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Banking Bot

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Abstract: ***Banking bot is an artificial intelligent development for bankingoperations, which can understand people queries and responds accordingly. The main aim of this project is to develop a banking bot using artificial intelligent algorithms which should be able to analyze and understand user's queries and react accordingly. For any banking related querieswe have to go to the bank or call to customer care. It takes lot of time and effort and bank people are also very busy to attend our queries. On the other hand we don't get complete information from the customer care executives. It will be more suitable ifwe can directly post our queries online or chat with the bank people and get the response within less time. To overcome this problem we proposed banking bot where people can directly chat with a bot and theycan integrate all of their bank accounts into same bot account and access them easily. The objective of this project is to contribute to the solution of the problem of direct communication between user and the bank. It provide 24/7 client support, so existing and potential customers can try and solve their banking problems after work hours and on weekends. This ultimately also leads to better customer experience. Customers can check account balance or check their transaction status using a botinterface. Banks can also analyze the usage of available schemes and generate feedback from diversified customers accordingly.***
Keywords: User's queries, artificial intelligence algorithms, banking operations.

I. INTRODUCTION

Banking has become the part and parcel of everyone's life. Almost everyone uses the banking sector to perform their tasks. Most of the tasks are been carried out manually. Now the use of mobile and internet banking facilityhas reached greater heights. Chat bots is becoming trending today. They are computer programs that interact with users using naturallanguages. In this project we are trying to perform few of the basic banking operations via chat bots. Now bots in banking sectors are only used to give guidelines but in this bot,we perform banking operations for a list of few banks.

The objective of this project is to contribute tothe solution of the problem of direct communication between user and the bank. It provide 24/7 client support, so existing and potential customers can try and solve theirbanking problems after work hours and on weekends. This ultimately also leads to better customer experience. Customers can check account balance or check their transaction status using a bot interface. Banks can also analyze the usage of available schemes and generate feedback from diversified customers accordingly

II. RELATED STUDY

BOT projects are affected by several risks and uncertainties. One of the most important issues in this type of contract is to determine the length of concession period considering these uncertainties. The previous studies have developed several models to determine the concession period. However, the uncertainties are not taking into account in most of the previous works. Moreover, none of the previousresearches has the capability to aggregate the opinions of different experts being involved in aproject regarding the values of the uncertain input parameters. In this research, a Fuzzy- Delphi technique is implemented to determine the length of concession period considering uncertainties. Using the proposed Fuzzy-Delphi technique, the values of different uncertain factors affecting a BOT project is determined considering opinions of a group of experts. The NPV value is calculated considering the resulted aggregated values of uncertain input parameters. Finally, the concession period is determined using fuzzy approach. A case study is conducted to evaluate the performance of the proposed methodology. It is shown that the concession period is determined more effectively using the proposed approach.

This paper uses case-based reasoning (CBR)approach to establish estimation method of build-operate-transfer(BOT) project risk[3], through a CBR assessment system that helps stakeholder to master the specific features of the BOT project under the present conditions. Affected by numerous factors related both to the specific features of the project and dynamically changed situations,

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BOT[1] projects risk assessment problems are highly unstructured. Risk management aims to anticipate the future performances of the projectand the economic parameter range of the project. Through the CBR[8] system, similar casescan be retrieved to assess the possible influence of BOT project risk degree. An example of garbage burning power plant in china is explained and evaluated to demonstrate the feasibility of the method.

Loan risk is one of most important source of risk that our commercial bank face and it constructs the main part of risk management. So strengthening the measurement is of much significance to our commercial bank. Based on brief introduction of the theory of loan projects risk, considering the complexity of multi-objective decision of credit risk assessment in commercial bank, this paper builds a new analysis index system for the loan projects risk ranking in commercial bank. By using GRA method to determine the weights of the evaluating indicators and taking the fuzzy comprehensive evaluation as the evaluation criteria, it advances a new method of loan projects risk assessment in commercial bank. The practical examples show that this method is feasible.

This paper describes the evaluation of a natural language dialog-based navigation system (Happy Assistant) that helps users access e- commerce sites to find relevant information about products and services. The prototype system leverages technologies in natural language processing and human-computer interaction to create a faster and more intuitive way of interacting with websites, especially for less experienced users. The result of a comparative study shows that users prefer the natural language-enabled navigation two to one over the menu driven navigation. In addition, the study confirmed the efficiency of using natural language dialog in terms of the number of clicks and the amount of time required to obtain the relevant information. In the case study, as compared to the menu driven system, the average number of clicks used in the naturallanguage system was reduced by 63.2% and theaverage time was reduced by 33.3%.

