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AIDoc-A modern AI solution for digital health consultations.

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Abstract-
The integration of artificial intelligence (AI) in medical care services has revolutionized the accessibility and efficiency of medical consultations. AIDOC is a modern platform promoted by AI designed to provide fast, precise and easy to use digital health consultations. Developed using a robust technology battery that includes Python, HTML, Tailwind CSS, JavaScript, Fastapi and Groq Cloud, AIDOC takes advantage of AI models to help users diagnose their health problems remotely.

The platform allows users to load images related to their health concerns and describe their symptoms through text entry. Using advanced AI algorithms housed in Groq Cloud, Aidoc analyzes tickets to generate a probable diagnosis or medical advice. In addition, AIDOC incorporates geolocation services through the OpenCage API, allowing users to locate nearby hospitals within a 20 -kilometer radius simply by entering the name of their city or the PIN code. This dual functionality not only helps in the immediate preliminary medical consultation, but also guides users towards appropriate health centers immediately.

By offering a perfect diagnostic combination with AI and discovery of real -time hospitals, AIDOC addresses critical gaps in digital medical care, especially in regions with limited access to professional medical consultations. The solution prioritizes user experience through a clean and receptive interface built with modern web technologies, ensuring accessibility between devices. AIDOC represents a significant step in the democratization of medical care services, providing users with a proactive tool to administer their health needsefficiently.

Keywords- *AIDoc, Digital Health, AI Consultation, Python, FastAPI, HTML, Tailwind CSS, JavaScript, Groq Cloud, OpenCage API, Image Upload, Symptom Analysis, Nearby Hospitals, Geolocation, Healthcare Solutions*

I. INTRODUCTION

In today's rapid rhythm, access to the relevant tips for medical care has become more important. Traditional health systems often face challenges such as long waiting times, limited availability in rural areas and high consulting costs. With rapid progress in the field of artificial intelligence (AI) and cloud computing, new possibilities have emerged to close the gap between patients and medical care.

Platforms for digital health consulting platforms have gained popularity and offer basic counseling in the field of medical care. However, many existing platforms are limited to text symptoms or lacks intelligent diagnoses based on visual signals such as images. The location of close hospitals, especially in emergencies, remains a cumbersome task for many users.

AIDOC was developed to solve these challenges: Web application that allows users to load a picture of their health problem together with the text description to receive preliminary advice. In addition, the system helps users to locate nearby hospitals depending on their city and painters, filtered within 20 km, providing faster access to medical care equipment.

Backend uses Fastapi for fast and efficient API reactions, while IA processing is fed using the Avant -garde models in the Groq cloud. frontend technologies, such as HTML, CSS and JavaScript, provide a perfect and easy -to -use experience. API APANCA Geocodification API is used for precise geolocation services.

II. LITERATURE REVIEW

The growth of digital health platforms has transformed the way patients seek advice and medical services. Applications such as Praco, 1 mg and Ada Health offer services ranging from medical consultations to the delivery of medicines and the verification of symptoms. However, most existing platforms depend mainly on descriptions of text -based symptoms without the ability to analyze images loaded by users.

In addition, although these platforms offer a program for consultation and management of medicines, they often lack preliminary diagnosis driven by real -time AI based on combined data and visual data. In addition, most health platforms do not integrate a hospital search engine based on location within a specific radio, which makes access to emergency health more cumbersome for users.

Other challenges with current platforms include:

- Limited capabilities beyond the basic coincidence of symptoms.
- Internet connectivity dependence without optimizing speed and performance.
- Lack of support to rural or sub -present areas where immediate professional consultation may not be available.
- These limitations highlight the need for a more complete health tool, driven by AI and aware of the location.

Identified Gap

Despite the rapid growth of digital health platforms, there is still a noticeable gap in solutions that combine image-based health issue analysis with personalized AI consultation in a seamless, user-friendly web application. Most existing tools either focus on symptom checkers without image input or lack integrated geolocation features to assist users in finding nearby healthcare facilities. AIDoc addresses this gap by providing a modern solution where users can upload images of their health issues, describe their problems through text, and receive AI-generated solutions. Additionally, AIDoc bridges the gap between online consultation and offline care by helping users locate hospitals within a 20 km radius using city and pin code, powered by the OpenCage API.

