

Online Clinic Management System

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Abstract- As people become more educated, hence people become more aware of the quality of their life especially something that is related toward their health. The poor service in health care would give an effect towards the development of our country. To receive a treatment from government hospitals, patients sometimes need to wait for hour's .While for administration's task they need to keep track a huge number of filing where all details on patients were being kept, sometimes it leads to data redundancy and .an additional workload. That is why Online Clinic Management System is being proposed and this proposed system is develop using a web-based, concept. The method used to develop the system include iterative waterfall model approach, dataflow, logical and entity relationship diagram were used to design the system. With the existence of this system the registration process would avoid data redundancy, records keeping on patient details can be find faster and time waiting for patient before received a treatment from doctor could be lessen,, this is because all manual task that happen in this system is being convert to computerized type of system.

Keywords: Online Clinic Management System, Health Care, Patients Record and Computerized.

I INTRODUCTION

Clinic is an organization that is responsible in providing a health medication and treatment for all types of peoples. Surely, everyday there are people that need to use the clinic services. But how can clinic provide a faster and efficient services if they are still using the traditional method on their daily operation? The traditional method means the customers need to fill in their detail in registration form manually and the information will only keep in files. After the registration, the files will be place in the rack and this will cause problems like taking a longer time to retrieve the information, make mistakes during writing or misplaced the files.

As a result, one system called Clinic Management System with Notification using GSM Modem will be develop to resolve all the current problems at clinic. Clinic Management System with Notification using GSM Modem is specially designed to let the clinic staff has a high efficiency management tools, computerized and systematic patients record, and detail of treatment records. This system also provide appointment feature, which allow staffs to view the appointment that already made by doctors and process it by sending a notification to patients. Patients will receive the notification about their appointment details on their mobile

phone. This new system will replace the current system that is used in clinic and surely this system will improve the clinic services and make their daily operation running smoothly.

Clinic Registration System is developed to improve the clinic management automates the workflow that happens in the clinic. This system is considering all the activities in the clinic. Patient will make registration first. If the patient never registered before, patient information collected and stored in the database. However, if it is an existing patient the patient data is search-using IC (identification card) no. This will improve the record of the patient and save the time during the registration. At this time, patient is assign to the doctor.

Once the patient gets the treatment, the doctor will send the report including the medicine name. The staff will view the report and complete the patient record. After that, the staff will prepare the bills for the patient. The patient can choose mode to pay cash or maybe the clinic is panel doctor for the patient. Then the staff will update the medicine stock and the patient record will be kept in database. The clinic management system is very beneficial for a clinic/doctor. It will stores complete patient record. The most important thing is it will make it easier for the retrieval of history information of the patient. In case, if patient is allergic for certain medicine, the doctor may detect what type of medicine. For the security, before the user enters the system they have to input their username and password before log in to the system. The system has different access for the difference user.

II LITERATURE SURVEY

Booking an appointment online has grown in popularity over the past few years. Many different types of businesses use some type of Web-based online appointment management system to help make the appointments setting process more streamlined. An online appointment management system allows students to register and book appointments with their advisers. In this paper [1] they give details of the development process of an online appointment Web-based management system to be used within a higher education Institution. They have conducted some experimentation to show the effectiveness of our system.

Constantly created new specialties, different roles, public and private organizations in patients' healthcare have resulted complexity issues. An ontological framework is very much promising to develop interoperable IT solutions for various segments of today's healthcare systems. In this paper [2] they proposed an on-going project that develops patient centered process ontology. As a useful application of this framework, we brief Clinics Management System (CMS) for General Hospital, Matara, Sri Lanka.

In this paper [3] they develop system using Java Server Pages (JSP) and is design using Macromedia Dreamweaver MX .Because Outpatient Management System is a management type

of system thus, the development of this system is according to the Protocol Management System where this protocol is more like a guideline-in order to develop a management type of system. Outpatient Management System helps Outpatient Department, which are attend by more than 500 hundreds patients each day perform a better service. in term, of registration process, patient's details and reduce time waiting for patients. With the existence of this system, the registration process would avoid data redundancy, records keeping on patient details can be find faster and time waiting for patient before received a treatment from doctor could be lessen, this is because all manual task that happen in Outpatient Department is being convert to computerized type of system.

This research aimed at computerizing all the records about patients, staff and drug suppliers. In order to achieve this goal, a thorough System Study and investigation was carried out and data was collected and analyzed about the current system using document and data flow diagrams. The concept of report production has been computerized hence, no more delay in report generation to the hospital manager. Errors made on hand held calculators are dealt out completely. The method used to develop the system include iterative waterfall model approach, dataflow, logical and entity relationship diagram were used to design the system and finally the language used were MySQL, php, HTML, CSS and JavaScript [4].

