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BANK CHATBOT

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ABSTRACT

A Bank bot project is built using artificial algorithms that analyses user's queries and understand user's message. It is designed for banks where users can ask any question related to bank like loan, account, policy etc. A Bank bot is used to give information asked by the customer or user related to the bank. Our intelligent system (bot) will first take the input from the customer or user in the written format. It also uses a graphical representation to answer the customer by speaking as a real person can do. According to the input given by user an intelligent system will process the queries and respond to the users. Our system will represent the design and development of an intelligent chat bot. This system is available on web. This application is developed for android devices. An Artificial intelligence (AI) is the most important and helpful part of our project. This system is available on web. By using artificial brain the web based bot generates customized user responses aligned to the design character. The queries asked to the bot which are not understood are further processed using a third party expert system and the response will be archived improving the artificial brain capabilities for future generation of responses. The primary aim of this project is, Customers can communicate by reporting their queries in natural language and chat bots can resolve their queries with similar response in return. This system saves the time, reduces human work, it is informative and user friendly. In this paper we discuss about how people can easily clarify their queries to complete their work accordingly related to bank without facing any difficulties.

Keywords: *chatbot, intelligent system, queries.*

I. INTRODUCTION

Banks play a very important role in every country's economic growth. In daily life, everybody needs banks. But most of the people, especially who uses bank for the first time; struggle to know different methods and activities required to complete their work at the bank and benefits of its various outcomes and facilities. At present every bank have their own web-sites, mobile applications and facilities like online banking, mobile banking but sometimes, these sources can be a bit massive for most of the people who are either not well knowledgeable with technology or in some cases where the information is separated to search easily. There are various types of platforms provided by various banks but people are facing problems by accessing them. However, Customer Care centers are accessible; but redirection in some instances, abandon the user with no choice but to experience reasonable delays getting easy informational query resolved. Users have queries about various bank policies, loans, fixed deposits. It effects in avoidable crowd in banks for enquiry. Banks also face difficulties in solving repeated queries of customers. So to make the work easier and to save times chat bots were introduced. Chat bots are time consuming and banking staff gets free from frustration. Just as people use language for human communication, chatbot is the language that people want to use to communicate with computers. Human Computer Interaction (HCI) is the one which help the people to express their feelings directly by speaking, texting and pointing. Chatbots are human - computer dialogue system with the common language. Chatbot technology has developed with the present technology in natural language processing and machine learning.

A chatbot system is a software program that communicates with users using natural language. Various forms have been used for a chatbot which are: machine conversation system, virtual agent, dialogue system and chatterbot. The use of a chatbot system is to imitate a human interaction; the chatbot design merges a language model and algorithms to copy chat interaction between a user and a computer using common language. The usage of a chatbot has also increased, especially with the launch of chatbot platforms by Facebook, Kik, Slack, Skype, WeChat and Telegram. The proposed system would be a stepping stone in having place, an intelligent query handling program

which could in next phases not just respond but self-learn to improve itself thereby increasing not just the quality of customer service but also reducing human load, increase in productivity and of course increasing number of satisfied customers.

II. LITERATURE SURVEY

The main point of a chatbot system is to activate a human conversation; the chatbot design integrates a language model and computational algorithm to have a communication between human uses and a computer using natural language. By developing of data mining and machine. By learning techniques we can gain better decision, making capabilities, availability of cooperation robots processing tools like XML and its applications. Now a days chat bots have become pragmatic in daily life such as automatic telephone answering system, advertising and B-commerce. In E-commerce, chat bot assist by giving information on particular topic such as for searching and browsing. The dialogue system delivers additional information on products and clarifies the customer difficulties to find a better product. According to the Dr. Wallace, the huge market of chat bot is entertainment market in which chat bot can act like a talking book for children and gives instruction on other languages. China used ALICE system to help Chinese students for improving communication skills and this system was qualitative and pre-existing conversational English skills.

