

Hospital Management System

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Abstract - Here web based technology offers many online services in almost every field. Almost everything can be done online which help to reduce the amount of tasks, cost, and efforts. The paper describes about an idea of such a web based platform that make many medical/hospital procedures online using Web, networking technology that can be very important in implementing the functionality of online medical management. This will help in management of patients, managing the schedules of the doctors, maintaining the records of patients which can be accessed throughout hospital. Storing, managing, communicating, analyzing and updating the patient details online. Thus by implementing this web based application using customized application programming we can manage many tasks that are usually time consuming and inconvenient.

Key words- Medical Equipment, Medical Equipment Management, Hospital Information System, Clinical Engineering Department

1. INTRODUCTION

1.1 Overview

The hospital Management system includes registration of patients, sorting their details into the system, and also computerized billing. The software has the facility to give a search facility for every patients and the staff automatically. It include the search facility to know the current status of each room. User can search about the doctor whether they are available or not and the details of a patient. The hospital management system can be entered using a username and password. It is accessible either by an administrator or receptionist. Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data is well protected for personal use and fast data processing. Hospital Management System is designed for multispecialty hospitals, to cover a wide range of hospital administration processes. Hospital Management System is a useful to improve the management of hospital in the area of clinical process analysis and activity-based costing. Hospital Management System enables you to develop your organization and improve effectiveness and quality of work.

1.2 Motivation

The real motivation for the hospital management system project is to make easy process of all the management process like patients registration, billing, doctors appointment, doctors prescription, etc. We always see that to

find out the patient's history, the user has to go through various registers. This results in wastage of time. So by this system it will become easy to manage all process.

So now by taking the motivation of this scenario which was regularly done in hospitals we are designing this system which can be benefited for the patients and hospital staff. So, we'd like to possess this system which help hospital to do work fast and effective.

1.3 Objectives

- i. To implement this application we will require computers in each room of hospital for e.g. All the wards of hospital should have a computer to update the details about patient, all the departments like MRI, CT scan, X-ray rooms should have computers to store the reports on the system database and all these computers should be in network and it should have an updated browsers and internet connection.
- ii. Every patient should be registered, and every person who handles the patients in some or the other way should have a login access to the system so that person can update about the patient relatively.
- iii. All the doctors should have a system with internet connection and connected with the other hospital computers.
- iv. This web application can be developed by using object oriented programming languages for front end like .net, C#, HTML, CSS which will provide the latest technology in developing quite user friendly user interface so it is very easy for all the user to understand the system.

2. METHODOLOGY

2.1 Problem Definition

- Lack of immediate retrievals: - It is very difficult to retrieve information and to find particular information like- E.g. - To find out the patient's history, the user has to go through various registers. This results in wastage of time.
- Lack of immediate information storage: - The information generated by various transactions takes time to be stored at right place.

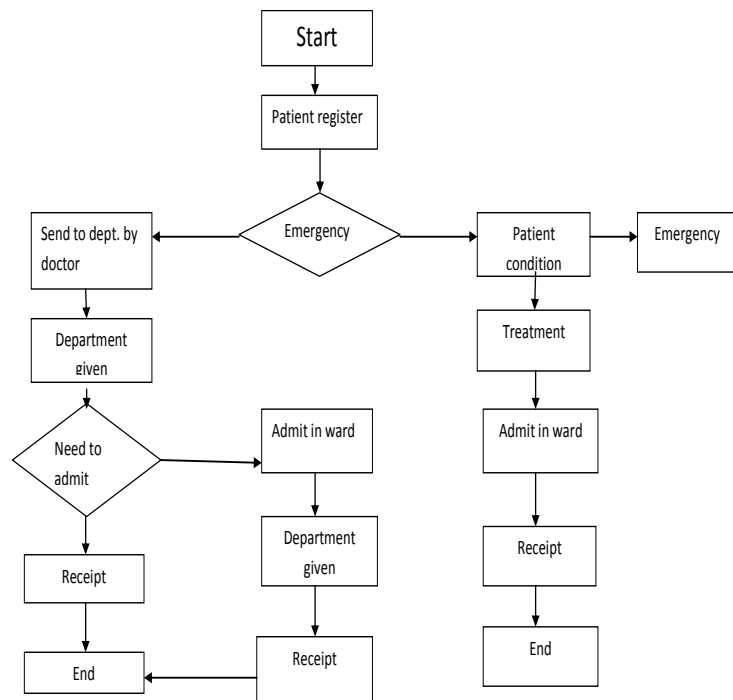
- Lack of prompt updating: - Various changes to information like patient are difficult to make as paper work is involved.
- Error prone manual calculation: - By manual calculations error can be occur and take a lot of time this may result in incorrect information. For example calculation of patient's bill based on various treatments.
- Preparation of accurate and prompt reports: - It is difficult task to collect information about patients from various register.