III. EXISTING SYSTEM

Remember the time when we used to rely on IVR customer services and support to resolve issues related to the computer problem or mobile services. It was surprising how we used to interact with our mobile devices and type on the glass screen to communicate our concerns. However, everything wasn‘t really that smooth and functional every time the approach to customer service is made. The massive issue was that most IVR systems didn‘t offer quick problem learning or problem-solving abilities. They didn‘t have learning capabilities that today‘s virtual voice assistant develops over time. Moreover, typing was not practically the most effective way to interact with a device or a computer for the most common problems. It wasn‘t that long ago that we had to invest a lot of effort into fulfilling the minor routines. The world without the voice-driven AI services would seem slow, inefficient and strenuous now that we can think of adopting enlightened virtual assistants. They enable us to make informed decisions and solve an issue in a matter of seconds.

A. Disadvantages of Existing System

Banking has become increasingly dependent on information systems and the use of most modern technology has also become increasingly significant. But, the lack of voiceassistants is being seen in banks. All banks dohave the same features as NetBanking, Credit card services, etc. Apart from providingBusiness Intelligence and schemes, services inattracting people, banks should also provide voice assistant services to attract illiterates to use their banking services.

IV. PROPOSED SYSTEM

The proposed system is Banking bot is anartificial intelligent develop for banking operations, who understand people queries and responds accordingly. The main aim of this project is to develop a banking bot using artificial intelligent algorithms which should be able to analyze and understand user’s queries and react accordingly. For any banking related queries we have to go to the bank or call to customer care. It takes lot of time and effort and bank people are also very busy to attend our queries. On the other hand we don’t get complete information from the customer care executives. It will be more suitable if we can directly post our queries online or chat with the bank people and getthe response with no time. To overcome this problem we proposed banking bot where people can directly chat with the bot.

A. Advantages Of Proposed System

1) An automated bot application can communicate with the bank's customers viatext messages.

2) To minimize the time consumption.

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V. ARCHITECTURE OF THE PROJECT

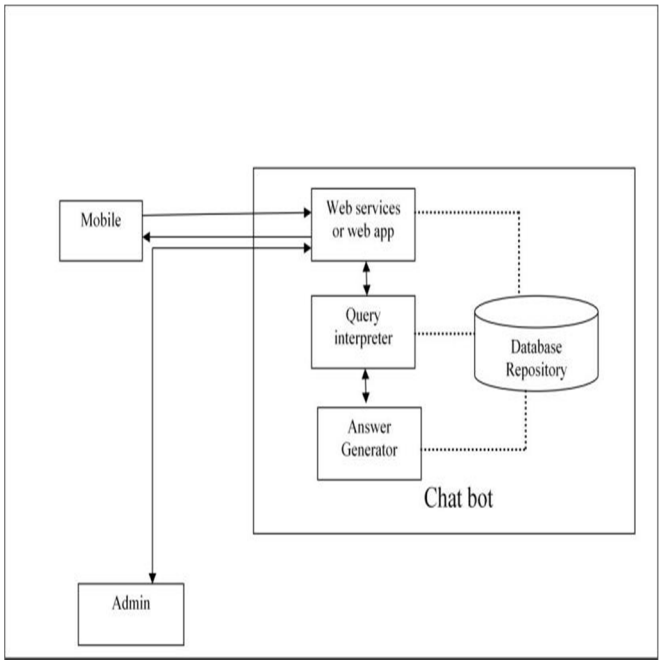

Fig no.1 System Architecture

This is the architecture of our system. In this, user gives the input in the form of voice or text. If the input is in the form of voice, then it will be converted in the form of text byusing voice to text converter. The input is thenpassed to the query interpreter of chat bot. The query interpreter will interpret the input using Intelligence System and send request to the web server; server will collect data from respective repositories which are maintained by the admin. The output from query interpreter matches with repositories and generate the answer as per pattern matching. At last, web server will send the result back to the chat bot. The result can be in the formof text. Finally, the user can get the required result.

VI. TEST CASES

Use case ID	Banking Bot
Use case Name	Home button
Description	Display home page ofapplication
Primary actor	User
Precondition	User must open application
Post condition	Display the Home Page of an application
Frequency of Use case	Many times
Alternative use case	N/A
Use case Diagrams	
Attachments	N/A

Table no.1 Test cases

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VII. CONCLUSION & FUTURE SCOPE

A. *Conclusion*

The system is designed for banks use where users can ask any bank related questions like loan, account, policy etc. This application is developed for web users. The system recognizes user's query and understands what he wants to convey and simultaneously answers them appropriately. The questions asked by the users can be in any format. Thereis no specific format for users to ask questions. The built in artificial intelligence system realizes users requirements andprovides suitable answers to the user.