The study concentrated on user standpoint rather than on chatter bot efficiency. In all conversational operations one thing is similar that is they are unmanageable to maintain dialogue for period of time. Another study observed by using ALICE to increase tools with social and political theory knowledge. Eliza was the first famous chat bot and ALICE was another milestone. The studies found that move subjects used the system has search engine rather than conversation partner. It was extremely terminated their system was unable to operate as standalone tutor. Dialogue system can fairly carry out the conversation with the user and to this can be a good source for gaining knowledge on subjects. As we begin down the path of creating a chat-based & utilitarian mobile experience for museums, it's important to note that we on the Studio team do not consider ourselves to be experts in chat bots, artificial intelligence or conversational interfaces. We do consider ourselves to be experts in experience design and creative technology, but not the chat bots. By the end of this year-long process we hope to be much closer to the expert side of the chatbot spectrum than the novice side. Acknowledging this, our primary goal right now is to learn as much as possible (as quickly as possible) from the experts that do exist within the bot domain.

III. PROPOSED CHATBOT

Architecture of node-red

In the node-red first select the input node inject and give the name as hello, now from the output node select the debug node and give the name as msg. payload.

- Connect the output of hello to input of msg.payload .The msg called successfully injected will appear on the screen now deploy.
- Now again successfully inject “hi”. In the IBM cloud, go to resource list and create response. Now drag the assistant from IBM Watson through search filter.
- Edit the injected node hello as “hi” and click on done.
- Now, connect the assistant node to msg.payload and hello. Hello input to input of assistant and output of assistant to input of msg.payload by changing the username as ‘Apikey’ and give password.
- Change the service endpoint and workspace from edit function node copy the function and by clicking on the done it will be done.

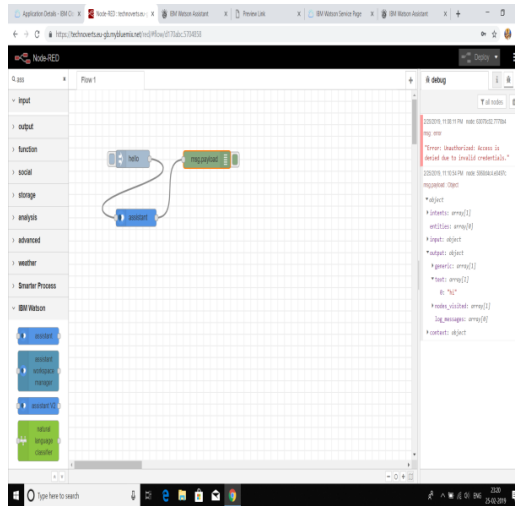


Figure 1: NODE-RED Flow 1

- Now, drag the function called output parsing and connects it to output of the assistant and input of the msg.payload. Now, go to deploy and that go to manage palette.
- After completing the above process go to user settings nodes and select the palette. Now install the node-red dash-board and click on install.
- In the node properties give group as home size as auto and example as text and click on done. Now, drag the form from search filters and click the assistant input to form output. Create a new function and connect the new function to form output to input of assistant. Now, again select the msg.payload=msg.payload.text; from the functions.
- Now, the two text blocks onto the screen and connect the text block with the name you to the output of input parsing and other one with the name bot to the output of output parsing.

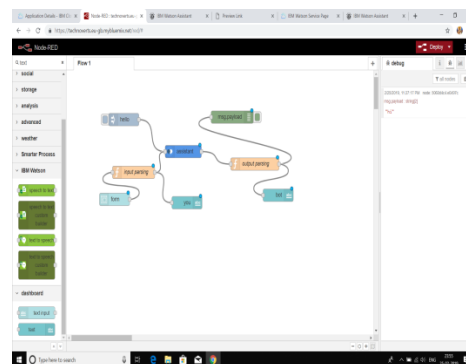


Figure 2: NODE-RED Flow 2

- Now, go to debug and give label as bot and you. Value format as {{msg.payload}} and click on done. After the above process is done create a new block and give it as form. On the right side of the screen click on dashboard and go to layout and click on home. Now, deploy the total block.
- Now, drag the audio out by searching it in the search filter and connect its input to output of output parsing. Now again deploy the total block.
- Dash board is on the right side of the screen and go to edit audio out node. Give TTS voice as shown in the figure and click on done.
- After the audio out is connected drag a switch .Edit switch node by giving data base as marriage events. Now, connect the one output of switch to marriage events and other to bot. Now again connect the output of marriage

event to input of bot. Debug the above function and edit the function node which is dragged on to the screen by giving the name as database parsing .After the name is given as database parsing then select the function msg.payload=msg.payload events.

