

# VIRTUAL HEALTH ASSISTANT

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**Abstract :** *Developed system would be a comprehensive, integrated data system designed to manage the executive and clinical aspects of a hospital. People usually don't recognize the that department they must choose their specific medical complaints. thus associate degree intelligent system is needed to help them. They can evoke a meeting, have a facilitate larva to help them for knowing what issues they're facing. A developing variety of hospitals, nursing homes, and even personal centers, presently utilize on-line Chatbots for human services on their sites. These bots connect with potential patients visiting the positioning, serving to them discover specialists, booking their appointments, and obtaining them access to the right treatment. In our project, the chatbot would collect patient symptoms and predict the malady from the dataset and afterward designation it'll assist patients for appointment programming.*

**Key Words:** *Web Application, Data Analysis, Machine Learning, Chatbot.*

## I. INTRODUCTION

Quality and simply available access to tending services is taken into account to be a basic right in any fashionable society. the requirement to handily avail tending services cannot be underestimated by any suggests that. Through fascinating fashionable digital parts of standard structure into the essential tending management system, revolutionary progress are often created during this sector. Automation of the system can scale back the hassles otherwise related to exploitation services, additional economical management and allocation of resources are doable

Through chatbots one will communicate with text or voice interface and obtain reply through Artificial Intelligence. Typically, a conversation larva can communicate with a true person. Chat bots area unit utilized in applications like ecommerce client service, decision centers and net vice. Chatbots area unit programs engineered to mechanically interact with received messages.

Chatbots are often programmed to retort an equivalent method anytime, to retort otherwise to messages containing sure keywords and even to use machine learning to adapt their responses to suit true.

A developing variety of hospitals, nursing homes, and even personal centers, presently utilize on-line Chatbots for human services on their sites. These bots connect with potential patients visiting the positioning, serving to them discover specialists, booking their appointments, and obtaining them access to the right treatment. In any case, the employment of Artificial Intelligence in associate degree trade wherever individuals' lives may well be in question, still starts misgivings in people.

It brings up problems regarding whether or not the task mentioned higher than got to be allotted to human employees. This tending chatbot system can facilitate hospitals to produce tending support on-line twenty four x seven, it answers deep likewise as general queries. It additionally helps to come up with leads and mechanically delivers the knowledge of ends up in sales. By asking the queries nonparallel it helps patients by guiding what specifically he/she is trying to find.

## II. LITERATURE REVIEW

In the paper by Itika Gupta, Brian Ziebart, Bing Liu [1], it proposes the idea of a system which uses SMART Goal Annotation for annotating specificity, measurability, attainability, realism of goal. Stage phase annotation is used for understanding the structure of health coaching dialogues. Autonomous health coaching system is used for improving poor health via SMS conversation between patient and health coach.

In the paper by Siddhant Rai, Akshayanand Raut, Akash Savaliya, Dr. Radha Shankarmani [2], author built a system using Artificial Intelligence, Artificial Neural Network(ANN) and Deep Learning. Health care assistant will allow users to check for symptoms of common diseases, a suggestion to visit a doctor if needed, exercise recommendation, tracking exercise/workout routine, along with a comprehensive exercise guide.

In the paper by Ping-Jing Yang, Wai-Tat Fu [3], the author proposed a system that uses Natural language processing, Machine learning for creating a chatbot. Virtual agents are used for the improvement of human mental health care. Virtual agent play a role of psychotherapist and form a connection with users

In the paper by V.Manoj Kumar, A.Keerthana, M.Madhumitha, S.Valliammai, V. Vinitha Sree [4], it proposes the idea of a system which uses rule based and machine learning approaches to code medical terminologies with standardized terminologies. This system provides instant and relevant replies to the queries. It collaboratively learns and propagates terminologies among underlying connected medical records. It also enables the integration of heterogeneous information.

In the paper by Shubham Jayawant [5], it makes use of natural language processing, fuzzy logic, deep learning and a constantly evolving knowledge base to correctly diagnose diseases. This paper is based on a project which emphasizes on creating a software infrastructure which would provide healthcare services like diagnosis of diseases, advising medical tests to patients, providing medical prescription to patients by making use of personalized medicine problem solving algorithms etc., and providing medical assistance to doctors.