III. OBJECTIVES

The main objectives of the AIDOC project are:

- Develop a digital health consultation system that can analyze text and images loaded by users.
- To provide preliminary health advice generated by AI based on the inputs received.
- To implement a hospital search function based on the location where users can find nearby hospitals within a 20 km radius based on City and Pincode.
- To build a fast, scalable and receptive web application using modern technologies such as Python, Fastapi, HTML, CSS, JavaScript and Groq Cloud.
- To improve accessibility to the basic medical care guide, especially for users who may not immediately reach a medical professional.

IV. METHODOLOGY

The development of AIDoc followed a systematic approach to create an effective and user-friendly AI-powered health consultation platform:

1. **Frontend Development**: The user interface was built using **HTML**, **Tailwind CSS**, and **JavaScript** to ensure a responsive and visually appealing design. Users can easily upload images and input their health concerns through the interface.
2. **Backend Development**: The backend was implemented using **Python** and **FastAPI**, providing a lightweight and high-performance framework to handle user requests, process data, and communicate with AI models.
3. **AI Integration**: The platform uses **Groq Cloud** to run advanced AI models that analyze user-submitted images and text descriptions, offering appropriate solutions or recommendations for health concerns.
4. **Geolocation and Hospital Finder**: To assist users in finding nearby medical help, the system integrates the **OpenCage API**. By using the user's city and pin code, the system identifies hospitals within a 20 km radius.

5. **Testing and Validation**: The application underwent rigorous testing to ensure smooth user experience, accuracy of AI recommendations, and reliability of the hospital search feature.
6. **Deployment**: The final application was deployed on a cloud environment, ensuring scalability, fast response times, and wide accessibility.

V. PROPOSED SYSTEM

AIDOC is proposed as a modern health consultation platform based on AI that addresses these gaps by offering:

- **Multimodal input:**

Users can load an image of their health problem and provide a text description.

- **Diagnosis based on AI:**

Using powerful models of the lodging in Groq Cloud, AIDOC provides instant preliminary health advice based on the inputs provided.

- **Near hospital search:**

Users can enter their city and painter, and the system obtains a list of nearby hospitals within a radius of 20 km using the API of APENCA geocoding.

- **Modern technology battery:**

The system is built with Python, Fastapi, HTML, Cola CSS, JavaScript, ensuring a fast, scalable and receptive user experience.

- **Cloud accommodation:**

IA services are housed in Groq Cloud to guarantee minimal latency and high availability.

In summary, AIDOC is a centered, fast and the IA health consultation system that provides real -time guidance together with the support of the location of emergency hospitals.

