

Intelligent Chat Bot for Banking System

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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. This system will be available on web. Our system will represent the design and development of an intelligent chat bot. It will present a technology demonstrator to verify a proposed framework required to support such a bot (a web service). While a black box approach is used, by controlling the communication structure, to and from the web-service, the web-service allows all types of clients to communicate to the server from any platform. The service provided will be accessible through a generated interface which allows for seamless XML processing; whereby the extensibility improves the lifespan of such a service. By introducing an artificial brain, the web-based bot generates customized user responses, aligned to the desired character. 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.

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 "behaviour" [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 chatter bot. They tested their system [10].

II. PROPOSED SYSTEM

A chat bot for bank system is a computer program designed to simulate an intelligent conversation of any banking related question with human users via auditory or textual methods.

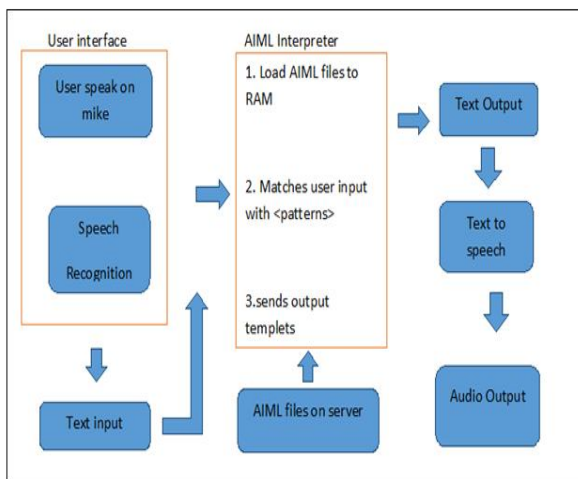


Figure 1: Architecture of AI Chatbot

This system can be used in many banking sectors which will help the customers in banking activities.

Advantages

- This system will help the user by answering the bank related queries.
- User does not have to follow standard format while asking any queries.
- System will answer to the query of the user as if real person is answering to the query.
- The built in artificial intelligence system will realize users requirements and provide suitable answers to the user.
- System uses a graphical representation of a person speaking while giving answers as a real person would do.

In future reference we are trying to implement our system in three languages such as English, Hindi and Marathi. Developing android apps for banking Chabot after completion of project successfully.

III. METHODOLOGY

Algorithm

- First system will take input from user either in text or voice format.
- If the input is in voice format then it will converted to the text format.

- If the input is in text format then it will be considered as it is.
- Received queries using the response generation module (ALICE), which makes use of a data repository.
- Search in Database appropriate answer. Create AIML files it has only guide the ALICE interpreter.
- Display result in Speech as well as in Text.

Module

1. Bot Chat

Users can chat with the bot as if talking to a real banking operative. This part is the core part our chat bot system. An artificial technology is new as well as it will help us to create very interactive system. It is very difficult to make decision on user's query but it is become easier because of the intelligent system. This part is accepts the input in text form and process. Then it will reply back to the user.

2. Text to Speech

The bot also speaks out the answer. Our system will also give output in both format text as well as in voice. Main benefit of audio output is, it is more understandable to user rather than read output.

3. EFFECTIVE GUI

The bot replies as if a real person is answering with lip movement. We are going to create some animations in overview so, the user can easily handle our system. Also user get fillings like they are talking with another person. In future reference we are trying to implement our system in three languages such as English, Hindi and Marathi. Developing android apps for banking Chabot after completion of project successfully.

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.

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