

# CLOUD BASED EMERGENCY DATA RETRIEVAL USING BIOMETRICS

Vanathi.B<sup>1</sup>, Krishnakumar.J<sup>2</sup>, Karankumar.S<sup>3</sup>, Alagumeenal.PL<sup>4</sup>, Dhanya.M<sup>5</sup>

<sup>1</sup>Professor and Head, Department of Computer Science & Engineering, SRM Valliammai Engineering College, Tamil Nadu, India

<sup>2</sup>UG Student, Department of Computer Science & Engineering, SRM Valliammai Engineering College, Tamil Nadu, India

<sup>3</sup>UG Student, Department of Computer Science & Engineering, SRM Valliammai Engineering College, Tamil Nadu, India

<sup>4</sup>UG Student, Department of Computer Science & Engineering, SRM Valliammai Engineering College, Tamil Nadu, India

<sup>5</sup>UG Student, Department of Computer Science & Engineering, SRM Valliammai Engineering College, Tamil Nadu, India

## ABSTRACT

*CLOUD BASED EMERGENCY DATA RETRIEVAL USING BIOMETRICS is a “system that prioritizes patient agency, giving a transparent and accessible view of EPR. EPR records are patients’ vital states, diagnoses, medications, immunization history, laboratory and other medical facts along with patients’ personal details. Our project is intended to store all of a patient’s EPR in one place, making it simpler for patients and doctors to view. EPR security is ensured using AES encryption. By using Identity and Access Management (IAM) for access privileges, in which users are granted or denied for those privileges (Read and Write access). We provide emergency access to the required EPRs which is needed by the emergency staff to diagnose when the patient is unstable or unconscious.*

**Keywords:** - Mining, Recognition, Web application and Biometrics.

## 1. Introduction

In this modern world privacy is the top priority of every one but, in case of any emergency situations where the patient is unable to give access to his medical records to the attending doctor it makes things complex. Therefore, there must be a system that should give access with a certain limitation is more prioritized. Countries like India has more population therefore there must be technology that should take care of these complexities. Many researchers in the health care field tried to assist the doctors in diagnosis and treatment of diseases. Using data mining to retrieve the patient’s medical history, symptoms and laboratory reports will be great assistance to doctors in treating the patients saving ample amount of time. Medical records not only assist doctors in diagnosis of diseases, but also help in preventing medical disputes. The development of computer and communication technologies has benefited us with electronic patient records and has also become an unavoidable tool in health services. The utilization of electronic patient record helps in managing enormous amount of patient data much more efficiently. Data digitalization helps in better retrieval of patient data whenever and wherever. Data is encrypted using advanced encryption system to provide security to data. Emergency access to such data is provided through biometrics as fingerprint and facial recognitions. This in turn helps in achieving the digitalized data with prioritized access in emergency situations when the patient is unstable or unconscious.

### 1.1 Web Application

In our modern world, the technology is constantly evolving and we like to be the one of the changers of the world by building a product that helps our society. As the title describes we have used **web application** because of so much pros when compared to cons stating as we can't increase much more complexities to the people of the society world by developing apps for each and every basic things and we would love to reduce the complexities by developing a single web application that supports much more technology variants such as android, iOS and windows much more etc. and thereby using a single application for much more of the people needs thereby satisfying the people needs and reduce the burden on the hardware by consuming less power and storage.

### 1.2 To the world

So, there are much more useful technology that were already built for the people's needs and much more things and what were going to do that's much different form techs which are already there is, our project/product is based on health and it will be useful in accidents which may occur anytime and anywhere for say in other regions/country. The health project will help patient and doctors in many ways than we think of. Like it will help doctors to know more about the patients allergic/symptoms to the medication and the updated data are stored in the cloud and viewed through our web application. Thereby reducing the time needed to learn about the patients and go straight to the medication/surgery where time plays a crucial role in reviving the patient safely and it also helps patients with their medications thereby avoiding high dosages etc....

