Design and Analysis Subjective and Objective Aspects of Conversational Agent

Rajat Sharma,
Research Scholar, Arni University Kathgarh Indora, Himachal Pradesh, India.

Ankur Sharma,
Associate Professor, Arni University Kathgarh Indora, Himachal Pradesh, India.

Anurag Rana,
Assistant Professor, Arni University Kathgarh Indora, Himachal Pradesh, India.

ABSTRACT

The chatbot is the application which helps the users and agents to communicate with each other in easy manner. It helps in maintain the direct relation between users and agents. However, before this application users face so many problems in getting their answers from agent. Now, I develop chatbot application to provide comfortable to users. Users can directly text the questions to the agent and get the immediate response from the agent. I developed this application in android studio for the queries. Users can send their queries from the chat option and agent can easily send the feedback then this question and answers convert into conversation. For these queries I used the data sets in which I kept all the queries. With the help of user's queries this conversational agent application will give the accurate answer. In these days, in the market there is not so much chatbot. So, my chatbot application will give good experience to the users and easy response. A chatbot is a conversational agent where a computer program is designed to simulate an intelligent conversation. It can take user input in many formats like text, voice, sentiments, etc. For this purpose, many open source platforms are available.

Key Words: Android Studio, JAVA, XML, Artificial Intelligence Mark Up Language.

INTRODUCTION

Conversational agent is basically based on the interaction between the users and agents. Who interact through this android application and get feedback instantly. This conversational agent application is used by the users more than one at the same time. The AIML is make connection in between the android and conversational agent. AIML stands for artificial intelligence markup language. Conversational agent helps the users to solve their problems easily through the help of conversational agent application. This system also provide the facility of correct the spelling mistakes if occur in conversation between the users. This system is unique from others with their feature of security.

REVIEW OF LITERATURE

Sarthaket al. [1] describe the A chatbot is a conversational agent where a computer program is designed to simulate an intelligent conversation. It can take user input in many formats like text, voice, sentiments, etc. For this purpose, many open source platforms are available. Artificial Intelligence Markup Language (AIML) is derived from Extensible Markup Language (XML) which is used to build up a conversational agent (chatbot) artificially. In this paper, we use program which is an AIML interpreter for the generation of the responses of users input. We have used this method for developing an android application chatbot which will interact with user using text and voice responses.

Shawar BA, et al. [2] describe that Artificial Intelligence Markup Language (AIML) is derived from Extensible Markup Language (XML) which is used to build up conversational agent (chatbot) artificially. There are developed a lot of works to make conversational agent. But low cost, configuration and availability make possible to use it in various applications. In this paper, we give a brief review of some applications which are used AIML chatbot for their conversational service. These applications are related to cultural heritage, e-learning, e-government, web base model, dialog model, semantic analysis framework, interaction framework, humorist expert, network management, adaptive modular architecture as wed In this case, they are not only providing useful services but also interact with customers and give solution of their problems through AIML chatbot instead of human beings. So, this is popular day by day with entrepreneur and users to provide efficient service.

Bayan Abu Shawaret al. [3] describe that Achatbot is a conventional agent that is able to interact with users in a given subject by using natural language. The conversations in most chatbot are still using a keyboard as the input. Keyboard input is considered ineffective as the Conversation is not natural without any saying and a conversation is not just about words. Therefore, this paper proposes a design of a chatbot with avatar and voice interaction to make a conversation more alive. This proposed approach method will come from using several API and using its output as another input to next API. It would take speech recognition to take input from user, and then proceed it to chatbot API to receive the chatbot reply in a text form. The reply will be processed to text-to-speech recognition and created a spoken, audio version of the reply.

Wei Liu et al. [4] describe that nowadays, more and more chatbots can get acquainted with the world by equipping with knowledge rich minds which connect to Internet. In this paper, we will first explore how to integrate more knowledge into chatbot and how to make chatbot be aware of what are going on in the world.

On top of that, a series of evaluations were performed on the prototype system. Through the evaluations, we mainly want to validate the proposed method in the prototype system and how the abundant level of knowledge accumulation of a chatbot affects the interactions between the chatbot and the users from the user satisfaction aspect. Experiment shows that the proposed method not only broadens the knowledge boundary of chatbot, but also makes the talks between users and chatbot more coherent. In addition, it shows that the level of user satisfaction is proportional to the amount of fact knowledge.

