International Journal For Advanced Research In Science & Technology
A peer reviewed international journal
www.ijarst.in
ISSN: 2457-0362

AI BASED CHATBOT FOR HOSPITAL

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Abstract

In general, chatbots are used to interact with the user without human operation. Currently diseases has been rising rapidly. Despite many awareness programs, the result of these programs is very negligible. Here, AI-based chatbot systems can act as automated conversational agents, capable of promoting health, providing education, and potentially prompting behaviour change. Exploring the motivation to use health chatbots is required to predict uptake; however, few studies to date have explored their acceptability. This research aimed to explore participants' willingness to engage with AI-led health chatbots.. It uses Natural Language Processing (NLP) to process the input and generate the output. It accepts text from the user as input and replies with text. It can be accessed from any mobile / tablet / pc and helps the user with getting maximum utilization of services provided by it. This chatbot can be used by anyone without any difficulty and helps public to get complete information regarding diseases.

INTRODUCTION

Nowadays, we see the chat bots everywhere Chat bots are the source of answers to the users questions in any particular domain where it is operating. Chat bots are the source of answers to the users questions in any particular domain where it is operating. The most popular example today is the Amazon's Alexa. Chat bots are at almost every place, one can see it at every second website they visit. A bot is helpful in answering queries related to information which might be unreachable at that website easily. Most of the websites avail users with chat bots to aid them to go through what the websites facilitate. They are turning out to be our virtual assistants in everyday lives.

So what is a chatbot?

A chatbot is an artificial intelligence-powered piece of software in a device (Siri, Alexa, Google Assistant etc), application, website or other networks that try to gauge consumer's needs and then assist them to perform a particular task like a commercial transaction, hotel booking, form submission etc . Today almost every company has a chatbot deployed to

engage with the users. Some of the ways in which companies are using chatbots are:

- To deliver flight information
- to connect customers and their finances
- As customer support

How do Chatbots work?

There are broadly two variants of chatbots: Rule-Based and Self-learning.

1. In a Rule-based approach, a bot answers questions based on some rules on which it is trained on. The rules defined can be very simple to very complex. The bots can handle simple queries but fail to manage complex ones.

2. Self-learning bots are the ones that use some Machine Learning-based approaches and are definitely more efficient than rule-based bots. These bots can be of further two types: Retrieval Based or Generative

i) In retrieval-based models, a chatbot uses some heuristic to select a response from a library of predefined responses. The chatbot uses the message and context of the conversation for selecting the best response from a predefined list of bot messages. The context can include a current position in the dialogue tree, all previous messages in the conversation, previously saved variables (e.g. username). Heuristics for selecting a response can be engineered in many different ways, from rule-based if-else conditional logic to machine learning classifiers.

ii) Generative bots can generate the answers and not always replies with one of the answers from a set of answers. This makes them more intelligent as they take word by word from the query and generates the answers.

Applications:

A chatbot can be used anywhere a human is interacting with a computer system. These are the areas where the fastest adoption is occurring:

Customer Service — A chatbot can be used as an "assistant" to a live agent, increasing the agent's efficiency. When trained, they can also provide service when the call centre is closed, or eventually even act as an independent agent, if desired.

Sales/Marketing/Branding — Chatbots can be used for sales qualification, ecommerce, promotional campaigns, or as a branding vehicle. Human Resources — An HR chatbot can help with frequently asked questions ("how many vacation days do I have left?") and can act as an on boarding assistant.

LITERATURE SURVEY

While the software itself is executed on another computer referred to as server. In the case of chatbots, the target platform can be any medium that allows users to send messages to each other. A chatbot can be seen as a counterpart to interact with in the same way a user interacts with a human counterpart. There are numerous platforms available that fulfill these requirements. While messaging platforms provide means of communication, chatbots function similar to software accessible via a web browser; a server executing the chatbot software is needed and the messaging platform communicates with the server in the same way a web browser communicates with a server on the user's behalf.

Because of the wide variety of available messaging platforms it is not possible to create an all-encompassing collection of available platforms in the context of this work; the following is an overview over the currently most popular platforms, including their capabilities and their area of focus. One of the most used online communication platforms is E-mail. E-mail however does not have the characteristics of chatbots, to be able to communicate informally and in real time; which disqualifies E-mail as a platform for chatbots, even though in practice many use cases of chatbots overlap with the ones that can be solved with the automation of E-mail. Although users can choose to express themselves less formally and certain E-mail providers deliver E-mail in a very short time period, this statement is based on the current general use case whereby these two attributes are not given. Still, it is indeed possible for these characteristics to change in the future and nothing fundamental about the E-mail protocols is preventing their usage for chatbots. A well-known communication technology, which is suited for chatbots, is Short Message Service, or SMS. SMS is primarily used on mobile devices and users are identified by their phone numbers, wherefore the communication has to happen through cellular network providers. However the technology is limited in number of characters, often users are charged by amount of messages sent and communication is limited to text-only. "End of year 2009 user level for SMS globally Applications was 78%, ie 3.6 Billion" users worldwide, which means it remains one of the most popular communication channels; and it therefore is an interesting option for applications with a wide-spread audience or applications requiring a low entry barrier.

Since chatbots can communicate not only via text, but also using voice, phone calls are a possible medium too. They are a common way of communication available to a large number of people. However, for a chatbot that relies solely on voice for communication without any visual feedback, the design of the user experience has to be thought out especially careful. Furthermore to not only understand and generate natural language, but to also parse and generate voice comes with further technical costs.

Apple's Siri is another voice-based system available; but as of writing it is not accessible as platform for external services. Voice-based systems that can be targeted as platforms are Amazon's Alexa and Google Assistant. Both systems are general assistants helping the user with a variety of tasks and in both cases tasks can be delegated to third parties.

