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HEALTHCARE CHATBOT

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Abstract – *Health is paramount aspect of life to everybody irrespective of caste, gender, religion etc. Nowadays people search for answers themselves afore consulting a specialist for a particular quandary. Healthcare chatbot avails people who have symptoms for a disease and opt ate to ken more about it and diagnosis it. We can converse with the chatbot. It utilizes natural language processing and machine learning to function and search for keywords from the conversation and provide a diagnosis for the patients. If required the patient can book an appointment with the medico for further diagnosis.*

Key Words: **Health, Natural language processing, Machine learning, Disease, Doctor**

1. INTRODUCTION

The market for all the products and accommodations are shifting from physical form to virtual form. All the accommodations were provided in the offices or shops in person. We commenced utilizing chatbots to avail us perform the tasks we opt ate in a precise manner and with precise results for better customer contentment. Chatbots are utilized in many industries like financial, healthcare, banking sector and many more. So, for a prevalent disease like cold, pyrexia, headache, etc., afore the advancement of technology we used to peregrinate to a hospital for these prevalent diseases for the diagnosis. Now we can just consult with a healthcare chatbot which truncates the cost from the consultation fee and it even avails truncate the medicos time for treating these mundane diseases.

2. PROPOSED SYSTEM

When you open the healthcare chatbot, the authenticate page appears first where you can authenticate with your credentials. If you are an incipient utilizer then the system prompts to engender an incipient profile asking for designation, mobile number, password and email id. Your profile is engendered and the information is safe. It then redirects you to the authenticate page. The web application is designed in an alluring manner where the robot is moving and the colors of the background are effulgent which amends one's mood. This will magnetize a sizably voluminous number of users. This is achieved by utilizing HTML for the format and CSS for styling and FLASK was utilized for connecting the code to the web application and present it to the utilizer.

Once you have authenticated in, the chatbot greets you and interaction is commenced. It will ask you a bunch a question and then depending on your symptom it explicates the disease briefly, prescribes the medicine and whether to consult a medico or not. We had accentuated on the conception that we wanted to avail unlettered people so if the utilizer is inculcated to only some extent the chatbot has text to verbalization function which reads the conversation to the utilizer for better understanding. We have utilized the chatterbot package; it utilizes the verdant Bayesian algorithm to determine if the input verbal expression meets a particular set of criteria that warrant a replication to be engendered from that logic adapter. The chatbot functions in multiple languages for people from different regions to utilize it. Google API is utilized (gTTS) for this.

3. OBJECTIVE

- To provide precision of the prognostication to the patients to take a decision, whether to perpetuate with the prescription or consult a medico.
- To avail patients in scheduling a doctor's appointment in a timely and efficient way.
- To minimize the contact between the patient and the medico for minor diseases which can be treated at home (owing to the pandemic).

4. SYSTEM IMPLEMENTATION

To utilize the chatbot the utilizer must have a computer or phone to access it. It is akin to other chatbots in authenticate in and the for incipient users, they have to engender an incipient account so their details are stored safely with us for future references and it will be more facile for them to authenticate again if compulsory. After authenticate in the chatbot will ask a series of questions following which it can provide the felicitous diagnosis. For the chatbot we have not used traditional datasets, we have inscribed .yml files and have them indicted for the chatbot manually.

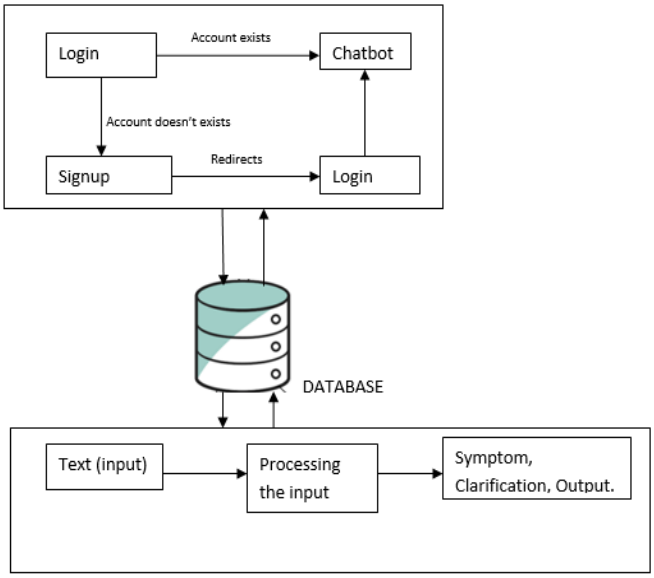

Fig1: System Architecture

During the conversation with the chatbot, it probes for keywords which match the dataset and provide the description for that disease.

