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Healthcare Informatics and Analytics Framework Techniques

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ABSTRACT

Nowadays , Healthcare industry is constantly undergoing changes owing to the advancements made in its medical and technological dimension. Healthcare informatics has evolved over decades by leveraging upon best of the computer technologies available . it has come a long way form being just a database to a comprehensive source of useful information for analytics and research . Emergence of technology paradigm like big data, internet of things (IoT), complex even processing (CEP) , cloud computing etc is changing the way things were . Healthcare informatics is now at juncture find a complete solution to all its woes by adopting an one such framework which can at as reference for implementing a holistic healthcare informatics and analytics ecosystem

I. INTRODUCTION

Evolution in the field of IT, electronics and networking resulted in enhancements in connectivity and in computation capabilities. Proliferation of miniaturized devices paved way for Body. Healthcare systems have been going through cycles of modernization as the advent of IT system in the field of medical sciences. Health information management systems help gather, compile, and analyze health data to help manage population health and reduce healthcare costs of Cloud Computing Technologies (cc).

It can support the clinical decision, help diagnose individual patients, and improve patient care. In this study, a personal health information management system based on Java is presented. Based on the Java platform, the overall hierarchical structure of the system is designed including a health information management module, personal health data synchronization module, and full-text retrieval module, to realize the functions of the system. To improve the security of personal health information, the data encryption standard (DES) algorithm is implemented to encrypt and protect personal healthcare information. The system is evaluated in terms of health information acquisition accuracy, information security, and system response time. To verify the robustness of the proposed health information management system, it is compared with two related studies.

The maximum health information acquisition accuracy of the system is 99%, the safety factor reported is above 0.9, and the maximum response time is only 0.8 s. The experimental results show that the designed personal health information management system can collect health information more accurately and ensure the security of information, and the overall response time is shorter. This system is designed to easily maintain the data of the patients specifically. This system is made to keep records about the patients, doctors, and other staff members working at a clinic or hospital .Receptionists can log in to the clinic management system using the email id or the user id and password. After signing in into this system there are the options to add new patients, new doctors, and other new staff members like nurses and ward boys, etc. Daily many new patients visit the clinic so adding the new patient's details and keeping the records using it is very easy.

There is also an option to add and delete doctors and other staff members details. New and unique ids are given to everyone who gets registered over this system. There are also options to check the patient's disease and course the patient is going through. Fees paid by any customer or patient can be saved on it and it is easy to calculate daily that the money is collected. Doctors and other staff members like nurses, ward boys, janitor, and maid leaves can be deducted from their salary and the rest of the salary can be paid easily using this clinic management system. It is easy to calculate money and handle accounts on monthly basis also.

The project Hospital Management system includes registration of patients, storing their details into the system. The software has the facility to give a unique id for every patient and stores the details of every patient. It does this by reducing the amount of data entry tasks of your front desk staff, which lets them make the most of their working hours. It also helps maintain efficiency — by easing workloads, it allows the same number of staff members to perform better, more meaningful work. Solo practices benefit significantly from patient/practice management systems because of their limited resources.

