process is arduous and time-consuming, and it also needs people to provide required data to visitors that come to the college. As a result, a chatbot can be constructed to solve the problem. The project is about user participation with the chatbot, which can be accessed from anywhere and at any time. With only a few fundamental language modifications, the chatbot may be easily/conveniently integrated with any college or university website. Chatbot provides various statistics associated with college or university, as well as additional student-related data. Any individual who has access to the college's website can use the chatbot. Artificial Intelligence and Machine Learning are also used in the venture. The advancement of Chatbots is aided by Natural Language Processing. Users can also ask college-related questions, which are subsequently applied as a contribution to the calculation, which assesses the message and displays the users' comparing reaction.

Keywords: *Chatbot, NLTK, Artificial Intelligence, Natural Language Processing, Machine Learning, HTML, Json.*

1. Introduction

A chatbot likewise alluded to as bot is a pc framework which speak by means of hear-able or perhaps text based strategies. "ChatterBot" was at first instituted by Michael Mauldin (maker of the absolute first Verbot, Julia) in 1994 to clarify these conversational applications [nine]. Chatbots are not difficult to create just as advance users collaborations. Mobile applications need being downloaded just as utilize extra space yet chatbots aren't important to be downloaded. It's anything but a message in an informing application. Bots can discover from users conduct and furthermore give significantly more customized answers. It's assessed that approximately 80% of organizations are planning to fuse chatbots by the whole year 2020. Students incline toward their issues settled rapidly, obligations to be refined promptly and information to be found

quickly. The chatbot can give them a human like discussion and address the issues of the users. A few instances of chatbots are GupShup, RechargeBot, IxiBaba, Lawbot and so forth.

2. System Architecture

In this project the architecture is about the chatbot working, how does it works which is shown in Figure 1. The web application uses the python flask with the chatbot engine, as the chatbot engine contains the NLTK packages and the string processing which helps chatbot to responds to the user.

The chatbot also contains training data which is stored in .Json where the admin inserts all the queries which needs to be answer by the chatbot according to users. And also the admin part contains the Log where if the queries are not inserted in the training data and it will be

taken as the feedback from the users if not been answered on time by chatbot and that to can respond to the user next time.

According to the architecture the chatbot responds to the user with the help of the training data which is present in .Json file and also the feedback file which Log file to help the users accordingly and easy to build the queries to the admin. Chatbot consist of training data as .Json, HTML, CSS, flask as web interface and NLTK package as string processing.

The architecture also shows the chatbot responds to user to which query should it respond to .Chatbot depends and works on the training data which has been given and done by the admin. Chatbot engine includes all the data and files which is relatable to the chatbot.

The log file also shows and record the positive response which is chatbot has been answered to the queries asked by the user which is named as 'positive' and 'response' that is chatbot responded accurately. And on other hand the feedback queries will be recorded and shown to admin to frame the queries for the next time as the user cannot miss that next time, so which is named as 'negative' in the Log file.
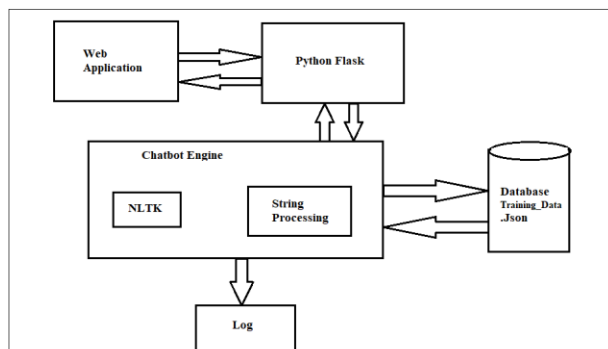

Figure 1: System Architecture

At last the chatbot answers all the queries which are present in the database which is present in .Json file and if not present taken as feedback and will answer it next time. There is no disadvantage that the chatbot do not respond and will not answer to the other question apart from the database. So this above architecture shows how each and every part works to complete this institute enquiry chatbot.

3. Methodology

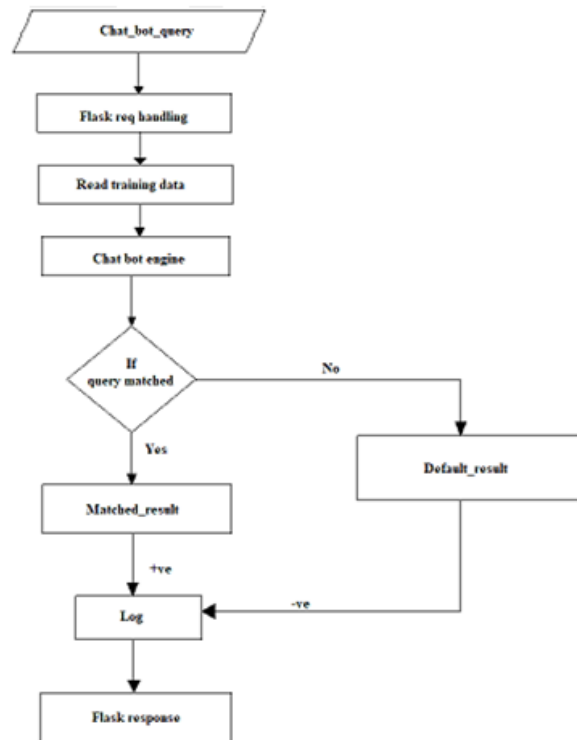The flowchart in Figure 2 shows that how the chatbot works.

