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Chat-Bot Utilization for Health Consultancy

Prof. A. B. Gadewar[1], Ammara Shaikh[2], Samiksha Bhalerao[3], Bhagyashree Nawsagre[4]

[1]*Professor, Dept. Information Technology Engineering, P.D.E. A's college of Engineering, Maharashtra, India*
[2,3,4]*Student, Dept. Information Technology Engineering, P.D.E. A's college of Engineering, Maharashtra, India*

Abstract - *--Machine Learning and Artificial Intelligence has provided us with technology that can replace many works where humans put their brain on high level in work and try to integrate and improve the life style. Many things are now possible to get done by machine without any supervision of human. Human characteristics are being deployed in machines. Chatting is one of the most used amongst them. We know what to say at particular situation in order to continue in expressing thoughts and getting a conclusion. Using If and Else logic from real world we can train machine to give possibly best reply to our statement delivery. In this study we are proposing chat-bot system for health care purpose that will give appropriate response and will try to give best suggestions to diseased person at any time of the day*.

Key Words: **Chat-bot, Consultant System, Natural Language Processing.**

1. INTRODUCTION

Personal health care as a whole is dependent on an individual's life style and how much one focuses on him. Although one has lots of money but could not get time to visit doctors or medical centers for checkup.

Virtual assistant can help regarding this issue. Trained chat-bot can make conversation with person and dependent on explanation of that person bot can suggest medicines and health tips to take care. Medicines for small disease can be suggested. Insomnia, additionally referred to as wakefulness, could be a disorder during which individuals have issues related for sleeping. They will have problem falling asleep, or staying asleep as per their desires. Sleep disorder is often followed by daytime somnolence, low energy, irritability, and a depressed mood. It's going to lead to associate degree accumulated risk of motorcar accidents, also have issues in concentrating and learning. Sleep disorder are often short term, lasting for days or weeks, or future, lasting over a month. Insomnia will occur severally or results of another drawback. Conditions that may lead to sleep disorder embody psychological stress, chronic pain, glandular disorder, heartburn, restless leg syndrome, menopause, bound medications, and medicines like alkaloid, nicotine, and alcohol. Alternative risk factors embody operating night shifts and apnea.

1.1 Classification of Chat-bots

Chat-bots are conversational agents which interact on the prescribed domain. With the modern-day growing technicalities and other fast enhancing software the chat-bot development has led to various ways for conversing in different domains.

The chat-bot are basically been classified into two types, namely rule based and A.I based chat-bots.

The Rule Based Chat-bots are confined to a specific set of conditions also referred as rules. These chat-bot follow the pre-described set of rules and are bounded to a limit. They answer in a narrow way and are very static.

On the other hand, A.I Based chat-bots are trained in such a way that they play more dynamic. These chat-bots are preferred over the Rule Based ones as they tend to have better human friendly conversations. They can be trained in different domains and have a great interaction with well suited answering power.

2. LITERATURE REVIEW

Many technologies are currently developing a conversational assistance and the chat-bots are one amongst the most upcoming ways directing the conversation. The chat-bot developed in past decades have many technologies embedded in them and are at the edge of future scope for more development as a new way for emerging conversational intelligence.

ELIZA, it is considered to be the first chat-bot in the history of Computer Science Technology developed by Joseph Weizenbaum at Massachusetts Institute of Technology (MIT) [9]. "Chatterbot" was coined in the year 1994. It operates by recognizing key words - phrases from the input to reproduce a response using those keywords from pre-programmed responses. For example, if a human says that 'My father works from home'. ELIZA would pick up the word 'father', and respond by asking an open-ended question 'Tell me more about your family and your father'. This created an illusion of understanding and having an interaction with a real human being though the process was a mechanized one.

ALICE was developed in the year 1995 by Richard Wallace. Unlike ELIZA, ALICE chatbot used natural language processing, which allowed for more Human like conversation. It was revolutionary, though, for being open-

source. ALICE stands for Artificial Linguistic Internet Computer Entity.

Currently, the chat-bots are utilized in various fields of work like education, smart systems and others. For educational purpose a chat-bot designed for FAQ system which responds to students with question answering conversation [12]. The smart systems utilize the chat-bots for controlling home or office appliances with IOT [13]. Medicine is a wide spread field of work which in turn requires high accuracy, a chat-bot with the machine learning and Artificial intelligence is quite interesting and challenging work. Chat-bot for diabetic patients to record medical history is one such example for medicine [14]. Prediction from a person's information such as age, weight, height and other factors is another such piece of work in chat-bot area [15], [16]. Health On-Line Medical Suggestions very well known as HOLMES system records the patients and does the big data analysis which makes this system more reliable and also increases the accuracy.

Typically, development of a chat-bot requires the templates that match to user's inputs that is the questions and the answers to generate appropriate solution or say a response. At this instance, there are various platforms to design chat-bot without even the knowledge of coding, drag and drop options makes it very simple to develop chat-bots as per the desired domain of interest. This makes it cost effective and time saving.

The "chatbot knowledge extraction" means extracting the pairs of <input, response> from online resources like websites, news, magazines and other sources [3]. Existing work on automatic chatbot knowledge acquisition is mainly based on human annotated datasets worked by Shawar and Atwell [2003] and Tarau and Figa [2004]. Their approaches were helpful to construct a sane knowledge for chat-bots. Besides all of this, these are not capable of extracting knowledge for specific domains.

Bibliometrics is the use of statistical method to quantitatively analyse books, articles, and other publications. These methods are frequently used in the field of library and information science which helps in recognizing pattern and relations which in turn help in chat-bot technology for better interaction [10].

Chat-bots are very often used on social media to interact as well as understand the user in order to fulfil his needs [11]. OntBot uses appropriate mapping technique for transformation of ontologies into relational databases which is drives the chat-bot [5]. Ontologies means the study of nature and existence, determination of correspondences between concepts and knowledge .

3. CONCLUSIONS

Here we come at the conclusion that as it is being said that AI/ML will improve the life style and livingness of human. It will help in medical related fields and also handle diseased people with more training and guiding in terms of achieving and after giving ability to learn by own with continuously new data providence and improving algorithms. Chat-bot can be great virtual assistance for mentally stressed persons and can help them to release unnecessary tension and pressure. Also, will give motivation to change perspective to live life happily.

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