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Electronic Health Record Management System for Ayurveda Health Center

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ABSTRACT: Electronic Health Records are electronic versions of patients' healthcare records. An electronic health record gathers, creates, and stores the health record electronically. It improves clinical documentation, quality and makes health care records portable. There are lot many EHR management systems for conventional (Allopathic) health care centres which are prevalent and implemented among many countries but there are very few traces of EHR management system for Ayurveda healthcare centres. This paper attempts to provide patient-centric EHR management system for Ayurveda health care centres so as to replace paper medical records with electronic medical records making life easier for both staff and patients. The proposed system will improve clinical documentation, quality, healthcare utilization tracking and make health records portable. They contain details of medical history of patients, medications and pharmacy data that will make patient monitoring more effective.

KEYWORDS: Electronic Health Records, Information Technology.

I. INTRODUCTION

The practice of Ayurveda works with an aim to preserve and protect the health and prolong the life of the patient by relieving the suffering and pain. To achieve this aim, health care practitioners are largely dependent on easy access to patient's accurate,adequate and complete information in a timely manner. With the increasing adoption of the philosophy of preventive healthcare using holistic wellness practices such as Ayurveda & Yoga, people all around the world are choosing to rely on the 5000-year-old natural healing process than popping pills to combat sickness and illness. Since the holistic approach of Ayurveda, Yoga and Naturopathy is quite different from the conventional field of medicine and treatment, such practitioners need to know the lifelong information about their patient's medical background before initiating any treatment. They need to make tailored treatment for each of their patrons depending on their personal health history.

Ayurveda clinicians typically record a patient's *Prakriti*along with the record of consultation in paper based files that are not normally exchanged or made accessible to other clinicians. Increased use, and interoperability with electronic health records, of digital Ayurveda patient management systems is required.

EHR for Ayurveda health care centres has been designed with this in mind and is a software that allows accuracy and transparency in managing such personal health information. Philosophy behind the creation of EHR for Ayurveda health care centres is to encourage healthy living. It is designed to improve the efficiency and effectiveness of business. It is a software package that enables healthy living, lifestyle and care. Patient-centric EHR for Ayurveda health care centres is the solution that makes loose ends meet, both from the doctor's and the patient's side.

II. LITERATURE SURVEY

PAPER:Lijun Pan, Xiaoting Fu, Fangfang Cai, Yu Meng, & Changjiang Zhang. (2016):A compact electronic medical record system for regional clinics and health centres in China: Design and its application. 2016 IEEE International Conference on Bioinformatics and Biomedicine (BIBM).

DESCRIPTION:

METHODOLOGIES:Frequent item set mining, Association rules.

MERITS:Enhancement of quality of medical service, effectiveness of existing patient monitoring system ,to decrease on-papers-job and time taken in searching patient's medical records.

DEMERITS :Change in workflow, Need for technical support, Privacy and security concerns.

SUMMARY OF LITERATURE SURVEY:

In China, EMR has been mainly utilized in urban general hospitals, while being considerably underdeveloped among the primary care medical providers such as local clinics and community hospitals, which accounts for over 93% of all medical institutions in China.

Thus this paper propose a compact EMR system targeting at primary care centres to fulfil the needs of small-scale clinics and facilitate clinical research.

III. GOALS AND OBJECTIVES

The main goal of implementing EHR for Ayurveda health care centres is to unify clinical data and to consolidate patient's medical chart to digital documents. Since the data is stored in digital format it will be easier to search for details of particular patient. The objectives of this projects are:

- ➢ To provide accurate, up-to-date and complete information about patient at the point of care.
- ➢ To store patient information in organized digital format and hence reducing medical error.
- ➢ To maintain the records of previous history of diagnosis, procedure and condition linking to recent records that will help doctors to treat effectively.
- ➢ To decrease the time taken in searching patient's medical records.
- ➢ To enhance the quality and effectiveness of existing patient monitoring system.

