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AI Chat-Bot

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Abstract

AI Chat-bots, or conversational interfaces as they are also known ,which allows a user to simply ask questions in the same way that they ask human.The most well known chat- bots currently are voice chat-bots: Alexa ,Siri,bixbi,google home and many more. The technology which drives the chat-bot is natural language processing ("NLP").

Natural language Processing concern with the interactions of human and computer .These algorithm based program just takes a large set of data that are generated or created from real world input data.Some of the earliest-used algorithms, such as decision tree, produced systems of hard if-then rules similar to the systems of handwritten rules that were then common.

As chat-bots can take client contribution to numerous arrangements like content, voice, assumptions, and so forth. For this reason, many open source stages are accessible. Markup Language (AIML) is gotten from XML which is utilized to develop a chat-bot. Right now,use „program-o" which is an AIML translator for the clients input. I have utilized this strategy for building up an application chat-bot which will communicate with client utilizing content .

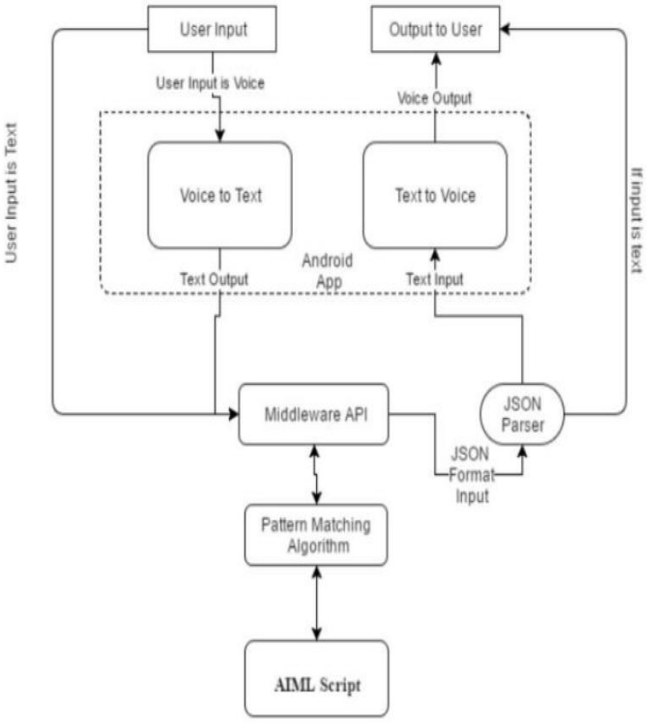
Keywords: AI-ml(Artificial intelligence markup language), XML,NLP(Natural language processing)

1. Introduction

As from past few years ,chat-bot played an important role in the form of a similar to a Human - computer interface.Chat-bot as a program can easily defy or fool user to think that the reply are not from a Person.The main purpose served by chat-bots are in fields of education,customer-service site Guidance,entertainment.

Chat-bot mainly consists of three major modules that are

1 - The user interface
2- An interpreter
3- A knowledge base



AIML which is integrated from XML is used to build a conversation agent artificially.Chat bot based on AIML are more famous as compare to the traditional one as these are more light Weight,easy to configure and have a low cost for maintenance.

In this research paper I have gone through the traditional chat-bot system and side wise compared and have studied program-o an open source AIML engine that has been coded in PHP.Also sort all the AIML scripts with database.

Whenever any customer or a end user message to the chat-bot program ,then accordingly matching reply from the AIML,the answer is replied to the user.

Text input/output is generally viable as client can audit for the info with the goal that it very well may be reviewed if there are any mix-ups. Be that as it may, giving content information expends time. In this way, the problem is solved by adding feature like voice recognition which can help the chat bot to really help the client in some specials cases which cannot be full filled by the text output.

1.1 Literature survey

Till now there are several research paper which I have gone through for getting some more helpful detail on chat bot using a markup language as to fetch data from the server and give the response for the same.

These are some of the following publicly well known chat bot that are developed or in the phase of development using the proposed theory and studies.

A. **Eliza** :- It was built in 1996 at MIT and the basis of working in pattern matching and gives a relatable answer by scripting.

