Virtual Assistant for Healthcare
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Abstract:
Hospitals are a most widely used means by which a sick person gets medical check-ups, disease diagnosis and treatment recommendation. This has been a practice by almost all a people over a world. People consider it as a most reliable means to check air health status. A proposed system is to create an alternative to this conventional method of visiting a hospital and making an appointment with a doctor to get diagnosis. This research intends to apply a concepts of natural language processing and machine learning to create a chatbot application. People can interact with a chatbot just like they do with any other human and through a series of queries, a chatbot will identify a symptoms of a user and thereby predicts a disease and recommends treatment. This system can be of great use to people in conducting daily check-ups, makes people aware of their health status and encourages people to make necessary measures to remain healthy. According to this research, such a system is not widely used and people it less aware of it. Executing this proposed framework can help people avoid a time-consuming method of visiting hospitals by using this free of cost application, wherever and when.

Keywords: Medical chatbot, Machine Learning, Disease Prediction, Treatment

I. INTRODUCTION
A prosperous society is when its entire people it healthy. It is important to maintain a health if one wishes to be happy. Only a healthy body can have a healthy mind and it has a positive impact on a performance of people. Nowadays, people it less await of air health. In air busy life, people it less aware of air health. In a busy life, people forget to take suitable measures to maintain air health and it less aware of air health status. In a latest news by TOI we can see that people give no importance to their air health and find it time consuming to undergo check-ups at hospitals.

A busy-scheduled life has got no place for health. Most people comprising a working section of a society claim that air hectic schedule gives them no time for periodic medical check-ups and that they disregard any uneasiness shown by their air body until it is too severe.

In this proposed system, a medical chatbot is built to be a conversational agent that motivates users to discuss about air health issues and based on a symptoms provided by an chatbot returns a diagnosis. This chatbot system will be able to identify symptoms from user interaction. Using a extracted symptoms, a chatbot predicts a disease and recommends treatment.

Medical chatbot has a high impact on a health culture of a state. It has improved reliability and is less prone to human errors. Today’s people it more likely addicted to internet but they it not concerned about air personal health. People avoid hospital treatment for small issues which may become major issues in the future. This proposed idea solves this problem. This idea focuses on creating a chatbot which is free of cost and available throughout a day. A facts that a chatbot is free and can be accessed wherever a user is, it air working environment, prompt a user to have it and use it. It saves a overhead involved in consulting specialized doctors.

Executing a proposed system can convey more awareness among people regarding air health status and a need to take measures to remain healthy. With a new proposed system, there will be a reduction in a number of people disregarding air health because of a tedious process of hospital appointments. People can interact with a chatbot just like they do with any other human and can continue with their work. It ensures that is will be no disruption with air working and is user friendly. This provides a way to help people aware of air health by using a chatbot and thereby helps people with air health, thus playing a bigger role in health care.

II. OBJECTIVES AND PROPOSED INNOVATION
A. Objective
A main objective of a proposed system is to have an importance of health in life reach out to people and encourage people to follow measures to maintain health by making a chatbot available to all. Chatbot and health have a history of working well together. It creates a good human-like conversational environment for interaction between a user and a system. In this system, a user talks about their air health and it is a great way for a users to regulate a healthy lifestyle.

An important aspect of this system is that talking with an anonymous entity provides a sense of security especially when talking about mental health as it remains as a confidential meeting with a diagnosis being available only to a user. This system is meant to help and deliver immediate actions where humans cannot reach due to timing or budget as it is readily available and free of cost. It allows a user to have a free medical check-up based on a symptom where a user’s health issue is easily identifiable.
B. Proposed Innovation

Chatbot is helpful for anyone who needs to get a hang of something about wellbeing. A user can interact with chatbot and can rely on it to get timely diagnosis. This framework helps users to present air symptoms that affect air wellbeing. A genuine welfare of chatbot is to encourage a general population by giving appropriate direction in regards to a great and sound living. Chatbot allows user to login to a system.

User registers on chatbot application. Ay need to submit some personal details which will be confidential. User an interacts with a system and a words it recognized by a use of natural language processing and a system recognizes symptoms of a user.

Are is an admin who controls chatbot application. A admin views a details of all a users and can even manually add, delete or update symptoms and diseases. Chatbot is trained on symptoms-disease dataset. A system recognizes a disease and finally recommends a suitable treatment needed for a same.

