Searching and Distributing the Data for Analysing Health Issues in Society

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Abstract - To keep a track on all diseases, a system is proposed where all the information related to health is often outsourced to be sourced at a third party, such as cloud providers . However there have been wide privacy concerns as personal health information could be exposed to those third party servers and to unauthorized parties. To assure the patients control over access to their own PHRs, it is a promising method to encrypt the PHRs before outsourcing. Yet, issues such as risks of privacy exposure, scalability in key management, flexible access, and efficient user revocation, have remained the most important challenges toward achieving fine grained , cryptographically enforced data access control.

*Key Words***:** Personal Health Record (PHR), Cloud service providers (CSPs), Personal medical records (PMR), Cloud computing, Data privacy, Fined grained access control, Attribute based encryption.

1. INTRODUCTION

Web has become an increasingly popular medium for Doctors or Patients to exchange or add experiences, records of health, areas of practices and services, and personal details. Many Patients can go further online and do information sharing and actually store health records and take appointments on the web. Increasing availability and popularity of portable web-enabled handheld devices looks set to fuel further growth in the volume of Patients web trace for Doctors. In the traditional form of web search, Patients are familiar with pulling content from the web via mechanisms such as search engines, or simply by typing the URL if they happen to know it but not finding required name of doctor or the place the hospital or clinic is situated, storing personal documents safely. Researchers have long tried to make web search more efficient on hand-held mobile devices, which generally have limited processing power and screen size compared to personal computers and could be able to ease their requests with security. The aim of the proposed system is to provide secure data management in health care environment using cloud*.*

2. LITERATURE SURVEY

A technique by which the user can access any data from anywhere and anytime through internet is called Cloud computing.[1] Thus it's providing the new world of computing technology to the world. Thus the personal health records are also using this cloud computing technology for the efficient storage and retrieval system. But there is still a comparison is going on with the Electronic Health Record and Personal Health Record. Electronic version of the medical record of the care and treatment the patient receives. It is maintained and managed by the health care organizations. The traditional PMR was in the form of paper documents, electronic files maintained by their computer, but now the PMR is created by using the tools available in the internet. So which make the facility to use the health information across any distances, and to share with the selective users with special read and write access.[4] In recent years, personal health record (PHR) system is emerged as a patient-centric model of health information exchange. It enables the patient to create and control their PHR data in a centralized place through web-based application from anywhere and at any time, which has made the storage, retrieval, and sharing of the PHR data more efficient.

2.1 RELATED WORK

There are number of work done in this area but our paper is mostly related to cryptographic Access Control for outsourced data and attribute based encryption. Also to realize the fine grained access control the public key encryption (PKE) is used to achieve high key management. Attribute Based Encryption prevents user collusion, here the encryption used not require to understand Access Control List (ACL).

3. FRAMEWORK PERSONAL HEALTH RECORD

In this section we will discuss about the patient centric sharing of secure data framework for cloud based PHR systems.

3.1 PROBLEM DEFINITION

Multiple PHR owners and PHR users are there in PHR system. Here owners refer to patients, they have whole control over own PHR data. Central server is there belonging to the PHR service provider that can store owners PHR. Users may come from various aspects such as a friend, doctor, relatives etc. PHR documents are access by the users through server to read and write to someone's PHR .

4. EXISTING SYSTEM

In past system electronic medical record sytem is used for PHR. It has a wide variety of VMs to straightforward derived extension directly from identifying radiology use case integration is with past EMR system. This is must to free the patient from the burden of transferring all health related information and likely to adapt PHR from implementation of technical standpoint, representation of this extension is substantially an obstacle and use of patient's information.
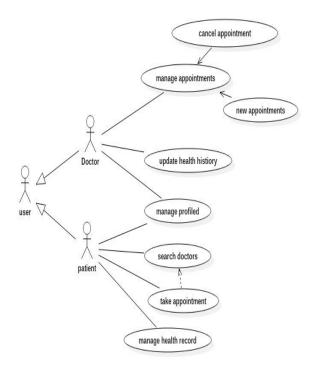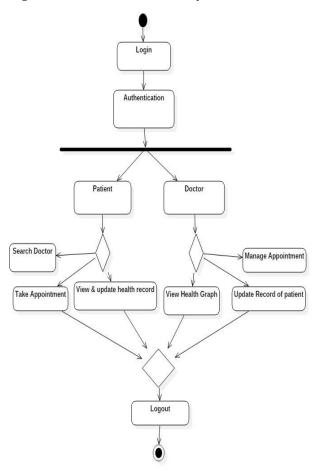

Fig -1: USE CASE Diagram of proposed system.

5. PROPOSED SYSTEM

Patients build Personal health records with the help of PHRs. These records can be shared by the patient with any stakeholder interested in those. PHR allows the controlled sharing of application software that is needed to analyse and view health data. Patients getting care by caretakers or helpers in different geographical areas will be able to reproduce their original health records moreover, as technology evolves patients will always be able to use original software to view and analyse data.

Fig 2: Activity diagram of proposed system.

5.1. CLOUD SERVER

Important function of cloud server is to create interface between application and user. To connect , user must give their username and password to server then only they can able to connect the server. If the user already exits directly can login into the server else user must register their details such as username, password and Email id, into the server. From the created account server will maintain the entire user to maintain upload and download records.

5.2. PERSONAL HEALTH RECORD

Each patient have Personal health related record that are stored in database. This database holds all genuine data and each patient records are maintained in a separate format like document for description and x-ray like image format

5.2.1. TYPE OF DATA EXCHANGE

Exchange of data between a PHR and other healthcare information systems are of two types: Machine-Organisable and Machine-interpretable. Machine-Organisable, or manual data exchange, applies to data sent from one organization to another electronically with no standards used, this exchange need human support to import the data into local data systems. In addition, the beneficiary of the data cannot update, correct or respond to the emerging system. Machine-interpretable, or automated data exchange, allows the PHR and any external data sources to electronically exchange data bi-directionally without physical involvement. The adoption and use of data standards enable this exchange.[1]

6. CONCLUSIONS

Secure sharing of PHR in cloud computing is the proposed framework. Considering cloud servers, we can fully rely on patient-centric concept. Searching and distributing the data includes basic securities to protect the information from unauthorized access and loss[2]. This paper presents the new approach for existing PHR system by providing more security using attribute based encryption which plays an important role because these are unique and not easily hackable. We are reducing key management problem and also we enhance privacy guarantee.

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