LOVELY PROFESSIONAL UNIVERSITY

INT 404 -ARTIFICIAL INTELLEGENCE

SEC -K18TM

PROJECT ON -REASONING SYSTEM(FOR MEDICATION)

BY BISWAJIT NAYAK

ROLL NO 24 REG -11804806

MOHD NAVED

ROLL NO 16 REG -11810743

PRINCE NISHAD

ROLLNO 18 REG-11811216

INTRODUCTION

A Chatbot is a system that can interact with human users with natural language. The vast amount of information that is available on the internet allows Chatbots to provide accurate and efficient information based on the user’s requirements. Chatbots are used in domains like Customer Support, Virtual Assistance, Online Trainings, and Online Reservations and also for general conversations. The proposed Medical Chatbot can interact with the users, giving them a realistic experience of chatting with a Medical Professional. Our Chatbot can detect human message patterns using AIML (Artificial Intelligence Mark-up Language) which is a mark-up language based on XML to build AI applications [1]. It retrieves keywords from the initial messages to know the possible medical problems that the user has, based on their input.

AIM-

We investigate the scientific literature on conversational interfaces and provide a survey of major studies in the domain by highlighting their focus on UX design principles and interaction patterns for conversational interfaces in healthcare. We reviewed each research work and extracted the UX design principles discussed in terms of chatbot-user interaction, chatbot response, chatbot development, and user experience. This will help identify gaps and guide future research directions. Our goal is to support practitioners in exploring opportunities and limitations of conversational interfaces, providing empirically-supported guidelines and indications in interaction designs for conversational agents.

**Related Work -**

Many medical Chatbot designs have been proposed in the past few years which aim to provide the user with medicine recommendation after extracting the illness information from the user messages.

A similar paper “Pharmabot: A Pediatric Generic Medicine Consultant Chatbot” proposed by Benilda Eleonor V. Comendador, Bien Michael B. Francisco, Jefferson S. Medenilla, Sharleen Mae T. Nacion, and Timothy Bryle E. Serac provides a design for a stand-alone medical Chatbot that is implemented using MS Access and Visual C# [2]. For using the proposed design, the user has to navigate using the four options provided by the application. This design aims to work by converting the user input to SQL queries and execute it on MS Access to retrieve the solution to the illness .

Also a research paper “MedChatBot: An UMLS based Chatbot for Medical Students” proposed by Hameedullah Kazi, B.S. Chowdhry and Zeesha Memon focuses on a design for an AIML based Medical Chatbot. This Chatbot design is implemented using a JAVA based AIML interpreter called Chatter bean . To use the proposed design, the user has to type a message that should contain the illness name and it detects the illness names using AIML patterns. Once the illness is detected, the Chatbot provides the user about the necessary information about the problem .

However the previous proposed designs in the past did not focus in understanding the intensity of the illness that the user is suffering through. Our proposed design aims to ask more questions to the user until it gets confident about the probable illness that the user is suffering through. Also our Chatbot design has the concept of threshold level that helps it to detect the intensity of the problem and connects the user directly to the doctor if it feels that the problem is too serious for the Chatbot to handle.

3  **Functionality**

The system focuses on the messages that the user provides while initiating the conversation. The idea behind this is to detect the preliminary symptoms and the problems that the user may be experiencing. After the Chatbot has collected enough keywords from the initial messages, it now starts leading the conversation by asking questions to the user and trying to shortlist few diseases that the user may be suffering through. After the Chatbot has shortlisted the possible diseases that the user may have, now it gives a rank to the possible diseases that the user may be suffering from. When the list of possible diseases, the Chatbot starts questioning the user about how the user is feeling. Once it gets ample amount of data it finds the most likely disease that the user may be suffering through. After the Chatbot has found the disease that the user is suffering through, it measures the seriousness of the illness and acts accordingly either by suggesting remedies and

medication to the user or by connecting the

**Conclusion-**

Our Medical Chatbot will have a great impact on the life of its users. It would provide them the advantage of carrying a virtual Doctor in their pockets. It would also give them the freedom to consult a doctor 24/7 and also can get a real doctor's advice if needed. This can be a most popular tool for people with busy schedule as they won't have to hamper their schedule to consult a doctor for minor health queries. This would also be a tool with high utility among elderly and physically disabled people as this can help them get solutions to all their health related issue at their fingertips. We would bring Doctors and Medical Professionals to our platform to feed the medical data into our records and also to chat with our users when required. Having lots of medical data would make our Chatbot function more efficiently and accurately.