B. **Alice :-** Alice was build in 2009 which has used AIML a derivative of eXtensible markup language.

C. Jabber-wacky:- It was invented just for entertainment purpose which just create a human like conversation

All the above mentioned were popularly known and were a base to enhance and make new and advance chat bot from them.

Mostly now a days the chat bot which are created using these algorithm and methods are used in online shopping help center,Health-care and support,project Management etc.

1.2 Methods currently used

- **Pattern Matching**

- **Algorithms**
- **Artificial Neural Network**
- **Natural Language processing**

1.2.1 In what manner CAN CHATBOTS PROCESS HUMAN LANGUAGES?

Chat-bot are similar to web application which collect and respond using application layer to connect with the database and the APIs from the admin server.For a application to be successful the application must have a user friendly GUI so that client can find it easy to interact with.

In initial phase any chat bot cannot resolve client problem until and unless they have been integrated with any real time information and data logs.All the companies that are using the chat-bot for any interaction have already trained the bot with the data set log that are related to there domains.

The developer team uses that information and try to make chat bot figure out that what client in trying to ask With some Machine learning model and necessary tools the developers matches the pattern with the question that has been asked form the customer and try to get the chat-bot to give most reasonable replies.

For instance:
If a client fires a query "Where can I get the help for login process?" and "I have some issue with login", can give very similar meaning and lead to same result.

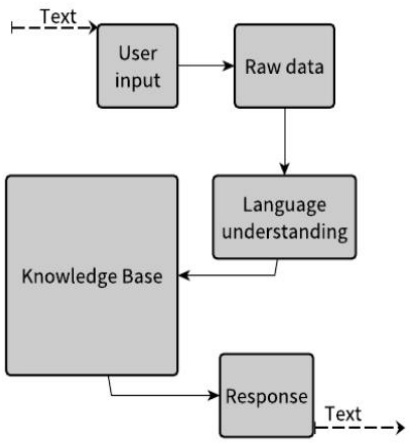
The one who make the chat bot has create a strong base in training the model so that it can yield the right answer.

1.2.2 Training process of chat-bot?

Developing a chat bot can be much quicker and can cover more than that of a normal person. Since Chatbot is taken care of with a large number of data that has been stored in the database which make the chat bot to understand the type of reply which has to be given for any particular query.Different machine learning algorithms are used it order to train the chat bot like naive bayes and text classification(NLP).

2. Proposed work

As most of the chat bot use similar methods for fetching the data from client and matching the pattern from the existing database ,it takes more processing and are less efficient so I have used a AIML(an existing open resource methodology).



My approach for a text based chat- bot begins with taking the content from the client in the web-application or the website.As client enters an inquiry for our chat-bot we read the input and alter to content which is then send to our host .As we get answer from the server(in which the data have been stored in JSON format)we parse that into bots response.

These are the steps which explains proper details to achieve the mentioned tasks:

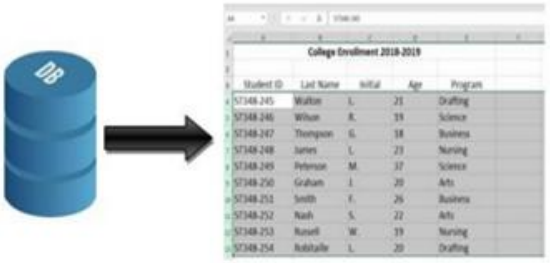
1.on click of submit button take or read the input from user

2.The data is then send to server using HTTPS URL connection

3.A reply in Json format will be generated which will be then parsed into bot response.

4.Subsequent to removing the bot‟s reaction, we have to show it to the client. In this way, add the response to content view.

5.Process 1-4 will be repeated after each input of the user.



Challenges Faced

In building up any framework the greatest test is to fulfill the end clients for which the framework is being created.I`ve also faced certain challenges while developing our system.
Some of them are:

- To have a system that is user friendly and easy .
- To create a data set that has all relevant information about a particular.

Conclusions/Result

Right now, have presented a chatbot application in web-app which can associate with clients. This chat-bot can respond in due order regarding questions that has been put. In order to do this, AIML is used for the particular.
It can also respond to just those inquiries which he has the appropriate response in its data-set. Along these lines, to build the information on the chat-bot, we can include the Wikipedia API, Forecasting of weather, Sports, News, Government based Service.

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