SupratipGhoseet al. [5] describe that in this work, we explain the design of a chat robot that is specifically tailored for providing FAQ Bot system for university students and with the objective of an undergraduate advisor in student information desk. The chat robot accepts natural language input from users, navigates through the Information Repository and responds with student information in natural language. In this paper, we model the Information Repository by a connected graph where the nodes contain information and links interrelates the information nodes. The design semantics includes AIML (Artificial Intelligence Markup Language) specification language for authoring the information repository such that chat robot design separates the information repository from the natural language interface component. Correspondingly, in the experiment, we constructed three experimental systems (a pure dialog systems associated with natural language knowledge based entries, a domain knowledge systems engineered with information content and a hybrid system, combining dialog and domain knowledge). Consequently, the information repository can easily be modified and focused on particular topic without recreating the code design. Experimental parameters and outcome suggests that topic specific dialogue coupled with conversational knowledge yield the maximum dialogue session than the general conversational dialogue.

John P. McIntire et al. [6]describe that Distributed text-based communications (e.g., chat, instant-messaging) are facing the growing problem of malicious “chatbots” or “chatbots” (automated communication programs posing as humans) attempting social engineering, gathering intelligence, mounting phishing attacks, spreading malware and spam, and threatening the usability and security of collaborative communication platforms. We provide supporting evidence for the suggestion that gross communication and behavioural patterns (e.g., message size, inter-message delays) can be used to passively distinguish between humans and chatbots. Further, we discuss several potential interrogation strategies for users and chat room administrators who may need to actively distinguish between a human and a chatbot, quickly and reliably, during distributed communication sessions. Interestingly, these issues are in many ways analogous to the identification problem faced by interrogators in a Turing Test, and the proposed methods and strategies might find application to and inspiration from this topic as well.

Ly Pichponreayet al. [7] describe that with rapid development of information and communication technology, people are very diverse in education, learning style, and knowledge improvement methods. This paper presents an approach of converting documents into knowledge of Chatbot system that enables users to make more benefits of it by asking and answering questions through the use of electronic documents integrated with simulate system. It is an integrated system for enrich contents of documents from popular format such as Portable Document Format (PDF) and digital photos. The workflow of this system is started from extracts texts using Optical Character Recognition (OCR) from files, and then generates questions via over generating Transformations and Ranking algorithm, and finally let Chat-bot response to the user's question when it is matched with the String pattern.

Galvão et al. [8] proposed the Persona-AIML architecture for developing Chatbots using AIML, with a personality. Personality elements such as attitude, emotion, mood, physical traits and are incorporated into the Chatbot. The response to the user is greatly influenced by these traits. The main advantage of this architecture is flexibility in creating Chatbots with different personality. The efficiency of the bot was verified by the users of the Chatbot in Internet Relay Chat (IRC) environments and the web.

Datta et al. [9] proposed yet another Chatbot model, which combines the features of *A.L.I.C.E., Quartet architecture and the internet*. The proposed Chatbot acts as an information retrieval system and has the advantage of being a generic Chatbot that can efficiently converse in natural language, by using the *Bayesian Network Model*, for smoothly navigating amongst different conversation topics. It makes use of the internet as its data corpora.

Lokman et al. [10] have proposed a Virtual Dietitian Chatbot (ViDi) for diabetic patients. ViDi makes use of Question and Answer pattern matching system. In order to provide correct diets, ViDi is made to keep track of the user's conversation history through the use of a parameter called as vpath, which tells the path the user takes, during the QA session, across different levels. This gives ViDi the power to respond based on the entire conversation.

Kethuneni et al. [11] The Chatbot is accompanied by a *Nonverbal Behaviour Generator (NVBG)* avatar, which induces a personality to the bot. The primary function of the AIML based Chatbot is to provide health guidance by retrieving data from open source health information systems.

Rahman et al. [12] uses a tailored version of A.L.I.C.E. as a domain specific FAQ bot for developing student information system. The knowledge base consists of new AIML files of different categories apart

from A.L.I.C.E.'s base knowledge, with the provision of navigating from one category to another. The bot is also capable of remembering the conversation.