Dental Appointment Management System (DAMs) was developed to facilitate patients at Dental Clinic to make an appointment with the dentist by using short messaging system (SMS). DAMs divide users into two sections which are patients and admin (nurse or clinic clerk). The user can send the SMS to the system to make an appointment with the dentist through certain syntax that provide by the system. Then, the system that manages by the admin will reply the message to the patients follow by the request of patients. There are three main modules in DAMS which is register module, send message module and alert module. The DAMs are alternative then existing technique whether by go to clinic or by make a phone call to make an appointment. By using this system, patients only need a mobile phone and they can use these DAMs facilities at anywhere. To send the SMS to DAMs, the patients must register their information first at the Dental Clinic. The registration process is done by admin. DAMs were developed by using Macromedia Dreamweaver 8 (PHP Programming Language) as platform to create interface to admin and MySQL as the database. This system is hoped to help patients at Dental Clinic in other to facilitate the information delivery that related to appointment management [5].

In this paper [6] they introduce the use of an automated clinic record management system in clinics, and has chosen Ahmadu Bello University Sick-bay as the case study for the first implementation with the aim of improving their services especially in this digital era. A qualitative research was adopted and the instruments used for the study are interview, observation and questionnaire. Some questions were raised by the researcher such as, what are the challenges associated with the use of the manual/traditional record management system in the clinic. How to improve on

the current record managements system to save time and minimize human error in the process of the records? How to provide more privacy to patients' records and information in the clinic? And at the end of the research, the findings are analyzed and presented to promote the services in the clinic.

Most of medical sectors today are using network services and offering Online web services in order to create more benefits for both their stakeholders and themselves, including the way of how people make booking. As a result, one system called Dental Clinic Management System with Notification using web will be develop to resolve all the current problems at clinic. In this paper [7] they develop Decision Support System for Dental Clinic that provide information about the dentist profile, patient information include patient personal detail, patient treatment, patient appointment, patient billing, and dental treatment and disease. During the system development Visual Studio 10 is used in order to create interface and coding. This system is gives advantages to the all both users clinic staff and end user especially patient, where the two users can access the system.

Online College Management System (OCMS) provides a simple interface for maintenance of student information. It can be used by educational institutes or colleges to maintain the records of students easily. Student information system deals with all kind of student details, academic related reports, college details, course details, curriculum, batch details, placement details and other resource related details too. It will also have faculty details, batch execution details, students' details in all aspects, the various academic notifications to the staff and students updated by the college administration. It also facilitate us explore all the activities happening in the college, Different reports and Queries can be generated based on vast options related to students, batch, course, faculty, exams, semesters, certification and even for the entire college The placement officer is responsible for updating the placement related information like eligible criteria for a particular company, arriving date for the company which is coming for recruitment, the list of students who are eligible for attending the recruitment process. E-Library (also referred to as digital library) is a special library with a focused collection of digital object [8].

The Navy Medical Administrative Unit (NMAU) for the Monterey Peninsula has a challenging mission which encompasses many administrative tasks. Medical readiness and occupational health requirements are tracked for all Navy and Marine Corps personnel in the region. In order to fulfill their mission satisfactorily, it was necessary for NMAU to get an automated database management system. The Flight Surgeon at the Naval Postgraduate School works very closely with NMAU. The Flight Surgeon's administrative responsibilities would also benefit from - database system. Based on the requirements for NMAU a database system was designed and implemented in their clinic. Based on the Flight Surgeon's requirements the data base system was further analyzed in order to assist future upgrades that would employ the flight surgeon's requirements [9].

III PROPOSED SYSTEM ARCHITECTURE

A. Problem Definition

This system which manages complete online clinic details in a single application and in single database. The

AND ENGINEERING TRENDS

users will use this system to handle all the functionalities easily. Doctors will also use the system to keep track of the patients consulting to them. The intentions of the system are to reduce over-time pay and increase the number of patients that can be treated accurately. Requirements statements in this document are both functional and non-functional.