5. ADVANTAGES

Following are some of the advantages of the healthcare chatbot:

- Conversation with the chatbot in multiple languages.
- Voice enabled chatbot for more facile access.
- Illiterate people can understand the function of the chatbot which was not there afore because of the language being only English.
- Get acclimated with technology in their own language which avails them vigilant about what is transpiring in the world in terms of technology cognate to healthcare.

6. HARDWARE DETAILS

- **Computer/ Phone**

Fig2: Image of monitor

7. SOFTWARE DETAILS

- Python
  - It is a high caliber, interpreted, general-purport programming language.
  - It accentuates code readability with the utilization of consequential indentation.
  - It is facile and direct, facile to study syntax favors readability.
- Flask
  - Flask is a micro web framework inscribed in python.
  - It does not require particular implements or libraries.
  - It includes a development server as well as a debugger
- HTML & CSS
  - It is a programming language used for web application.
  - It is mainly used for formatting, styling.
  - It defines the structure and design of the website.
  - HTML (Hypertext markup language)
  - CSS (Cascading style sheets)
- SQLite3
  - It is a library to engender a serverless, transactional SQL (Structured Query Language) database engine.
  - It is the world's most extensively used database.
  - It can be utilized for internal data storage.
  - It runs more expeditious with more RAM.
- Google text to speech(gTTS)
  - It is a python library and CLI implement to interface with Google Translates text to verbalization API.
  - Customizable text preprocessors which can provide pronunciation redressments.

- The process of translating words into voice is kenned as text verbalization.
- The software receives utilizer designated text and use natural language processing techniques to comprehend the linguistics of the language and make logical inferences from it.
- This is next passed on to the next block where digital signal processing is done.
- Conclusively, it is verbalized.
- Text translation is astronomically benign to the visually impaired and people with other disabilities.

8. FLOW CHART

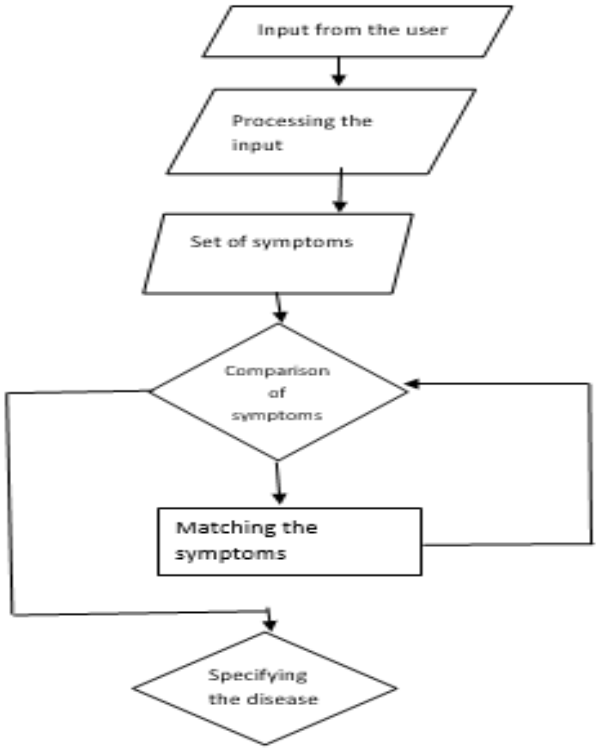

Fig3: Flowchart

9.FLOW CHART WORKING

i. Start the chatbot application.

ii. Enter the authenticate in credentials.

iii. If new user create account. Then step2.

iv. After authenticate in conversation commences.

v. Chat with the chatbot.

vi. Few questions will be asked by the chatbot.

vii. The chatbot processes the input from the utilizer.

viii. omparison of symptoms mentioned by the utilizer and the database.

ix. Provide precise and copacetic prescription and report.

x. We now ken what to do about the symptoms and then close the application.

10.RESULT

- Here are the screenshots of the authenticate page, sign up page
- We have included the screenshots of the conversation with the chatbot in some of the languages.
- The conversation can be auricularly discerned because it is text as well as voice predicated output.