Rosmalen et al. [13] showed that it is possible to create and integrate Chatbots with other environments, in this case, *EMERGO* – a serious gaming environment that is used to offer case studies to train students. The Chatbot acts as an interface between the user and EMERGO and provides resources from EMERGO based on the user's request.

Khanna et al. [14] assess the strengths and weaknesses of current AI systems through the use of Chatbots. Apart from the regular functions provided by Chatbots, the authors have added additional functionality such as *embedding applications* such as a calculator, *data file handling* and *error handling* to make the bot an efficient. The drastic limitations to the current AI systems are discussed along with counter measures that need to be inculcated to redefine AI.

Yu et al. [15], is a *multimodal dialog system* which was designed to keep users engaged in a social conversations as long as possible. The system uses confidence scores to guide the direction of the conversation. The system is supported by various other technologies such as Google Automatic Speech Recognition, Multi Sense etc., to collect auditory and visual data from the user. These data are used to evaluate the user's engagement. Hand-coding of vast knowledge to create an efficient Chatbot is a cumbersome activity. To overcome this limitation.

Shawar et al. [16] developed a program to convert different types of corpora, such as dialogue, monologue and FAQ, into AIML categories. The result is an extended range of knowledge base for the Chatbot which gives it the flexibility to operate in different domains and serve different purpose.

In Hatwar et al. [18] have proposed a Chatbot that will serve as a shopping guide. The proposed Chatbot, which works on the web, will provide various details such as on-going sale and also provides navigation features to the desired shop.

Behera et al. [19] Talks about Chappie, a semi-automatic intelligent Chatbot. The author classifies the Chatbot as intelligent because it satisfies the three basic criteria for an intelligent system, namely: Understanding the intent of the user; ability to handle repetitive questions efficiently; and routing the conversation to a human agent. The resulting Chatbot had a positive effect and was able to fool people into thinking that it was a human.

Mhatre et al. [20] were able to create a web based Chatbot, *Donna*, which acts as a *personal assistant* and helps users in setting up meetings. Unlike few Chatbots which depend on e-mails being forwarded to it in order to process them, Donna automatically takes care of these functionalities. Donna gets the work done with help from Gmail API and Google Calendar API respectively. Donna proved to be an effective assistant.

V. Doshi et al. [22] present the model of an *Android application Chatbot*. The Chatbot uses AIML and Android application with a JSON parser acting as the middleware API. The resulting Chatbot has the advantages of both AIML and Android. This research has shown that Chatbots could be developed using a single platform and can be used in other platforms provided there is sufficient middleware. This takes us one step closer towards designing platform independent Chatbots.

MAIN OBJECTIVES OF STUDY

There are following objectives associated with the proposed approach.

1. User can understand easily to the chatbot application and easily they can use this application.
2. User can ask query in normal chatting language (English).

In this researched and analysed this project to my best knowledge In this researched that all the chatbots in the current market do not give the correct answers to the user's queries. To overcome this thing, In This project worked on make it better so that user can use it easily with full satisfaction. In this made a data set for this and trained the Chatbot in such a way that it will give accurate answer to all the users' queries. Conversational agent is basically based on the interaction between the users and agents. Firstly In This Project to developed this application by developing the conversation agent "Chatbot" in Android Studio. this conversational agent application work easy. Then with the help of artificial intelligence In this project which used the data sets in which We kept all the queries. With the help of user queries, this conversational agent application will give the accurate answer. In this application user will ask their queries through chat option. This project which add all the answer those queries through data sets in the application. Then match the queries with the answer and accurate result will be providing by users. This application will make the user experience easy and they will get their answer and response easily. In today's market there is no such Chatbot that can give the accurate answer to the user's queries. So we will train this chatbot in such a way that it will first read and understand user's query and then give the accurate reply. No matter in which language users are asking query, it will respond in the same languages in which user are asking the query. Currently we are working on single domain. But later it will be available to work in hotels, hospitals, etc.

RESEARCH METHODOLOGY AND DATA COLLECTION

Text input is processed by a software function called a "classifier", this classification associates an input sentence with an "intent" (a conversational intent) which produces a response.