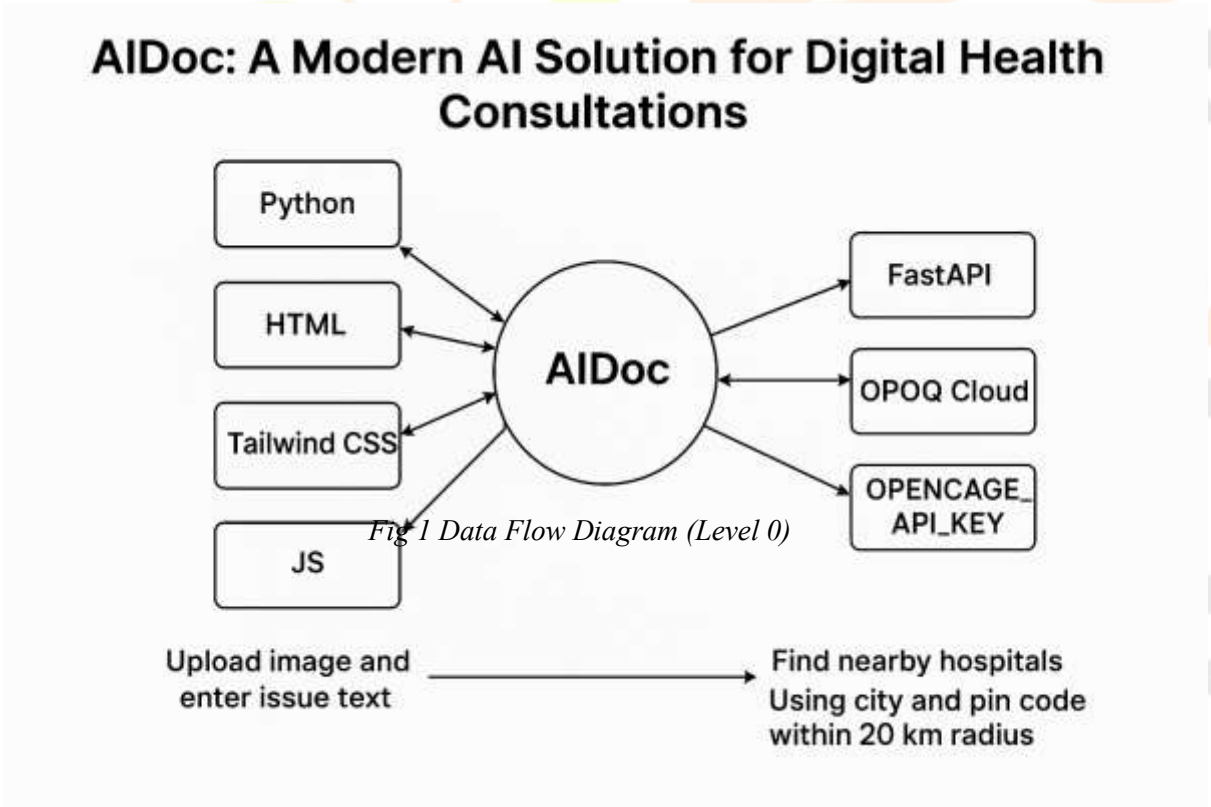


Fig 1 Data Flow Diagram (Level 0)

VI. USER INTERFACE

A Modern AI Solution for Digital Health Consultations is designed to be modern, intuitive, and user-friendly, ensuring smooth navigation for all users. The frontend is developed using Python (FastAPI backend), HTML, Tailwind CSS, and JavaScript, delivering a responsive experience across desktops, tablets, and smartphones.