- In the node properties give the name as subscribe and click on done .Connect the database parsing to events clock output and output of database parsing to bot input. Now, again deploy the function .Now dialogue box default occurs click on submit.

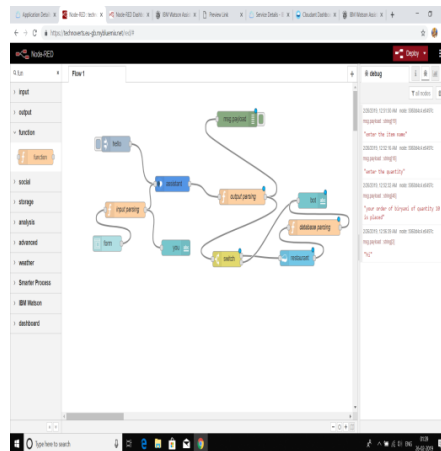


Figure 3: NODE-RED Flow 3

- Now login into your face bookaccount by giving the user name and password.Then go to the and create a page
- And give the page name as chatbot.Now,select the(...) in the page and click on view as page visitor.By clicking on the visitor we can visit the page.
- You can build a bot that automatically posts content into groups, responds to questions with extra information or takes action when mentioned in comments on a post.
- You can also build bots that can converse with people in Work Chat, providing information in real time, or handling requests with structured conversation elements like quick replies and persistent menus.
- While in groups, bots are able to consume and share information across a group of people asynchronously, bots in chat are best for direct real-time interaction with a single person or defined group of people.
- For instance, a chat bot can be used to send important reminders or notifications to someone based on an upcoming event like an interview or a meeting.

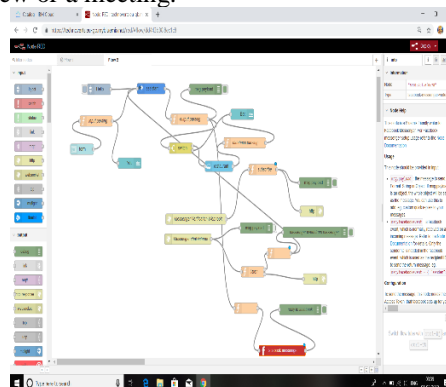


Figure 4: NODE-RED Flow 4

- After visiting the page go to settings on facebook developers and generate a page, now, events selected will be completed.

- In the new page subscription give the URL, verify token and select the required columns and click on verify and save. In the new page subscription select the subscription fields as messages and messaging. Postbacks and click on verify and save.
- Now a one more block from facebook page will be presented and select the page and attach it to the node-red and see whether the page is correctly on the flow.
- Paste the flow-2 below the folw-1 see that both the flows are not one on other. Go to layout and click on home add the name, function and click on done.