Fig. 2 Conversational Agent Process model

Think of a classified as the simplest way of categorizing a bit of knowledge (a sentence) into one amongst many classes intent). The input "how square measure you?" is assessed as associate intent that is related to a response like "I'm good" or (better) I am well We learned regarding category fication early in elementary science: a pongid is within the class "mammals", a New World jay is within the category "birds", the world is within the category "planets" and then on. Generally speaking, there square measure three totally different forms of text classifiers. Think about these as computer code machinery, engineered for a particular purpose, just like the drum of a musical box. The pro for victimization retrieval-based model is that the incontrovertible fact that it won't build grammatical mistakes, however, it'll be rigid too, and so not going to seem „human". Generative models, however, don't guarantee either to seem „human", but they'll adapt higher to stunning demands and queries from customers. Gratuitous to mention, a generative model is more durable to good, and our current state of information will get U.S.A. solely to this point. For now, going with a generative model choice means that accepted that you simply won't be able to build an ideal chat larva for each task.

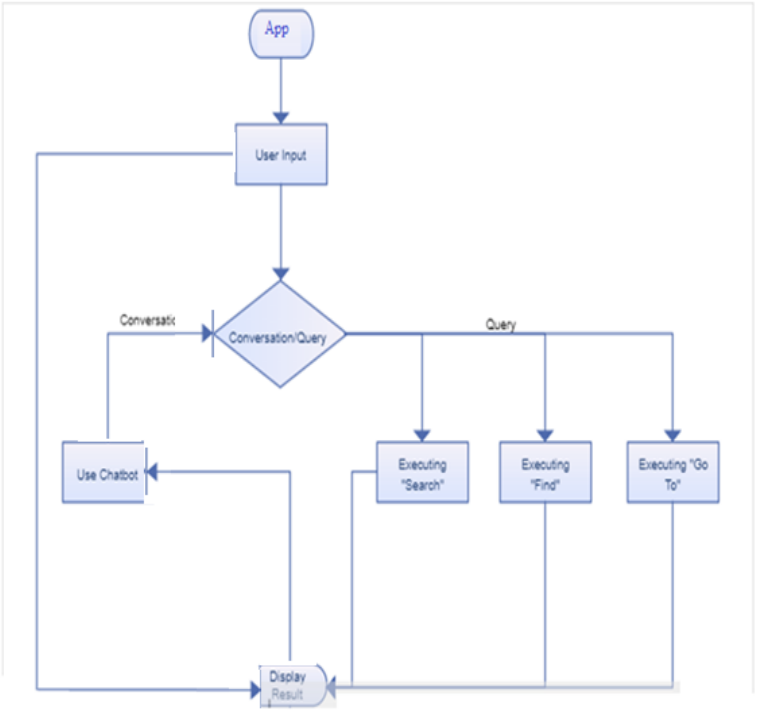

Fig. 3 Conversational Agent Architecture

6.1 Training data

When we develop a chatbot for a client we tend to train the Chat bot in five stages:

1. **Warm-up training** -this is often wherever we tend to use shopper knowledge to induce the chatbot as sensible as we will to induce started (and this is often wherever most firms either stop or do not even start!).
2. **Real-time training** - this is often wherever we tend to analyze incoming conversations in time period. It tells North American nation what folk area unit is saying/asking the larva, instead of what we predict they'll say/ask. This is often wherever we tend to use shopper knowledge to induce the chatbot as sensible as we will to induce started (and this is often wherever most firms either stop or do not even start!).
3. **Sentiment training** -this is often wherever we tend to train language and functions supported however folks area unit rebuke the chatbot. As a basic example, if we tend to find a cross user we tend to use totally different responses to if we tend to find a contented user.
4. **Effectiveness training** -this is often wherever we glance at the results of conversations to coach a way to get folks thereto result. Sounds cryptic i do know, ultimately, it means that we tend to learn what a decent result of a spoken language is and alter language, options and responses to induce a lot of folks thereto result quicker.