Currently popular target platforms for chatbots are messenger platforms. They are primarily text based, they mostly come without cost for end-users and additional to text they often support multimedia formats such as pictures, audio, locations and stickers. Some platforms also allow developers to display sliders, buttons and other graphical interface elements, which can help guiding users instead of exclusively relying on text for communication. At this point it is not feasible to create a comprehensive list of available features for each platform, since the field is innovating constantly and many of the platforms add new features almost every single month.

Facebook's WhatsApp is with one billion active users in January 2017 one of the most popular messenger applications. It, however, does currently not allow automated access to its platform and therefore using it as a chatbot platform is not a viable option.

The second messenger application belonging to Facebook, called Facebook Messenger, is equally popular with one billion active users in January 2017 as well. Contrary to WhatsApp, Facebook Messenger provides a platform for developing chatbots.

Following in popularity are two messenger platforms which are mainly popular in China, QQ Mobile and WeChat. Both of them currently do not provide a specific chatbot platform, but there have been successful attempts at creating chatbots for these platforms. Further popular messenger applications include the Japan-focused Line, Microsoft's Skype, Applications Telegram and the more business focused Slack. All of these applications provide dedicated platforms for the development of chatbots.

The choice of platform primarily depends on the target market. Different audiences prefer different platforms and therefore in certain scenarios one product might be better suited than another. Most Popular Messaging App by Country One important factor can be the geographical location of the target audience., Facebook Messenger and WhatsApp are the global leading messengers, and as previously mention the markets in China and Japan are dominated by WeChat and Line respectively, but the data shows some lesser know trends; for example the Thai market is also dominated by Line and in Iran, Telegram is the most popular messenger application.

EXISTING SYSTEM

Chatbots were 1st introduced in early 1960's and these mentioned below are some of the famous

chatbots with their respective drawbacks. As of now there is no chatbots which can get information about diseases.

Traditionally, the chat bot system is not known to people who are not more into the technology. Even if there exist a chat bot system, it is not much accurate in proving the answer or solutions. Users need to manually visit to the police stations to get their queries answered by the station help desk. This process consumes lot of time as well as money.

PROBLEM STATEMENT

The main objective of this project is to develop a chatbot for hospital domain awareness and create a conversation between user and machines, which can be implemented using Artificial intelligence

Motivation:

Chatbots, or conversational interfaces as they are also known, present a new way for individuals to interact with computer systems. Traditionally, to get a question answered by a software program involved using a search engine, or filling out a form. A chatbot allows a user to simply ask questions in the same manner that they would address a human. The most well known chatbots currently are voice chatbots: Alexa and Siri. However, chatbots are currently being adopted at a high rate on computer chat platforms.

The technology at the core of the rise of the chatbot is natural language processing ("NLP"). Recent advances in machine learning have greatly improved the accuracy and effectiveness of natural language processing, making chatbots a viable option for many organizations. This improvement in NLP is firing a great deal of additional research which should lead to continued improvement in the effectiveness of chatbots in the years to come.

A simple chatbot can be created by loading an FAQ (frequently asked questions) into chatbot software. The functionality of the chatbot can be improved by integrating it into the organization's enterprise software, allowing more personal questions to be answered, like"What is my balance?", or "What is the status of my order?"

Most commercial chatbots are dependent on platforms created by the technology giants for their natural language processing. These include Amazon Lex, Microsoft Cognitive Services, Google Cloud Natural Language API, Facebook DeepText, and IBM Watson. Platforms where chatbots are deployed include Facebook Messenger, Skype, and Slack, among many others.

PROPOSED SYSTEM

Chat bots are virtual assistants for Communicating via message or chat. Here new features like basic task handling, speech to text, voice enabling and speech recognition modules are introduced to make user-system interactions more convenient.

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The proposed system will be a web based system. So the entire project will be hosted on a server. The users can access this system from any place and at any time. the users query, searching it in the knowledge base and then showing the output

IMPLEMENTATION

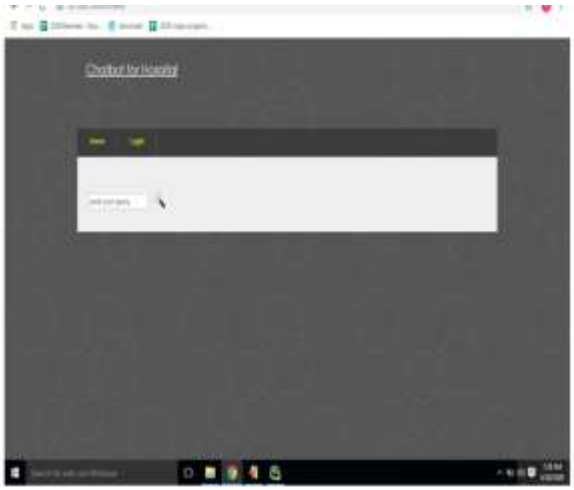
User

In this module user can search query about diseases and he can reply from bot for his query User can register and he can post his query User can view his complaint status

Admin

In this module admin can login and admin can update the diseases info And admin can view the query's of users and he can reply for the user query's

RESULTS



CONCLUSION

The purpose of a chatbot system is to simulate a human conversation. Its architecture integrates a language model and computational algorithm to emulate information online communication between a human and a computer using natural language.

Though it is a very simple bot with hardly any cognitive skills, its a good way to get into NLP and get to know about chatbots.Though 'ROBO' responds to user input. It won't fool your friends, and for a production system you'll want to consider one of the existing bot platforms or frameworks, but this example should help you think through the design and challenge of creating a chatbot. Internet is flooded with resources and after reading this article I am sure , you will want to create a chatbot of your own. So happy tinkering!!

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