iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 4 **Issue:** IV **Month of publication:** April 2016

DOI:

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)

Intelligent Chat Bot for Banking System

Mr. Aniket Dole[1], Mr. Hrushikesh Sansare[2], Mr. Ritesh Harekar[3], Prof. Mithun Mane [4]
[1, 2, 3] Student, [4]Assistant Professor,
[1,2,3,4] Department of Computer Engineering,
Rajendra Mane College of Engineering & Technology, Ambav, Devrukh. Mumbai University, Maharashtra- 415804, India.

Abstract: An intelligent chat bot will be used to give information or answers to any question asked by user related to bank. Our Intelligent system will first take input from bank customer. This input will be taken as voice or written format. According to input, intelligent system will processes the query and give response to user. An artificial intelligence is most important and helpful part of our project. Intelligent system is automation of activities associated with human thinking, decision making, and problem solving process. Questions asked to the bot, which will not be 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.
Keywords - ICB (Intelligent Chat Bot), AIML (Artificial Intelligent Markup Language), AI (Artificial Intelligent)

I. INTRODUCTION

This banking bot project is built using artificial algorithms that analyses user's queries and understand user's message. We are going to design system for banks where users can ask any bank related questions like loan, account, policy etc. This application will be developed for web users. The system will recognizes user's query and understands what he wants to convey and simultaneously answers them appropriately. Even if the user does not frame sentence properly system will understands the query and answer accordingly. There is no specific format the user must follow to ask questions. The built in artificial intelligence system realizes users requirements and provides suitable answers to the user.

II. LITERATURE REVIEW

The purpose of a chat bot system is to simulate a human conversation; the chat bot architecture integrates a language model and computational algorithm to emulate information chat communication between a human user and a computer using natural language. With the improvement of data-mining and machine-learning techniques, better decision-making capabilities, availability of corpora, robust linguistic annotations/processing tools standards like XML and its applications, chat bots have become more practical in daily life applications such as help desk tools, information retrieval tools, automatic telephone answering systems, advertising, tools to aid in education, business and E-commerce. In E-commerce, chat bot helps in information retrieval tasks, such as for searching and browsing, as menu based navigation poses difficulties in locating the appropriate information [1]. The dialogue system provides additional information on products and simplify decision making process to find a product that satisfy customer's requirements [2].According to Dr. Wallace, perhaps, the biggest market of chat bot is Entertainment Markets, in which, we can imagine that chat bots can act as a talking book for children and provide foreign language instruction or can be a tutor in Intelligent Tutoring system. One such study used an ALICE system to help Chinese university students practice their conversational English skills. The study was qualitative in nature and used pre-existing conversational English skills [3].The study focused more on user attitudes rather than on chatter bot efficiency. It was discovered that 62% of users chatted for 10 lines or less, and that 8.5% of the time ALICE bot has no specific pattern to match the given input and had to rely on root-level generic responses. In all of these conversational entities, one thing is common; and that is, they are having the difficulty of maintaining dialogue for sustainable period of time. Another tutoring study focused on using ALICE as a course enhancement tools with Social and Political Theory knowledge [4].Chatter bot development is reasonably well studied ever since the Turing Imitation Game (TIG) [5] was first proposed. Eliza [6] was the first famous chat bot, and ALICE [7] was another milestone. The Loebner Prize and The Chatterbox Challenge are both annual competitions which have their roots in TIG. However, these are typically text only experiments, although some limited visual components are often added. This focus is on; however, whether with the text exchange alone, we can replicate human "behavior" [8].This study found that most subjects used the system as a search engine rather than as a conversation partner. It was further concluded that their system was unable to function as a stand-alone tutor. Dialog system can adequately carry out the conversations with the user and can log the conversations which can be good source for knowledge acquisition for domain specific topic [9]. Therefore, techniques of knowledge acquisition were rightly used in their system AZ-ALICE chat bot that is an extension in ALICE

©IJRASET : All Rights are Reserved

Volume 4 Issue IV, April 2016
ISSN: 2321-9653

chatter bot. They tested their system [10].

III. SYSTEM IMPLEMENTATION

The main language used to develop demonstrator of this paper is C# and the .net framework. Visual studio 10 is one of the best platform for creating the windows based application.It is easy to use because lots of drag and drop tools available.

A. Voice to text

The main component of speech recognition framework contains the system.speech.recognition. The windows desktop application technology types for implementing speech recognition.

-System.Speech.AudioFormat
-System Speech.Recognition
-System.Speech.SrsGrammer

Can use SpeechRecognitionEngine have to set up several properties and invoke some methods.

1) *SpeechRecognitionEngine():* Initializer a new instance using the default Speech recognition for the system.
2) *SpeechRecognitionEngine(CultureInfo):* Initializes a new instance using the default speech Recognizer for a specified locale.
3) *SpeechRecognitionEngine(RecognitionInfo):* Initializes a new instance using the information in a Recognition in a RecognizerInfo object to specify to use.
4) *SpeechRecognitionEngine(String):* Initializes a ne instance of the class with a string parameters that specifies the name of the recognition.