### 1.3 Patient interface

Web application makes it more comfortable as it runs on browser irrespective of operating systems, so the patient need not download any specific application; the patient needs only a browser. This web application interface helps the patient with managing the medical records and it gives view of scans and test reports. Patient can search through his medical records to know his current medication and past medications. He/She can get to his/her past illness and maintains medical history. Patient is also given privilege to change his/her emergency contact number.

### 1.4 Doctor interface

Web application is more comfortable to both private and public hospital doctors. Patient provide their patient id to the doctors, this enables several features like viewing the patient's previous medical history, medication, test reports and scans. This helps the doctors in diagnosing the patient's current illness. During emergency situation where the patient is unable to give access to his/her medical records and his/her details. The doctors are provided with privileges to use patient's biometrics as an authentication to access his/her medical history and details.

## 2. Cloud

Cloud storage typically refers to a hosted storage service in remote data centers as it provides direct access to user's private data by providers and more security, based on highly virtualized infrastructure for accessible interfaces, near-instant elasticity and scalability, multi-tenancy, and metered resources. Improved cloud storage security keeps sensitive data safe and secure in the cloud. There as been more traditional solutions to deal with the problem of securing medical records sharing on cloud environments.

## 3. Bio metrics

Biometrics is used to digitally identify a person in terms of computer. It is also used to grant access to systems, devices or data. Biometrics include

- Fingerprint
- Facial recognition
- Footprint
- Iris

are commonly used.

### 3.1 Fingerprint

A fingerprint is an impression left by the friction ridges of human finger. A human has two hands, left and right each has 5 fingers so totally 10 fingers. By storing these 10 fingerprints as authentication the computer can easily find the right person.



**Figure 3. 1 fingerprint scanner**

### 3.2 Facial recognition

Facial recognition is capable of identifying a person from image or video, it works by comparing selected facial from given images with faces in datastore, uniquely identify a person by analyzing patterns based on the person's facial textures, shape and color.



**Figure 3.2 FACIAL RECOGNITION**

### 3.3 Footprint

Footprint identification is the measurement of footprint features for recognizing the identity of a person. Footprints are similar to fingerprint. As it is also used to uniquely identifying a person.



**Figure 3.3 FOOTPRINT SCANNER**

### 3.4 Iris

Iris is present in human eyes it is also a biometric, mathematical pattern-recognition techniques both of the irises of an individual's eyes images, whose complex patterns are unique and stable are used to identify a person.



**Figure 3.4 IRIS SCANNER**

#### 4. Authentication

Making the bio metric as authentication in any emergency situation where the patients in a state that he/she is unable to give his/her details an access to electronic patient records to the attending doctors, hence we created web application interface that gets the patient's bio metrics and use as an authentication to retrieve electronic patient records and patient's details.

