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# Chatbot for Medical Queries using AI

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**ABSTRACT—**

Healthcare is very important to lead a good life. To sustain a cherished and happy life healthcare plays a very important role in it. However, it is very difficult to obtain the consultation with the doctor for every health problem. The idea is to create a medical chatbot that can diagnose the disease and provide basic details about the disease before consulting a doctor. This will help to reduce healthcare costs and improve accessibility to medical knowledge through medical chatbot. Chat bots is basically interacting using text or voice and to get answers using artificial intelligence. A chatbot is a program that is programmed in such a way that it takes some sort of input from the user then it processes it using decision tree or some sort of decision-making algorithm to give an accurate and desired output to the user. Based on some sort of known keywords, some patterns chat bot identifies the actual problem and replies based on those and based on that idea it gives a suitable response with efficiency. The chatbots are computer programs that use natural language to interact with users. The score will be obtained for each sentence from the given input sentence and more similar sentences will be obtained for the query given. The chatbot connects you with the right care and on the basis, we can make appointment accordingly.

**Keyword:** Medical chatbot, artificial intelligence, healthcare, NLP, machine learning.

**Highlights:**

- The chatbot would be used for general and routine medical-related questions regarding symptoms, treatments, drugs, and measures of prevention of various health conditions.
- The understanding of the user's queries would improve with deep learning models like Recurrent Neural Network and Transformer models among others by providing more accurate and contextually relevant responses to them.

## 1. INTR0DUCTION:

This is an automated chat robot design to answer users frequently asked questions, earlier natural language processing techniques were using to design this robot but its accuracy of giving correct answer was less and now due to Deep Learning algorithms accuracy of giving correct answer increase, so here using python deep learning project we are building CHATBOT application to answer user's questions. This is an automated chat robot design to answer users frequently asked questions, earlier natural language processing techniques were using to design this robot but its accuracy of giving correct answer was less and now due to Deep Learning algorithms accuracy of giving correct answer increase, so here using python deep learning project we are building CHATBOT application to answer user's questions. Chatbots are generally used to respond quickly to users. Chatbots, a common name for automated conversational interfaces, present a new way for individuals to interact with computer systems.

Traditionally, to get a question answered by software program involves using a search engine or filling out a form. A Chabot allows a user to simply ask questions in the same manner that they would address a human. The chatbot leverages deep learning models, specifically RNNs and Transformer-based architectures, to process the message of the user for understanding. Because it has undergone training on such massive datasets of medical information, the chatbot can provide reliable, contextually relevant answers to users on all matters ranging from symptoms and diagnoses to treatment options and preventive measures.

## 2. Expert System:

The statement is referring to current healthcare systems that use live text chat as a form of communication between patients and healthcare experts. While these systems do provide a convenient way for patients to reach out to healthcare professionals, there are some drawbacks to their use. One significant drawback is that patients may not receive a fast answer. This is because live text chats rely on the availability of healthcare professionals to respond to patient inquiries. If there are too many patients and not enough healthcare professionals available to respond, patients may have to wait a long time for

an expert to notice them. Additionally, some procedures may levy fees for telephone or live chat communications. This can add an additional financial burden to patients who may already be struggling with healthcare costs. As healthcare technology advances, future research investigations will need to consider whether these technologies are economical in clinical settings. For example, if the costs associated with implementing and maintaining a live text chat system are too high, it may not be viable option for many healthcare providers. Overall, while live text chats can be a helpful tool for patients to communicate with healthcare professionals, there are significant drawbacks that must be considered. Future research will need to explore the most effective and economical ways to implement these technologies in clinical settings.

**Limited Availability of Healthcare Professionals**

In peak hours or in rural areas where only a few healthcare professionals are available, patients may have to wait for a long time before answering any information sought from the system. The chatbot systems can respond to the more simplistic queries; however, it is not good enough when tougher medical questions must be answered, and only a health professional would do that job best. In such cases, if the professionals are not present at the time of the inquiry, then the patients must wait longer for that reply, which quite irritates them and delays the proper critical care advice.

**Financial Cost of Live Text Chat Services**

As such, one significant disadvantage related to live text chat systems is the financial cost associated with using these services. Most healthcare providers charge patients for consultations through phones or even real-time chat. Others do this on a per-message basis, while others charge patients through a subscription model. In any case, the costs of these services can quickly increase, and this financial cost could be even more difficult for those patients who already are stretched thin trying to afford healthcare.