B. Proposed System Description

Proposed system is web based application which covers all aspects of management and operations of clinics. This website covers features of Doctors Details, Patients Records, Online appointments, Patient reports, billings, Clinical tests, Medical store billings etc. The project supports to administrator to access complete application, Patient takes appointment through Online/Offline, Doctors manages patient reports, Receptionist approves patient's appointment and makes bill, and medical Store Administrator can view suggested prescription. Each patients of the Polyclinic has a unique patient ID and password. By entering User ID and password patient can login to the polyclinic website and patient can view The used of clinic management system can enhance the services and also the work flow of all activity that happens in hospitals where it helps in reducing the workload of medical staff, the number of man power needed and it also make hospitals management become more manageable and easier to control. Figure 1 shows that the proposed system architectures.

Modules in proposed system:

- **Patient Registration module:**
 This module deals with the registration of patient details like personal details, contact information, symptoms and health parameters. The image of the patient is also captured during registration process. The details are saved to the database. It can be retrieved later for reference by using the patient id generated during registration or by any unique identity specified during registration process.
- **Doctor registration module:**
 This module deals with the registration of doctor practicing in the clinic. The records are saved to the database which can be retrieved for reference if required. The doctor details like personal information, contact information, shift details etc. are saved to the database. In the doctor module, the duty time of doctor is also recorded. The list of doctors available for service can be viewed when required. The list of doctors will contain the details of available doctors at the particular time slot based on which the clinic data entry operator/admin can allot appointments to the patients.
- **Appointment scheduling module:**
 Appointment scheduling process is automated by the application. The appointment scheduling is done for the doctor consultation. The scheduler will schedule the appointment for the patients based on the time of registration/entry to the clinic. The

scheduler will allot the appointments based on first in first out principle.

- **Patient appointment scheduler:**
 The appointment scheduler is used to schedule the appointment for patients who undergoes massage treatment. The appointment is allotted by the scheduler based on the appointment time as requested by the patient. The appointment details are stored to the database. The appointment allotted can be rescheduled and deleted if required.

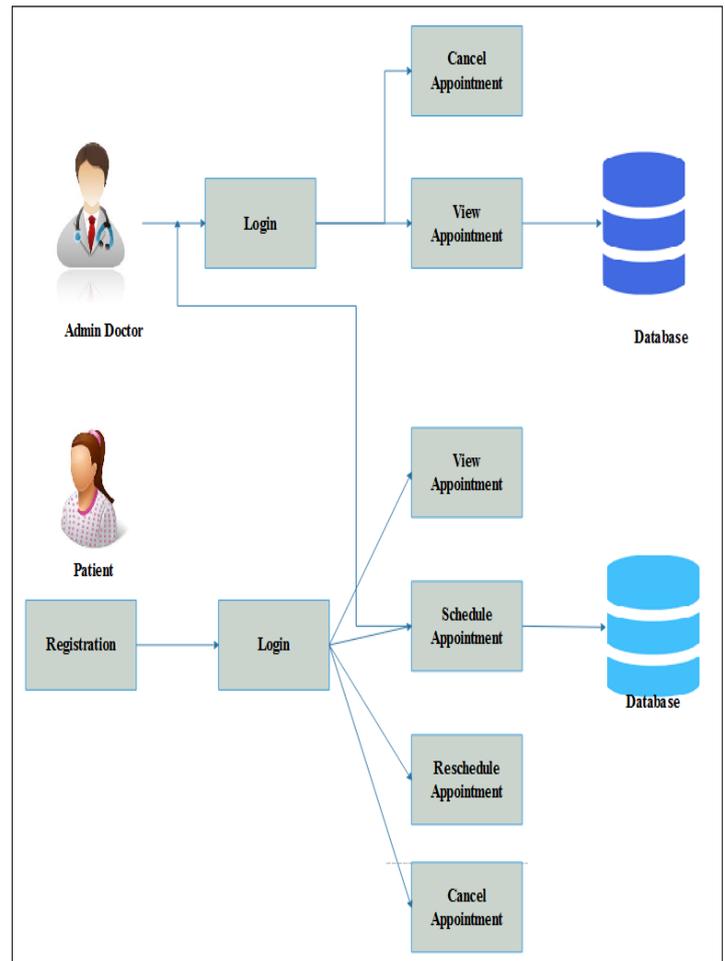


Figure 1: Proposed System Architecture

IV CONCLUSION

Clinic management system is a computerized patient record system. The main purpose of the system is to reduce the burden of doctor and nurses and improve the patient records management; our system integrates clinical, scheduling, electronic medical records, charting and data reporting components that enable clinics to provide patients with quality care. As a conclusion, the proposed system will bring benefits to doctors and nurses. Much workloads and planning can be schedule more effectively. It is aims to assist users in achieving their respective goals and objectives

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