



Hospital Information System using Cloud

S. Gayathri, S. Megalai, K. Jaisharma

Department of Computer Science and Engineering,
G.K.M. College of Engineering and Technology, Chennai, Tamil Nadu, India

ABSTRACT

For the large amount of evolving data in cloud every care system such as clinical and other kind of organization are want to maintain their information in online. The Open Archive Information System (OAIS) is a reference model for organizing people and resources in a system, and it is already adopted in care centers and medical systems to efficiently manage clinical data. Archival storage systems are typically implemented using traditional relational database systems, but the relation-oriented technology strongly limits the efficiency in the management of huge amount of patients' clinical data. Our project includes registration of patients, storing their details into the system, and also computerized billing in the pharmacy, and labs. Our software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically in the cloud. User can search availability of a doctor and the details of a patient using the id. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast.

Keywords: *Clinical record, Hospital Information System, OAIS, big data, Cloud computing, Cassandra.*

I. INTRODUCTION

The evolution of health systems is rapidly moving towards new digital solutions, aimed to efficiently manage resources and information involved in health processes. The hospital information System is mainly used for storing the information of the patient and Doctor. It is mainly designed for patients who can't carry their medical reports everywhere. In this project There will be Doctor appointment system, patient's medical history ,QR code ,Admin and lab technician

login for updating the patients current status, pharmaceutical reports and bills and lab reports. And here we introduced a person's called Admin who is responsible for approving and updating the current status of the patient and doctor. And he is the only person who can access the user's login. There will be a unique ID and QR code will be generated for each and every patient .They can download their medical reports and pharmacy bill using the QR code via the mobile phone or anything else. The Doctor can view the number of IN and out patients in their profile in chart model. In our project, As we said already we are all moving towards new digital solutions and thus we planned to make all the things online .

II. RELATED WORK

Antonio celesti,(2017) proposed that OAIS healthcare architecture useful to manage a huge amount of HL7 clinical documents in a scalable way. Specifically, it is based on a NoSQL column-oriented Data Base Management System (DBMS) deployed in the Cloud, thus to benefit from a big tables and wide rows available over a virtual distributed infrastructure. Andre M.R. Wajong, (2015) proposed that applying performance to dashboard. By implementing performance dashboard, the existing data sources will be consolidated and demonstrated in an informative visual form through an interface screen in order to allow the executives to easily comprehend and analyze those data, therefore assisting the process of strategic decision making . Jill Patel, Ashish Bhat ,Kunal Chavada, (2015) proposed on QR code based android application for health care system. They integrate a Quick Response (QR code) for accessing medical related data of the patient using a smart

phone or a tablet be used by the facility itself or anyone else certified.

Ping He , Penghai Wang , Jiechun Gao and Bingyong Tang, (2015) demonstrated how this technology can be used in the real-world applications, and a city-wide healthcare appointment system has been implemented.

Abheer Agrawal, Mohammad Ahmad ,(2017) present a infection control surveillence, diagnosis and treatment of various diseases, healthcare resource management, fraud and anomaly detection, healthcare administration, hospital management and public health. Yin Zhang Meikang Qiu and Mohammad Mehedi Hassan provide a more convenient service and environment of healthcare, this paper proposes a cyber-physical system for patient-centric healthcare applications and services, called Health-CPS, built on cloud and big data analytics technologies.

III. PROPOSED SYSTEM

The proposed system will enhance the way of replacing the paper based system which will provide set of feature like Doctor appointment system, patient medical history, pharmaceutical bill , QR code generation, prescription details, and Email notification.

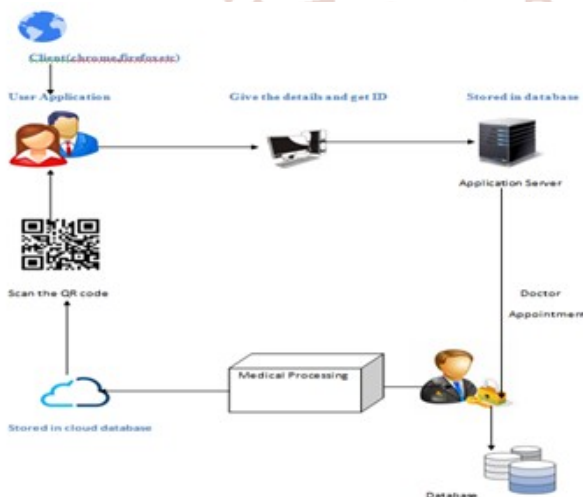


Fig.1 architecture of hospital information system

The new system is to control the information of patients. Our software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically in the cloud. User can search availability of a doctor and the details of a patient using the id. The data can be retrieved easily. The interface is very user-friendly. The data

are well protected for personal use and makes the data processing very fast.