IV. EHR SYSTEM OVERVIEW

Electronic Health Record is an integrated system for patient monitoring which contains medical and treatment history of patient's diagnoses, medications,. EHRs are real-time, patient-centred records that make information available instantly and securely to authorized users. As the records are stored in digital format it can be searchable and are more effective when extracting the medical data of a particular patient.

EHR has a receptionist who will book appointments for the patients and add the details new patient to the database. All the data will be recorded in the database which can be retrieved easily when needed. The system can record, view, modify, delete, analyse and manage patient's medical information. The doctor can view appointments and set it done after he/she completes treatment for that particular patient (i.e) after he/she had prescribed medicines for that patient in the prescription list. The pharmacist can view the prescription list provided by the doctor and pick up all the medicines for that patient and not to wait for the patient till he/she arrive which can save time for both pharmacist and the patient so that the patient can pick it up easily without further delay. After giving medicine for that particular patients he just deletes the patient prescription list so that he can see to next patient. Registered patients can access or view their health record with authorized credentials.

HER has an interactive and attractive user interface which allows user to use the system easily. When the doctor has to retrieve any information of the patient he/she can easily get the record by searching the patient's name.EHR serves as an ease for doctors in making quick decision since the information about their patients is available whenever needed.

V. ARCHITECTURE
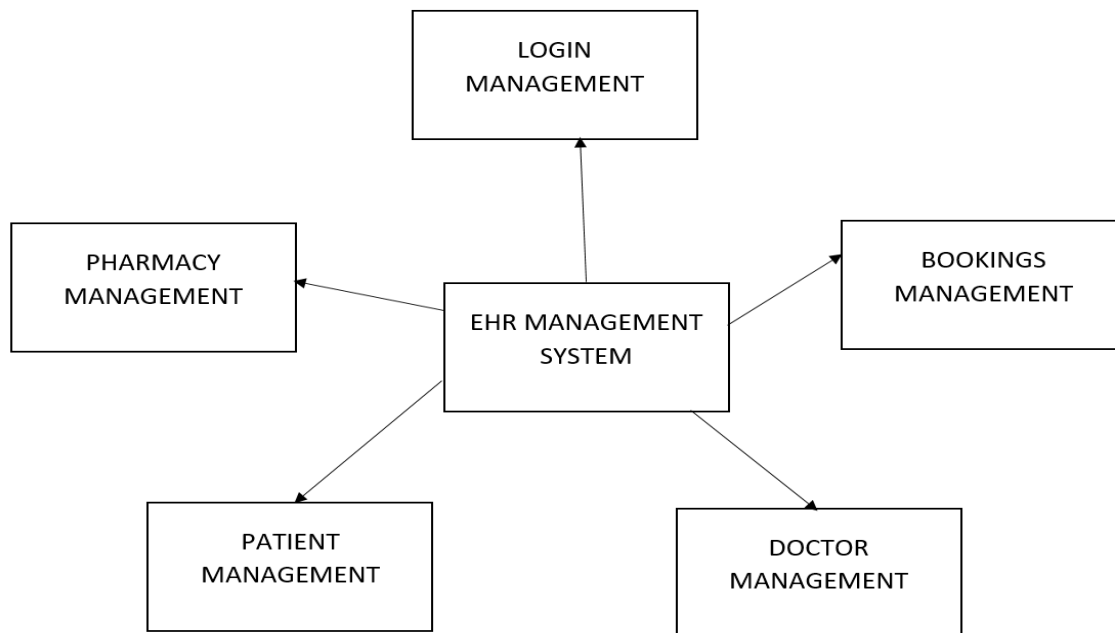
DESCRIPTION OF ARCHITECTURE

The EHR management system for Ayurveda health care centre is divided into five modules namely doctor management, patient management, pharmacy management, booking management and login management.
Doctor management module consist of three parts viewing patients appointments, viewing patient's details and prescribe medications. In receptionist management he/she has his/her own login through which the receptionist can enrol new patients, book appointments for the patients and search for the details of the patient using patient mobile number, name or ID. In patient management patients can view their personal and checkup details. Pharmacy management contain patient name, mobile number along with prescribed medicines for the patients which can be deleted once the patient gets their prescribed medicines from the pharmacy. Login management manages the login of patients, doctor, receptionist and pharmacist.

