AI BASED CHATBOT FOR RETRIEVING MEDICINE INFORMATION

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Abstract — **This Chatbot is an Artificial Intelligence (AI)-based platform, which can be built as messaging applications, web applications, or smartphone applications. It creates natural language answers to questions. de Health chatbots are able to use individual patient communication and review specific patient questions. The program aims to explore the existing health care structure that involves complex communication with human devices and proposes an alternative communication approach designed and established to operate and engage patients as a person. This Chatbot provides the services of specialists who assist ordinary people who are unable to understand a drug by its mark.**

Keywords: *machine learning, drug, message applications, natural language, smartphone applications*

I. INTRODUCTION

Chatbot is a program that can interact with human users in the native language. The large amount of information available online allows Chatbots to provide accurate and effective information based on user needs. Chatbots are used on domains such as customer support, Virtual Help, online training, online booking and general chats. This Medical Chatbot can communicate with users, giving them a real-time experience of chatting with a Medical Specialist. Returns keywords in the original messages to know the details of the drug that the user may have, depending on their input. The program has been compared to Health Tap which is the famous Facebook Messenger Chatbot. Our chatbot is a complete software application. It can be used as a user interface (frontend). Edited in python v3.9. The system can use libraries

defined in python for bot response. Raspberry Pi is the main project module that contains the same python functionality.

The main purpose of the dialogue is to work for doctors and ordinary people who need information about medicine. It also provides a recommendation for the basic symptoms. Requires a database to analyze the severity of the underlying symptoms. If it was a big problem she would have chosen a doctor. Our problem-solving solution is not just for people, it is also to help doctors. Our chatbot is fully targeted to software but we need raspberry pi hardware modules. It also uses the Google API to download end user data. The concept is based on machine learning and artificial intelligence. Provides software that interacts with people in each doctor's sense. Our first phase module will look like a console window. Upon completion of our project we provide a standard user application for all users for their convenience. Many patients suffer from poor communication skills as their illness progresses. However, the guilt and anger felt by many with dementia also allows for normal, uncomfortable daily contact with members of close relatives. Thus, the chatbot tries to find flaws in chat chapters that may indicate an impending memory problem - a challenging technical task for an NLP-based framework. However, since chatbot is a cloud-based system, doctors and family members can search the logs collected on board to detect memory loss and connectivity issues that may indicate a decrease in individual status.

Helping Unworthy People to Be Heard

With the exception of Stamina's dementia partner app, the conversations we were watching weren't by far the most fun. However, UNICEF is using international child-rearing parenting interventions to help people living in developing countries connect with the

urgent needs of their families. UNICEF still uses this response as a basis for future policy decisions. The report sent users to Liberia a survey on how teachers pressure students to have sex in order to get better grades in another shocking illustration of how this tiny bot had a profound impact. About 86 percent of the 13,000 Liberian children interviewed by U-Report responded that their teachers were involved in the scandal, resulting in a partnership between UNICEF and the Liberian Department of Education to stop it.

help companies take advantage of the semi-structured and unstructured data they own. Big data can be contrasted with small data, another evolving term that's often used to describe data whose volume and format can be easily used for self-service analytics. A commonly quoted axiom is that "big data is for machines; small data is for people."

Perform Immediate Treatment Immediately

If you are the type of person who has marked WebMD bookmarks, you may want to check out the bot. This chatbot aims to make the treatment of both patients and doctors easier, clearer and more accessible - think of it as an informative version to talk to. is powered by a sophisticated machine learning system that provides highly detailed answers to user questions based on the "read" habits of human speech. In addition to the growing collection of medical concerns, the bot also relies on extensive medical literature and peer-reviewed research journals to expand its already comprehensive medical technology. In some cases, it is more like a personal agent (like Google Now) than a chat manager, this also demonstrates a chatbot chat development field that integrates smart NLP systems with machine learning technology to provide reliable and responsive communication to clients.

Chatbot contains a core and GUI that reaches the core in related data management systems. The data is processed on the information server and the data is collected based on a pattern matching algorithm when the customer asks the chat software in question. An issue in which a patient has a close relationship with his or her doctor is that it usually occurs on a 8-10 minute non-satisfactory procedure. Using AI techniques and machine learning, chat conversations should reduce the cost of health care when used on behalf of a person, or support them as a first step in helping to identify the disease and provide self-care tips