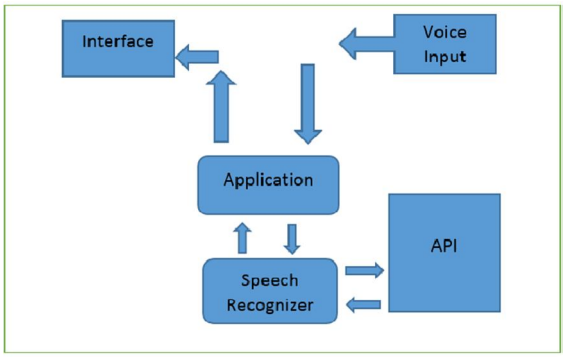


Figure 1.Speech Recognition Framework

B. AIML

AIML stands for Artificial Intelligence Markup Language is a XML base.AIML files are structured to consist of xml formatting with context descriptions as indicated in the next code segement

```
<aiml>
<category>
<pattern>HI</pattern>
<template>Hello there</template>
</category>
</aiml>
```

XML files start with the <aiml> tag and end with </aiml> tag. Each aiml files must have a atleast single aiml tag. <aiml>tag contain <category> defines the unit of knowledge in Alicebot's knowledge base. Users input in the form of sentence which can be an assertion, question, and exclamation etc. User input can contains the wild cards characters like * and _.Response to user input to be presented by Alice bot.

A <category> tag must have <pattern> and <template> tag.<pattern> tag represents a user's input. It should be the first tag within <category> tag.<pattern>tag can contain wild card to match more than one sentences as user input. For example,<pattern> contains Hi.<template> tag represents the bot's response to the user. It should be second tag within <category> tag.<template > tag can save data.

Although large set of AIML files there to guide the bot it does not dictate a response. These sets of categories make up groups of questions and answers. Thus the intelligence is limited. If a question appears where no response can be generated the system will try

©IJRASET : All Rights are Reserved

to change the topic or send a general statements. This is considered a trick for inadequate knowledge but is a first step for any chat bot. An Implementation of ALICE bot engine uses the algorithm to generate a response using its library for pattern assimilation, namely AIML files[11].

C. Text to Speech

In C# language using System build function Speech Synthesizer to convert text to speech. SpeakAsync method is to speak word. There are two properties used here one is volume, another one is rate.voice genders also one of the properties. It is used to select voice gender (enum Notset , Male, Female ,Neutral).

IV. CONCLUSION

We are going to implement an intelligent chat bot system for bank, which will gives an appropriate response to user's query. It is an intelligent system which will think like human beings. This system will be helpful in reducing workload of employees. Due to an AIML files accurate and quick answers will be given to user. ICB system will take both voice as well as text as an input. If person is not having knowledge about the typing of particular language the system provides voice input facility.The core use of threads allows multiple processing of incoming and outgoing messages to occur without having to create a waiting scenario or unavailable server due to over use or possible congestion. ICB will be having effective GUI and animation, so that the user feels that he will talking with another person.