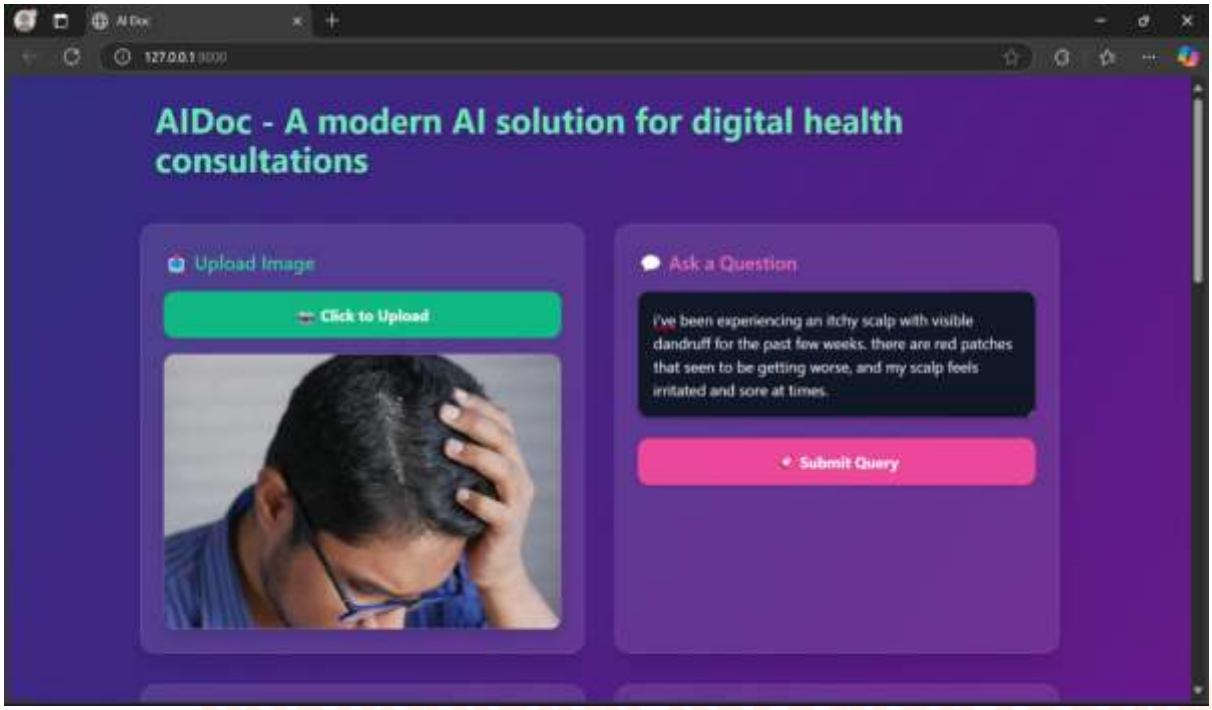
A. Patient Module

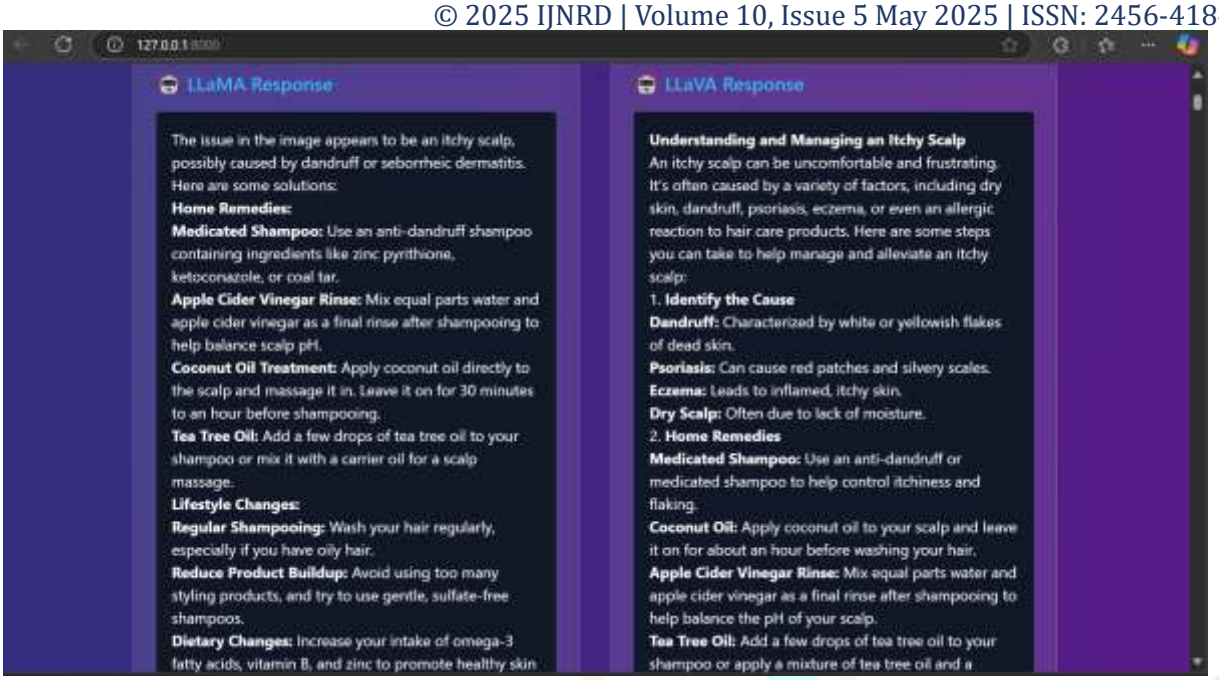
The Patient module of AIDoc is crafted to provide users with an intelligent, AI-powered platform for remote health consultations. Patients can upload images of their health issues, describe symptoms, receive AI-generated advice, and locate nearby hospitals — all through a simple and secure web interface.

