

NEXTGEN'S HOSPILOGICS USING APACHE TOMCAT SERVER AND MYSQLDATABASE

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ABSTRACT

The paper developed an automated system that is used to manage patient information and its administration. This was with a view to eliminate the problem of inappropriate data Keeping, inaccurate reports, time wastage in storing, processing and retrieving information encountered by the traditional hospital system in order to improve the overall efficiency of the organization. The tools used to implement the system are Hypertext Mark-up Language (HTML), Cascading Style Sheets (CSS), Apache Tomcat, JAVA, JavaScript, Ajax, and My Structured Query Language(MySQL).The Proposed system was tested using the information collected from Kannan Homeopathy Medical Centre in Coimbatore. And compared with the existing traditional hospital system. The design provides excellent patient services and improved information infrastructure.

INTRODUCTION

Hospital is an organization that mobilizes the skills and efforts of a widely divergent group of professionals, semi-professionals, professional's personnel, to provide highly personalized personnel services to patients. World health Organization (WHO) has defined hospital as an integral part of social and medical organization that provides the complete curative and preventive health care and treatment to people. Hospitals are the focal points of education for the health professionals and clinical research necessary for advancement of medicine. Thus, the hospital is one of the most complexes of all administrative organizations. The main purpose of the hospital is to provide adequate care and treatment to the people. It has sections for various professionals that make up a hospital with high standard security feature. Various operational works that are done in a hospital include: recording information about the Patients, generating bill, recording information related to diagnosis given to Patients, keeping record of the Immunization provided to patient, keeping information about various diseases and medicines available to cure them. All these works are done in most hospitals on papers. The need for proper management of the health sector leads to the creation of an electronic means of keeping records, querying of data, prescription helper and also good accountability. Information technology in general enables intra organizational networking that facilitates effective information flow within the various units of a firm. The application of information technology in health care is unceasingly evolving as the quality of patient care in contemporary times seems to depend on the timely acquisition and processing of clinical information related to the patient.

EXISTING METHODOLOGY

Kannan Homeopathy Medical Centre was chosen as a case study due to easy access to the medical information and the consultant. The Hospital was visited to collect appropriate information. The purpose of the Study is to find out the current state of their management system and how to make it more efficient. Various medical personnel were interviewed in other to know their duties and challenges they are facing while discharging their duties. Written vouchers, bills of payment, receipts and other test results were reviewed so as to get how the "System of Number" for referencing and saving for future works and the platform of how to make the manual printed reports into electronic one.

The system that is currently being used in the hospital is entirely manual. When a patient requests drugs from the staff, all the information is recorded manually from the drug dispenser (Pharmacist). Similarly, when the supplier delivers drugs all the information from the dispenser to the account on drugs is recorded manually.

Drawbacks of Existing methodology

1. The hospital staff finds it tiresome and time consuming when computing patient data, drug supplier and this leads to delay in medical reports.
2. The hospital Administration currently uses health record files for storing patients. This system of information storage is susceptible to security problems such as illegal modification and update of records.
3. Usually lot of time wastes in retrieving data.

4. The paper work reduces the efficiency of the System.

PROPOSED SYSTEM METHODOLOGY

The hospital management system (NH) comprises a computerized web based application for record keeping, tracking and prescriptions with monitoring. NH can manage multiple users of the system and can have the track of the right assigned to them. It makes sure that all the users function with the system as per the rights assigned to them and they can get their work done in efficient manner. It should be able to quickly collect and edit data, summarize results, and adjust as well as correct errors promptly. It Retrieve Information from the database as quickly as one searches on the screen and authenticate the users with the access control facility to prevent unauthorized users from accessing the data but does not include exporting of Data (History) on the database to appear in various formats (PDF, CSV, TXT). It has various NH modules is not designed to manage the affairs of the hospital but only built for the Patient Health Records, Pharmacy reports, Patient's information. This paper provides solution to the existing problems of the hospital. The design improves the accuracy of medical records and efficient retrieval and usage of medical records, Pharmacy reports, Patient's information. The purpose of the paper is to design NH that helps to; 1. Eliminate redundancy in term of data storage. Data will be stored in a computer. 2. Reduce the time wasted in retrieving data especially in finding a past health records, Patient's information, Pharmacy reports. 3. Increase Efficiency of the hospital.