## 3.Proposed System

The statement is referring to current healthcare systems that use live text chat as a form of communication between patients and healthcare experts. While these systems do provide a convenient way for patients to reach out to healthcare professionals, there are some drawbacks to their use. One significant drawback is that patients may not receive a fast answer. This is because live text chats relying on the availability of healthcare professionals to respond to patient inquiries. If there are too many patients and not enough healthcare professionals available to respond, patients may have to wait a long time for an expert to notice them. Additionally, some procedures may levy fees for telephone or live chat communications.

**Challenges in Delayed Response Time**

Potentially, one of the significant disadvantages most live text chat systems in healthcare have been the response time. Even though the systems make a whole concept seem to have the pace of real-time communication as its advantage, these systems stop being effective when patients must wait for too long. Crucial to the effective management of the live chat system are healthcare professionals.

Realtime text chats are not in the direct control of availability of health care providers, which will answer the questions of the patient. Suppose the health care provider is not immediately available; then the reply to the question from the patient will get delayed, thus becoming a concern if indeed the question was serious in nature or related to a condition that could pose a health risk. The patient may feel frustrated by this delay, which could diminish the perception of effectiveness of the system.

## 4. Requirements:

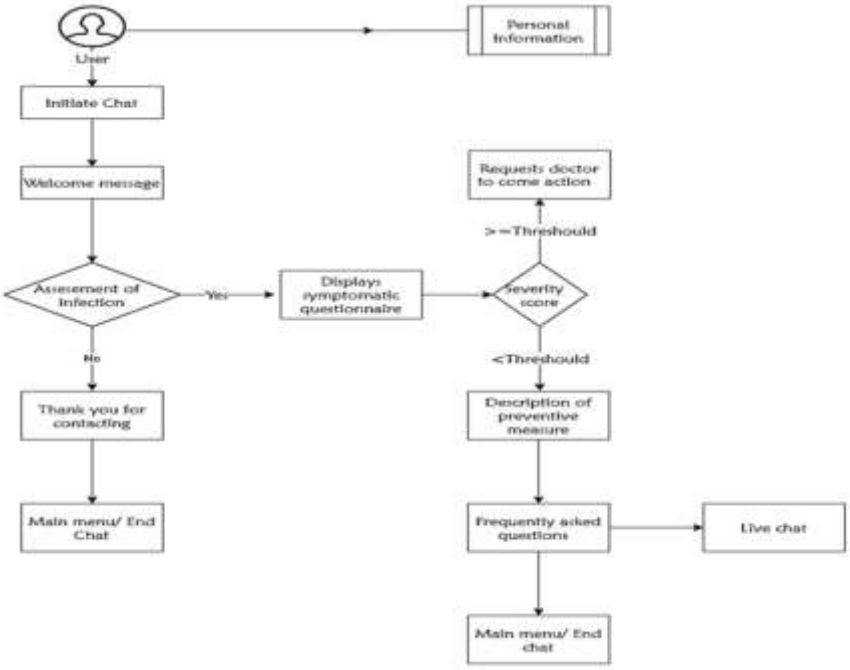
**Hardware requirement**

- Processor: Intel i3/i5/i7
- Ram: 4 GB
- Hard disk: 160 GB
- Monitor: 18inch Lcd/Led

**Software requirement:**

- OS: Windows 8/10/11
- Editor: VS Code
- Python 3.7
- Python with its neural network libraries

## 5. FLOWCHART:




## **6.** CONCLUSIONS

The Intent of this paper is to increase the awareness of health among the people. In current days, many people show their lazy behaviour and do not consult a doctor during a time of illness so the implementation of a Chabot will help the people to diagnose the disease without consulting a doctor. The chatbot will act as a virtual doctor. The user will prescribe their symptoms of their illness and the chatbot will analyse the disease and suggest the necessary healthcare steps that need to be taken. By reviewing this literature, we come to know that this system giving the accurate result. As we are using large dataset which will ensures the better performance compared as earlier. Thus, we build up a system which is useful for medical or hospitals to help the users to freely ask medical dosage related queries by voice.

Overall, the use of chatbots in healthcare has the potential to revolutionize the industry, making healthcare more accessible and affordable to people around the world. The healthcare industry deals with complex medical conditions, and accurate diagnosis and treatment require in-depth knowledge and experience. Thus, healthcare chatbots must be highly accurate to provide reliable and trustworthy healthcare advice and guidance to patients.

**CONFLICT OF INTEREST**

There seems to be no conflict of interest for the author.

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