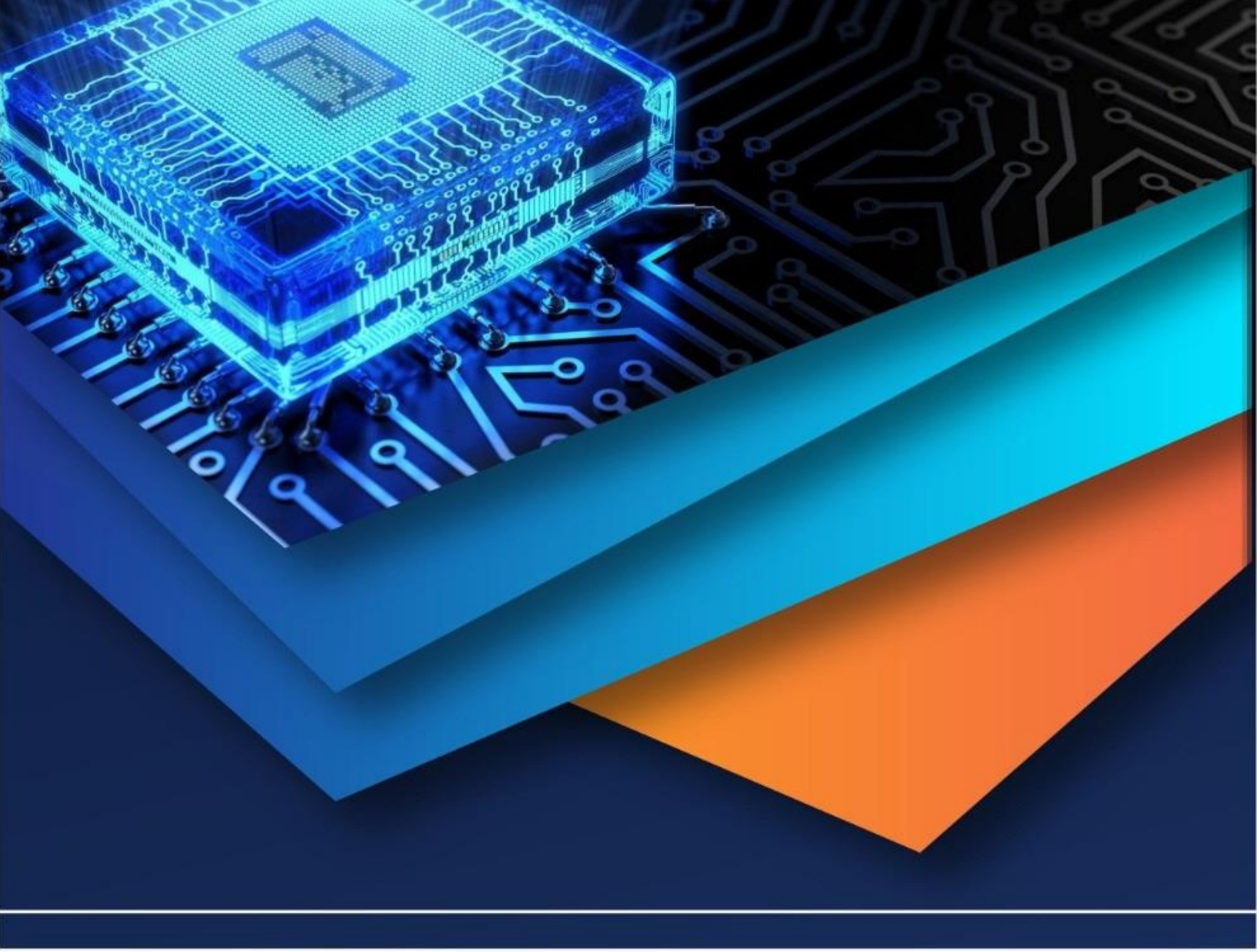
V. ACKNOWLEDGMENT

We would like to express our sincere gratitude towards my guide, Prof. Mane M.A., for the help, guidance and encouragement, he provided during the BE Project-II. This work would have not been possible without his valuable time, patience and motivation. We thank his for making our stint thoroughly pleasant and enriching. It was great learning and an honour being his students. We are deeply indebted to Prof. Naik L. S. (Head of Department) and Prof. More V. S. (Project Coordinator) and the entire team in the Computer Department. They supported us with scientific guidance, advice and encouragement, they were always helpful and enthusiastic and this inspired us in our work. We take the privilege to express our sincere thanks to Dr. Bhagawat M. M., our Principal for providing the encouragement and much support throughout our work.

REFERENCES

[1] J. Chai and J.Lin, "The role of natural language conversational interface in online sales: a case study,"International Journal of Speech Technology., vol. 4, pp. 285295, Nov. 2001.
[2] J. Chai, Horvath V., Nicolov, N., Stys, N., K., Zadrozny, W., Melville,P"Natural Lanuage Assistant: A dialogue system for online product recommendation" AI Magazine; ProQuestzScience Jounals.J Summer 2002; 23, 2, pp 63-75
[3] J. Jia, "The Study of the Application of a keywords-based Chatbot System on the Teaching of Foreign Languages."
[4] R. Moore, G. Gibbs, "Emile:Using a Chatbot Conversation to enhance the learning of Social Theory" Univ. of Huddersfield, Huddersfield, England,(2002)Ausburg, Germany, University of Ausburg. 2002.
[5] Weizenbaum, J. 1966. ELIZA- A Computer Program for the Study of Natural Language Communication between Man and Machine, CACM 9(7), 36-43
[6] Eliza- a friend you could never have before. [Online]. Available:¡http://www-ai.ijs.si/eliza/eliza.html
[7] Wallace R.A.L.I.C.E. The Artificial Linguistic Internet Computer Entity.Pandorabots. [Online]. Available: http://www.pandorabots.com/pandora/
[8] Loebner H. (2006). Hugh Loebner"s Home Page [Online]. Available: http://www.loebner.net
[9] R. P. Schumaker, Ginsburg, M., Chen H., Liu Y.,"An evaluation of the chat and knowledge delivery components of a low-level dialog system:The AZ-ALICE experiment" Decision Support Systems, 42(4):2236-2246(2007).
[10] R. P. Schumaker, Liu Y., Ginsburg, M., Chen H.," Evaluating Mass Knowledge acquisition in the Alice chatterbot: The AZ-ALICE dialog System." Int J. of Human Computer Studies, 64: 1132-1140 (2006).
[11] http://www.tutorialspoint.com/aiml

©IJRASET : All Rights are Reserved



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)