Figure 2: Flow Chart

The chatbot query will be taken as the input from the user to the chatbot, then the flask handling will taken place to the query according users after the flask request will be handled then the training data which is made up of .Json file will be read and the chatbot engine will be responded accordingly.

If yes then the query gets matched then matched result will be shown to the user by the chatbot and if not the query is matched to the user's query then default result what has been given to the chatbot will be reflected at that time and the queries will be taken as the feedback which is stored in the Log file.

Then the Log file will have both the response which has been asked by the user and answered by the chatbot, and even the queries are not present in the training data can be taken

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as the feedback so that the admin can insert those queries to be answered accordingly by the chatbot to the user. And finally, the python flask which acts as the web interface will reflect the answer by the chatbot which has been asked by the users.

In this Figure 3 is about log plotter where the graph shows that the positive response of the value 1 and the negative is of zero. The user asks the query and the chatbot responds to it correctly if the query is in the training database which has been stored in .Json file, so the response will be recorded in a log file as positive and the value shown in the graph is 1 like how many accurate answer has been responded by the chatbot to the user's query. If the training database doesn't contains the query which been asked by the user, then the chatbot responds the default answer that is "Sorry, i didn't get you" and these queries which has not been answered correctly will be taken as feedback and stored in a Log.txt file which will be shown as the Negative response. Hence it will help admin to add/insert the queries which has not been answered by the chatbot in the training data which is in .json File.
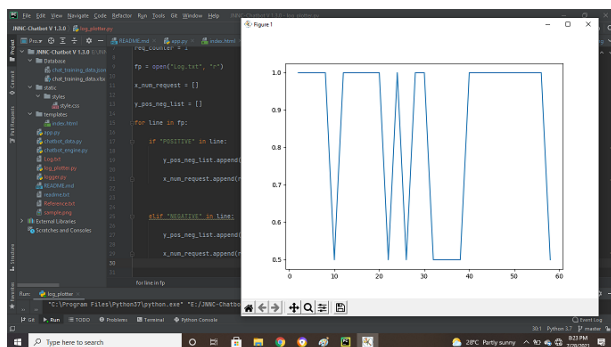

Figure 3: Log Plotter

The x and y axis are present in the graph, where the x-axis represent the num_request that is nothing but the number of request has been recorded in the Log.txt file where the chatbot has been responded to the user which correct or not correct that means positive response or negative response. In the other hand y-axis represent the pos_neg_list that is

nothing but the positive negative list which has been shown in the graph that the list has like the negative is shown as 0 and the positive as 1.

4. Results and Discussion

The website snapshot is shown in Figure 4, where we can see a clear picture or snapshot of the website, as well as the blue chatbot icon on the website, which is located on the right bottom of the website page. The combination of website and chatbot is shown in this screenshot.
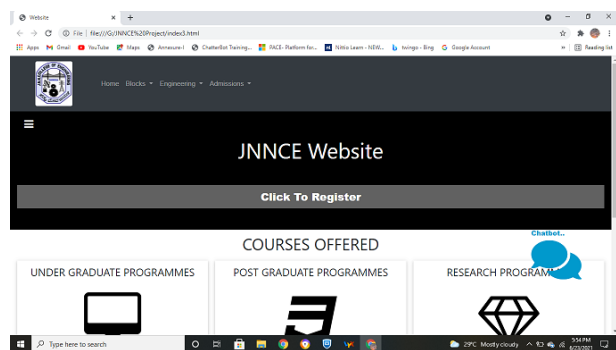

Figure 4: Website snapshot 1

In Figure 5, you can see how the chatbot actually looks. "Hello, welcome to JNNCE!" the chatbot will greet users at first. Send me a message." After that, the user can begin to ask questions about college to which the student or parent is interested.
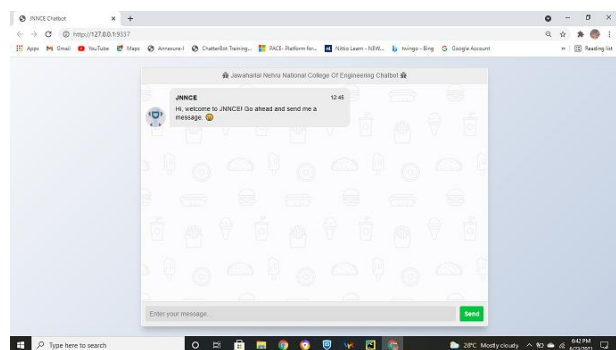