VI. OUTPUT

DOCTOR

Fig.1.Doctor dashboard

Fig.2.Patient's check in

Fig.3.Prescribing medicines
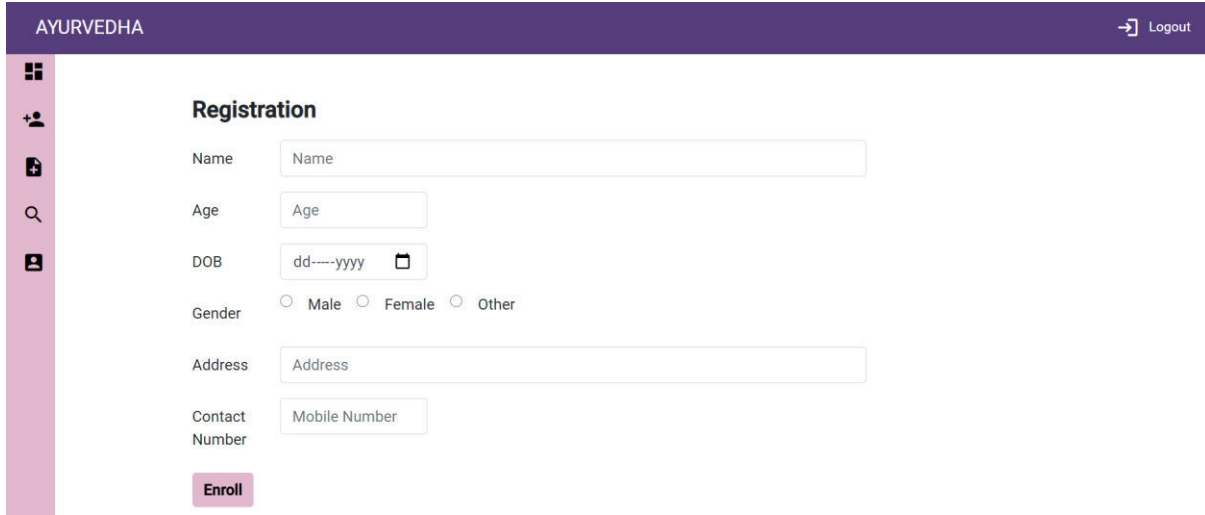
