Aadhar Card Based EHR Medicare *System with IOT Patient Monitoring*

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Abstract— **Nowadays health plays a vital role in everyone's life. The health and its related problems had drastically increased when compared to the previous years. The Indian doctors do great work to scale back the health problems but the poor people in India are not able to afford the treatment by the doctor at the specific time** as **a result many patients are losing their precious life. The technology had speedily increased and by utilizing** the **internet facilities we have developed a centre hub which stores all the information about the patient such as medical reports and therefore the medical prescription given by the doctor and it acts because the cloud and the data from this cloud can always be extracted by the patient.**

Keywords — Cloud, Electronic Health Records (EHRs), Internet of Things (IOT), Node MCU, Physical Health Records (PHRs), Uniqueid.

I. INTRODUCTION

The health care scheme is focused on the measurement and to keep eye on various biological parameters of patient's body like heart rate, oxygen level in blood and temperature of body using a web server and doctor can continually monitor the patient condition on his android phone using an application, the patient's history will be stored on the web server and doctor can retrieve the information whenever needed from anywhere. In this way, in parallel the quality of care get better through continuous attention and lowers the cost of care and no the need of a care taker to actively engage in data pile and analysis to visualize it. For our work we are considering Apple-I watch series 3 with an OS 3.2.0. We have specified all these specifications and sensors use to monitor the health parameters i.e. heart rate, calories burn, distance covered etc. how to extract the data from device and make the graph.

II. LITERATURE SURVEY

After considering various research papers, it has been noticed that, it is very difficult to find the unusual things in the heart beat count of a patient. The median count of 25 years old ranges from 140 to 170 beats/minute, whereas in 60 years old people, it ranges from 115to140 beats/minute. Patients are not satisfied with the treatment which doctors normally use for searching the heartbeat count. So there should be a device to track the internal changes in the human body.

The first survey is an Integrated,Reliable and Cloud-Based Personal Health Record : A Scoping Review[1] Jesus Romero. *et. al*. In this paper author proposed in the system about each characteristic stayed in the review question, ABE mechanism is the most used approach for fulfilling authenticity. For cloud-based, the most of systems proposed access to cloud services applying SOA via web servers which allows access for mobile devices. Then, hybrid cloud is called as the ideal approach for PHR implementation. For last researched term integration, most works applied HL7 CDA (Clinical Document Architecture) as their standard solution, HL7 FHIR is a standard that is growing out in newer proposals. A challenging future work would be to propose a PHR system architecture that adepts the three key features (integration, reliable and cloud-based) with novel standards in compliance with nowadays technology.

The second suvey is an An IOT based Patient Health Monitoring System[2] D.Shiva Rama Krishnan *et.al*. In this proposed system, Patient Health Monitoring is started to analyze assorted arcane explanations to improve healthcare equipment in a address that accompaniments absolute case work by assembling the remission of IoT. Similarly as for every thought of traditional system, this framework even now being used from their producing Be that as it is thick, as inconvenient with handle separately Also extent Furthermore expense need aid also additional contrasted with those thrust framework. What is more also it reduce more than 1minute for getting the correct come about. The Health-monitoring system takes less than one minute to figure out the result of ECG ,Blood Pressure and Temperature Monitoring. So, Time-cost Complication is decreased.

In this survey author proposes a Blockchain for Secure EHRs Sharing of Mobile Cloud based E-Health Systems[3] Dinh C. Nguyen *et.al*. In this sharing scheme author allowed by mobile cloud computing and blockchain.We identify critical challenges of these EHRs sharing systems and

propose effcient solutions to address these issues through a real prototype deployment . In this work, our focus is on designing a reliable access control mechanism based on a single smart contract to manage user access for ensuring efficient and secure EHRs sharing. To look into the performance of the proposed approach, deployment of an Ethereum blockchain on the Amazon cloud is done , where medical entities can interact with the EHRs sharing system via a developed mobile Android application. there also integrated the peer-to-peer IPFS storage system with blockchain to achieve a decentralized data storage and data sharing. The implementation results show that our framework can allow medical users to share medical data over mobile cloud environments in a reliable and quick manner, in comparison to conventional schemes

The fourth survey is an IOT based Patient Health Monitoring System LORA communication technology [4]; Wahab A. *et.al.* In this paper, author proposed a new application to avoid such a quickly death rates by using Patient Health Monitoring that had used sensor technology and internet to communicate in case of emergency situation. This system used temperature and heartbeat sensor to monitor patient's health. In case of any unexpected changes in patient heartbeat or body temperature alert is sent about the patient using IOT. This system also displayed patient's temperature and heartbeat, sends live data with timestamps over the internetwork. Thus, patient health monitoring system based on IOT used internet to effectively monitor patient health and helped the user monitoring their loved ones run his/her work and saved their lives.

Thus achieved usable and privacy-assured Aadhaar card Based Health Records Monitoring System [5] C.V, Soundariya *et.al*. In this paper, the proposed system which tracks the health care details of each individual of the country. It consists of modules that generated the unique ID and data of a person can be extracted. Performance evaluation requests that the proposed schemes can accomplish better efficiency that existing works in terms of storage, search and updating simplicity. The cloud computing assured to increase the speed with which it could easily achieve the data from the cloud. Cloud computing is an important platform for constructing the

data centre. For patient health monitoring system, cloud computing is best approach in the future.

III. PROPOSED METHODOLOGY

The proposal methodology for implementation of the proposed system includes:

1.   ATTRIBUTE BASED ENCRYPTION AND DECRYPTION

In this paper, we introduce a novel of patient-centric framework and a suite of mechanisms for data access control to PHRs stored in semi trusted servers.

