

Artificial Intelligence Health Care Chatbot System

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Abstract- Through chatbots one can communicate with text or voice interface and get reply through artificial intelligence. Typically, a chat bot will communicate with a real person. Chat bots are used in applications such as ecommerce customer service, call centers and Internet gaming. Chatbots are programs built to automatically engage with received voice messages. Chatbots can be programmed to respond the same way each time, to respond differently to voice messages containing certain keywords and even to use machine learning to adapt their responses to fit the situation. Many developing number of hospitals, nursing homes, and even private centers, presently utilize online Chatbots voice message for human services on their sites. These bots connect with potential patients visiting the site, helping them discover specialists, booking their appointments, and getting them access to the correct treatment. In any case, the utilization of artificial intelligence in an industry where individuals' lives could be in question, still starts misgivings in individuals. It brings up issues about whether the task mentioned above ought to be assigned to human staff. This healthcare chatbot system will help hospitals to provide healthcare support online 24 x 7 live data. It also helps to generate leads and automatically delivers the information of leads to sales.

Keywords- Employee tracking, Managing Database, Automating Workflows, Employee module, Admin module, Report Making, Security of Information.

I. INTRODUCTION

Artificial Intelligence (AI) has transformed the way services are provided in a number of industries in recent years, with the healthcare industry being one of the areas most affected. The creation of intelligent systems that can supplement and improve conventional medical procedures has been made possible by the growing need for easily accessible, effective, and reasonably priced healthcare services. The Artificial Intelligence Healthcare Chatbot System is one such invention; it is a digital health assistant that can communicate with users, deliver medical information, and provide assistance with minor health-related issues.

The goal of this project is to create an intelligent chatbot that mimics human-like discussions in a

medical setting by utilizing AI technologies including machine learning, natural language processing (NLP), and rule-based algorithms. As a virtual healthcare assistant, the chatbot can comprehend user symptoms, provide initial diagnostic recommendations, and offer general healthcare advice. Additionally, it can help users schedule appointments, remember to take their meds, and more effectively navigate healthcare services. The system provides users with a first point of contact for health advice, which is especially helpful in situations where rapid human consultation is not possible. Its round-the-clock operation guarantees continuous availability, eases the workload for medical staff, and improves patient involvement and self-care.

The goal of this project is not to replace medical professionals but to complement existing healthcare infrastructures by providing users with timely and accurate preliminary information and support. The chatbot system is designed with a user-friendly interface and is accessible through web or mobile platforms, ensuring that healthcare assistance is just a message away.

II. LITERATURE REVIEW

According to studies, NLP technologies such as spaCy, BERT, and GPT have made it possible for robots to efficiently comprehend and produce human language. The creation of intelligent healthcare chatbots that can manage intricate user inquiries and provide medically pertinent answers has been greatly aided by this (Jurafsky & Martin, 2021)[1]. Rule-based chatbots, which adhere to preset scripts, and machine learning-based chatbots, which learn from data, are distinguished by research. ML models provide greater flexibility and contextual awareness, while rule-based models are safer for therapeutic guidance because of predictability (Laranjo et al., 2018).[2] AI chatbots increase access to healthcare, particularly in underserved or distant locations, according to numerous studies. They enable people to self-report problems, get basic guidance, and be quickly referred to the right medical providers (Bickmore & Giorgino, 2006)[3] AI chatbots can provide symptom-checking features that replicate a physician's clinical reasoning, assisting in the triage of non-urgent patients and minimizing needless hospital stays, as shown by platforms like as Buoy Health and Ada Health (Semigran et al., 2016)[4]. The research cautions about AI chatbots' limits when it comes to diagnosing medical conditions. It might be detrimental to provide incorrect recommendations or ignore symptoms. Consequently, chatbots need to be properly taught and made to understand that they are meant to be advisors, not to take the position of doctors (Razzaki et al., 2018)[5]. A chatbot's user experience and design have a big impact on how well it works. According to research, multilingual help, sympathetic response styles, and user-friendly interfaces boost user engagement and trust

