LIFE CARE IS A GPS-ENABLED EMERGENCY RESPONSE SYSTEM FOR MEDICAL AND HEALTH CARE

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ABSTRACT

Over time, the health-care system has vastly improved. However, with today's technology, medical services can be linked to internet platforms to make patients' life easier. Life Care, our programme, will help a patient find a specialised doctor based on their needs, availability, distance, and consultation fees. It was designed expressly for an emergency to spare the patient time searching for a specialist. Life Care will look for a nearby pharmacy and see what medications are available. All medical records will be digitised, allowing doctors and patients to access them from anywhere at any time. Life Care will operate as a middleman between patients and doctors, serving as a platform for both. Small hospitals will be more likely to participate in the online system as a result of this approach, which will improve medical services. As a result, Life Care will become the future of e-medical services, revolutionising how hospitals and doctors provide medical care to their patients.

Keywords: Medical Emergency, Online Health Care, Web-based Medical Emergency management, Location based Medical Services, Medical Information System, Healthcare Management, Smart Healthcare

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1. INTRODUCTION

In this day and age, society places a high value on health care. The right to proper treatment is a core human right for everyone. Medical and health-related emergencies can strike at any moment and in any place. The suggested study work has created and constructed a medical services application that will assist a patient in locating a hospital closest to their location so that they can receive suitable treatment on time. This app is compatible with any Android-based Smartphone that has GPS capability. During an emergency, the app locates the patient and displays the location of the nearest doctor or hospital. When a patient submits an emergency request, the app alerts the doctor and the hospital, and an ambulance will be dispatched to the patient's location to transport him or her to the hospital. Before the patient comes, the notification allows the hospital staff and the doctor to prepare and be ready. The patient can sign up for a general appointment system and see a list of specialist doctors in the region. The patient can view various hospitals, doctors, ambulance services, and pharmacies (drug stores) in the chosen location, as well as filter hospitals and doctors based on their speciality. The patient can schedule an appointment with the doctor based on his or her availability. All of a patient's medical history must be entered into the app. After scheduling an

appointment, the doctor can review the patient's medical history and diagnose them appropriately. The doctor will upload the reports and prescribe the prescription to the app, allowing the patient to have access to all of their records and eliminate the need for paper files. From the e-prescription, the patient can obtain medications from a pharmacy (drug store). The entire medical appointment system will be digitised with our application.

2. LITERATURE SURVEY

Online Medical Assistance

The importance of health care in society is enormous, and this sector has been evolving and innovating in recent years to give a more efficient, automated, and digitalized framework. A web application for society must be developed so that people can keep their medical information and access it whenever and wherever they wish. Users can register as patients in the Online Health Care (OHC) system to store their medical information in the database. The framework will also include specialised doctors who will be enrolled under the enrolled clinics and hospitals and will be able to provide medical advice and prescriptions to patients. The specialised doctor has access to the patient's data and can write prescriptions. It provides a reliable method of digitally preserving data, a faster system of communication between

patients and doctors, and enhanced patient security **[1, 2]**.

Keeping Medical Data Safe:-

In an emergency, being unable to access a patient's medical history can result in death.To gain access to the data, a variety of technologies is employed, including block chain and secure file transfer tools. Validation and authentication are used to handle all difficulties relating to the exchange of private clinical data. Block chain technology consolidates encryption methods, P2P networks, and distributed

storage **[3, 4]**. To access the data on the system, the doctor or hospital must obtain an authorised certificate. Digital certificates can be used by qualified doctors and hospitals **[5]**. Images and text data are encrypted using a variety of methods. For pictures, the Paillier Cryptosystem algorithm is employed.AES (Advanced Encryption Standard) is used to encrypt text data, and decryption is done using a private key that is only given to doctors and hospitals **[6, 7]**.