Figure 5: Chatbot Snapshot 1

Almost all users, such as students and parents, want to know where the college is located, what it looks like, and how far it is from the

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users' location. The location in the snapshot is nothing more than the Url, which can be copied and entered into the user's map to locate the college. The user can access and take it from the chatbot part by using the location Urls in this chatbot. The screenshot above indicates that the chatbot can also function with Urls, as illustrated in Figure 6.
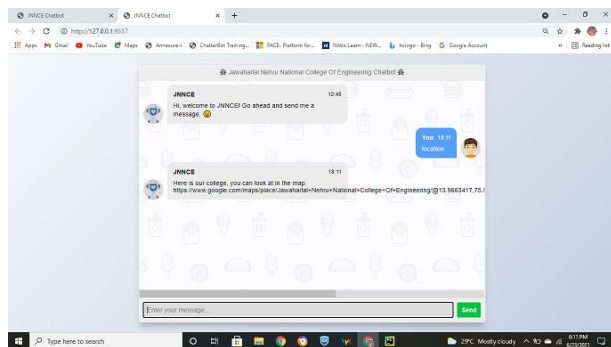

Figure 6: Chatbot Snapshot 2

The screenshot in Figure 7 shows how the chatbot responds to users for any query, with a focus on how string matching is accomplished. If a user types 'hi,' the chatbot will respond with 'Hello,' for example. 'How may I assist you?' 'Hiiiiiiiiiiiiiiiiii' many users will use and become addicted to the fact that they may use as many "i's" in the word "hi" in order for the chatbot to react by matching the string and responding with the same response as 'Hello, How may I assist you'.
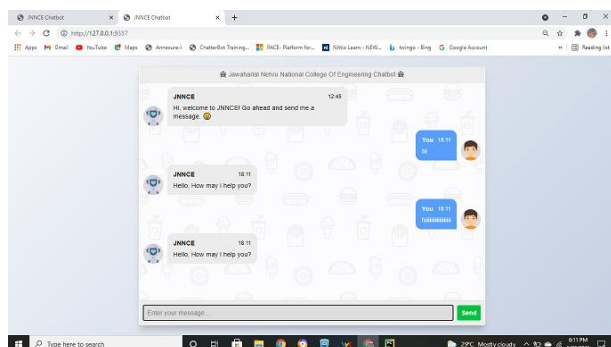

Figure 7: Chatbot Snapshot 3

The image in Figure 8 is of a log plotter, where the graph indicates a positive reaction of 1 and a negative response of 0. If the query is in the training database, which has been stored in, the user asks the question, and the chatbot responds appropriately. file json, As a result, the response will be logged as positive in a log file, and the value displayed in the graph will be 1, indicating how many accurate answers the chatbot has provided in response to the user's enquiry.
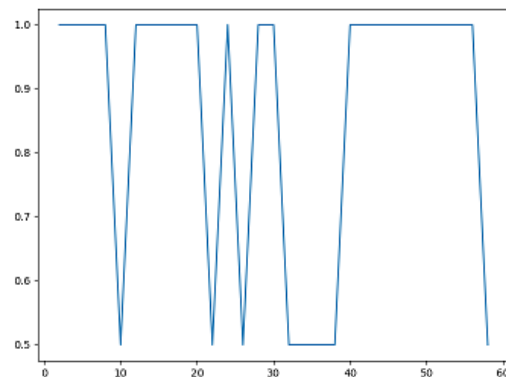

Figure 8: Snapshot Log Plotter

5. Conclusion

The users can collaborate with speedy approach by furnishing with the best instrument which is called as chatbot. Helpful to the users as it permits to enter enquires in normal language and wanted data is acquired effectively to the users. In this project, insights concerning plan, calculation utilized and execution of the chatbot is introduced. The users doesn't have to assemble data by visiting college or universities, users can get to it straight forwardly from these chatbot anyplace or whenever that is 24×7.

6. Future Scope

The extent of the chatbot can be expanded by embeddings information for every one of the offices, preparing the bot with fluctuated information, testing it on live site and dependent on that input embeddings seriously preparing information to the bot.
A portion of the new highlights which can be added to the bot are:
1. Discourse   acknowledgment   include through   which   student   can   ask   their

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questions verbally and find the solutions from the bot.

2. Joining with numerous channels, for example, call, SMS, and different online media stages like Skype, Face book and Twitter.

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