Patient Health Record Maintenance

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Abstract -- Patients Health Record is stored in hospital's Private database and this will be accessed by hospital administrator. Patient will provide the key for accessing their record by third parties. This leads to issues like scalability, security, Key management overhead etc. To overcome these challenges, three stage securities are provided .Security is enhanced by using AES and Triple DES algorithm while authenticating login credentials and in sharing of records between the servers. In this project a highly secure encryption algorithm for providing the security and good privacy policies to the PHR information is used.

I. INTRODUCTION

Patients Health Record is stored in hospital's Private database and this will be accessed by hospital administrator. In the existing system patient records are maintained by the patients and it is they who decide on the algorithm to be used for encrypting the records. Patient will provide the key for accessing their record by third parties. This leads to issues like scalability, security, Key management overhead etc. To overcome these challenges, three stage securities are provided .Security is enhanced by using AES and Triple DES algorithm while authenticating login credentials and in sharing of records between the servers.

Secure sharing of patient health records provides the more benefits to the data owners and end users. We know that building a specialized data center's is very difficult task and maintenance cost also very high. Sharing the PHR Application in the third party server raises the security and privacy risks. In this paper we use a highly secure encryption algorithm for providing the security and good privacy policies to the PHR information. Not only this, for providing the Scalability, Load balancing and for easy maintenance to the application, we are deploying the Personal health record's application into server.

II. MODULE DESCRIPTION

There are mainly four modules in this web application. The modules of this app are as follows:
- Doctor Module
- Patient Module
- Receptionist Module
- Admin Module

1) Patient Module
The primary users of the Patient Health Record Maintenance are members of patients.

The patients' first need to get themselves registered into the app. This was done by the receptionist. Then the registered users can utilize the services of this app to store and retrieve their records. They are also supposed to specify the details regarding their disease if they are not admitted for emergency and they have to specify their own doctor name under whom they want to be treated. They also have privileges to track the prescriptions.

2) Doctor Module
The Doctor makes use of this website to scrutinize the patients admitted under his specialization. Doctor then generates a prescription if necessary for his patients. Although he can view all the patients in his hospital they are encrypted and he can only see and prescribe medicines to his patients. Doctor can check the status of the patients' bill as a witness. Doctor can prescribe the medicines by checking the availability in the pharmacy so that the patients can't get suffered.

3) Receptionist Module
The receptionist takes care of the details like admitting and discharging a patient. He is the person who checks the payment details of a patient. He has to register a patient into the database while admitting into the emergency ward. He has to register a new user.

Besides all these, while discharging a patient he has to check whether the bills are paid or not.

4) Admin Module

The Admin acts as a trusted third party. He has the access to all the tables and can share the details between users. Admin will add the Doctor and, check the payment details of the patients. Admin can also check the patients available in the emergency ward.

III. AES ALGORITHM
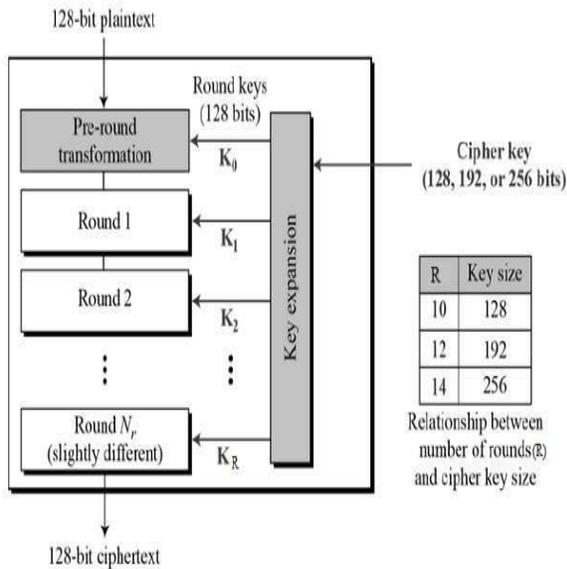
IV. TRIPLE DES ALGORITHM
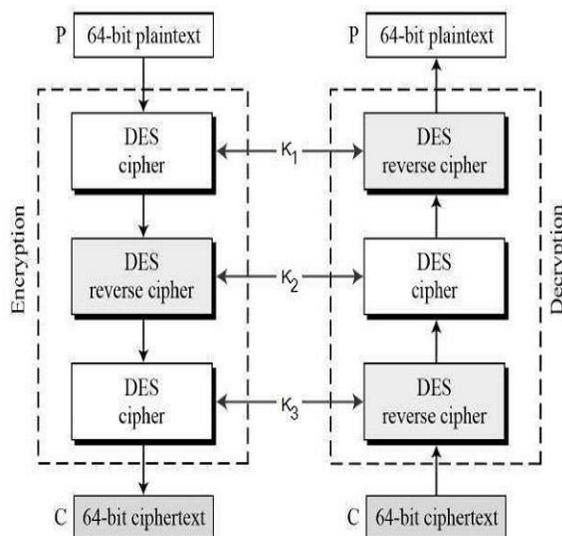
V. CONCLUSION

The Patient Health Record Maintenance is developed to facilitate easy storing of patient health records. Manually, this consumes a lot of time, effort and paper work. And also if the concerned file is not available, the task of consulting a doctor becomes complicated .So, this web application overcomes all these limitations and offers a great deal of help at each and every stage in the whole process of maintaining track of records.

VI. FUTURE SCOPE

This project Patient Health Record Maintenance has been developed in such a manner, that the future requirements of the user are met. The project is flexible to adapt the changes efficiently without affecting the present system. In future, there can be a provision to add the availability of doctor and his online consultation. We will use cloud computing technology to store the details and to share the details between the hospitals with the user's permission.

It is also planning to implement the idea on mobile platforms like Windows and iOS. This is the future scope of our project.

REFERENCES

[1] http://www.w3schools.com.

[2] Paul Deitel and Harvey Deitel, "Java How to Program", 9th ed, 2011

[3] Paul DuBois, "MySQL Developer's Library", 4th ed, 2009

[4] https://github.com/java

[5] http://www.tutorialspoint.com/mysql/

[6] http://js.net/

[7] http://www.mysqltutorial.org/mysql-resources.aspx