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Chat-Bot Real Virtual Human

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Abstract: Chat Bot intend to build a discussion among both person and device. The can recognize the sentences and building a conclusion itself as reply to answer a query. The reaction standard is corresponding to the input sentence starting from user. It can match the similarity of sentences; the elevated score acquired extra analogous of reference sentences. The information of chat bot are accumulated in the database. The database has been working as information storage and performer has been working as accumulated programs of function and process fixed for pattern- matching condition. The interface is standalone which has been built using programming language of Java.

Keywords: Natural Language Processing, ChatBot, Sentiment Analysis, Word Net, Word Order Similarity between Sentences.

I. INTRODUCTION

ChatBot also is known as a talkbot, is a computer program that imitates human discussions in its normal format together with text or verbal language with artificial intelligence techniques. The device has familiar to recognize the sentences and make a decision as reply to answer a query. The purpose of ChatBot scheme is to reproduce a human conversation; the ChatBot architecture incorporates a language model and computational algorithms to follow casual chat discussions between a person and a Computer by means of natural language. Chat-bots are generally stateful services, identifying preceding information so as to give functionality. It can be operated firmly even for the big audience while chat-bots skill is incorporated into famous web services. The medical query chat-bots will be built using artificial algorithms that scrutinize user's queries and understand user's message and give a reply to a related query. The scheme responds with an efficient Graphical User Interface like an actual individual is chatting with the user. The user just has to register himself to the system and has to login to the system. Natural language processing skill can be designed for parsing, tokenizing, stemming and filtering the content of the complaint. The idea of our project is to develop the chat-bots will be built with artificial algorithms that analyze users queries and understand user's message. The User can ask the question any complaints and queries regarding the electronic and home appliances purchased through the chat-bot without physically available for inquiry. The scheme examines the query and after that reply to the user by using artificial intelligence.

II. RELATED WORK

This paper gives the real world smart ChatBot for customer care by using Software as a Service by analysing the messages of each application server, users to check whether it's active or not. If it's actionable then an automated ChatBot will initiate conversation with that user and help the user to resolve the issue by providing a human way interactions using LUIS and cognitive services. To provide a highly robust, scalable and extensible architecture, this system is implemented on AWS public cloud.[1]. QA scheme derived from Semantic improvement with the performance of a domain-oriented derived from a pattern-matching chat-bots tool can be developed inside an industrial project. It shortens the chat-bots understanding by using two resolutions.

One is the ontology, to build respond dynamically as a result of an inference process concerning to the field, and to mechanically populate, off-line, the chat-bots KB with sentences that can be derived from the ontology. Second is to pre-process of sentences specified by the user so as to decrease to a simpler construction that can be directed to existing queries of the chat-bots. The aim is to give practical information regarding products of interest supporting consumers to get what they want exactly. The alternative was to put into practice a QA scheme with a pattern-matching chat-bots technology. [2].

Chat-bots are mainly to used to provide conversation between both human and machine. Admin feeds some knowledge to the machine so that machine can identify the sentences and taking a decision itself as a response to answer a question. It can neglect in defining a sentence and how to the response it whereas linking chat request to the database. So knowledge demonstration and operation of SQL in the pattern-matching operation are needed. The discussion by the chat-bots would be crosschecked back to the fundamental model. It is done so that it can add some knowledge to the database as it has not been modelled before. If in case the input sentences in the database did not match then it will be remodelled.[3]

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A. objectives

- To reduces time of query resolution.
- To help user to be updated about the complaints and queries regarding the electronic and home appliances purchased.
- Our main aim is to propose system which will help many organizations or institute to ensure quality service provision and user satisfaction with less human efforts.

III. PROPOSED SYSTEM

The User registers himself/herself on ChatBot application. Then submits his/her complaints and queries regarding the electronic and home appliances purchased. After putting forward the query to the system, NLP is applied to identify the sense of the complaint. Meaning of the words is extracted with part of speech tagging and word net dictionary. Using this sentiment analysis negation level of a complaint is found. And user complaints are preference accordingly. After submission of user complaint, the negation level and correct issue/query of the complaint are identified. Then it is checked that is there such question registered in the database. If the answer is found then that answer is sent to that User. If a particular question is not in the database such questions are answered by admin person. Once he answered the question the answer is sent to that user. And that question and answer are stored in the database so that whenever such questions will be asked so that they get answered directly from the database. So that there is no need to answer the same question manually by an admin.

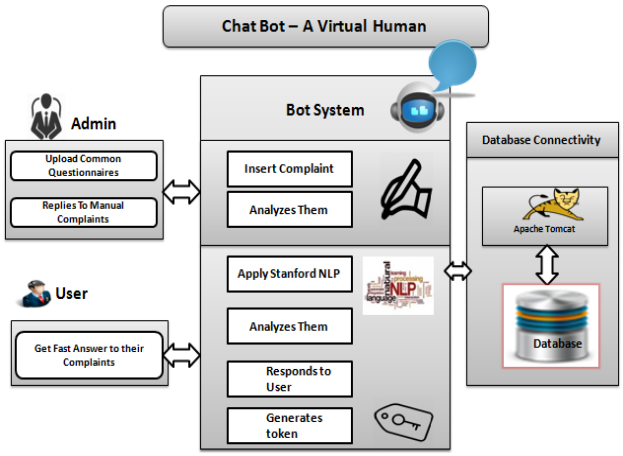

Fig. Architecture Diagram

IV. PROPOSED ALGORITHM

A. PORTER STEMMER ALGORITHM

Porter stemming algorithm (or 'porter stemmer') is a process for removing the commoner morphological and inflexional endings from words in English. following are the steps of this