To achieve sorted and scalable data access control for PHRs, we grasp attribute-based encryption (ABE) techniques to encrypt each patient's PHR file.

Apart from last works in secure data outsourcing, we concentrate on the multiple data owner scene, and divide the users in the PHR system into multiple security domains that widely reduces the key management complexity for owners and users.

A high degree of patients' space is guaranteed in parallel by exploiting multi-authority ABE.

Our scheme also allows dynamic modification of access policies or file attributes help efficient on-demand attribute revocation and break glass access under emergency scenarios.

2.   ROLE ASSCESSABILITY MODULE

The main objective of access control mechanisms is to provide data privacy.

In this paper, we represent two use cases with authorized and unauthorized access to evaluate the performance of our EHRs sharing a model with a designed access control.

IV. ARCHITECTURE OF PROPOSED SYSTEM

In Figure 1, we have presented system architecture and the concept of data uploading and data sharing using cloud.
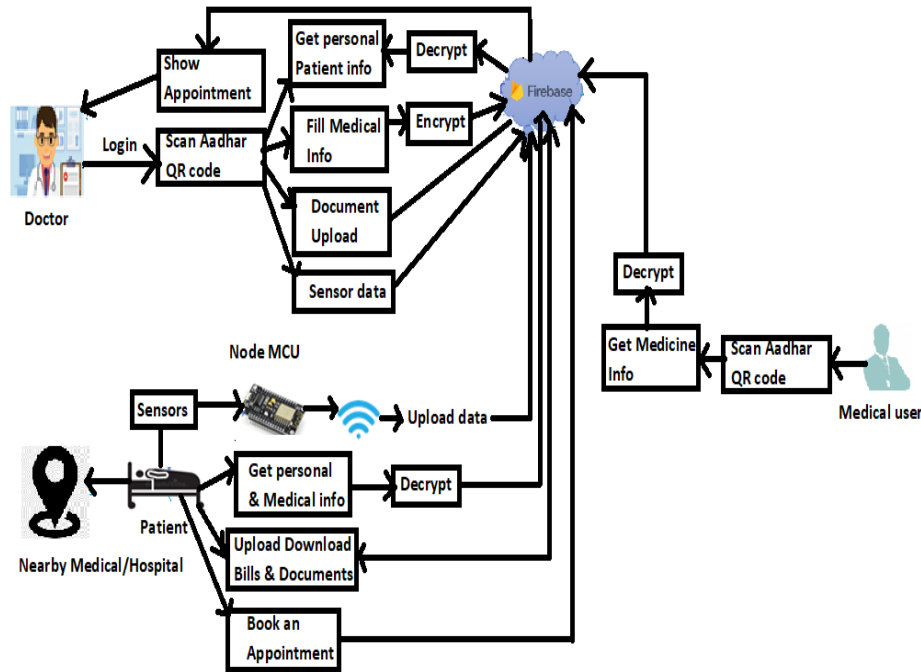
Figure 1: Architecture of Proposed System

The proposed work in this paper is an Online health Management Application that uses an android platform that makes the task of making an appointment from the doctor easy and reliable for the users. Android based online doctor appointment application contains two modules. One module is the application designed for the patient ''EHR Medicare '' that contains a login screen. The patient has to register himself before logging in to the application.

After logging in, the patient can select a disease and can view the Doctor List. The patient has the option of selecting a doctor from the list of doctors and can view the doctor's details. The patient can request for an appointment on his/her preferred day and time. The selected day and time slot is reserved and patient receives the notification of the successfully added appointment. The patient can view the location of the hospital on map. In addition, the patient can contact to the hospital and the doctor by making a call to the doctor and also have safe system with the SHA hash value algorithms.

There are three modules in the system : Doctor, Patient and pharmacist. The figure1 shows , the doctor scans the code which is patient's unique-id, and he can find data like patients information, his medical history, and recorded sensor data. All the information can be fetched from cloud server where the data is uploaded from sensors. Patient may have a mobile application, through which he can find all details about himself, get his medical documents and upload bill documents by logging in to the application. The data of the patient is encrypted when he/she uploads the documents.

Medical user scans the QR code and he will get patients personal information and medical information and then only he can provide the service of medicine to the patient and data again sent to the cloud and again patient history can be easily searched for nearby medical or hospital.

V. EXPECTED RESULTS

Doctor should get all patients history data from the cloud.

Data recovered should be secured by encryption and decryption method in the system.

Patient data in ICU should be sent to the cloud after specific intervals.

Patient personal details should not be leaked without his/her permission.

EHR improves the ability to diagnose , reduce and even prevent medical disabilities.

VI. CONCLUSION

In this project we concluded that the compact sensors with IoT will make a huge impact on every patient's life. Even though they are away from home and doctor, this helps them to decrease the fear of danger. The Internet of Things (IoT) is a concept showing connected suit of anyone, anything, anytime, anyplace, any service, and any network. The proposed system helps patients who are subject to considerable physical and psychological anxiety and environmental and professional health risks. Measurable profits of connected medical devices include reduces hospital visits, including decrement in bed days of care and time of stay in hospitals. Using Internet of Things IOT) patient conditions are gained and stored for further analysis and consultation. In our proposed work we have keep eye on heart rate and calories burnt per day of a person .From this research it is expected to monitor the entire body of the patient from remote location and improve the technology to world widely for patient monitoring by supplying personalized and

optimized services, it will cheer a much better standard of living.

VII. REFERENCES

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