2.2 Proposed Approach

At present or traditional Hospital Management system in any hospital is time consuming and lengthy process. Patients goes to hospital and they have to go through various process for treatment. After this patients goes to billing counter and patients have to wait there in queue where the billing is generated manually by receptionist, this process is more time consuming and lengthy. To overcome such drawbacks we design a Hospital Management System.

The methodology of project is consist of four modules Admin module, Doctor module, Sister module, Employee module. If the patient enter into hospital first, they have to register their name at reception counter. According to their problem they can take appointment of particular specialist. The name of all the patients will display on the digital display screen which is placed outside of all the department. For display the name of patients this system use queue technique to display the name one by one.

In this Employee first register and login in employee module then register name of patients and give initial treatment to patients if there is any emergency then they send patients to specialist according to their problem otherwise they generate bill with prescription. In emergency condition patients may be admitted to ward or ICU that process handle by sister for that sister has to register and login with username and password. In this module there is a searching facility to know the current status of each room according to that bed is allotted to particular patients. This module also manage medication of patients according to doctor's prescription. It also handle proper diet of patients. In doctor module doctor has to register and login .This module contain specification of doctor .In this doctors can update patients report. Admin module contain admin registration and admin login. It also contain user creation, manage information and user deletion.



Algorithm Description

- FIFO



Figure 2.2.2: Patients Queue

Description:

- Step 1- START
- Step 2-Registration of patients in Queue.
- Step 3-As soon as the patients checkup is over it get removed from the queue in database
- Step 4-Check for second patient.
- Step 5-If second patient is not present then add it on the last number in the queue.
- Step 6-In this way the algorithm gets continued.
- Step 7-EXIT

3. IMPLEMENTATION DETAILS

3.1 Software Requirement

Database: MS ACCESS using c#
Framework: ASP.Net
Design: HTML, CSS

3.2 Hardware Requirement

Dual core processor
RAM 1GB
HDD min 40GB

4. RESULT AND DISCUSSION

In figure 4.1, there is a login page which is common for each module. User of each module must go through this page with their own user id and password.



Figure 4.1: Login Page

Figure 4.2 shows Patients Registration. In this page registration of patients is done by using their details like name, address, mobile no., etc.

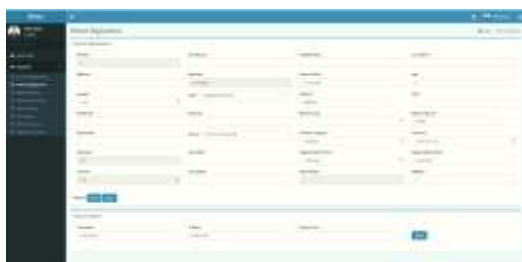


Figure 4.2: Patients Registration

Figure 4.3 This page helps to manage patients queue by using name of doctor, appointment time and slot.



Figure 4.3: Patient Queue

In Figure 4.4, In this page admin allot doctors as shown in below figure 4.4.

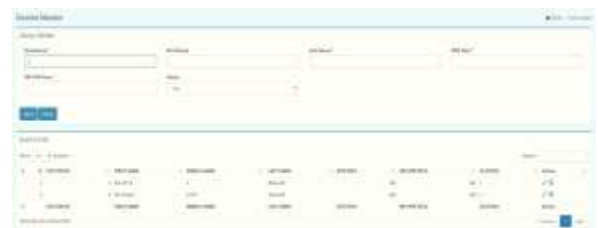


Figure 4.4: Doctor Master

This page include department code and department name as shown in below figure 4.5



Figure 4.5: Department Master

This page include medicine group name and status which is shown in figure 4.6.



Figure 4.6: Medicine Group

5. CONCLUSION

By implementing this web based application the website and customized application on the tablet. The management of the patients will be very much easier, efficient and less time consuming. It will be easy for the doctors and patient to access the records and reports as the history and reports are already present in the system, so the patient will not have to carry all the reports and big x-rays and MRI films etc. The patient details are already present in the database while registration so there is no need to fill a form during emergency cases. The doctors can check details of the patients on their system, provide prescription on a click which will be sent to the pharmacist this will reduce a huge amount of time as the pharmacist knows which medicines to be kept ready before hand, the communications among the doctor and patient is enhanced as the patient can get as much help online. It will help to reduce many manual efforts, time taken and cost.

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