A. Administration Module

The Admin has control the overall data and also maintain the patient and doctors details in the cloud .When the patient approaches the admin to register their details for the first time, the unique ID and QR code will be generated and provided to the patients , thus the registration process gets completed. Admin can add, delete, and update the patients current status and also a responsible to view both the patients and doctors details.

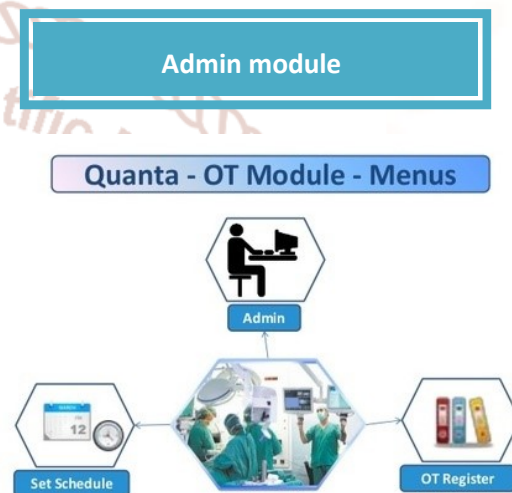


Fig 2: Administration Module

B. Diagonising Model

The diagnosing is a term which refers to the diagnosis of patients and gives the prescribed medicine and their reports to them and also upload the patients medical details in the database. By using the unique ID only the Prescribed Doctors and pharmacists can view the details of the patients. After the diagnosis has been completed, the Doctor forward the reports to the lab technician if it is necessary to take lab test.

C. Uploading Module

Here, the Doctor can update the case history of the patients in the database and the Admin will fetch the reports of the patients from the database using their unique ID. The Data will be stored in the cloud with secure password protection and it can access by the user with their unique ID.

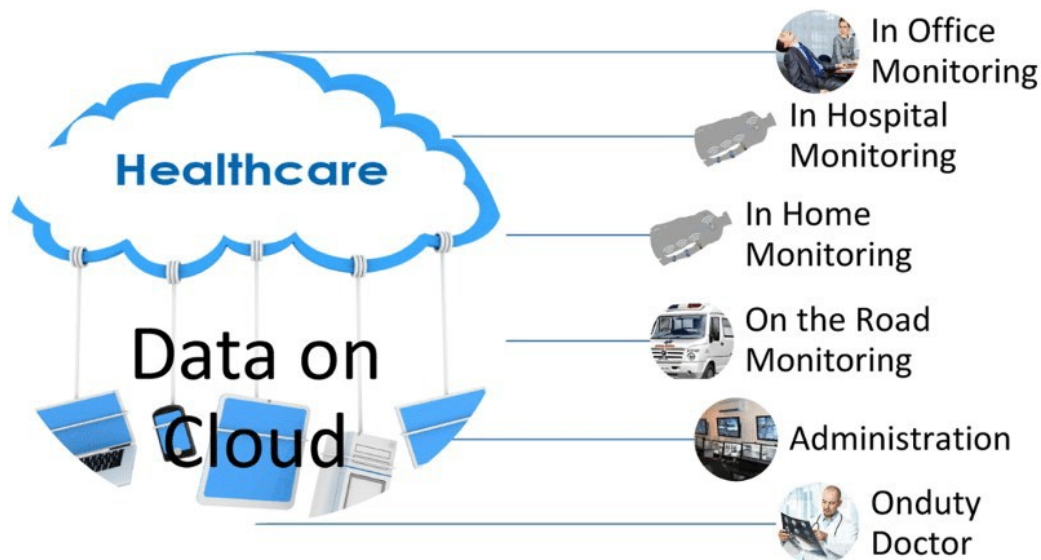


Fig. 1 Explanation about uploading module

D. OTP Module

OTP-One Time Password is a password that is valid for only one login session or transaction on a computer system or other digital device. To download the patient medical reports the OTP will be sent to the patient Email ID .After entering the otp in to the system if the OTP is valid the QR code is scanned then the case history of the patient will be downloaded in their mobile phones.

IV. CONCLUSIONS

Since the Hospital Management System is essential for maintaining detail about the Patient. Hospital administrators would be able to significantly improve the operational control and thus streamline operations. This would enable to improve the response time to the demands of patient care because it automates the process of collecting, collating and retrieving patient information.

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