(Montenegro et al., (2019) [6]. By facilitating smooth data sharing, chatbot integration with EHRs enhances continuity of treatment. For instance, chatbots can automatically update new symptoms for clinician review or retrieve patient history to personalize responses (Car et al., 2020) [7] AI healthcare systems that handle sensitive medical data must abide by regulations such as GDPR (EU) or HIPAA (USA). Important technical and ethical protections covered in the literature include encryption, anonymization, and user consent (Vayena et al., 2018).[8]. The potential of conversational agents in mental health treatment has been demonstrated by the effectiveness of chatbots such as Woebot and Wysa in offering emotional support and Cognitive Behavioral Therapy (CBT) procedures (Fitzpatrick et al., 2017) [9]. Multimodal AI (text, speech, and image) is being suggested by emerging trends as a means of improving diagnosis and communication. Because they provide more natural communication channels, voice-enabled assistants are particularly beneficial for the elderly and the blind (Kocaballi et al., 2020) [10].

III.IMPLEMENTATION



Fig 1: Home page

Your AI-powered healthcare chatbot system's home screen or landing page is represented by the application window. For ease of navigation, the user interface is organized with a simple, color-coded layout that divides material into visually different zones.

Title Header, Top Section, Light Pink Background
Title: "HEALTHCARE CHATBOT SYSTEM"
Font Style: Red text, bold, uppercase

Purpose: This header draws the user's attention when the application is opened and clearly states its goal.

Main Menu, Central Section (Home Page)

Background Color: Lavender/soft purple

"HOME PAGE" is the center text.

The current interface location is indicated by a bold black font. For user access, registration, and system entry, this component serves as the primary control panel.

Picture Area

The visual focal point is an image of a golden autumn leaf that is clearly displayed.

This could be a placeholder or symbolic image that can be altered for branding purposes or for medical purposes. positioned to the left of the action buttons to provide visual balance to the arrangement.

Buttons That Work

These are the main user interface components, and they are positioned to the right of the image:

Create a New User Account

Function: Sends a user to a form where they can register by providing information about themselves, including their name, age, gender, health concerns, and login credentials.

beneficial for patients or new users who are using the chatbot for the first time.

User Sign-In

Function: Directs returning users to a login screen so they can interact with the chatbot and access their account by entering their credentials. Role-based access and authentication (patient, doctor, admin, etc.) may be included.

Design:

Both buttons stand out against the lavender background because they are white and have bold, centered labels.

Their spacing and alignment provide a neat, approachable layout.

Frame of a Window

The structure and window design of the application suggest that it was created as a desktop-based GUI,

most likely with Python frameworks like Tkinter or PyQt.

A configurable window label is shown by the default "MainWindow" title in the top-left corner.



Fig 2: Registration Page

By entering their personal information, new users can register on this interface for the healthcare chatbot system. It is a fundamental step in the system's user onboarding procedure.

Healthcare Chatbot System is the text at the top header section.

Bold and capitalized font style, Red is the font color, Vibrant pink is the background color.

Goal: Upholds the application's branding while remaining consistent with the main homepage.

Application:

Font: Under the main title, bold, uppercase text

Color Scheme: Darker inner portion for the shape on a neutral gray background

Visual: A sizable user avatar or icon of a person wearing a suit

It serves as a symbolic representation of the process of creating a user account.

For visual balance, the form fields are positioned to the left.

Fields for Input

Four necessary fields are included in the form in order to register a new user:

Name: Enter your entire name in the text field.

"NAME" is the label.

ID of the user: Personalized, one-of-a-kind identification for system reference and login

"USER ID" is the label.

Mobile: Phone number of the user, perhaps for contact or verification

"MOBILE" is the label.

The password: Secret authentication credentials

Label: "PASSWORD" (probably input that has been masked)

For clarity, all labels are printed in bold, uppercase black language and oriented to the left.

