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AI HEALTH CARE BOT SYSTEM USING PYTHON

Done By

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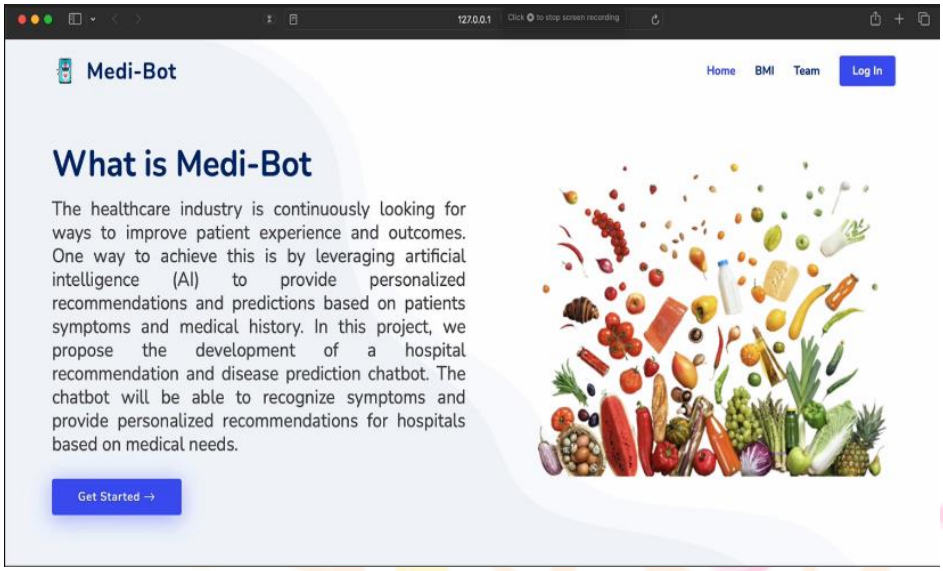
Abstract: This project seeks to develop an AI health information bot using Python. The bot will provide reliable health information from a comprehensive knowledge base, guide users through a symptom assessment process (without offering diagnosis or medical advice), and promote healthy habits with personalized recommendations. It will also connect users to appropriate resources, such as local healthcare providers or credible online information. To achieve this, the bot will leverage Natural Language Processing and potentially explore Machine Learning for improved understanding and response generation. Furthermore, ethical considerations regarding disclaimers, data privacy, and bias mitigation will be paramount in the development and deployment of this AI health bot. The bot's performance will be evaluated through user testing and analysis of user satisfaction, accuracy of provided information, and effectiveness in achieving set goals. Future work will involve continuous improvement through ongoing learning and adaptation based on user feedback and advancements in the field of AI for healthcare. By combining these elements and addressing ethical considerations, this project strives to create a valuable AI health bot that empowers individuals to make informed decisions about their health and well-being, while emphasizing the importance of seeking professional medical advice from qualified healthcare providers.

1. INTRODUCTION:

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 users questions. To implement this technique first we train deep learning models with the train data (all possible questions answers) and whenever users give any question then application will apply this test question on train model to predict exact answer for given question. Earlier companies were hiring humans to answer users queries but by using this application we can answer users question without using any manpower. Chabot can be described as software that can chat with people using artificial intelligence. Chabots are generally used to respond quickly to users. Chabots, 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 a 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. There are many well-known voice-based catboats currently available in the market: Google Assistant, Alexa and Siri. Chabots are currently being adopted at a high rate on computer chat platforms. To implement this project, we are using python deep learning neural networks and NLTK (natural language processing API) to process train and test text data.

2. **OBJECTIVE**: Our Objective is to Develop an AI-powered healthcare chatbot system using Python and CNN algorithm to provide instant and accurate health-related information, connect users with nearby doctors and medical facilities, and increase awareness about healthcare among the population, particularly in rural areas, thereby improving accessibility and affordability of healthcare services in India. Future work includes implementing audio and face recognition for enhanced user interaction and emergency support functionalities.



CHATBOT FOR THIS PROJECT

3. SOFTWARE REQUIREMENTS:

The software components required for building the AI healthcare chat bot system using python language.

- Good Internet speed
- Java script enabled browser
- Programming Language Python
- Python Libraries & Packages
- Tensor flow Keras
- NLTK
- Pickle
- Algorithm – Architecture RNN - LSTM (Deep Neural Networks)

By using above all these components we will make chatbot for overall project view.