5. **Continuous improvement** - this is often wherever we tend to do all of the previous coaching in a very electrical circuit. We tend to unceasingly learn from user interactions, results and feedback and improve a chatbot's language, spoken language flows and functions. The a lot of complicated a chatbot, the foremost investment there's in iteration and continuous improvement.

6.2 Deep Learning Approach

Chatbots that use deep learning area unit the majority victimization some variant of a sequence to sequence (Seq2Seq) model. In 2014, Ilya Sutskever, Oriol Vinyals, and Quoc lupus printed the seminal add this field with a paper called "Sequence to Sequence Learning with Neural Networks". This paper showed nice ends up in AI specifically, however Seq2Seq models have big to comprehend a spread of IP tasks. A sequence to sequence model consists of two main elements; associate degree encoder RNN and a decoder RNN (If you're a bit shaky on RNNs, look at my previous diary post for a refresher). From a high level, the encoder's job is to encapsulate the data of the input text into a set illustration. The decoder's is to require that illustration, and generate a variable length text that best responds to that. As you keep in mind, associate degree RNN contains variety of hidden state vectors, that every represent info from the previous time steps. For instance, the hidden state vectors at the third time step are going to be performed of the primary 3 words. By this logic, the ultimate hidden state vector of the encoder RNN may be thought of as a reasonably correct illustration of the entire input text. The decoder is another RNN, which takes within the final hidden state vector of the encoder and uses it to predict the words of the output reply. The cell's job is to require within the vector illustration v, and choose that word in its vocabulary is that the most applicable for the output response. Mathematically speaking, this implies that we tend to reckon chances for every of the words within the vocabulary, and select the argmax of the values. The second cell are going to be performed of each the vector illustration v, additionally because the output of the previous cell. The goal of the LSTM is to estimate the subsequent contingent probability. The left aspect refers to the chance of the output sequence, conditioned on the given input sequence. The correct aspect contains the term p (yt|v, y1… yt-1), that could be a vector of chances of all the words, conditioned on the vector illustration and therefore the outputs at the previous time steps. The Pi notation is solely the multiplication equivalent of letter (or summation). The correct hand aspect may be reduced top (y1|v) * p(y2|v, y1) * p(y3|v, y1, y2) . Let's check a fast example before moving on. Let's take the input text we tend to saw within the 1st image. Given the phrase "Are you free tomorrow?" let's have faith in however the majority would answer the question. A majority can begin with one thing on the lines of "Yes", "Yeah", "No", etc. once we're done coaching our network, the chance p(y1|v) are going to be a distribution that appears just like the following. The second chance we'd like to reckon, p (y2|v, y1), are going to be a perform of the word this distribution y1 as well because the vector illustration v. The results of the Pi (product) operation can offer North American nation the foremost doubtless sequence of words that we'll use as our final response. One of the foremost

necessary characteristics of sequence to sequence models is that the skilfulness that it provides. Once you think about ancient millilitre strategies (linear regression, SVMs) and deep learning strategies like CNNs, these models need a set size input, and manufacture mounted size outputs additionally. The lengths of your inputs should be identified beforehand. This is often a big limitation to tasks like AI, speech recognition, and question responsive. These area unit tasks wherever we do not understand the scale of the input phrase, and we'd conjointly wish to be ready to generate variable length responses, not simply are affected to at least one specific output illustration. Seq2Seq models give that flexibility.

6.3 Dataset Selection

When pondering applying machine learning to any form of task, one among the primary things we'd like to try to is contemplate the kind of dataset that we might have to be compelled to train the model. For sequence to sequence models, we'd like an outsized range of oral communication logs. From a high level, this encoder decoder network must be ready to perceive the kind of responses (decoder outputs) that square measure expected for each question (encoder inputs). Some common datasets square measure the Cornell pic Dialog Corpus, the Ubuntu corpus, and Microsoft's Social Media oral communication Corpus.

6.4 Dataset Creation

A giant a part of machine learning involves dataset preprocessing. The information archives from every of those sources come back otherwise formatted, and contain components that we tend to don't actually need (the photos section of our FB information for example). the Hangouts information is formatted to a small degree otherwise from the Face book information, and therefore the LinkedIn messages square measure in an exceedingly CSV format. Our goal, with of these datasets, is to only produce one unified file that contains pairs within the variety of (FRIENDS_MESSAGE, YOUR_RESPONSE). This script can produce 2 completely different files. One is going to be a Numpy object (conversationDictionary.npy) that contains all of the input output pairs. the opposite are going to be an outsized txt file (conversationData.txt) that contains these pairs in sentence type, one when the opposite.