LOGIN

Fig.4.Login Page
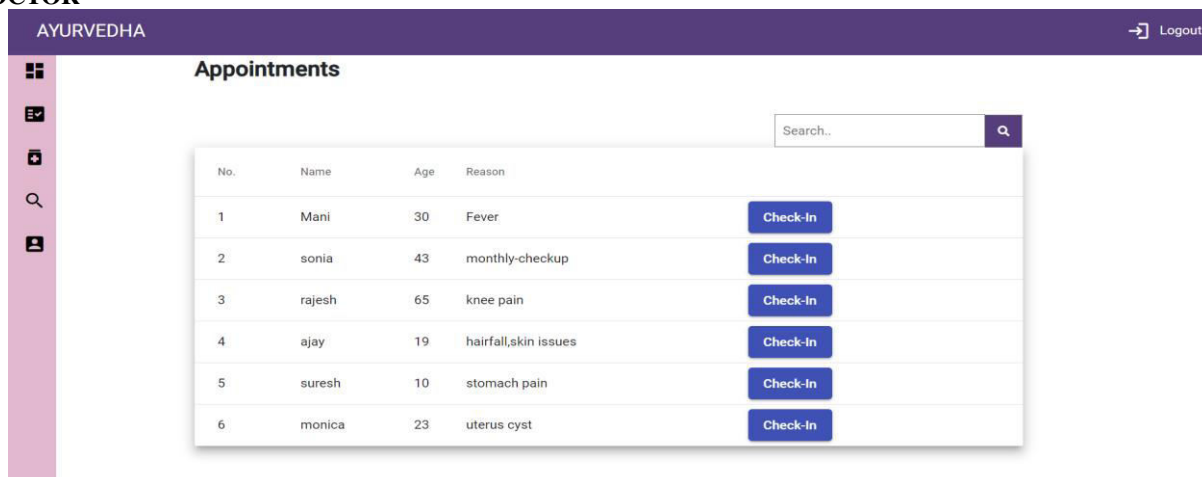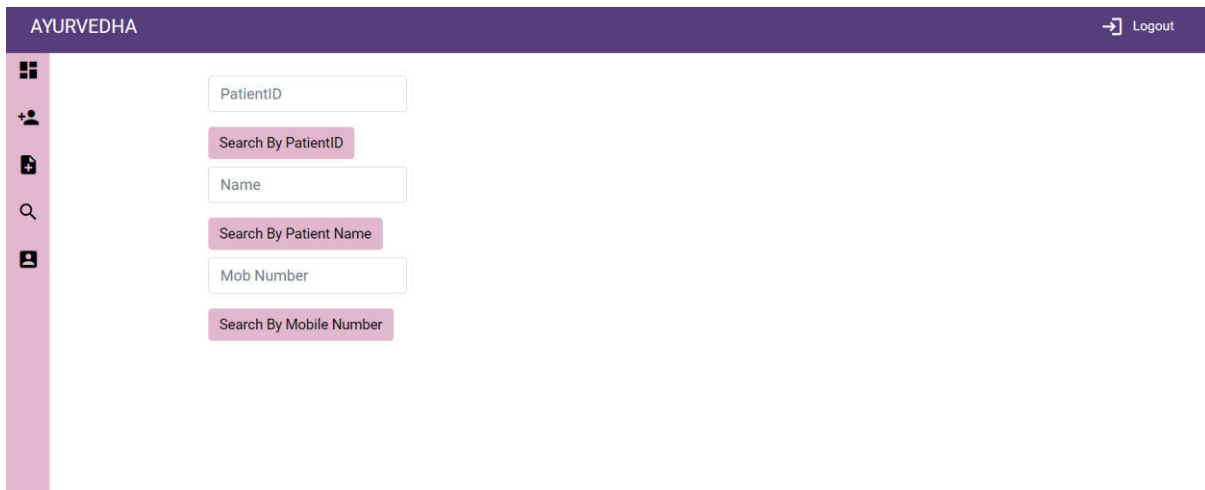
RECEPTIONIST