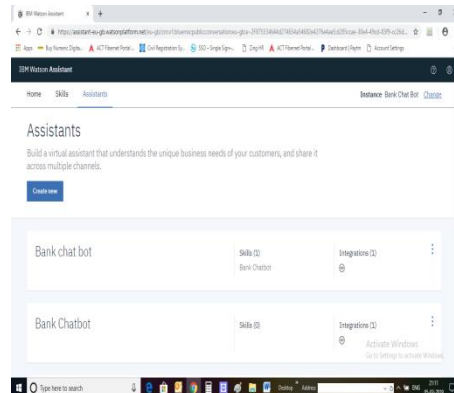


Figure 5: Facebook Integration

IV. TOOLS USED

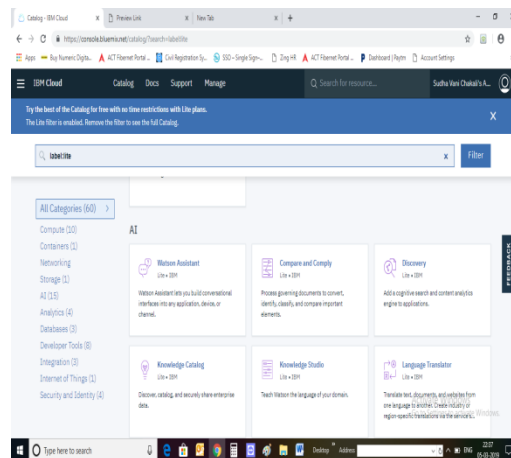


Figure 4.1 IBM account

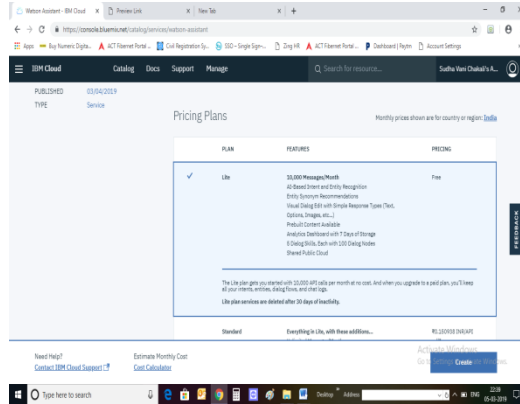


Figure 4.2 Watson assistant

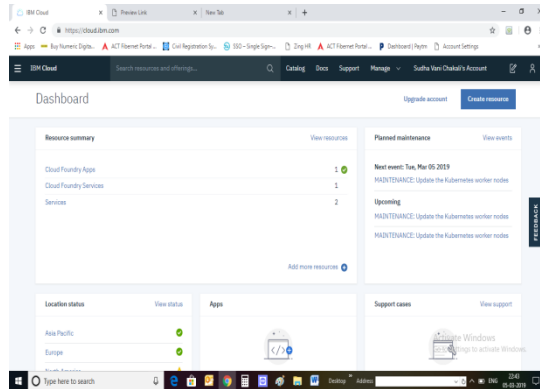


Figure 4.3 Dashboard

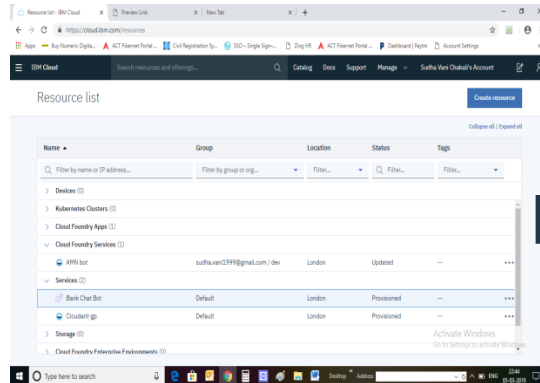


Figure 4.4 Resource list

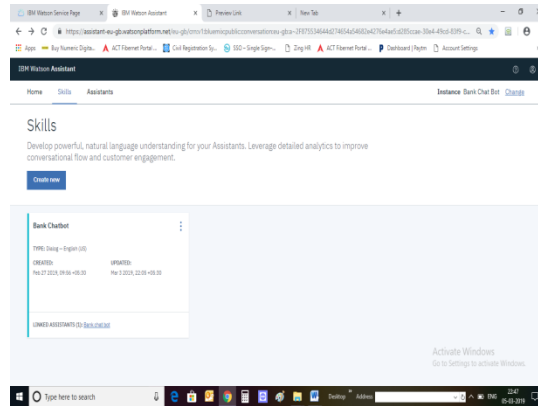


Figure 4.5 Skills

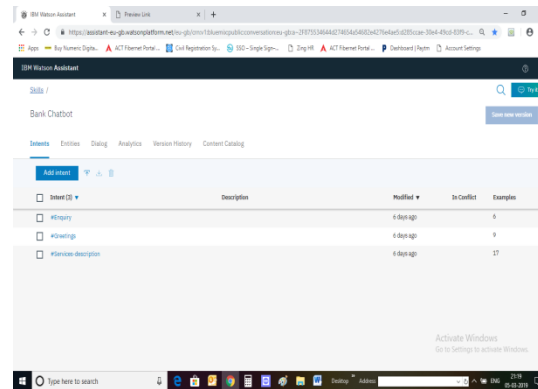


Figure 4.6 Skills for Bank Chatbot

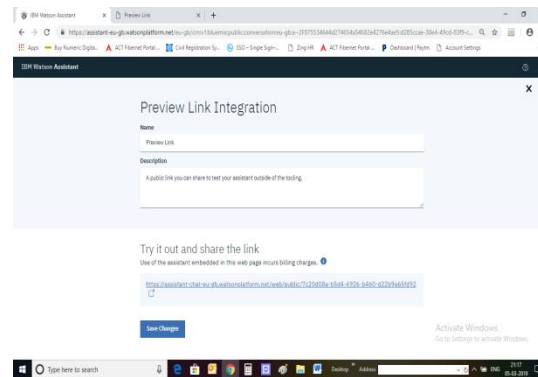


Figure 4.7: Preview link integration

V. COMPLETELY ABOUT PROJECT

Our project is about Bank Chat Bot, We have selected Bank Chatbot because the youth are very much interested in creating their own bank accounts and we are one of them. In this chatbot we've included the banks which are nearby. It educates the people about the working of the bank and also explains bank management. It also describes all the services that the banks provide. It provides the necessary information a customer asks for. It shows the loans and documents which are required. It shows the working hours (timing) of the banks which are nearby. It prescribes if any documents are required for a particular action. It also helps to educate people about the ATM transaction. It gives the information regarding the appointments if they are needed. It shows the Eligibility for a citizen about their

