International Journal of Research in Engineering, Science and Management
Volume-2, Issue-10, October-2019
www.ijresm.com | ISSN (Online): 2581-5792

Life Science: A Paperless Healthcare System

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***Abstract*: This paper focused on the areas of the healthcare system and delivering a patient centered web based application for paperless hospital management system. Life science provides a simple way to use web base application for medical uses like storing history of patient records ,reports ,prescriptions with security of piracy and ensures the patient about security of information .Life science overcomes the drawbacks of Existing systems like EMR .The paper describes the functional description of Life Science ,its mode of deployment and challenges faced in adapting and adopting the system for use .Life Science also analyses patient records and predicts epidemic situations and risk about particular diseases.**

***Keywords*: Patient Medical History, Patient Pathology Report, Patient Medicines Report, Doctor History, Pathology Lab History, Medical Shop History, Appointment.**

1. Introduction

Medical Records are useful for various purposes. But in some hospital systems medical records are stored by using papers which have high chances of human errors like misinterpretations of illegible handwriting. Handling of medical records in the form of paper is not possible in the growing world. In the Life Science: A Paperless Healthcare System Store the all medical records of patients and also it is stores the patients' medical history in the form of reports like Patient Medical History, Patient Pathology Report, Patient Medicines Report Life Science: A Paperless Healthcare System is not also stores a record of patients as a name indicate healthcare system it stores a records about doctor's pathology lab, medical shop and receptionists. This web application is also used for the patient's appointment booking in hospital and pathology lab. Life Science: A Paperless Healthcare System stores the data on the server and it can be accessed easily whenever required. The data stored on server is further used for analysing purpose like determining epidemic situation in particular area and diagnose situation of diabetes.

2. Proposed System

Following are different modules presents in the Life Science: A Paperless Healthcare System and description about their operations.

A. Patient

Firstly, patient uploaded details of itself like Name, Age, Sex, Address, Contact Number, Email ID on server. Then patient create an account by using user ID and Password. The information about patient account is stored on server. In that account patient can uploaded its information regarding to health like patient allergy information, any other disabilities of patients. The account is created by patient is used for the patient's appointment booking in hospital and pathology lab. When patient visit doctor, doctor upload patient's health condition in which doctor uploads patient's prescription, pathology tests taken by patient in the form of patient medical history which is one of the report of patient on server. When patient visit pathology lab then employee of pathology lab uploads reports of patient lab test in the form of patient pathology report on server. When patient visit medical shop then medical shopkeeper of medical shop uploads reports of patient medicines information in the form of patient medicines report on server. Patient has following authorities:

1. Patient can see his own Medical History.
2. Patient can see his own Pathology Report.
3. Patient can see his own Medicines Report.

B. Doctor

Firstly, doctor uploaded details of itself like Name, Age, Sex, Address, Contact Number, Email ID, Hospital Name, Qualification on server. Then doctor also create an account by using user ID and Password. Doctor manages its appointment's time slots as per his requirement and by using this time slot patient book appointment for doctor. When patient visit doctor, doctor access patient's medical history from server and give treatment to patient regarding to patient's medical history. When doctor give patient some prescription about medicines and pathology lab test is uploaded on the patient account in the form of the patient medical history and this patient history is save in the form doctor history in doctor account. Doctor has following authorities:

1. Doctor can see his own Doctor Report.
2. Doctor can see Patient Medical History.
3. Doctor can see Patient Pathology Report.
4. Doctor can see Patient Medicines Report.

C. Pathology lab

Firstly, pathology lab employee uploaded details of pathology lab like Name, Address, Contact Number, Email ID, Information about Tests taken by pathology lab on server. Then pathology lab employee also creates an account by using user ID and Password. When patient visit pathology lab, pathology

lab employee sees the prescribed tests given by doctor to the patient and then it uploaded the patient's pathology lab tests report and bill of tests on patient's account in the form of patient pathology report and in pathology lab account in the form of pathology lab history. Pathology lab employee has following authorities:

1. Pathology lab employee can see his own pathology lab history.
2. Pathology lab employee can see only prescription about tests given by doctor to patient from the patient medical history.

D. Medical Shop

Firstly, medical shop shopkeeper uploaded details of medical shop like Name, Address, Contact Number, Email ID on server. Then medical shop shopkeeper also creates an account by using user ID and Password. When patient visit medical shop, medical shop shopkeeper sees the prescribed medicines given by the doctor and then uploaded information about patient's medicines like number of medicines taken by patient, their price and total bill of medicines on patient account in the form of the patient medicines history and in medical shop account in the form of medical shop history. Medical shop shopkeeper has following authorities:

1. Medical shop shopkeeper can see his own medical shop history.
2. Medical shop shopkeeper can see only prescription about medicines given by doctor to patient from the patient medical history.

E. Hospital Receptionist

Firstly, receptionist of hospital uploaded details of itself like Name, Address, Contact Number, Email ID, Hospital name on server. Then receptionist of hospital also creates an account by using user ID and Password. The main task of receptionist is emergency appointment handling. When emergency patient is admitted then receptionist reschedule the appointment of doctor who treated the emergency patient and send remainder to the patients whose appointment is rescheduled. Hospital receptionist has following authorities:

1. Hospital receptionist can see only doctor's appointment booking information
2. Hospital receptionist has authority to change the doctor's appointment booking slot as per the emergency condition.

In proposed system we will analyze the patient record to predict epidemic situation in particular area and also analyze a patient medical history to predict risk about particular diseases.

3. System Architecture

Fig. 1. is a system architecture of the life science: a paperless healthcare system.

System architecture shows that what are the different modules present in the system and which modules can access the database of medical information.

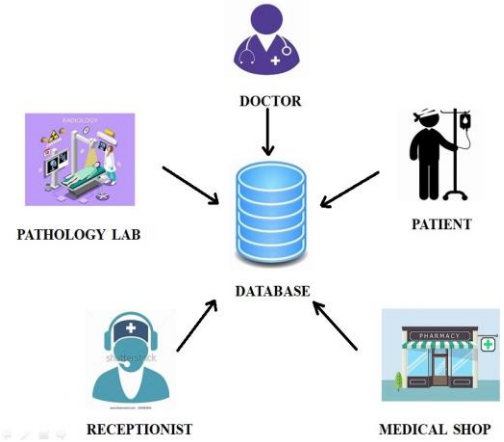

Fig. 1. System Architecture

4. Conclusion

This paper concludes the functionalities and the scope of life science: a paperless healthcare system. life science: a paperless healthcare system focus on making the hospitalization paperless which is one of the best advantage for the environment. This will also provide e-records of patients so that they will not have to carry their history files with them. This paper also concludes the authorization of different modules present in the life science: a paperless healthcare system. This will provide the security to the history of modules. The data collected from life science can be used for analysis and research purposes.

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