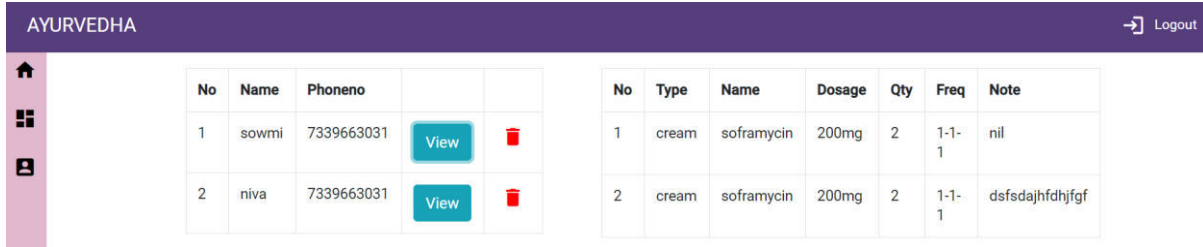Fig.5.Registration page

Fig.6.Search patient's details
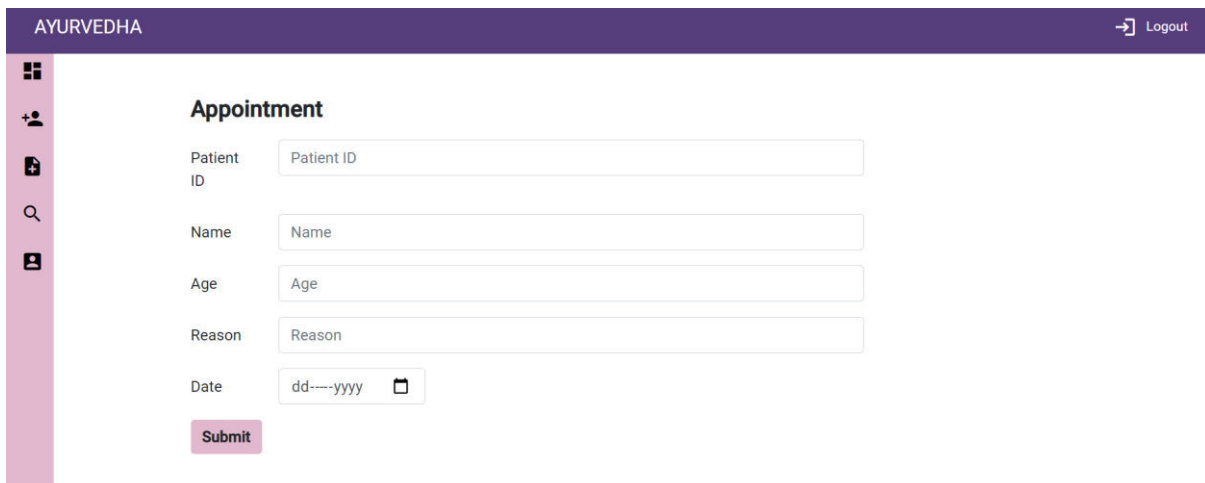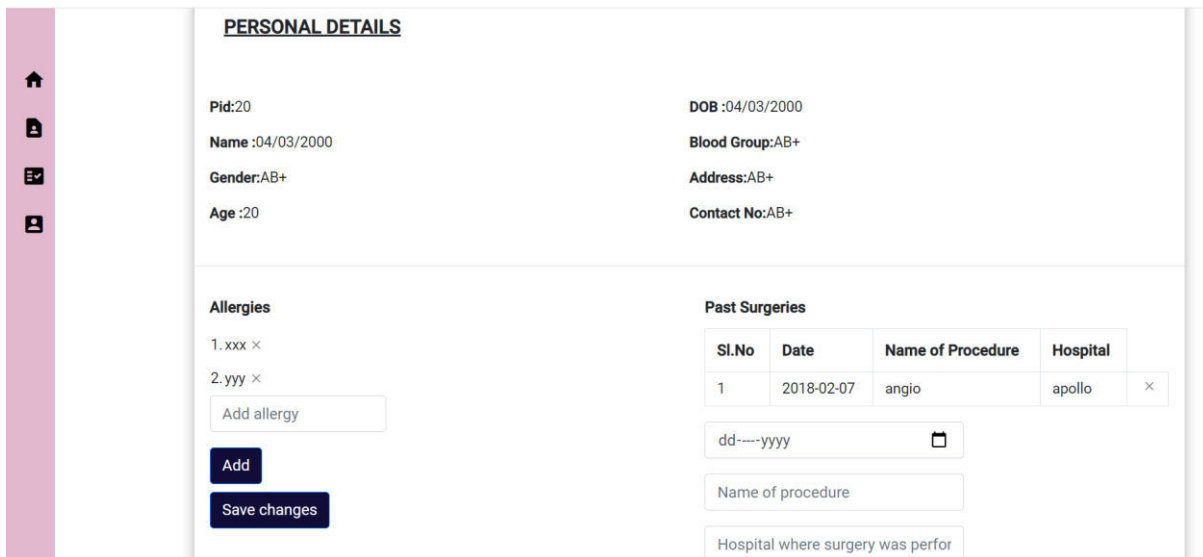