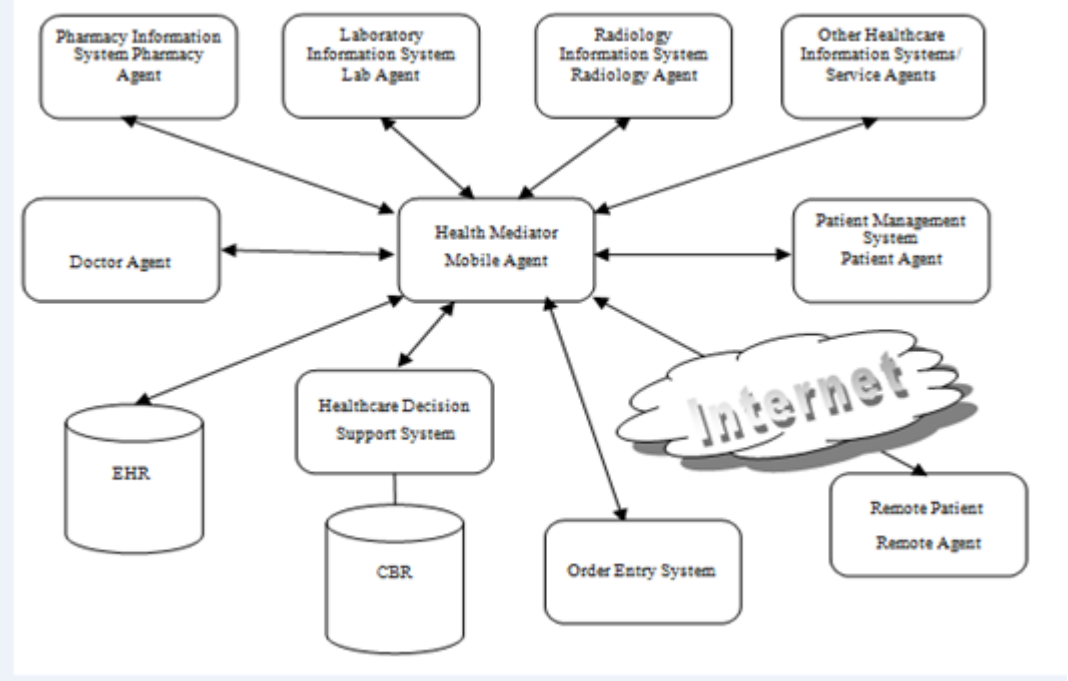
II. PROPOSED SYSTEM

We introduce a new technique for handling the patient have the right, correct and verified information about the doctors is very important because doctors are the one who takes care of the patients and if the doctors are not genuine then the patient might lose his or her life. One benefit of using this system is that the information saved into this cannot be lost because a backup of the data gets created as soon as any change is made to the data of the clinic management system.Thus, the data saved in it is safe no unauthentic user can see it and data cannot get lost. This is all about the module adding doctor.

ADVANTAGES

- Flexible and Efficiency.
- More secure
- Less time

III. SYSTEM ARCHITECTURE



MODULES

- Login
- Adding New Patients
- Keeping Treatment Details
- Maintaining Records
- Medicine Prescription:
- Doctors
- Adding and Deleting Other Staff Members

IV. MODULE DESCRIPTION

1) Login:

After registration one can log in to the system as the operator of the system on the behalf of the user. After this, he has the other user interfaces available for further actions like adding and deleting doctors and other staff members, etc.

2) Adding New Patients:

The first option that is provided in the clinical management system is adding new patients which are most important. When a new patient goes to a clinic or hospital, first of all, he or she goes to the receptionist and receptionist write down all the details of the patient and then receptionist guides the patient to further steps that are going to a particular doctor or a particular test.

So, adding new patient details in the database is most important, and then the receptionist does the other tasks. In the details person's address, phone number, disease or problem and some other things are asked.

3) Keeping Treatment Details:

Another function that this software provides is keeping the details of the patients' treatment. As a patient has to come to the hospital many times for his or her treatment than for further prescriptions, it is important to know the history of the patient's case.

4) Maintaining Records:

A patient can ask for the details of it anytime. Maybe later in any other treatment if he requires it. It is very important to maintain the records of patients properly. This feature is given in this patient management system. It keeps all the data saved and by entering the patient id or name it can be fetched whenever it is required.

5) Medicine Prescription:

The doctor must know which are the medicines that were given to the patient and if they are affecting positively or not. So, it can be checked from this option. If the medicines prescribed are doing their work, then it's good otherwise doctor can change the medicines if he wants.

Doctors:

Adding doctors to the database of the hospital or the clinic is important as the clinic must have all the information of the doctors that are working there in the clinic. When the doctors are added to the database of the clinic the details that are added are the name, age, address, phone number, a specialist in the branch, qualification, and some other things.