age, if they are less than 18 then they are not supposed to have a personal bank account there must be a guardian. There are many services included in this chatbot and their details are given. There are also many loans which are applicable to only few people. We've also included few pictures and also few audio's which makes the conversation more understandable. It gives the proper details regarding the documents which are useful for an applicant when he/she are applying for a new bank account. The basic idea for this chatbot is to create a new bank account and also a personal one. This chatbot shows he banks which are nearby. It shows the government as well as private banks and also shows their names which are nearby. It gives the user proper information regarding the loans so they can have a better understanding and can take the correct step while choosing them. It can be educate the users about the working of the bank it gives the basic idea that a user can ever need. It is very helpful to a user if he/she is new to the bank.

VI. RESULTS AND DISCUSSION

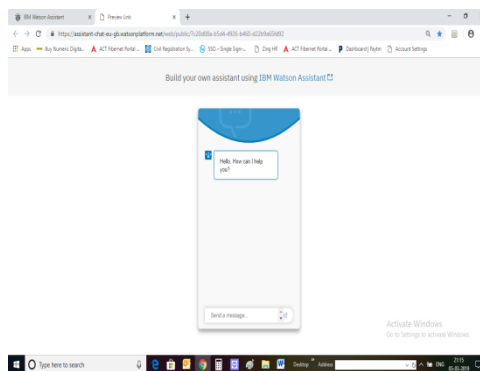


Figure 6.1 Welcome message

In the IBM Watson assistant we can create our own assistant .The assistant responds in the following manner. Firstly the greetings are given to the assistant bot when we open the preview link it directly gives that hello how can I help you.

