

“Hospital Management System”

UNDERGRADUATE PROJECT

Submitted in partial fulfillment of the requirements of software

Development project II for the degree of

B.Sc Engg. In CSE

Submitted by: ***“Group-11”***

UNDER SUPERVISION OF:

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“Hospital Management System”

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Abstract

The Hospital management system is an application for maintaining hospital management. In this project we will show the working of a Hospital. There are 3 types of users. One is Staff one is Doctor and another is Admin. To access this project there is an authorization process. If your login as an Admin, then you will be redirected to the Admin Home Page and if you are a Doctor you will be redirected to Doctors Home Page. A Staff can access their account and can do many things. Our project name is HOSPITAL MANAGEMENT SYSTEM. Our Goals is to digitalized the Hospital management system. We are going to provide a different method to a hospital for communicate to hospital reception with patient. To applying this project in a hospital patient can communicate with hospital easily, bill can be payment in home. Patient can apply for test, Admitted in hospital. He can see list of doctors in hospitals, take appointment, and all history. Sometimes patient loss their documents. When a hospital will be digitalized to using this project. Patient and hospital never loss any type of date whose was input.

Declaration

We declare that this report and the work presented in it is our own and has been generated by us as the result of our own research, we confirmed that:

- This work is done completely or mainly while in candidature for a research degree at this university.
- This thesis work has not been previously submitted for any degree at this university or any other educational institutes.
- We have quoted from the work of others the source is always given. With the exception of such quotations, this report is entire our own work

Certificate

This is to certify that the project entitled, “**HOSPITAL MANAGEMENT SYSTEM**” and submitted by Md.Asif Zerdari, Arafat Ul Shezan, Md. Arif Anzum Mahi ID- 18193203032, 18193203011, 18193203009, in partial fulfillment of the requirements of embodies.

The work done by them under my supervision.

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Approval

This project “**HOSPITAL MANAGEMENT SYSTEM**” Submitted by Md.Asif Zerdari, Arafat Ul Shezan, Md. Arif Anzum Mahi ID- 18193203032, 18193203011, 18193203009, Department of Computer Science and Engineering (CSE), Bangladesh University of Business and Technology (BUBT) under the supervision **Shovon Roy**, Lecturer, Department of Computer Science and Engineering has been accepted as satisfactory for the partial fulfillment of the requirement for the degree of Bachelor of Science (B.Sc. Engg.) in Computer Science and Engineering and Approved as to its style and contents.

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Introduction

Now a day, we can see some problems in hospital. These problems are Economical, Management, Serial maintain, Data loss, False information, Extra fee collection from patient, Harassment patient in hospital, etc. So, we are thinking about this side to solve this problem. And we create a project whose name is HOSPITAL MANAGEMENT SYSTEM. If we are applying this project in a hospital for management, we think those problem will remove. This project is also saving our time and harassment. And we will get a better result from hospital problems. Our project name is HOSPITAL MANAGEMENT SYSTEM. Our Goals is to digitalized the Hospital management system. We are going to provide a different method to a hospital for communicate to hospital reception with patient. To applying this project in a hospital patient can communicate with hospital easily, bill can be payment in home.

Patient can apply for test, Admitted in hospital. He can see list of doctors in hospitals, take appointment, and all history. Sometimes patient loss their documents. When a hospital will be digitalized to using this project. Patient and hospital never loss any type of date whose was input.

Motivation

The real motivation for the hospital management system project is to make easy process of all the management process like patient's registration, billing, doctor's appointment, doctor's 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. Motivation The real motivation for the hospital management system project is to make easy process of all the management process like patient's registration, billing, doctor's appointment, doctor's 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.

Objectives

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.

METHODOLOGY

Problem Definition

The System has two parts. One part for Patient, another part for admin panel, where admin can create new queue, and control the system. First time patient creates a new file for himself, this time a request is going to admin panel. When admin is accepting it, then patient can apply for admit, see the list of doctors, visiting cost of doctors etc. (It will depend on admin panel. The admin panel whose information want to published for Patient) and the file it will be update by admin panel.

Patient can see total cost, due, cabin or bed for patient, doctors off day etc. There is no chance for authority to get extra charge collecting from patient.

- 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.

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 patient 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 consisting of four modules Admin module, Doctor module, Sister module, Employee module. If the patient enters 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 manages medication of patients according to doctor's prescription. It also handles proper diet of patients. In doctor module doctor has to register and login. This module contains specification of doctor. In this doctors can update patients report. Admin module contain admin registration and admin login. It also contains user creation, manage information and user deletion.

Technologies

Software: Visual Studio

Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio includes a code editor supporting IntelliSense (the code completion component) as well as code refactoring. The integrated debugger works both as a source-level debugger and a machine-level debugger. Other built-in tools include a code profiler, designer for building GUI applications, web designer, class designer, and database schema designer. It accepts plug-ins that expand the functionality at almost every level—including adding support for source control systems (like Subversion and Git) and adding new toolsets like editors and visual designers for domain-specific languages or toolsets for other aspects of the software development lifecycle (like the Azure DevOps client: Team Explorer).