6) Adding and Deleting Other Staff Members:

The other module that is provided in this system is the clinic management system is that the data of all the staff members working in the clinic or the hospital can be saved on it. Other staff members are nurses, ward boys, janitor, and some others like mad, etc. The benefit of storing their information is that when any person is on leave and when the salary is calculated then this system can automatically calculate the salary by deducting the amount according to the leaves takes .The information that is added to the staff is a name, address, phone number, employee id, the job of the employee, salary of the employee. These details are ask etheir details is also given as if the employee or the staff member

V. FUTURE ENHANCEMENT

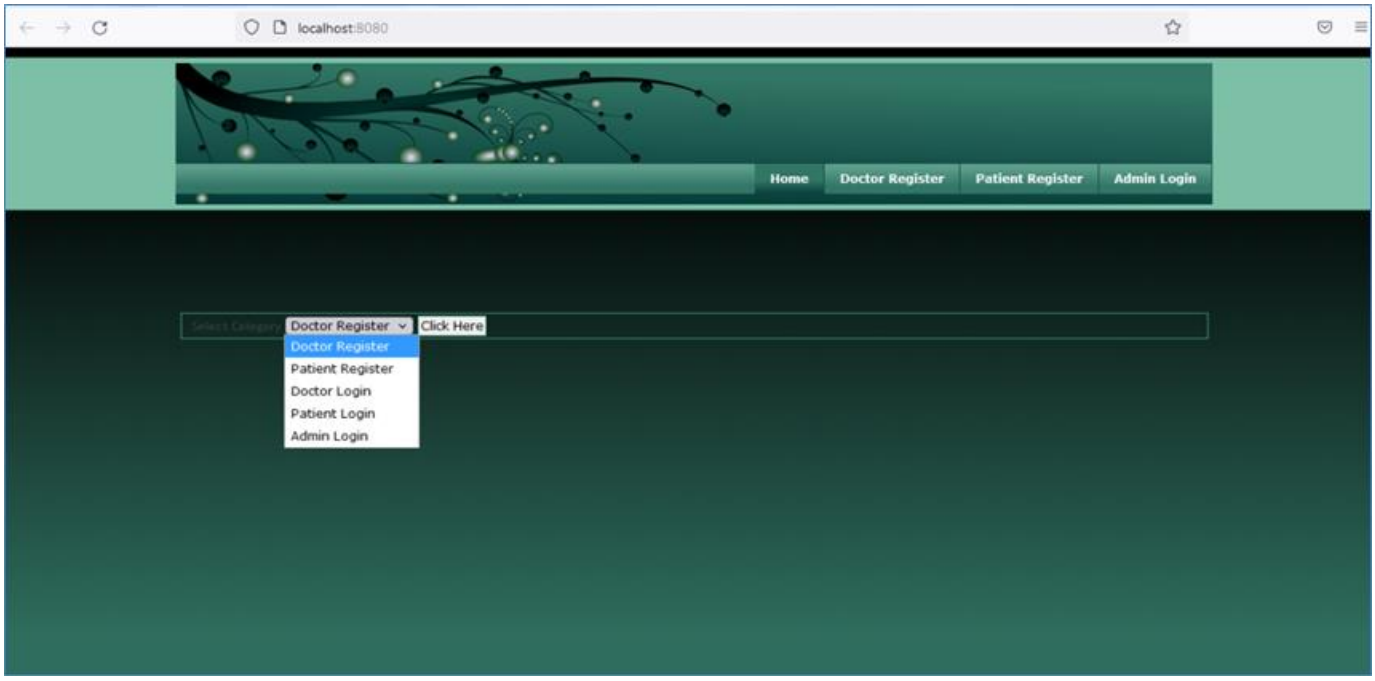
A patient management helps streamline every element of a medical office including recordkeeping, charting, patient scheduling, claims processing and billing functions. While larger organizations may purchase a software solution for each of these individual needs, small offices can get everything they need in a convenient package. With MPM, providers get instant access to patient information and a reliable method for updating charts, noting medications and other vital data. Accurate billing and bookkeeping keep the practice running smoothly and make sure your financial situation is squared away.

VI. CONCLUSION

The Hospital Management System can be entered using a username and password. It is accessible either by an administrator .Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and make the data processing very fast.

Administrative staffing is one of the significant drivers of high health care costs. Automating routine processes like patient flow management helps medical clinics and hospitals minimize their administrative expenses.

VII. RESULT



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