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AI-Driven Public Health Chatbot for Diseases Awareness

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ABSTRACT: Healthcare awareness in rural and semi-urban areas is limited due to lack of access to medical professionals and timely information. This project proposes an AI-Driven Public Health Chatbot for Disease Awareness, designed to educate people about disease symptoms, preventive measures, and vaccination schedules in multiple languages.

The chatbot uses Natural Language Processing (NLP) to understand user queries and provide accurate health guidance. It can also integrate with government health databases to deliver real-time alerts about disease outbreaks. The system is accessible via notification through email for the registered camp, making it suitable for populations with limited internet access. This solution aims to improve healthcare awareness and promote early medical consultation.

KEYWORDS: Artificial Intelligence (AI), Healthcare Chatbot, Public Health Awareness, Disease Awareness, Natural Language Processing (NLP), Preventive Healthcare.

I. INTRODUCTION

Public health awareness plays an important role in preventing diseases and improving the overall well-being of people. When individuals are aware of common diseases, symptoms, and preventive measures, they can take the necessary steps to protect their health. However, many people still lack proper knowledge about basic healthcare practices. In many rural and semi-urban areas, access to reliable health information is limited. People often depend on hospitals, doctors, or health workers to learn about diseases and treatments. This can sometimes delay the process of getting important health guidance.

With the growth of digital technology, Artificial Intelligence has started to play a significant role in the healthcare sector. AI-based systems can help provide quick information and support to users without the need for direct human assistance.

One of the useful applications of AI in healthcare is the development of chatbots. A chatbot is a computer program that can communicate with users and answer their questions automatically. It can provide information related to disease symptoms, preventive measures, and vaccination schedules.

The chatbot will respond to user queries and provide useful health information. This system aims to improve public health awareness, provide quick access to healthcare information, and support people in making better health decisions.

II. LITERATURE SURVEY

Many studies show that AI-based chatbots can be used in the healthcare sector to provide quick health information and guidance to users. These chatbots use technologies like Artificial Intelligence and Natural Language Processing (NLP) to understand user questions and respond with relevant information about diseases, symptoms, preventive measures, and basic healthcare practices.

Researchers have found that healthcare chatbots are useful in improving public health awareness by providing instant responses to health-related queries. They allow people to access important health information easily without the need to visit hospitals or consult doctors for simple questions. This is especially helpful for people living in rural or remote areas where healthcare facilities may not be easily available.

Healthcare chatbots can also support healthcare systems by reducing the workload of doctors and medical staff. They can answer common health questions, provide guidance about disease prevention, and remind users about vaccination schedules or healthy practices.

However, most studies also state that chatbots cannot completely replace doctors because they cannot perform medical examinations or provide advanced medical diagnosis. Therefore, AI-based chatbots are mainly used as supportive tools to spread health awareness and provide basic healthcare information to the public.

III. METHODOLOGY

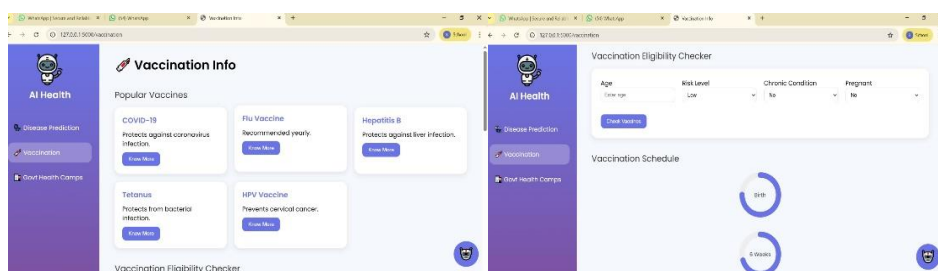
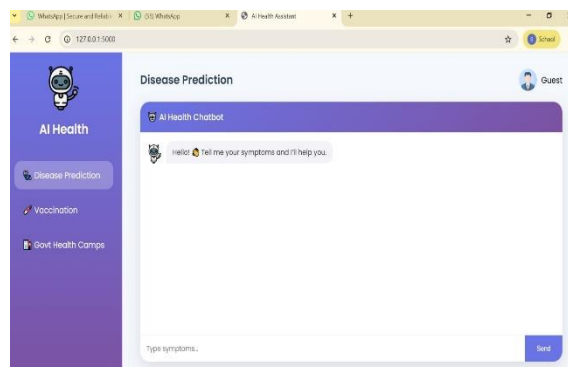
The proposed system follows a simple process to provide health information using an AI chatbot. First, the user sends a query related to diseases, symptoms, or preventive measures through messaging platforms such as WhatsApp or SMS. The chatbot receives the message and processes the user input using Natural Language Processing (NLP) techniques. NLP helps the system understand the user's question and identify the required health information.