III. RELATED WORKS

In a paper by Rashmi Dharwadkar, a medical chatbots functioning depends on Natural language processing that helps users to submit air problem about a health. A use can ask any personal query related to health cit through chatbot without physically being available to a hospital by using Google API for voice-text and text-voice conversion. Query is sent to chatbot and a user gets related answer which is displayed on android app. This system mainly focuses on analyzing users sentiments.

A proposed idea of a paper “a novel approach for medical assistance uses trained chatbot” by Divya Madhu is to build up a model using artificial intelligence that can help people identify a proper treatment for air disease. Areit many treatments available for a particular disease and no one can possibly know a proper treatment which is best suited for air disease. In this proposed model, artificial intelligence takes up a main role of providing a list of available treatments based on a disease identified through symptoms. A system can also list out a composition of medicines and air prescribed uses, areby helping users to select a proper treatment. This system helps people to have a basic idea of air health status, thus encouraging am to take proper treatment.

A proposed idea of a paper, a self-diagnosis medical chatbot using artificial intelligence” by S. Divya is to build up a system using artificial intelligence that can help users to avoid consultation with a doctor. It is made to diagnose a disease of a user and provide necessary details about a disease. This is built to be a cost effective system with improved accessibility to knowledge about diseases. A chatbot is beneficiary to users only when it can diagnose any type of disease and provide necessary information. A proposed system is a conversational agent which interacts with users to retrieve knowledge about air medical conditions, areby providing a proper diagnosis.

In a paper by Amiya Kumar Tripathy, it mentions a need of advanced technology that provides people with proper health care management system, where people can rely on it instead of a doctor. It emphasizes a need of such as system to be accurate and portable so that people can carry with them, a reliable system. A proposed system consists of a mobile heart rate measurement where heart rate can be detected and based on this, a proper diagnosis will be provided with a click of button. A system also provides videoconferencing where one can connect with a doctor in case of urgency. A Doc-Bot which was developed for this purpose is now being converted to a mobile platform and is to integrate a idea of providing diagnosis based on symptoms.

In a paper by B. R. Ranoliya it defines chatbots as programs that can mimic human conversation using artificial intelligence. It proposes an idea of chatbot as a virtual assistant or as a smart assistant that can do tasks like giving proper responses to queries from users, controlling devices, providing routes during driving etc.

IV. DESIGN AND METHODOLOGY

A user chats with achatbot application in a same way one chats with our humans. It is an android applicationwhere a user first login to a system, once registered. It is through this chat, achatbot finds a symptoms of a user. A user sends messages and as a response achatbot gives appropriate message. For this to happen smoothly, achatbot will be trained with some possible questions and answers predefined that a user can ask. When a user sends messages, text processing will be done, Text processing is done using natural language processing (NLPLP) tries to understand a natural language spoken by humans and classifies it, analyses it as well if required responds to it. Whena question is received, achatbot tries to converge it that available in a dataset which it is already trained on.

VI. CONCLUSION AND FUTURE SCOPE

A. Conclusion

This paper explains a medical chatbot which can be used to replace a conventional method of disease diagnosis and treatment recommendation. Chatbot can act as a doctor. Achatbot acts as a user application. A user of this application can specify air symptoms to achatbot and in turn, achatbot will specify a health measures to be taken. General information about symptom and diseases it available in a dataset and thus achatbot instance can provide information about disease and treatment to a user. After analyzing a symptoms of a different users, it finally predicts a disease to a user and provides a link where details about a treatment is visible.

http://ijesc.org/
A smart medical chatbot can be useful to patients by identifying symptoms as described by them, giving proper diagnosis and providing with suitable treatment for a disease. In a busy life, it is not for people to frequently visit hospitals for check-ups. Chatbot is of great importance in such situations as it provides diagnostic assistance with a single click of button. Chatbot doesn’t require a help of any physician to give proper health measures to a users and this is one of a major advantages of chatbot. Moreover, cost-effectiveness in using chatbot is a major attractiveness to users. A chat with users is completely personal and this helps users to be more open with air health matters and paves way for chatbot to efficiently identify a disease.

B. Future Scope

A role played by chatbot can sometimes be beyond a scope and user may require consulting a doctor for taking health related tests. In such situations, chatbot can be helpful if it can be made to set up an appointment with an efficient doctor based on air schedule. Also it will be beneficial if a symptoms and disease identified by chatbot can be made into a report and automatically forwarded to an available doctor where he can further assist a user with more advices and future measures to maintain air health. A video call with a specialized doctor can also be made depending on an availability of a user rather than based on a availability of doctors.

REFERENCES


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