Patients' requests are all sensitive questions, but they usually do not require a doctor's response. Google's search for the right answers is often difficult to accomplish, as most users do not know how to determine the quality of the information they find online. And the Internet is full of false stories and deceptive blogs and are trying to market

things. Chat Bots allow a patient to connect with a health care organization through their favourite platform. The healthcare sector produces a huge amount of information. It is stored in a disruptive series of various structures, systems, and data silos. With the help of Chat Bots this information can be accessed securely. Therefore, helping to find a place has cost the connection that was not possible before. Chat-bots are primarily used for personal and computer conversations. The administrator adds some information to the system so that the computer can interpret the sentences and decide on the answer to the actual question. QA programs that attempt to answer native language questions by providing answers rather than simply listing document links. The purpose of the QA program is to provide valuable information on exciting features that support customers with pattern matching technology to achieve their obvious needs. AIML is used as an instructional model and the Microsoft speech synthesizer used to define a spoken username to create a chatbot in Chatbots can also be used to diagnose symptoms based on symptoms and provide a list of possible treatment options. The diversity of the various communication systems made on the Web is discussed in the synchronization dialogue based on the text. The idea is to establish an Artificial Intelligence health discussion that diagnoses the disease and provides some facts about the illness before seeking medical advice that can reduce the cost of health care and make the patient's information more accessible. Many chatbots serve as a medical guide book that helps the user to know more about their illness and improve their health.

II. LITERATURE SURVEY

Use of Chatbot Medical Consultant

Four stages of Bot integration research, which include system analysis, system design, development and process evaluation. Device Analysis First, it was well studied to find out about possible diseases, medications and remedies that can be used to reduce symptoms. In the latest step the data is used to train the chatbot. However, we have identified some limitations in this analysis that may affect users while using the software, including

1.Device shipping required.
2.Device tutorial adjustment required.
3.Compatibility application for tablets and smartphones only.
4.Chatbot will remove certain restrictions.

Users do not need to update to the latest version and read it. We will use the IM program, which we still have and where they use it. Chatbot Design Bot is designed to function as a nurse, diagnostic and therapeutic

authority. He will send patients recommendations and send them medical advice. The chatbot object simply provides common symbols in the dialog. In addition to this, the chatbot will begin to treat patients like a real doctor Progress

It prepares the use of drug information to produce a purpose. Sentences and responses to instructions are targeted applications. Create lesson sentences to match the learner's language. Describe user feedback that may include phrases, images, voice and video. JavaScript or JSON format to store images, video and audio. The words learned in the training cycle are based on warning signs and indicators of implementation.

Assessment

The final step in the development process is testing. There are two phases of testing, namely during the preparation test and system testing. Training to test phone contact by testing, and searching for feedback. If the answer is incorrect, more training phrases are needed. This option can be extended to a chatbot program tool. System testing is done once the application is complete. Modification simulations are installed and tested Problems The model is created using an unintentional chatbot, which means that if a situation already exists in that database, the model is trained in the same database, then it can only produce results.

Flow Diagram:
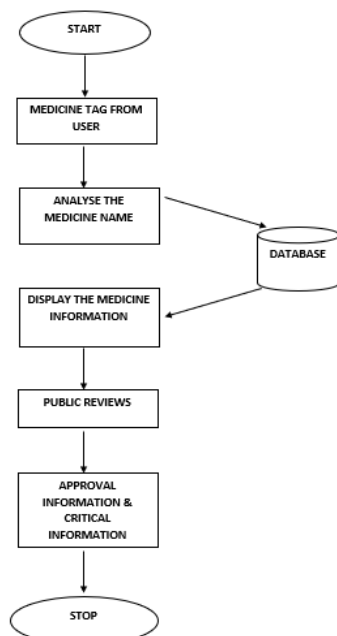
III. SYSTEM ANALYSIS

The program focuses on the messages that the user provides during the conversation. The idea of this is to identify the initial symptoms and the problems the user may face. After Chatbot listed a list of diseases that a user may have, it now ranks on the diseases that a user may have. When the list of possible diseases, Chatbot starts asking the user how the user is feeling. As soon as it receives a sufficient amount of data it detects a disease that the user may be suffering from.

Existing System

Chatbot already exists in the medical field as questionnaires and answers. If anyone asks questions about the disease they can answer google test. Its one-to-one conversation from person to machine. This includes the initial state of medical ethics and the attitude of physicians by reducing functional activity in real time.

Proposed Plan

A great chatbot suggestion is to contact people and provide details about expiration drug to see if the drug is compatible with any of the states. In addition it includes the critical nature of the potency of this particular drug. If it is high doses it should be recommended with a prescription. It retrieves the keyword of the drug and searches the Internet for preventive measures. In the future we may try to integrate the neural network of each drug by comparing the others. Where possible specialists can easily find the quality of medicines.