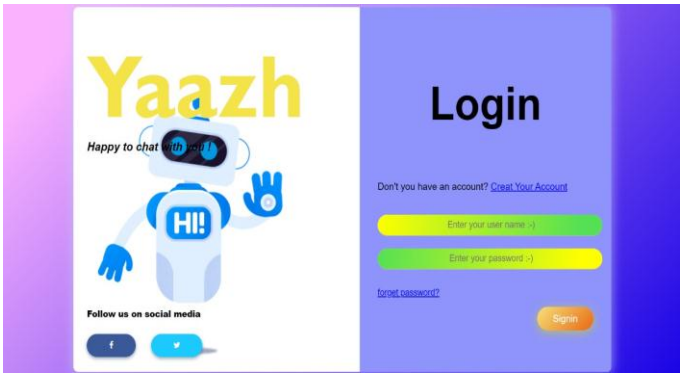

Fig4: Login page

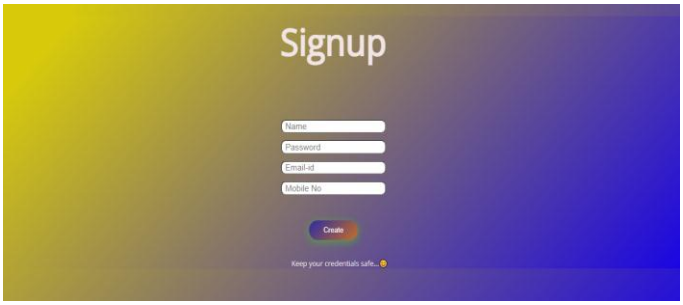

Fig5: Sign up page

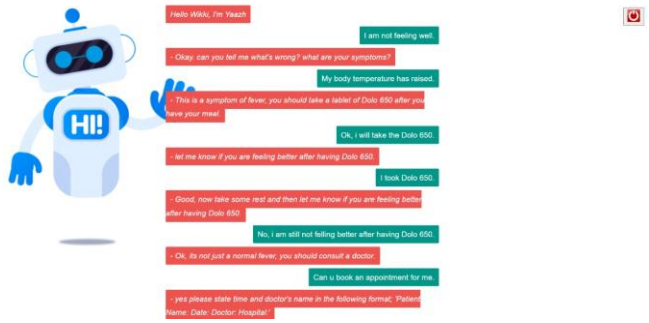

Fig6: Conversation in English

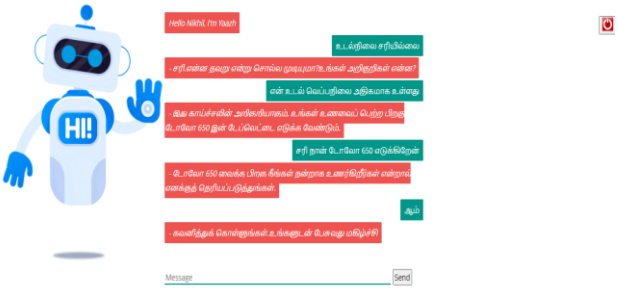

Fig7: Coversation in Tamil

Fig8: Conversation in Telugu

Fig9: Conversation in Spanish

11. FUTURE SCOPE

As of now the chatbot does not have information for all the diseases and so the aim is to integrate all the diseases including diseases which can be arduous to identify for patients where the difference is very little with other diseases. This can avail the chatbot store more data and give a detailed diagnosis report and provide customer gratification.

One more way to ascertain that analphabetic people can utilize the application is when they can verbalize with the chatbot and receive the prescription in a voice in their own language. This can avail them understand their symptoms in a better way.

12. Conclusion

Chatbot are utilized in many industries for truncating the manual work, abbreviating time computation, providing better customer gratification with cognitive analytical mentally conceiving. They are utilized in financial sector, banking sector, healthcare sector and industries for 24/7 accommodations, for storing the client (or patient) data safely in a place which can be accessed at any time. It avails the organizations in truncating cost, increment profits etc.

This project that we have done on healthcare chatbot was because we wanted to give something that could avail the society. We opt ate people to lead a salubrious life and not stress themselves, we opt ate them to ken that someone is there for them even if they are not feeling well and due to some circumstances, they are solitary, they can rely on the healthcare chatbot.

The chatbots now have few features which avail us in many ways. We can ameliorate the functionality by integrating and ameliorating the subsisting chatbots like categorical symptom description, better precision and detailed report.

There are many algorithms which can be utilized for the chatbot, but it depends on what functions and needs we have and how we are going to design it.

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