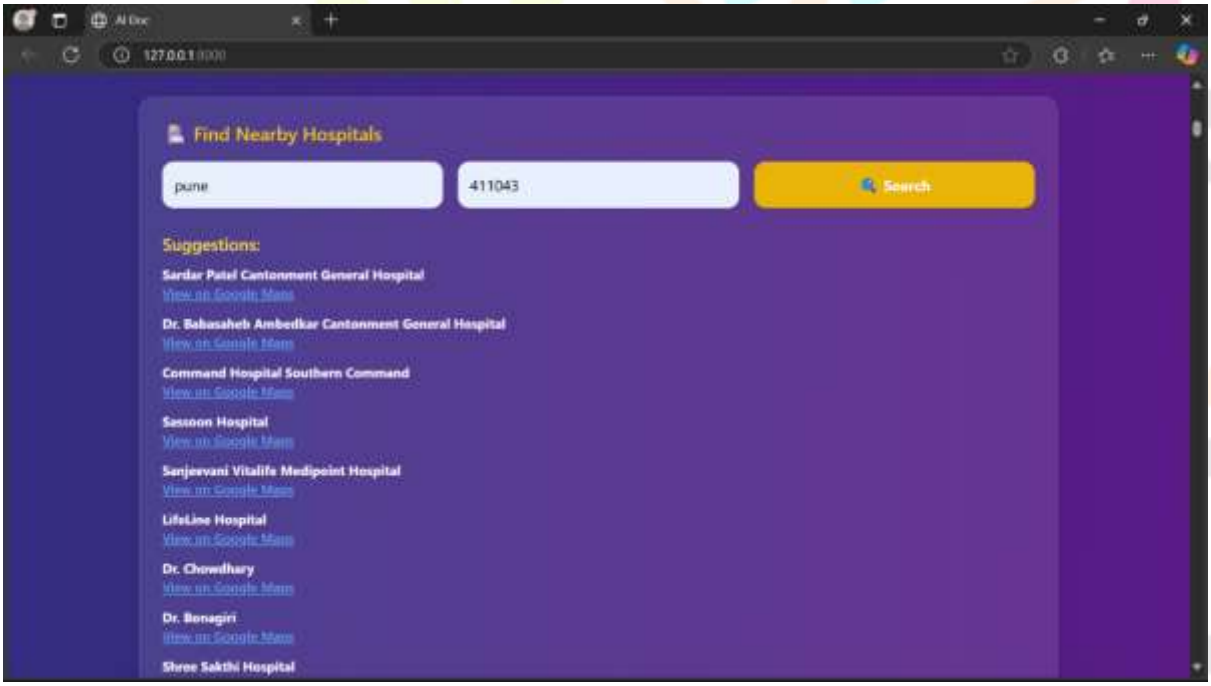
Key Features of the Patient Module

1. **AI-Powered Health Consultation:** Patients can upload an image (e.g., rash, wound, scan) and enter a brief description of their issue. The AI, powered by Groq Cloud models, analyzes the input and provides possible insights, advice, or next steps.

2. **Nearby Hospital Finder:** Using the integrated OpenCage Geocoding API, patients can input their **city** and **pincode** to search for hospitals within a **20 km radius**. The system returns a list of nearby hospitals, helping patients quickly access in-person care if needed.
3. **View Consultation History:** Patients can view their past consultation records, including uploaded images, text descriptions, AI responses, and timestamps, making it easier to track ongoing health concerns.
4. **Upload Medical Reports (Optional):** In addition to consultation images, patients can upload supporting medical documents (lab reports, prescriptions, scan images) in PDF or image formats for better context.
5. **Secure Login and Logout:** Users log in securely using their credentials. Session management ensures sensitive data is protected, and users can log out safely when done.
6. **Responsive and User-Friendly UI:** Built with Tailwind CSS, the UI adapts gracefully to different devices, offering smooth animations, clear feedback messages, and an accessible layout for all age groups.
7. logged out to protect sensitive data.







The screenshots above showcase the **AIDoc – A Modern AI Solution for Digital Health Consultations** user interface, designed to provide a seamless and interactive experience for patients seeking online health consultations.

1. **Image Upload and Query Submission**
The first screenshot displays the core interface where users can upload an image of their health issue (for example, a skin condition) and describe their symptoms or concerns in a text box. Built with **HTML, Tailwind CSS, JavaScript, and FastAPI**, this module ensures responsive and visually appealing interaction. Once the image and description are submitted, the backend system—powered by AI models hosted on **Groq Cloud**—processes the input to generate a diagnosis or recommendations.