IV. CHATBOT DESIGN

Chatbot needs to be natural in responding to user messages and therefore needs to have a stable back-end concept of processing user inputs and parameters to produce results. When a user starts interacting with Chatbot, the Chatbot engine works and captures all messages provided by the user. Chatbot aims to use the AIML method to respond to user messages and find inputs that the engine can provide. The engine accepts initial signals and removes keywords from the data. Using keywords extracted from this symbol, our Chatbot engine compiles a list of potential diseases for the user by comparing keywords with disease tags. Once the engine has listed the diseases that a user may have, they should now limit their selection to only one disease. With this, it filters a list of selected diseases based on the large number of games with keywords and tags.

The engine now tests the top 3 symbols from each selected (scheduled) option until all 3 characters are

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the same as the user and know that the user has that disease. If there are two or more infections that qualify for the same, the user is directly referred to a physician. Now that the engine has identified the disease, our Chatbot is asking the user questions related to the common symptoms of the disease. The engine can measure the severity of the problem by providing a predetermined number for all diseases. All the signs also have serious points against them.

The engine retains Integer flexibility where it summarizes multiple signals when matching user input. If a school hits a value that is above or equal to the limit, Chatbot will contact the user and the doctor and provide temporary and medication tips until a doctor is available to discuss. The engine also maintains two String Arrays during a chat time called 'Medication' and 'Remedies'. With every symbol similar to the user input, the corresponding solution is kept in the same members. When Chatbot finished testing all the signs it would give the user all the Medications and Medications he received during the session.

Design of AIML Items

Using AIML our Chatbot can detect patterns from user messages and will be able to generate relevant and logical responses. Using AIML pattern detection, our Chatbot can determine if a user is already aware of the disease they are suffering from and is looking for a solution to this disease. And our Chatbot is able to detect if a user is giving a signal and wants Chatbot to detect a possible infection. Our Chatbot needs to understand user messaging patterns to determine user needs with pre-defined tags in the AIML item. Our Chatbot can provide a solution based on the symptoms provided by the user and can also provide a solution if the user enters any disease name. In AIML Pattern Tag contains a predefined pattern that the bot should look at in the messages and if they match, a specific category is created.

V. EVALUATION AND COMPARISON

We will test our Chatbot structure using a General Word Percentage (GWP) analysis and combine results with a terminology analysis that will show us the average percentage of how much our Chatbot gets medical terms with the increase in non-medical terms compared to other Chatbots. We compare our Medical Chatbot with Health Tap, which is a popular medical Chatbot on Facebook. With this comparison we aim to show that our Medical Chatbot can provide disease solutions that Health Tap Chatbot cannot provide. Since our Chatbot is in the design phase, all the features and discussions used in this comparison are expected to take place if our Chatbot design works as expected.

Terminology Acquisition

Using a general word percentage analysis we can determine the average number of inconsistent words used in addition to the number of words in the message. This may give us an idea of how our Chatbot can deal with unrelated names associated with medical terms. We can take a sample corpus to do this test. We will test whether our Chatbot receives the medical name messages of our sample.

Understanding the Differences

a. Health Tap is a medical Chatbot that allows the user to brand their feelings. The mark should be in the form of a sentence. A sentence contains more than 3 words and not more than 200 words.
 b. Health Tap uses the input sentence to extract keywords and find related answers in their records.
c. Health Tap does not provide the user with a solution to his or her problems but simply displays some of the questions previously answered by doctors related to the given symptoms.
d. Our medical Chatbot also accepts the status of the sentence and does not limit the maximum number of words that can be entered.
e. Our Medical Chatbot aims to identify the disease that a user may be experiencing and provide a solution directly to the user.
f. Our medical Chatbot understands the seriousness of the disease the user complains about and we refer the user to a physician if necessary.
g. Our medical Chatbot is better than tapping health to understand a user's brand, provide a solution easily and link the user to a doctor if they think the problem is serious to deal with.

UMLS discussion of medical students

A user survey is being conducted to find questions that may be asked in a user chat conversation. The study was presented to medical students at the University of Israel. 97 questionnaires were obtained and then divided into groups based on the type of questionnaire. The emerging categories were divided into each category according to the number of questions asked. Most of the questions focused on the question, making up 47 percent of the questions asked.
The remaining groups included less than 7 percent of each questionnaire. Along with the other three groups we agreed to include this group of questions in the chatbot. The other three types are also used as they can be referred to using the information structure in UMLS, namely, causes, causes and what the symptoms are.

The chatbot was designed to greatly assist the questions listed above by encoding the appropriate AIML templates. Answers to the question are provided by extracting the text. the meaning of a particular word found in UMLS. Asking for a heart attack, for example, leads to the answer: what kind of question is given by finding the semantic form of the term in the UMLS. Using the method described by Liu & Chu, the answers to what the causes are and what the symptoms of that are produced through the release of information.