Log in /Admin

Applications

Online Medical Health Care

Patient

Doctor

Logout
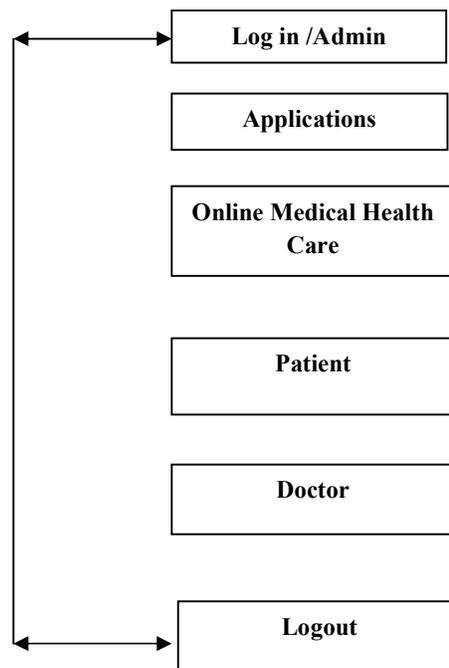
Basic Flowchart

3. PROPOSED SYSTEM

The system can be accessed by Four types of users: admin, user, pharmacy and doctor.

- To access the programme and modules, the Admin must sign in with valid login credentials.

- After a doctor has registered with the system, the administrator enters their information into the database.

- A Doctor can log in and make changes to his or her personal information.

- A doctor has the ability to view and manage crises, appointments, and patient information.

- To schedule an appointment, the patient must first register with the system.

- In the event of an emergency, the app recognises the patient's position and displays the nearest doctor in an ordered list format, sorted by distance and availability, so that an emergency appointment can be scheduled.

- For an emergency visit, the patient simply needs to submit basic information.

- The patient can enrol in the app and log in to access and edit their information, allowing the doctor to diagnose more quickly.

- The programme dashboards allow the user to see a list of nearby specialised doctors, hospitals, pharmacies, and ambulance services.

4. FUTURE SCOPE

More features and functions will be introduced to Life Care in the future, transforming the app into the most successful specialised doctor search.

- Video-calling a doctor via the app

- Rating and comments on doctors

- Incorporate the app with blood banks as well.

- Integrating new data into the existing database, making the app a one-stop shop for finding a doctor online.

5. CONCLUSION

The medical industry has been progressing in order to provide more modern and efficient health care services. The health-care industry, like other industries, should be digitised. An application is being created that will allow the general public to keep and retrieve their own medical information at any time and from anywhere. The system is made up of specialised doctors who are registered with enrolled hospitals. During the appointment, the doctors provide medical care and prescribe drugs. Our solution connects patients and doctors through virtual dialogue. The GPS-based

medical emergency services feature will assist the user in locating the nearest doctor. LIFE CARE acts as an ambulance, a hospital, and a specialised doctor for patients, enhancing medical emergency services.

6. REFERENCES

[1] F. Anjum, A. S. M. Shoaib, A. I. Hossain and M. M. Khan, "Online health care," 2018 IEEE 8th Annual Computing and Communication Workshop and Conference (CCWC), Las Vegas, NV, 2018, pp. 580- 583. doi: 10.1109/CCWC.2018.8301617

[2] Hoque Rakibul, Mazmum, A., Fahami & Bao Yukun (2014). E-Health in Bangladesh: Current Status, Challenges, and Future Direct ion. The International Technology Management Review, Vol. 4 (2014), No. 2, 87-96

[3] R. Chatterjee and R. Chat terjee, "An Overview of the Emerging Technology: Blockchain," 2017 3rd International Conference on Computational Intelligence and Networks (CINE), Odisha, 2017, pp. 126-127. doi: 10.1109/CINE.2017.33.

[4] M. Met t ler, "Blockchain technology in healthcare: The revolution starts here," 2016 IEEE 18th International Conference on e-Health Networking, Applications and Services (Healthcom), Munich, 2016, pp. 1-3. doi: 10.1109/HealthCom.2016.7749510.

[5] S. Hasavari and Y. T. Song, "A Secure and Scalable Data Source for Emergency Medical Care using Blockchain Technology," 2019 IEEE 17th International Conference on Software Engineering Research, Management and Applications (SERA), Honolulu, HI, USA, 2019, pp. 71-75. doi: 10.1109/SERA.2019.8886792.

[6] K. Sudheep and S. Joseph, "Review on Securing Medical Big Data in Healthcare Cloud," 2019 5th International Conference on Advanced Computing & Communication Systems (ICACCS), Coimbatore, India, 2019, pp. 212-215. doi: 10.1109/ICACCS.2019.8728351.

[7] R. Aiswarya, R. Divya, D. Sangeetha and V. Vaidehi, "Harnessing healthcare data security in cloud," 2013 International Conference on Recent Trends in Information Technology (ICRTIT), Chennai, 2013, pp. 482-488. doi: 10.1109/ICRTIT.2013.6844251.