6.5 Chatbot text classification approaches

- **Pattern matchers**
- **Algorithms**
- **Neural networks**

Regardless of which kind of classifier is employed, the end-result could be a response. Sort of a musical instrument, there will be further "movements" related to the machinery. A response will build use of external info (like weather, a sports score, an internet search, etc.) however this isn't specific to chatbots, it's simply further code. A response might reference specific "parts of speech" within the sentence, for example:

a correct noun. Additionally, the response (for AN intent) will use conditional logic to produce completely different responses betting on the "state" of the oral communication, this may be a random choice (to insert some 'natural' feeling).

6.5.1 Pattern matchers

Early chatbots used pattern matching to classify text and turn out a response. Usually this can be} often brought up as "brute force" because the author of the system must describe each pattern that there's a response. A standard structure for these patterns is "AIML" (artificial intelligence markup language). Its use of the term "artificial intelligence" is kind of AN embellishment, but that's another story.

A simple pattern matching definition:

<aimlversion = "1.0.1" encoding = "UTF-8"?>
<category>
<pattern> WHO IS ALBERT EINSTEIN </pattern>
<template>Albert Einstein was a German physicist.</template>
</category>

<category>
<pattern> WHO IS Isaac NEWTON </pattern>
<template>Isaac Newton was a English physicist and mathematician.</template>
</category>

<category>
<pattern>DO YOU KNOW WHO * IS</pattern>
<template>
<srai>WHO IS <star/></srai>
</template>
</category>
</aiml>

The machine then produces:

Human: Do you know who Albert Einstein is
Robot: Albert Einstein was a German physicist?

6.5.2 Algorithms

The brute-force mechanism is daunting: for every distinctive input a pattern should be accessible to specify a response. This creates a data structure of patterns, the inspiration for the idiom "rat's nest".To reduce the

classifier to a lot of manageable machine, we will approach the work algorithmically, that's to say: we will build associate degree equation for it. This is often what laptop scientists decision a “reductionist” approach: the matter is reduced so that the answer is simplified .In which Use “**Multinomial Naive Bayes**”, Algorithm. This is plenty easier than it seems. Given a group of sentences, every happiness to a category, and a brand new input sentence, we will count the prevalence {of every of every} word in each category, account for its commonality and assign every category a score. Factorization for commonality is important: matching the word “it” is significantly less purposeful than a match for the word “cheese”. the category with the very best score is that the one possibly to belong to the input sentence. this is often a small oversimplification as words have to be compelled to be reduced to their stems, however you get the essential plan.

A sample training set:

Class: weather

"is it nice outside?"

"how is it outside?"

"is the weather nice?"

Class: greeting

"how are you?"

"hello there"

"how is it going?"

Let’s classify a few sample input sentences:

input: "Hi there"

term: "hi" (**no matches)**

term: "there" **(class: greeting)**

classification: **greeting** (score=1)

input: "What’s it like outside?"

term: "it" **(class: weather (2), greeting)**

term: "outside **(class: weather (2))**

classification: **weather** (score=4)

Notice that the category ification for “What’s it like outside” found a term in another category however the term similarities to the required class created the next score. By exploitation Associate in nursing equation we tend to probing for word matches given some sample sentences for every category, and that we avoid having to spot each pattern. The classification score created identifies the category with the best term matches (accounting for commonality of words) however this has limitations. A score isn't identical as a chance, a score tells America that intent is most just like the sentence however not the probability of it being a match. so it's tough to use a threshold that classification scores to just accept or not. Having the best score from this kind of rule solely provides a relative basis; it's going to still be

Associate in Nursing inherently weak classification. Conjointly the rule doesn't account for what a sentence is not, it solely counts what it is like. You may say this approach doesn't think about what makes a sentence not a given category. Many chatbot frameworks use algorithms like this to classify intent. Most of what's going down is word investigation against coaching datasets, its "naive" however astonishingly effective.