The description has a complex structure, reviewing information about the onset of the type of infection, its origin, contraindications, symptoms, laboratory test results, and the production of other basic biological indicators during treatment. It creates a database of multiple functions and includes a professional framework used to diagnose various types of hepatitis, and to carry out certain assumptions about a patient's growth and treatment response. The system uses two main components (machine thinking and neural network construction) that run on a multi-tasking database. It has a character that distinguishes different categories and fulfill the conditions of the framework used in medical predictions and diagnoses.

Diabetes is not a medical condition these days, but it can be managed effectively so that patients can live a healthy and active life. Monitoring (blood glucose level), healthy eating (following healthy eating tips) and encouraging patients / caregivers (encouraging diabetics to be able to control their illness) are the three main components of diabetes management. The first factor in which patients need to monitor blood glucose continuously is determined by close monitoring of the first sign of low glucose levels. However, these symptoms are not noticeable if the patient is unaware of his or her condition.

After that, patients need to go to the hospital regularly to receive a diagnostic report for these symptoms even though they are in a satisfactory condition for the management of their diseases. Therefore, we propose a chatbot that will act as a diabetes specialist to make a simple diagnosis of diabetic patients. The flow of the process is that the patient will have a daily speaking session using natural, interactive language (ask via chatbot) and respond (input to the patient). The session will continue until the patient is successfully diagnosed, and then receive their most effective treatment recommendations for their diabetes. Chatbot will ask multiple follow-up questions to explain the situation and those questions will be selected based on the patient's responses. This means that the chatbot needs to read all the flow of the conversation. Problems Continue repeating the previous question until you point to keywords.

Rehabilitation of Appropriate Response to Patient Assistant Communication Three interviews on three different perspectives, Confidence, Compassion and Instrumental Strength were evidence we used in the initial trial. The interviews focused on the assessment of sensory effects from Clinical More accurately, the nerves identified and registered the symptoms associated with depression. When we see a first-time visitor, the assistant approaches and advises the patient on the condition of the neurological condition, and the patient speaks to the assistant about the condition. Based on the previous two terms, which is a problem related to the patient's symptoms and interests, the Assistant makes the appropriate decision at the second patient's reunion. Psychologists organize and convert thoughts and anxieties into clear conversations.

After the formation of certain growing position clauses in partnerships with patient assistants, the initial analysis made three distinct variations of attitude. The facilitator asks and supports the first image of a respectful plan with patients to convey their concerns in a clear and balanced way, leading to a level of confidence in the facilitator. The patient speaks in depth and emotion in the second edition and Bot Assistant often presents his suggestions in a romantic way.

The proposed program is a software program that incorporates chat. In this model we use 'chat flow'. Chatbot are smart personal helpers. It summarizes the processing of Natural Language, Machine Learning and other in-depth concepts and provides a clean user interface to focus on the flow of conversation and build bots.

They found it difficult to find the right answer but when they did, they were very satisfied with the answers. It was pointed out that the chatbot was not a smart chatbot, but that it provided much-needed information to protect them from the valuable time spent on 'Google'. They also reported that they trusted the responses they received and all indicated that it was good for the chatbot to provide the source and information it provided.

Collaboration Diagram:
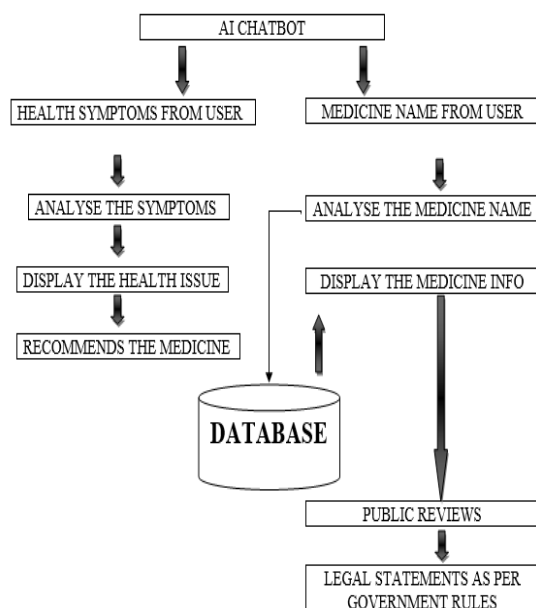
VI. CONCLUSION

We conclude that this chat bot carries a information to the normal people as well as medical students, who are learning in the part of graduation. This chatbot explains about the medicine and also recommends the medicine for the health issue. These medical references would enrich the fundamentals of techniques and achieve its place in this modern era. In our future enhancements we are going to train the modules to serve the people in a critical cases like blood cancer, tumor, etc… Also, this chatbot gives a suggestion to the people how the medicine should be used on careful manner.

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