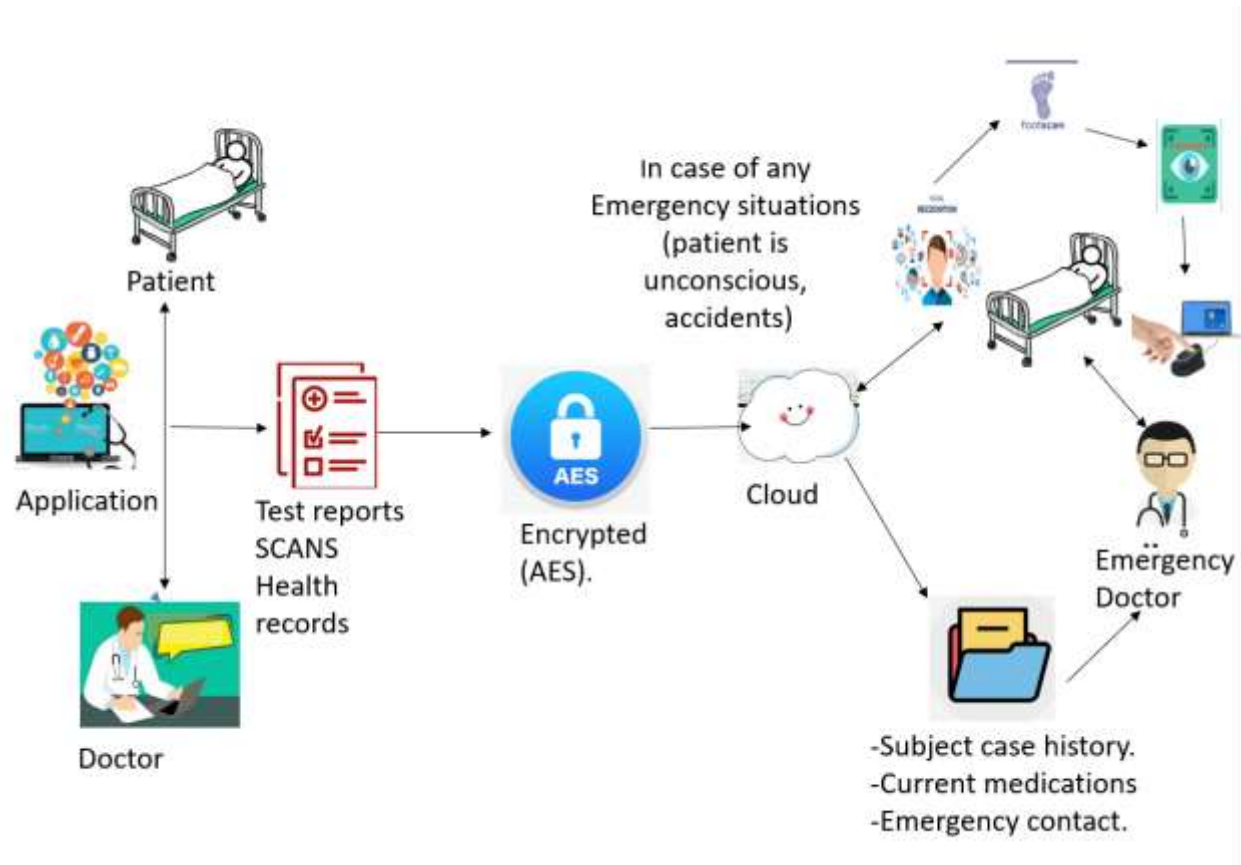


Figure 4.1 ARCHITECTURE DIAGRAM

#### 5. CONCLUSIONS

This paper proposes that the doctor needs to know the medical history, current medication, scan reports and test reports of the patients when he/she makes the diagnosis and treatment. This can be done easily when the patients are in stable state. But in case the patient is unstable or unconscious this makes the diagnosis too difficult. Hence we use patient's biometrics as authentication to access patient's medical history, current medication, scan reports, test reports and their details.

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## 7. REFERENCES

[1] Maithilee Joshi, Karuna P. Joshi and Tim Finin

Delegated Authorization Framework for EHR  
Services using Attribute Based Encryption

[2] MAHMUDA AKTER<sup>1</sup>, ABDULLAH GANI<sup>1</sup>, MD. OBAIDUR RAHMAN<sup>2</sup>, (Member, IEEE), MOHAMMAD  
MEHEDI HASSAN<sup>3</sup>, (Senior Member, IEEE), AHMAD ALMOGREN<sup>3</sup>, AND SHAFIQ AHMAD<sup>4</sup>

Performance Analysis of Personal Cloud Storage  
Services for Mobile Multimedia Health Record Management

[3] Jie Xu, Li Wang, Yunfeng Shen, Kaifen Yuan, Yue Nie, Yingxuan Tian, Xiangdong Jian, Xing Ma, and Jinhong  
Guo, Member, IEEE

Family-Based Big Medical-Level Data Acquisition System

[4] CHUNLIN FENG<sup>1</sup>, ZHI-CHAO CHENG<sup>1</sup>, AND LI-JUAN HUANG<sup>2</sup>

An Investigation into Patient Privacy Disclosure in Online Medical Platforms