2. **AI Response Display**
The second and third screenshots illustrate the system's dual-response panel. The **LLaMA** and **LLaVA** models analyze the submitted image and text and provide parallel responses. These responses typically include:

- Identification of the probable condition (e.g., itchy scalp due to dandruff or seborrheic dermatitis).
- Home remedies and over-the-counter treatment recommendations.
- Lifestyle and dietary suggestions.

This comparative presentation gives users multiple AI perspectives, enhancing trust and offering comprehensive advice.

3. **Nearby Hospital Finder (not shown in screenshot)**

In addition to AI consultations, AIDoc integrates a **hospital locator** feature that uses the **OpenCage API**. By entering their city and pin code, users can locate hospitals within a 20 km radius, ensuring they have access to nearby healthcare facilities when needed.

Technical Stack Highlight

- **Frontend**: HTML, Tailwind CSS, JavaScript
- **Backend**: Python, FastAPI
- **AI Models**: Groq Cloud (LLaMA, LLaVA)
- **Geolocation**: OpenCage API

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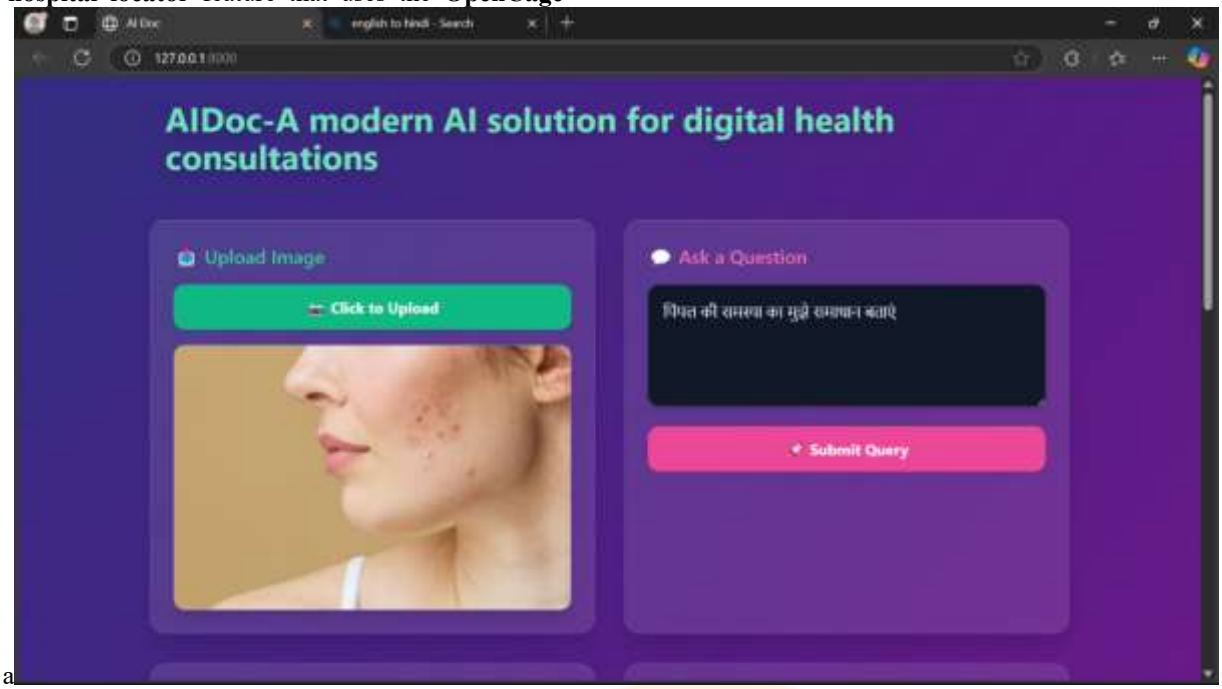

