AI MEDICAL CHATBOT

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***Abstract*— Normally Users are not aware about all the treatment or symptoms regarding the particular disease for small problem user have to go personally to the hospital for check-up which is more time consuming. Also handling the telephonic calls for the complaints is quite hectic. Such a problem can be solved by using medical ChatBot by giving proper guidance regarding healthy living.**

The medical chat-bots functioning depends on Natural language processing that helps users to submit their problem about the health. The User can ask any personal query related to health care through the Chat-Bot without physically available to the hospital. By Using Google API for voice-text and text voice conversion. Query is sent to ChatBot and gets related answer and display answer on Chatbot.

Keywords*— *Medical Chatbot Natural Language Processing

Introduction

The main purpose of the scheme is to build the language gap between the user and health providers by giving immediate replies to the Questions asked by the user. Today's people are more likely addicted to internet but they are not concern about their personal health. They avoid to go in hospital for small problem which may become a major disease in future.

Artificial Intelligence gives the supreme power to mimic the human way of thinking and behaving to a computer. Chatbot's are such kind of computer programs that interact with users using natural languages. This technology started in the 1960's the aim was to see if Chatbot systems could fool users that they were real humans. However, Chatbot systems are not only built to mimic human conversation, and entertain users. Chatbot's work basically on Artificial intelligence, so using this capability we have decided to add some contribution to the Health Informatics. Chatbot's are such kind of computer programs that interact with users using natural languages**.** Today, chatbots are part of virtual assistants such as Google Assistant, and are accessed via many organizations' apps, websites, and on instant messaging platforms. Chatbot's work basically on Artificial intelligence, so using this capability we have decided to add some contribution to the Health Informatics.

This system allows computer to communication between human to computer by using natural language processing (NLP). There are three analyses which understand natural language i.e. identification of main linguistic relations is completed to parse subject into object of the sentences. After that description of the texts is done. The semantic interpretation uses knowledge of word meaning Chatbot is an Entity which imitate human discussion in its particular accepted set-up together with a text or vocal language with techniques such as Natural Language Processing (NLP). The aim of this system is to replicate a person's discussion. The development of chatbot application can be done with making a user interface to send input and receive response.

A. EASE OF USE

Chatbot as Medical chat-bot

As chatbots in healthcare are highly in demand, medical institutions can offer various services from symptom checking and appointment scheduling to dealing with additional questions. People are able to get answers to their additional questions with the help of chatbot. There is no need for them to call the clinic to clarify some misunderstanding.

An overlook on existing problems

Nationally, medical attention was missing in the case of nearly one-third of all deaths. It is likely that most of those deaths warranted some kind of medical attention, and that such attention would have been provided if the households in which these deaths took place were as rich as the top 15%.

II. LITERATIVE SURVEY

Title	Author	Journal/Conference Name/Year of publication	Findings
A Novel Approach for Medical Assistance Using Trained Chatbot	Divya Madhu, Neeraj Jain C. J , Elmy Sebastain , Shinoy Shaji , Anandhu Ajayakumar	IEEE 2017	The proposed idea is to create a system with artificial intelligence that can meet the requirements. The AI can predict the diseases based on the symptoms and give the list of available treatments
A Self-Diagnosis Medical Chatbot Using Artificial Intelligence	Divya S , Indumathi V , Ishwarya S , Priyasankari M , Kalpana Devi S	Published in 2018 Volume 3 Issue 1 By MAT journals	To reduce the healthcare costs and improve accessibility to medical

			knowledge the medical chatbot is built. The user can achieve the real benefit of a chatbot only when it can diagnose all kind of disease & provide necessary information
Design and Development of Diagnostic Chabot for supporting Primary Health Care Systems	Nadesh RK, Bushra Kidwai	Nadesh RK, Bushra Kidwai	Technology is increasingly becoming a massive part of today's healthcare scenario. Technology has changed the way how patients communicate with doctor & not only that, But also how healthcare is administered

Table 1: Literature Survey of the Chat-bots and NLPs used in various applications.

The absence of a well-functioning public health system and the low penetration of health insurance has created a situation, wherein a significant share of India's population seems to avoid the formal medical system, lest they face a debilitating financial burden, and land in a debt trap. The high financial burden is also reflected in the extraordinarily high share of out-of-pocket health expenses in the country. Out-of-pocket expenses are high not just in comparison to other large emerging markets, most of which are richer than India, but also in comparison to countries with a per-capita income level similar to that of India.