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C, C++, C++/CLI, Visual Basic .NET, C#, F#, JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python, Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

The most basic edition of Visual Studio, the Community edition, is available free of charge. The slogan for Visual Studio Community edition is "Free, fully-featured IDE for students, open-source and individual developers".

The latest production-ready Visual Studio version is 2019, with older versions such as 2012 and 2013 on Extended Support, and 2015 and 2017 on Mainstream Support.



Programming Language

C Sharp (programming language)

C# is a general-purpose, modern and object-oriented programming language pronounced as “C Sharp”. It was developed by Microsoft led by Anders Hejlsberg and his team within the *.NET* initiative and was approved by the European Computer Manufacturers Association (ECMA) and International Standards Organization (ISO). C# is among the languages for Common Language Infrastructure. C# is a lot similar to Java syntactically and is easy for users who have knowledge of C, C++ or Java.

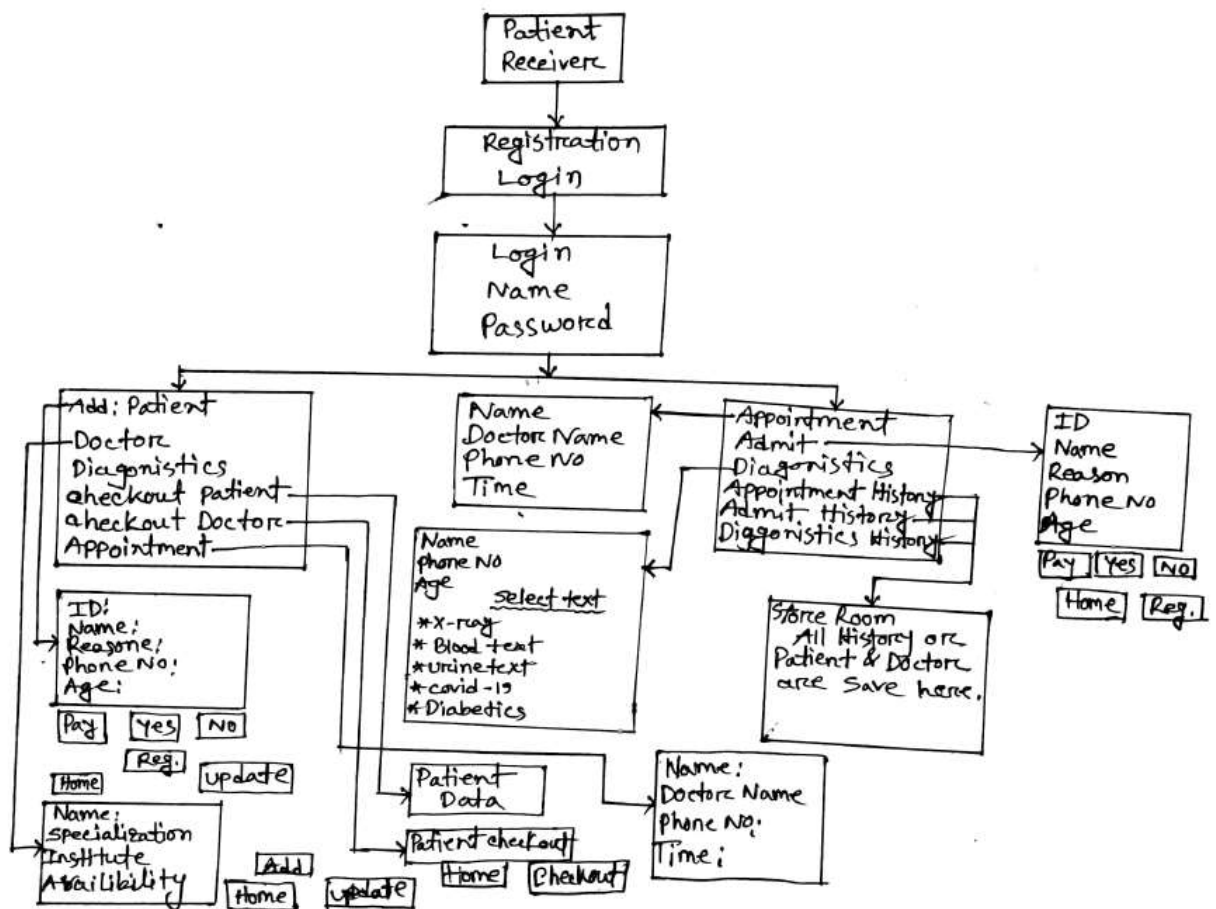


Hardware Requirement

Dual core processor
RAM 1GB
HDD min 40GB



ER Diagram



Manual

System Analysis

In this project we will show the working of a Hospital. There are 3 types of users. One is Admin, one is Doctor, and another is Staff.

To access this project there is an authorization process. If your login as an Admin, then you will be redirected to the Admin Home Page

Admin: Create a new account. Give a username and password. It must be secure. After creating an account admin has many options. It is an easy process to save some money.