### III. PROPOSED MODEL

Machine learning is one of the most used in different sectors in computer science. It is the scientific study of different algorithms and statistical models & also uses to perform a particular task without using any clear instruction, confide in some patterns and presumption instead. Actually machine learning is the subset of Artificial Intelligence.

Machine learning algorithms mainly focus on making a prediction using computers. In this modern era sometimes it has been needed some like chatbot which interacts with a human with making a prediction which is helpful of them, especially in some instant health condition chatbots are very helpful for human.

So, we build a chatbot that can interact with a human and also it can be used as a human-computer dialogue system in natural language. Using supervised learning we input dataset in our chatbot (MEDIC INFO) for giving a specific answer. But to be noted that questions differ from person to person. For this, we use data mining that focused on unknown data, and by predicting and creating a decision tree it chooses the best answer. Thus, our project a Virtual Health Assistant Chatbot Using Machine Learning Algorithm.

#### STEPS:

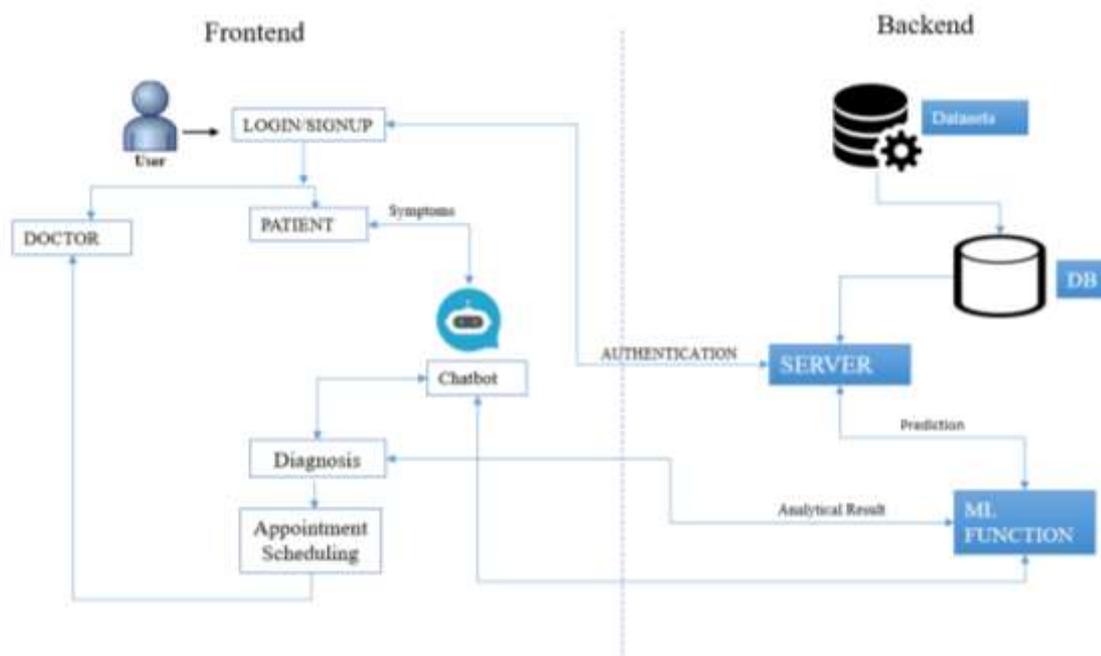
Step 1: User needs to register in the application where he will have to fill some personal details which will also include email id of the user.

Step 2: The patient will have to enter in the symptoms they're having in the chatbot.

Step 3: Depending on all the symptoms and the dataset the chatbot will predict the disease and give temporary solutions.

Step 4: The chatbot will then help book an appointment with the registered doctor with respective domain.

### IV. SYSTEM ARCHITECTURE



System Architecture

### IV. CONCLUSION

Although the thought of a virtual health assistant system isn't a brand new one, but there's no such general system existing which will be used as a service by individual doctors and patients regardless of their institutional or structure affiliations and preferences. The system is low value, simple to use and economical in delivering practicality consistent with its supposed objectives.

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