WORKING MODULES

The proposed system is divided into login module, Doctor's module and user's/employee's module, Reports module, Pharmacy module.

1. LOGIN MODULE

In this login page by entering the authorized username and password the home page will display. The home page will appear based on the username and password entered in login page then it checks whether it is Admin or User/Employee based on that the home page will be visible and access rights will be differing for both.

2. DOCTOR MODULE

The doctor/admin can access the add employee form, patient order form and search form. The order number will be displayed on the page load itself based on current date and time. And this is done by using AJAX method.

Patient entry form: This patient entry form will be only accessed by employee they will enter all the information.

3. USER/EMPLOYEE MODULE

Daily visit Patient: The employee will access the daily visit patient and enter the daily visiting patients. This data will be added in the database and the information will be displayed in the patient order form for doctor use.

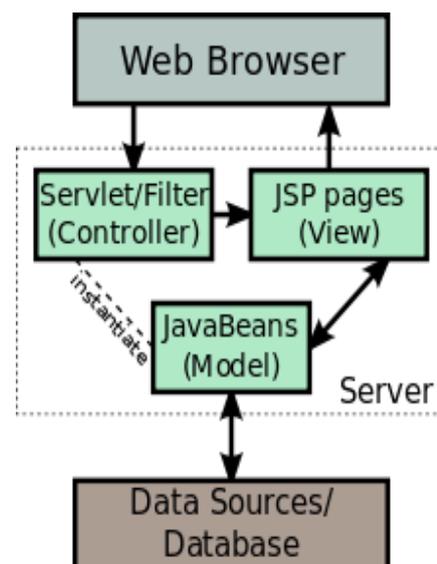
4. PHARMACY MODULE

This module is accessed by both doctor and employee they can view the information. In this module all the reports related to pharmacy are stored in database.

5. REPORTS MODULE

This module is only used for reports purpose only. all the reports related to patients information, pharmacy reports.

ARCHITECTURE DIAGRAM



SYSTEM TESTING

Testing was done was carried out on individual modules of the system to ensure that they meet necessary functional requirements such as authenticating the users of the system, generation of reports on request, allowing administrator to delete records in the database etc. Integration and system testing were carried out after different modules had been put together to make a complete system in order to ensure that modules are compatible and can be integrated to form a complete working system.

RESULTS

The system verifies and validate all user input. The user is notified in case of errors detected in the course of using the system. The system captured patient's details at the receptionist which is used to create an account with the

doctor and have a reference Id to use in paying bills and charges. The system generates the Patient's Register number(Reno). Also, it manages entering new patients, new stocks of drugs into database and how the drugs are sold which will include assigning a serial number to Reference ID given by the doctor to monitor the sales. The design also allows room for expansion.

FUTURE ENHANCEMENTS

Computerized NH has been developed. The system solved the problems associated with the existing manual system. Security is also enhanced since access to the system requires more authentication. However, the system does not alert the pharmacy of the expiry date of drugs. Therefore, developing an NH that can alert the pharmacist of the expiry date of drugs at a given time, like Google Authentication and handle all departments in the hospital will be an attractive research in future.

CONCLUSION

NH can manage multiple users of the system and can have the track of the right assigned to them. It makes sure that all the users function with the system as per the rights assigned to them and they can get their work done in efficient manner. It should be able to quickly collect and edit

data,improves the accuracy of medical records and efficient retrieval and usage of medical records, Pharmacy reports, Patient's information. The purpose of the paper is to design NH that helps to; 1. Eliminate redundancy in term of data storage. Data will be stored in a computer. 2. Reduce the time wasted in retrieving data especially in finding a past health records, Patient's information, Pharmacy reports. 3. Increase Efficiency of the hospital.

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