Doctor: As same User can also create his account. User must be give some information about him to keep secure his Data. Firstly, user can give his name, user name, password, address, phone number. This system will must secure anyone's data.

Staff: Staff can access this project by using his user name and password after that he or she can perform many operations.

Login Page

Hospital Management System

Your Details

Choose

Enter Username:

Administrator
Doctor
Staff

ssword:

Login

Login As Admin



Add new Doctor

AdminWindow

Logged in as Administrator

Logout

Admin

- Add Staff
- Update/Delete Staff
- Add Doctor
- Update/Delete Doctor
- Add Medicine
- Add Tests
- View Patient History

Name

Address

Age

Join Date

Contact No

Consulting Hour

Department

ID

Specialist In

Password

Exit

Add Doctor

Login As Doctor



Login As Staff



Admit Patient

StaffWindow

Logged in as Staff

Update Logout

Patient

Admit Patient

Discharge Patient

Patient Details

Appointment

View Doctor's Schedule

Take Appointment

Appointment Status

Supplier Details

Add/View

Dispensary

Blood Bank

Contact #

Patient Name

Age

Blood Group

Address

Disease

Doctor's name

Dept

Time of Admission

Allocate Bed

Ward

Bed

Bed Type

Alloted Bed

Add

Exit

Database

Click to go back, hold to see history

WhatsApp | Inbox - altmanasit... | YouTube | google translate... | Torrent8D | Home | ProZ.com profile up... | Hire Freelancers &... | My Job Feed | Reading list

phpMyAdmin

Recent Favorites

New

- hospital
 - New
 - admin
 - admitted_medicine
 - admitted_medicine_cost
 - admitted_patient
 - admitted_test
 - admitted_test_cost
 - allocate_patient_bed
 - appointment
 - appointment_medicine
 - appointment_test
 - bed
 - blood_bank
 - blood_group
 - doctor
 - medicine
 - medicine_name
 - product_type
 - release_patient
 - staff
 - supplier
 - test
 - test_name
 - timing
 - ward
 - ward_bed
- information_schema
- mysql
- performance_schema
- phpmyadmin

Server: 127.0.0.1 » Database: hospital

Structure SQL Search Query Export Import Operations Privileges Routines Events More

Table	Action	Rows	Type	Collation	Size	Overhead
admin	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	32.0 KIB	-
admitted_medicine	★ Browse Structure Search Insert Empty Drop	6	InnoDB	latin1_swedish_ci	16.0 KIB	-
admitted_medicine_cost	★ Browse Structure Search Insert Empty Drop	6	InnoDB	latin1_swedish_ci	16.0 KIB	-
admitted_patient	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 KIB	-
admitted_test	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 KIB	-
admitted_test_cost	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 KIB	-
allocate_patient_bed	★ Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KIB	-
appointment	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KIB	-
appointment_medicine	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KIB	-
appointment_test	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KIB	-
bed	★ Browse Structure Search Insert Empty Drop	10	InnoDB	latin1_swedish_ci	16.0 KIB	-
blood_bank	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 KIB	-
blood_group	★ Browse Structure Search Insert Empty Drop	8	InnoDB	latin1_swedish_ci	16.0 KIB	-
doctor	★ Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	32.0 KIB	-
medicine	★ Browse Structure Search Insert Empty Drop	6	InnoDB	latin1_swedish_ci	16.0 KIB	-
medicine_name	★ Browse Structure Search Insert Empty Drop	16	InnoDB	latin1_swedish_ci	16.0 KIB	-
product_type	★ Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16.0 KIB	-
release_patient	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	16.0 KIB	-
staff	★ Browse Structure Search Insert Empty Drop	3	InnoDB	latin1_swedish_ci	16.0 KIB	-
supplier	★ Browse Structure Search Insert Empty Drop	15	InnoDB	latin1_swedish_ci	16.0 KIB	-
test	★ Browse Structure Search Insert Empty Drop	5	InnoDB	latin1_swedish_ci	16.0 KIB	-
test_name	★ Browse Structure Search Insert Empty Drop	16	InnoDB	latin1_swedish_ci	16.0 KIB	-
timing	★ Browse Structure Search Insert Empty Drop	7	InnoDB	latin1_swedish_ci	16.0 KIB	-
ward	★ Browse Structure Search Insert Empty Drop	2	InnoDB	latin1_swedish_ci	32.0 KIB	-
ward_bed	★ Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	16.0 KIB	-
25 tables	Sum	153	InnoDB	utf8mb4_general_ci	448.0 KIB	0 B

Console

Summery

Our goal is to digitalize HOSPITAL MANAGEMENT SYSTEM. We want, to provide our customers the best experiences, so that they can use this system very easily. Customer can easily pay their bills, can book a doctor's appointment, See the list of doctor's who are available that time so this digitalize HOSPITAL MANAGEMENT SYSTEM should add in Hospital, so that customer can use this system without any hassle.

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.

References

We collect idea of project from these link's –

- 1) <https://www.gcu.edu/blog/doctoral-journey/research-ideas-health-care-administration-dissertation>
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- 3) <https://hodo.in/hospital-management-system/>
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