ALGORITHM:-

[1]Gets rid of plurals and -ed or -ing suffixes
[2]Turns terminal y to i when there is another vowel in the stem
[3]Maps double suffixes to single ones: -ization, -ational, etc.
[4]Deals with suffixes, -full, -ness etc. o Takes off -ant, -ence, etc.
Eliminate a ending –e

Word Order Similarity Between Sentences:

Assume a particular case to demonstrate the significance of word sequence. Suppose

T1: A dog jumps over the lazy fox.
T2: A fox jumps over the lazy dog.

These two sentences containing words are exactly same and most words appear in the same order. The only difference is that dog appears before fox in T 1 and dog appears after fox in T 2. As above given two sentences contain the same words, any methods based on "bag of word" give a decision that T 1 and T 2 are exactly the same. Though it is obvious for a human analyst that T 1 and T 2 are only similar to some extent. T 1 and T 2 are dissimilar only in word order. consequently whichever proficient computational technique designed for sentence correspondence must take into consideration the impact of word order. Sentences involving of accurately the similar words but in the dissimilar sequence may effect in a very diverse sense. It is easy for humans to process word order information.

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Here we begin a way that stores the information in a sequence of the word while computing sentence correspondence. Let's assume that for the given two sentences, the joint word set is T. Recall the above mentioned two sentences T 1 & T 2, their joint word set is: T = {A dog jumps over the lazy fox} . A unique index number has been assigned to each word in sentences T1 & T2 respectively. The index number is simply the order number that the word appears in the sentence. For example, the index number is 4 for dog and 6 for over in T1. In computing word order correspondence, a word order vector r is formed for T 1 and T 2 in that order based on the joint word set T . For each word wi in T, we attempt to come across the same or a comparable word in T 1 as follows: 1. If T 1 contains an occurrence of the same word, we fill the entry for this word in r 1 with the corresponding index number in T 1 . Otherwise, we try to find the most similar word i w ~ in T 1 . 2. If the similarity between wi and i w ~ is greater than a pre-set threshold, the entry of wi in r 1 is filled with the index number of i w ~ in T 1 3. If the above two searches fail, the entry of wi in r 1 is null. After applying the above procedure for given sentences T 1 and T 2 , the word order vectors are r 1 and r 2 respectively. For the example sentence pair, we have: r 1 = {1 2 3 4 5 6 7 }, r 2 = {1 7 3 4 5 6 2} Thus a word order vector is the vital structural information passed by a sentence. The job of contracting with word regulation is then to measure how similar the word order in two sentences is. For measuring word order similarity of two sentences the proposed measure is as follows:

$$S_r = 1 - \frac{\|\mathbf{r}_1 - \mathbf{r}_2\|}{\|\mathbf{r}_1 + \mathbf{r}_2\|}$$

V. CONCLUSION

Here we developed a tool that can be used by any company to help the users to freely upload their queries. When the complaint is registered in the database, mechanical tokens are created and suggest to the customer via text message and email for additional tracking of the complaint. The strength of exclusion is calculated, which assist to prioritize the complaint automatically for the admin to solve the query.

VI. RESULT

This work performed analysis on datasets of different sizes and domains to demonstrate that the proposed framework works on data of all sizes and domains. K-nearest neighbours classifier and the naive Bayes classifier handles only fast and simple classification tasks whereas SVM can handle better complex classification tasks. SVM is faster to train With respect to the best feature space size so that performance also increases for small or medium sizes.

Table1: Comparison

Algorithm Comparision				
Sr.No	Algorithms	No Of Disease Conditions	Accurate Answe	% Accuracy
1	SVM Classifier	150	142	0.9466667
2	Naïve Bayse	150	120	0.8
3	KNN	150	133	0.8866667

After comparing the all three methods given in the below table the accuracy of the SVM is greater than Naïve Bayse and KNN method which is near about 94% greater.

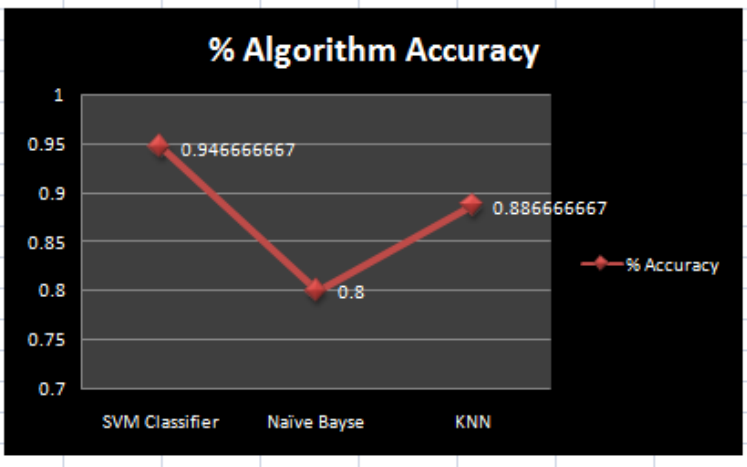

Fig: Plot of Algorithm Accuracy

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