III] Proposed System

- The proposed system will work as a healthcare application to create a system with artificial intelligence that can meet the requirements.
- Once the bot understands the initial symptoms it will ask to follow up questions and try to make a diagnosis based on user answers.
- The user can input his/her symptoms using text.
- It helps them to take the correct treatment. Hence the people can have an idea about their health and can have the right protection.

The use of chat-bots has spread from consumer customer service to matters of life and death. Chatbots are entering the healthcare industry and can help solve many of its problems. Chat-bot is a computer program designed to carry on a dialogue with people, particularly on the Internet. It assists individuals via text messages within websites, applications or instant messaging and enables businesses to attract, keep and satisfy clients. This kind of bots is an automated system of communicating with users. There are chatbots which can provide information to the following and similar to them questions. "How long is someone infectious after a viral infection?" "How can I get a prescription?" "How can I find out my blood type (blood group)?" Thereby, clinics building a chatbot for their sites, lower the number of repetitive calls that their specialists have to answer. This, in its turn, enables hospital employees to concentrate on more significant tasks which will lead to better healthcare service quality. The proposed system will not only provide the personal assistance to the patients but also users can keep their previous medical record on the platform for future use. The platform will provide a conversational experience to patients acting like a doctor is treating them online.

IV] DESIGN

Use Case Diagram:
(User and admin roles)

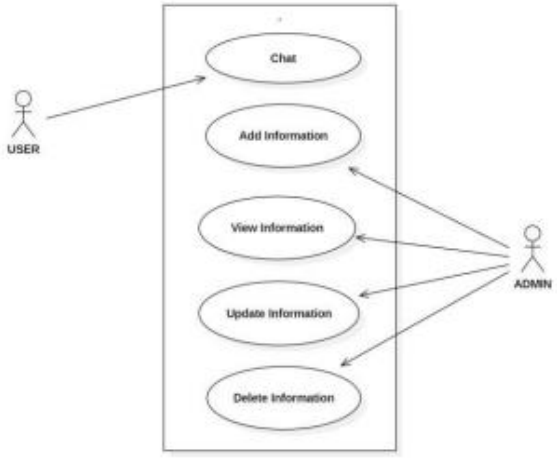

Fig 1: Use Case Diagram of user and admin roles

DATA FLOW DIAGRAM:

Level 0:

Fig 2: Zero level DFD of Chatbot system

Level 1:

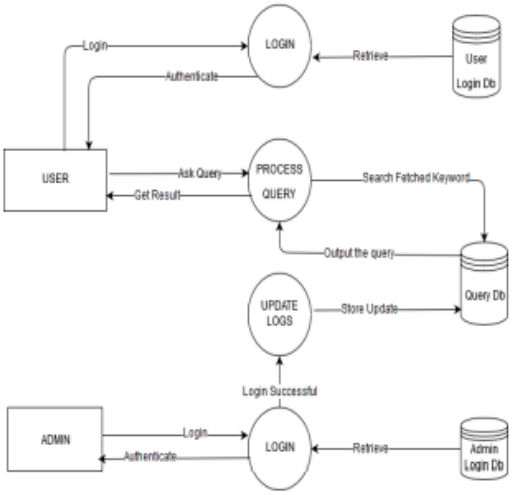

Fig 3: First level DFD of Chatbot system

V. APPLICATIONS

- IT ENABLES THE STUDENTS TO BE UPDATED WITH COLLEGE ACTIVITIES.
- IT SAVES TIME FOR THE STUDENTS AS WELL AS TEACHING AND NON-TEACHING STAFFS.
- IT IS PROVIDING US A READILY AVAILABLE INFORMATION SOURCE WITHOUT TAKING ANY PHYSICAL EFFORTS.
- IT IS EASILY ACCESSIBLE AND SAVING TIME AND MONEY ALSO.

VI. CONCLUSIONS

Artificial Intelligence has changed the healthcare scenario today. The Chatbot asks the user questions in a format imitating a doctor-patient conversion. The questions are based on the users preceding input and then based on replies forms a possible diagnostic. The diagnostic form is preliminary which might help the user decide on further action. At last, the implementation

of personalized medicine would successfully save many lives and create a medical awareness among the people. Thus medical Chatbot has wide and vast future scope. No matter how far people are, they can have this medical conversation.

VII. REFERENCES

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