B. *Future Enhancements*

We experimented this approach on limited set of data. In future, we would like to extend thiswork to a massive dataset extracted from real time conversations of banks. Further, it can bedeployed to any particular bank's website. Features like transaction history and other confidential information can be made available to users by deploying private secured login ID to each customer. Thus, banking comes with ease to the globe.

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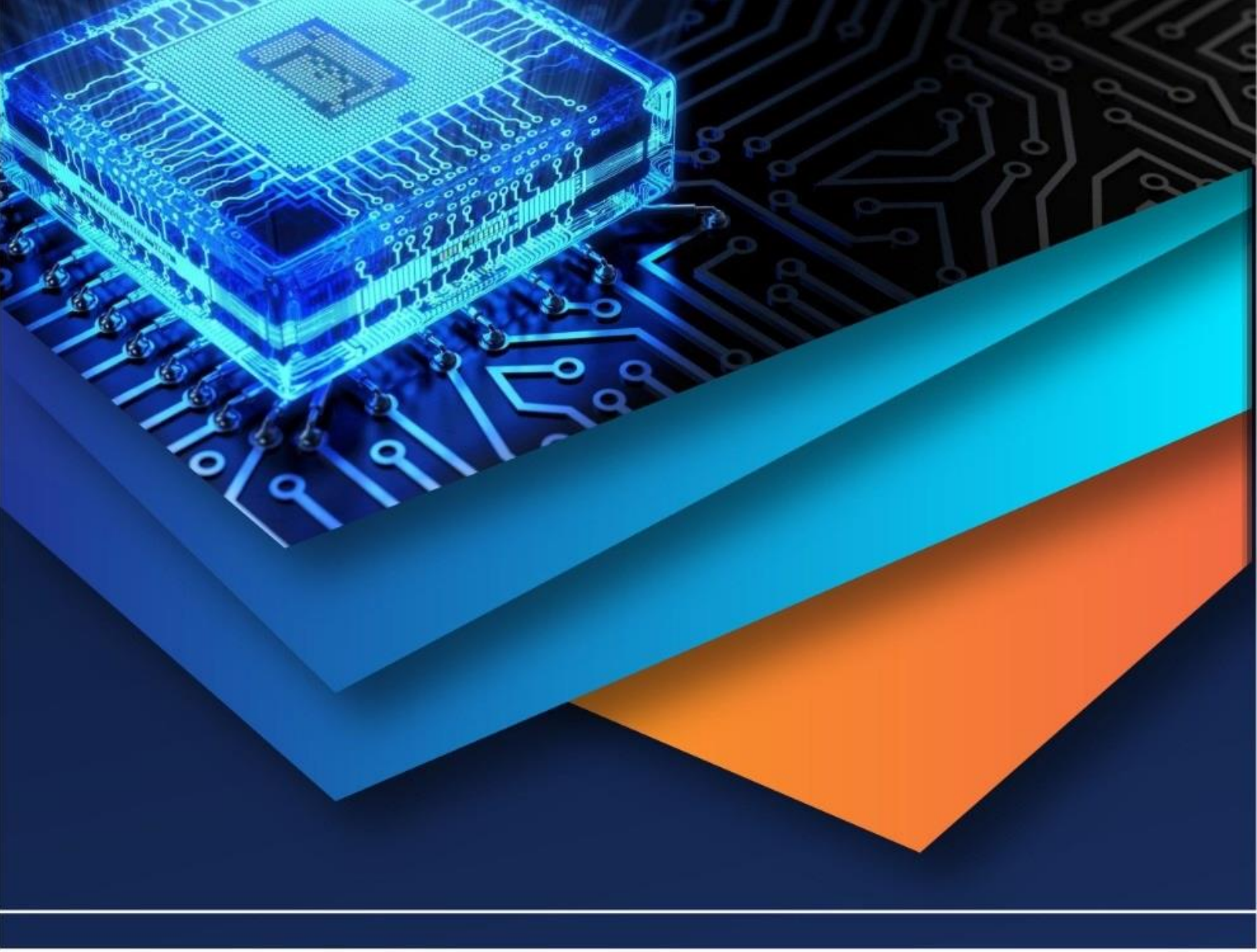

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