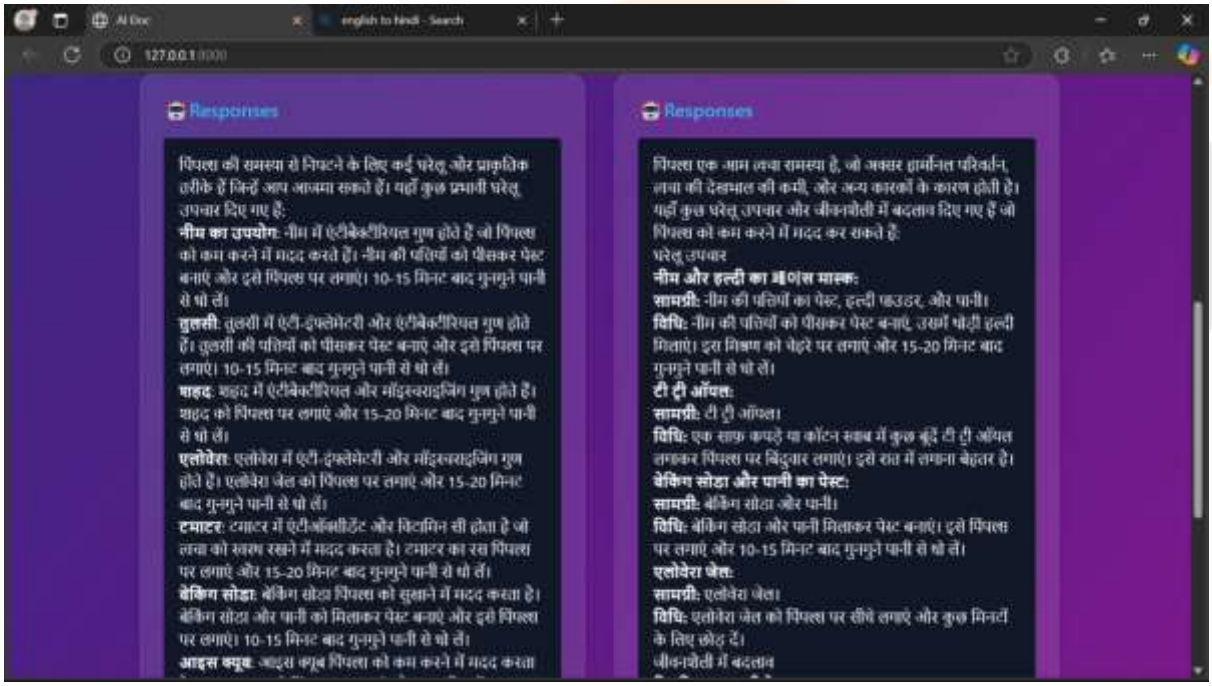

VII. Scope and Future Improvements

While **AIDOC** is already a functional solution, there are several areas for future improvement and expansion:

- **Expanded AI Models:** Future versions could include more sophisticated models that can

diagnose a wider range of medical conditions, incorporating not only images and text but also voice consultations.

- **Telemedicine Integration:** Adding features for direct video consultations with healthcare professionals could enhance the overall user experience, providing immediate access to medical experts.
- **Multilingual Support:** Expanding the platform to support multiple languages would make **AIDOC** more accessible to users from different linguistic backgrounds.
- **Mobile Application Development:** While **AIDOC** is accessible through web browsers, a dedicated mobile app for **iOS** and **Android** would increase accessibility and user engagement, making it easier for users to access consultations on-the-go.
- **Expanded Hospital Network:** Integrating additional hospital databases and offering features like appointment scheduling, doctor reviews, and telemedicine options could improve the platform's usefulness.
- **AI-Powered Personalized Health Plans:** Introducing personalized health plans and wellness recommendations based on user inputs could offer more tailored advice and continuous health management for users.

VIII. CONCLUSION

The **AIDOC** project offers a modern AI-driven solution for digital health consultations. Users can upload images or describe their health issues, receiving personalized health advice based on AI analysis of both image and text inputs. AIDOC also integrates the **OpenCage Geocoding API** to locate nearby hospitals within a 20 km radius based on the user's city and pin code.

Key technologies used in this project include:

- **Python** for backend development,
- **FastAPI** for building the backend API,
- **HTML/CSS** and **Tailwind CSS** for responsive front-end design,
- **JavaScript** for dynamic interactions,
- **Groq Cloud** for AI model hosting and inference,
- **OpenCage Geocoding API** for location-based services.

The combination of these technologies provides a fast, scalable, and reliable solution for digital health consultations and hospital recommendations.

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