Fig.7.Appointments booking page

PHARMACY

Fig.8.Pharmacy dashboard

PATIENT
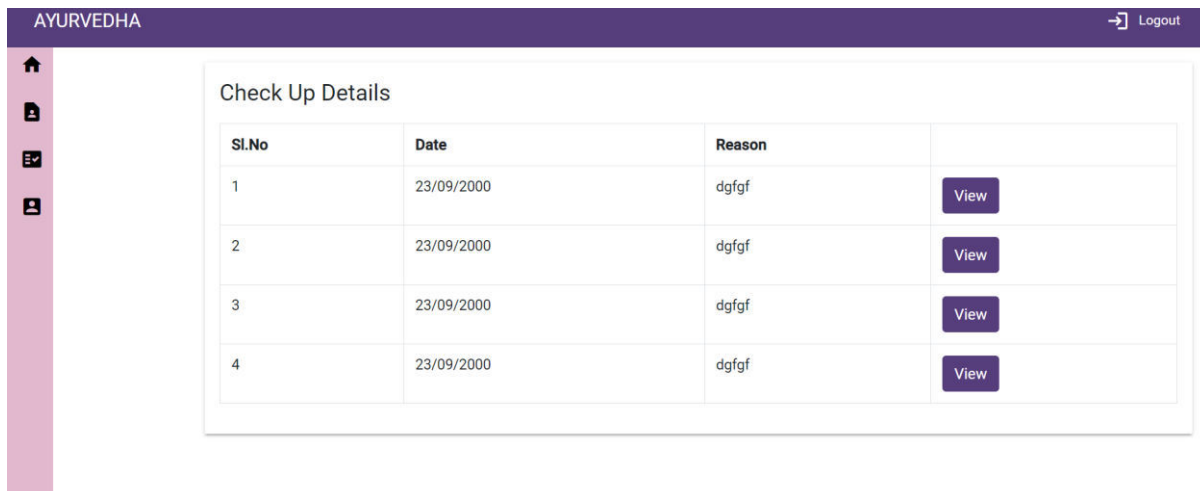
Fig.9.Patient details

Fig.9.1.Patient details

Fig.10.Previous checkup details

VII. RESULTS AND DISCUSSION

Utilizing EHRs resulted in a greater number of benefits than negative impacts to population health. During the review process, various aspects of electronic health records showed that the utilization of these IT improves population and public health. Benefits of using electronic medical records describe how EHRs improved the productivity and efficiency of health organizations to better serve populations. Increased healthcare access to individuals provides more comprehensive documentation from the population from the surveillance of public health screening and preventative care. Electronic health records allow health professionals to share and incorporate more public health information among various providers. This improves the population's ability to survey the populations for chronic disease, contagious infections, and allows for more rapid and uniform transference of patient information.The incorporation of new technology is expected to have some flaws associated with its integration into the healthcare field.Some of the major setbacks of EHRs include a temporary decrease in productivity, while staff and medial personal incorporate and train employees to use an entirely new system. Alongside with new operational systems medical efforts, lack of functionality, system failures, and simple resistance to change by providers can occur. These can have negative impacts on public health as missing or incorrect information can be transmitted for surveillance. Other barriers include the inability to generalize one healthcare organization's experience to others due to various types of EHRs and systems to the wide variety of populations and settings. Some healthcare populations have been found to be more accepting of EHRs while others have found it more difficult to incorporate them into a daily routine. These are some discussions on the EHR management system.

VIII. CONCLUSION

Critical clinical data, sharing information securely and accessibility of data from different departments of health centres for treatment process can simplify the whole process of healthcare service which can easily achieved by using this EHR management system in Ayurveda clinic. This EHR management system also provides the patients the required view and analyse their own health records. The system also handles the different set of users from various domains to use this. Personal Health Records are designed to maintain lifelong details of patients. As a part of future work, we have planned to design the UML diagrams to look into the problem and to increase the clarity and to implement the uploading of encrypted medical data in cloud and in the process of creating individual cloudlets for preventing unauthorized user.

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