6.5.3 Neural Networks

Artificial neural networks, made-up within the 1940's, are the simplest way of calculative Associate in Nursing output from Associate in Nursing input (a classification) exploitation weighted connections ("synapses") that are calculated from continual iterations through coaching information. every experience the coaching information alters the weights such the neural network produces the output with larger "accuracy" (lower error rate).A neural network structure: nodes (circles) and synapses (lines). There's not a lot of new concerning these structures, except today's software system is exploitation a lot of quicker processors and may work with lots additional memory. the mixture of remembering and speed is crucial once you're doing many thousands of matrix multiplications (the neural network's essential math's operation). As within the previous methodology, every category is given with some variety of example sentences. All over again every sentence is attenuated by word (stemmed) and every word becomes Associate in nursing input for the neural network. The conjunction weights are then calculated by iterating through the coaching information thousands of times, on every occasion adjusting the weights slightly to larger accuracy. By recalculating back across multiple layers ("back-propagation") the weights of all synapses are graduated whereas the results are compared to the coaching information output. These weights are} sort of a 'strength' measure, in a very nerve cell the conjunction weight is what causes one thing to be additional unforgettable than not. You keep in mind an issue additional as a result of you've seen it additional times: on every occasion the 'weight' will increase slightly. At some purpose the adjustment reaches some extent of decreasing returns, this can be referred to as "over-fitting" and going on the far side this can be counter-productive. The trained neural network is a smaller amount code than Associate in nursing comparable rule however it needs a doubtless giant matrix of "weights". In a very comparatively little sample, wherever the coaching sentences have one hundred fifty distinctive words and thirty categories this could be a matrix of 150x30. Imagine multiplying a matrix of this size one hundred, 000 times to determine a sufficiently low error rate. This can be wherever process speed comes in. If the neural network sounds magnificently subtle, relax, it boils down to matrix multiplication and a formula for reducing values between -1 and one or another bottom vary. Just as there are variations in pattern matching code and in algorithms, there are variations in neural networks, some additional advanced than others. The fundamental machinery is that the same. The essential work is that of classification. The mechanical instrument is aware of nothing concerning music theory, like wisechatbot machinery is aware of nothing concerning language. Chatbot machinery is probing for patterns in collections

of terms; every term is reduced to a token. During this machine words don't have any meaning except for his or her checkered existence at intervals coaching information.

In this project under firstly improve performance and accuracy through neural Network. Neural take a different Approach to problem solving then that of conversational Agent. Conversational Agent use an algorithmic approach. i.e. the agents follows a set of instructions in order to solve a problem, neural network process information's in a similar way the human brain does. The chatbot are first trained with the actual data. Training a chatbot happens at much faster and larger scales then you teach a human.

Chat bots use pattern matching to classify the text and produce a suitable response for the user. A standard structure of these is "Artificial intelligence Markup language" (AIML).

A simple pattern matching definition:

<aiml version = "1.0.1"
Encoding = "UTF-8"?>
<category>
<pattern> What Is Your Name? </pattern>
<template>My Name Is Namah..</template>
</category>

The Chatbot then Gives and output:

User: What is Your Name?

Chatbot: My name Is Namah.

Chatbot knows the answer only because his or her name is in the associated pattern. Similarly chatbots respond to anything relating it to the associated pattern. But it cannot go beyond the associated pattern. To take it to an advanced level algorithm can help. Algorithm for each kind of questions, a unique pattern must be available in the data set to provide a suitable response. With the lots of combination on patterns, it creates a hierarchical structure. In this project use algorithm to reduce the classifiers and generate the more manageable structure.**Multinational Native Bayes** is the classic algorithm for text classification and (Natural language Processing) NLP.

CONCLUSIONS

The chat bot which is search for the convenience of the users and clients named as Namah Subjective and Objective Aspects of Conversational Agent. In this chat bot users can get direct answers from the agents without any delay and inconvenience. However, before this chatbot users suffer so many problems in getting their queries answers because agent did not give the answers immediately. Agent consume so much time in providing answers to the clients but now, Namah Subjective and Objective aspects of Conversational Agent provide direct answers facility and save the time of the users

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