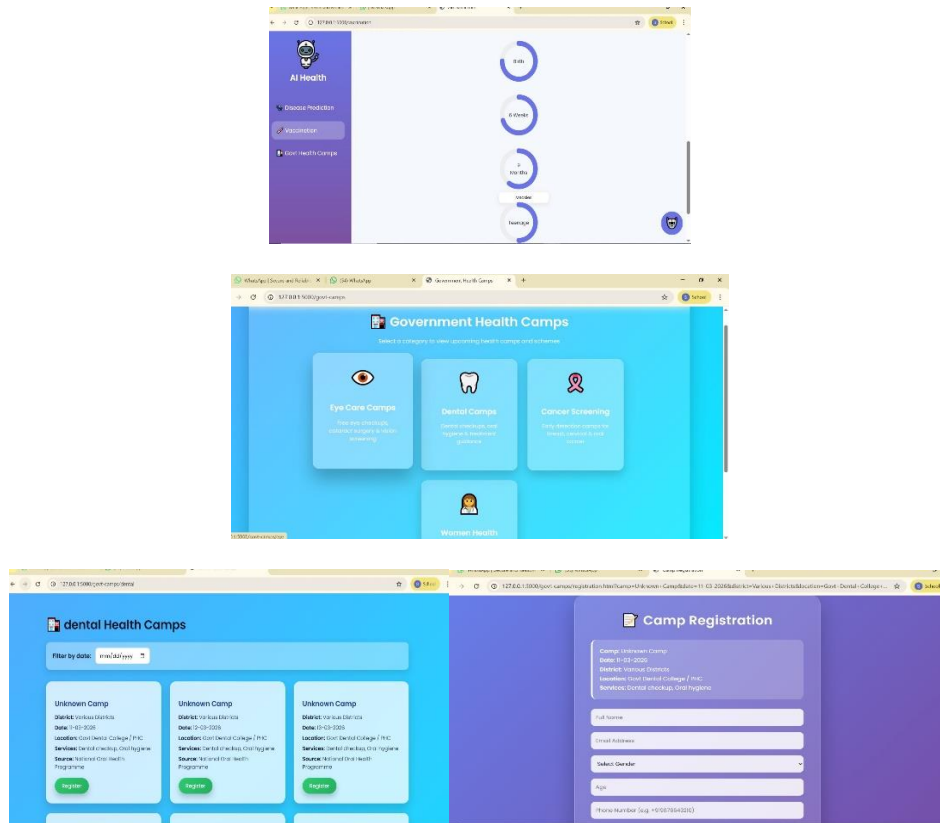
After understanding the query, the system searches the health database to find the relevant information about diseases, symptoms, prevention methods, or vaccination schedules.

Finally, the chatbot sends the appropriate response back to the user. This process allows users to quickly receive useful health information and improves public health awareness.

IV. EXPERIMENTAL RESULTS

The developed AI-driven chatbot was tested with different health-related queries and it successfully provided relevant information about diseases, symptoms, and preventive measures. The results show that the system can respond quickly and help improve public health awareness.





V. CONCLUSION

The AI-Driven Public Health Chatbot is designed to provide quick and reliable health information to users. It helps people understand disease symptoms, preventive measures, and vaccination schedules through simple communication platforms. The chatbot can be accessed anytime, making health guidance more convenient for users.

This system improves public health awareness and helps people make better health decisions, especially in rural and semi-urban areas. It also reduces the burden on healthcare workers by answering common health-related questions. Overall, this solution supports better access to healthcare information and promotes a healthier community.

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