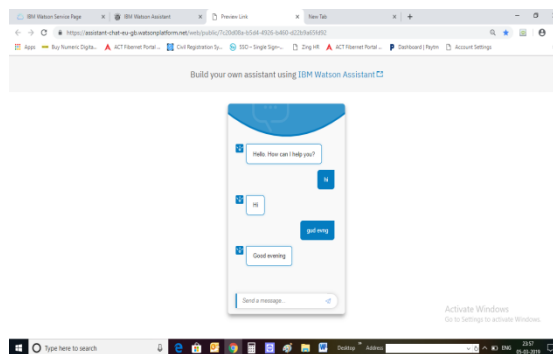


Figure 6.2 Outputs for Greetings

Then we start to give the input with greetings such as hi, hello, gm, gudevng. Then the will give you an appropriate response for the corresponding input given by the user. It gives some idea about the banks and its working nearby. It also gives the information about the government as well as the private banks. It gives the timings and also provides the documents required and also gives the information regarding the appointments required. It gives the basic idea about the loans and also gives the information about the documents required for the loans to apply. It provides all the services which every bank provides.

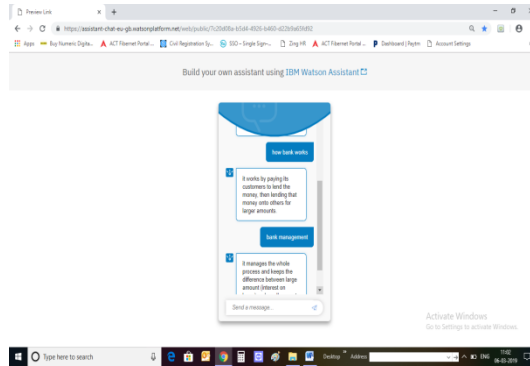


Figure 6.3 Response for the input given by user

It also gives the information about how to create a bank account. It also gives the basic idea about the loans and it also provides the requirements to apply to a loan. It gives the new user a new idea about how the bank works and it also tells how the bank manages. It also gives the information about the bank management and also gives the services which the bank provides. It provides the basic information that a new user requires about the bank.

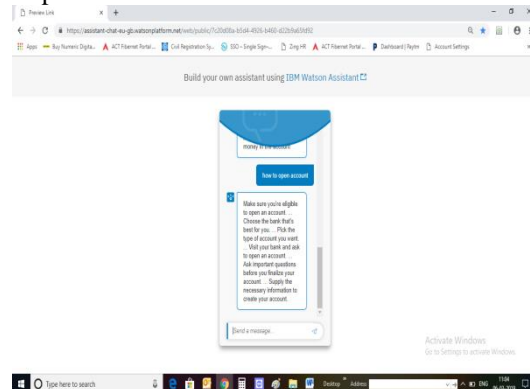


Figure 6.4 Response for appropriate input

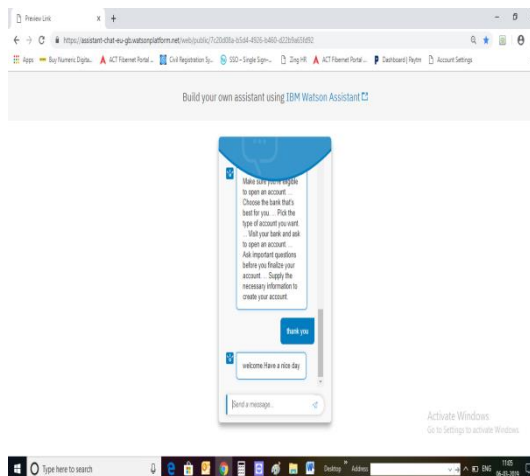


Figure 6.5 Output at the end

VII. CONCLUSION

We are going to design a chat bot system for banks which will give a proper response to the user's questions. It is an intelligence system which will think and communicate like human beings. This system will decrease the burden of employees. Due to AIML files this system will give correct and rapid answer to the user. ICB system has capability to take voice as well as text as an input. If a person isn't having proficiency about typing a language the system has an input voice facility. The main use of threads allow multiple processing of incoming and outgoing messages without waiting or unavailable server ICB is having functional GUI and animation so that the user feels that he will be talking to another person.

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