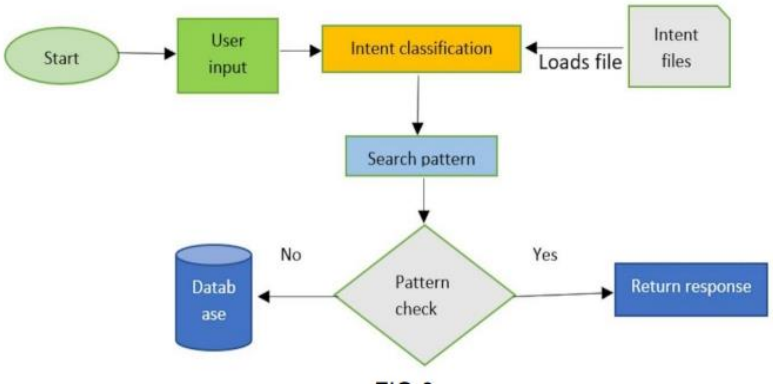
4. HARDWARE REQUIREMENTS:

The hardware components required for building the AI healthcare chatbot system using python.

- RAM- minimum 4gb/Above
- Processor-minimum intel i5 core/Above
- Windows- 7/Above

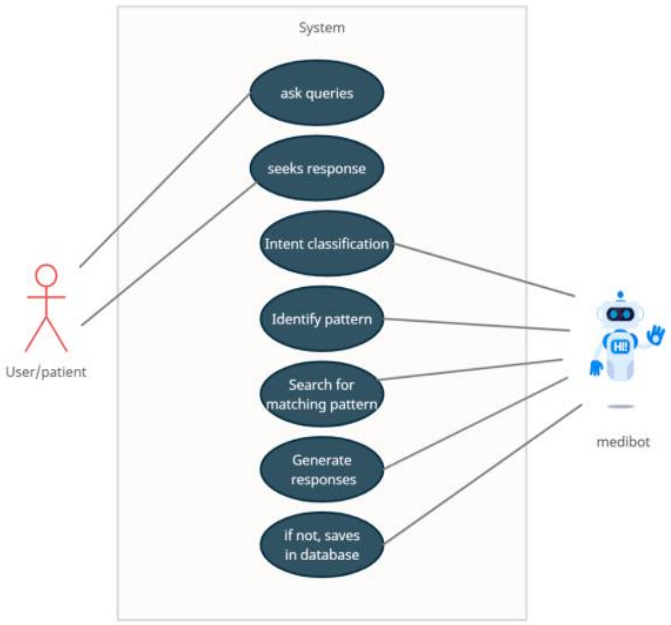
Above all these needs are used to preserve the overall project.

5. BLOCK DIAGRAM



DESIGN FLOW DIAGRAM

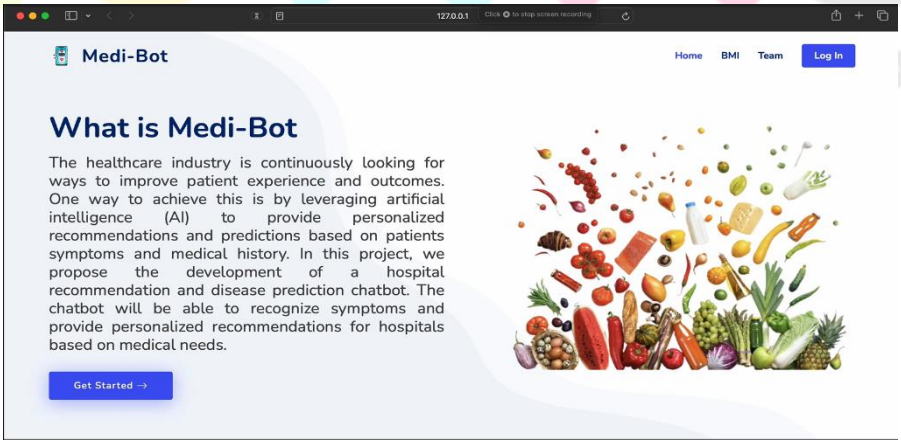
6. PROCESSING STEP FOR WORKING OF CHATBOT:



PROCESS DIAGRAM BETWEEN PACTIENT AND MEDIBOT

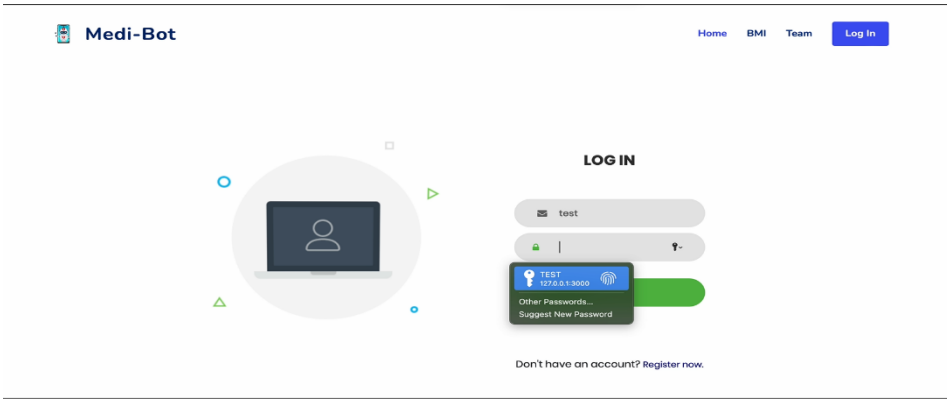
7. WORKING OF MEDIBOT:

STEP-1



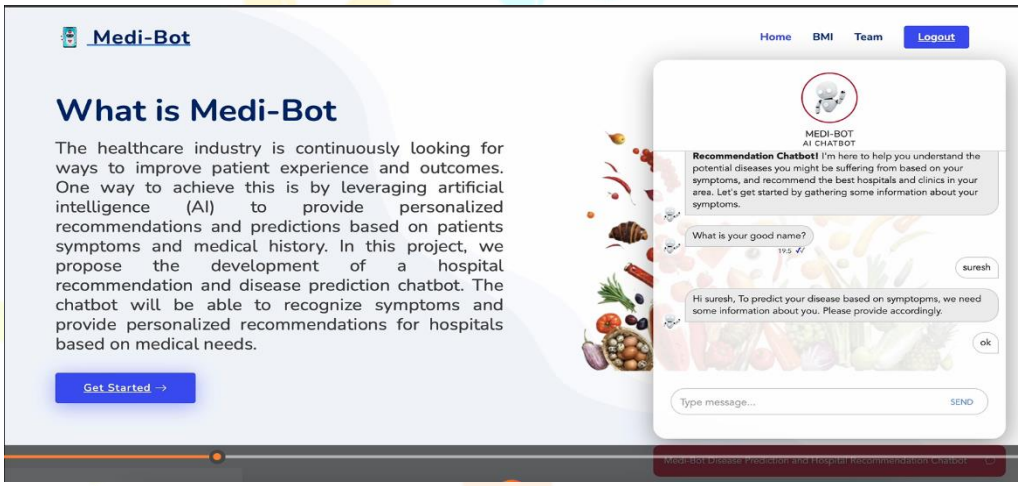
OPEN MEDI BOT INTERFACE USING URL

STEP-2



AFTER REGISTERING LOGIN MEDIBOT USING USER ID AND PASSWORD

STEP-3



NOW CHAT WITH THE MEDIBOT

8. CONCLUSION:

The Intent of this paper is to increase the awareness of health among the people. In current days, many people show their lazy behavior and don't consult a doctor during a time of illness so the implementation of a chatbot 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 analyze the disease and suggest the necessary healthcare steps that need to be taken. In the datasets it includes information regarding diseases and health care steps.

9. REFFERENCE:

a) Sophia, J. J., Kumar, D. A., Arutselvan, M., & Ram, S. B. (2020). A survey on chatbot implementation in health care using NLTK. Int. J. Comput. Sci. Mob. Comput,

b) Hwang, T. H., Lee, J., Hyun, S. M., & Lee, K. (2020, October). Implementation of interactive healthcare advisor model using chatbot and visualization. In 2020

c) International Conference on Information and Communication Technology Convergence (ICTC) (pp. 452-455). IEEE

d) Sivaraj, K., Jeyabalasuntharam, K., Ganeshan, H., Nagendran, K., Alosious, J., & Tharmaseelan, J. Medibot: End to end voice based AI medical chatbot with a smart watch.

e) Madhu, D., Jain, C. N., Sebastain, E., Shaji, S., & Ajayakumar, A. (2017, March). A novel approach for medical assistance using trained chatbot. In 2017 international conference on inventive communication and computational technologies (ICICCT) (pp. 243-246). IEEE.

10. **CODE LINK:**

    https://drive.google.com/file/d/1rUoLaMKG6mEs6PK3yUl0Od_VfHDrErDG/view?usp=sharing

11. **PROJECT DOCUMENTATION LINK:**

    https://drive.google.com/file/d/1UUBHeRT37xJd2msw_Kc5O1FfRhTjsog-/view?usp=sharing

12. **WORKING OF MEDIBOT VIDEO LINK:**

    https://drive.google.com/file/d/1QQTewVBuanPatSi1ilQD-QgtXdaN9KrZ/view?usp=sharing