

**Analyzing of patients data to help in medical diagnosis**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **id** | **CGPA** | **D** |
| Ashraf Hatem Omara | 202116298 | 2.85 | CS |
| Mahmoud Essam Eldin | 202018880 | 2.22 | IS |
| Radwa Mohamed | 202116768 | 3.66 | CS |
| Mostafa Osama | 202018894 | 2.17 | IS |
| Bothina Farag | 202123035 | 3.41 | CS |
| Rawan Ayman | 202112138 | 2.34 | IS |
| Mohamed Mahmoud | 202016593 | 2.23 | IS |

**Analyzing patients data to help in diagnosis**

**Abstract**

In the realm of modern healthcare, the fusion of artificial intelligence (AI) with medical imaging technologies has sparked a profound transformation. This project encapsulates the essence of this evolution by harnessing AI, particularly in the domain of radiology, to revolutionize diagnostic processes. Furthermore, it endeavors to bridge the gap between doctors and patients through the development of a sophisticated mobile application.

This Project is witnessing a paradigm shift with the integration of artificial intelligence technologies, especially in the field of radiology. This project aims to take advantage of artificial intelligence to enhance the accuracy, efficiency and speed of X-ray diagnosis. In addition, a mobile application will be developed to facilitate doctor-patient communication and simplify various healthcare processes.

The mobile application serves as a multifaceted platform, catering to various needs within the healthcare ecosystem. Its primary objectives encompass assisting doctors, especially those in the nascent stages of their careers, in diagnosing X-ray images accurately and efficiently. Additionally, it streamlines the patient journey by offering electronic booking services, facilitating seamless communication between doctors and patients, and empowering users with a virtual assistant for medical inquiries. Moreover, the application integrates a doctor evaluation system, fostering transparency and trust in the selection of healthcare providers.

**Main features**

Patient Booking: Allows patients to create accounts, browse doctors, and book appointments based on availability.

AI-powered X-ray analysis: Integrates machine learning algorithms to help doctors analyze X-ray images, enhancing diagnosis accuracy.

Secure Communication: Provides a chat feature for real-time communication between patients and doctors, enhancing accessibility and follow-up care.

Interactive Chatbot: A chatbot is used for patients to get general medical information and assistance.

User-friendly interface: Intuitive interface design for smooth navigation and interaction.

Feedback and Evaluation System: Allows patients to provide feedback and evaluations, ensuring continuous improvement in healthcare services.

**Project objectives**

The project aims to address challenges in the healthcare system and enhance the doctor and patient experience. The goals include efficient appointment management, AI-assisted diagnosis, improving doctor-patient communication, and enhancing health literacy through chatbot.

**Stakeholders**

system administrator

Users: Patients and doctors

**Problems and solutions**

**problems:**

* Difficulty booking appointments
* Cost inefficiency for doctors
* Delay in X-ray diagnosis
* Writing reports manually
* Limited patient understanding of medical conditions
* Difficulty finding trustworthy doctors
* Limited communication between doctors and patients

**Solution:**

* Book appointments online
* X-ray diagnosis with the help of artificial intelligence
* Digital medical reports
* Physician classification system
* Strengthening communication channels
* Health Chatbot to retrieve information

**System components**

Components include UI, reservation system, AI integration, communication module, back-end services, notification and reporting system.

**Scalability and Performance**

Scalability will be achieved through microservices architecture, while performance optimization strategies will ensure efficient data exchange and functionality of mobile applications.

**Conclusion**

The project seeks to create a comprehensive tool to enhance doctor-patient communication, diagnosis and the overall healthcare experience by integrating artificial intelligence and user-friendly features.

This proposal outlines the goals, features, and strategies for developing mobile applications that aim to revolutionize healthcare delivery and improve patient outcomes.