Text: REGISTER

Register Button

Look: Tiny white button with writing in black

Function: Upon clicking, the data entered is sent to the database or backend for user creation.



Fig 3: User Login Page

Registered users can enter their login credentials on this page to use the healthcare chatbot system. It serves as the primary interface for authentication prior to using the system's features.

Components of the Layout Text in the Header Section: Healthcare Chatbot System

Text Style: Red, bold, and capitalized

Vibrant pink is the background color.

Function: Consistent across all screens, it symbolizes the application's title and theme.

Text: LOGIN USER

Placement: In the middle beneath the main header

Style: For clarity, use bold and capital letters.

Background: A light gray background to visually distinguish the login box

User Avatar Icon Image: A male user wearing a suit is represented by a circular blue icon.

Symbolism: Identifies the user and visually synchronizes the interface with actions linked to login.

Positioned: To the left of the login fields

Fields on the Login Form

There are two mandatory input fields:

Name of User

Label: Name of User

Input: A text area where the user can type their username or registered ID

Style: White background with a faint border or shadow

The password

Label: Password

Enter your password in this text field, which is probably hidden as dots for privacy.

Style: Complements the design's username field

The Login Button

Text: Sign in

Look: White button that is rectangular and has a faint border

Function: Sends the authentication credentials.



Fig 4: Employee Login page

Goal: By entering symptoms into this interface, consumers can communicate with a healthcare chatbot. Based on the input, the bot then recommends drugs, age-related data, and dosage.

Analysis of User-Bot Conversations

Input from the user: makefile Copy Edit YOU: fever

The user inputs "fever" into the chatbot as a symptom.

Response from the Bot: makefilecopyEdit BOT:

Drug: Mortrin, Nuprin

BOT: Age range: 10 to 45

BOT: Dosage: 1 - Daily Af Justification:

Medicine: Suggests Nuprin and Mortrin, which are popular drugs used to lower fever (usually based on Ibuprofen).

Age Range: Denotes the age range (between 10 and 45 years) for whom the guidance is appropriate.

Dosage: "1 - Per Day Af" is suggested, which probably means one dose daily after meals (though the wording may be more formal).

Components of the User Interface (UI)

Background: A visually pleasing background with paper textures (probably stock photos) that enhances the interface's appeal. Simple and uncluttered design that probably puts readability first.

Chat Display Area: Blue text (chat history) is visible in the center of a white text box shows the history of conversations in an organized, readable manner. The input field is situated at the window's bottom enables users to enter questions or symptoms for the chatbot designed to draw attention to the input area using a red underlining.

Send Button: The input field's right-hand blue triangle icon resembles a paper airplane used to send the message to the bot; it is probably activated by pressing Enter.

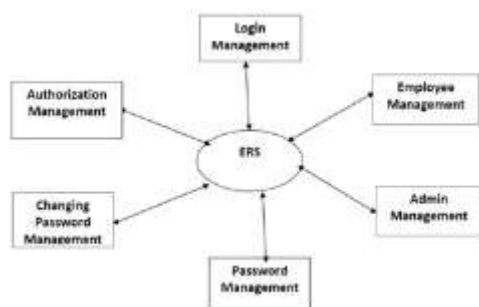


Fig 5: Model Of ERS

IV.CONCLUSION

The Healthcare Chatbot System is an easy-to-use, graphical user interface (GUI) program that helps consumers with basic medical advice. It has the following features:

A login and registration process to safely control user access.

An interactive chatbot interface that takes in symptoms and provides the right medications, dosage recommendations, and age restrictions in response.

The chatbot is meant to bridge the gap between patients and healthcare knowledge by giving rapid, automated solutions to common health problems. It is a starting point for health knowledge and early self-care, but it cannot replace expert medical guidance.

This project establishes the framework for upcoming improvements like:

By incorporating an AI-based diagnosing system or medical database,

Including support for multiple languages, utilizing machine learning to provide recommendations that are more precise.

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