A Training Report
on
Hospital Management System

Submitted to the rajasthan technical university, kota in partial fulfillment of the
requirement for the degree of
Masters of Computer Application
Submitted by
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Rajasthan Technical University, Kota
MCA(Batch 2020 - 2022)
                              (July,2022)
™

Candidate's Declaration

I hereby declare that the work, which is being presented in the MCA -451, Instrial
Project , entitled
"Hospital Management System"in partial fulfilment for the award of Degree of "Master
of Computer Applications" in Deptartment of Computer Applications submitted to the
S.S Jain Subodh PG College, Rajasthan Technical University is a record of my own
investigations carried under the Guidance of Shri/ Dr. Leena Bhatiya , Deptartment of
Computer Applications, S.S Jain Subodh PG College .
I have not submitted the matter presented in this Project Report any where for the
award of any other Degree.

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Dr. Leena Bhatiya

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Date:23/07/2022   Preeti Sharma
                                                                                        MCA IV Sem

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INTRODUCTION
OBJECTIVE:
The objective of this project (doctor-patient appointment system)is to create a user friendly application to provide ease and comfort to the patients. It also aims to resolve the problems that patients have to face while taking appointments and keeping record of it. It also manages the details of doctor patients appointments admissions and workers.

The purpose of the project to build a web application to reduce the manual work for the managing doctor patients appointments admissions and workers details.
The patient can also print the appointment form to keep record. It is a smart appointment booking system that provides patients or any user an easy way of booking a doctor appointment online. This is the web based application that overcomes the issue of managing and booking of appointments according to user choice. The task sometimes becomes very tedious for the compounder and doctor himself in manually allotting appointments for the users as per their availability.
THE ROLES OF THE APPLICATION ARE:
ADMIN
RECEPTIONIST
PATIENTS
WORKER
GUEST USER

About Organization

WIP (Web Innovative Point) - Website Development Company
WIP (Web Innovative Point) Company is a web and software development company with a strong vision for our clients, our organisation and our rapidly expanding profession. WIP is a Jaipur based web designing Company providing full featured innovative and high quality cost effective IT web designing solutions ranging from customized web development, PHP web development, ASP.NET and all kind of programming to complete web solutions including web design, e-commerce, Multimedia, Data solutions and Print publication solutions to businesses throughout the India. Serving to the customers is the great honors for us.

We genuinely like to think of ourselves as a unique web agency. First of all, we stick to what we do best - web design! Unlike many of our competitors, we have resisted the temptation to evolve into a traditional marketing agency by remaining focused on web design. We are good at what we do, but most importantly, we understand how to translate our knowledge of the web into a successful strategy for our clients!

Project Specification

Scope

Efficiently maintain the details about the patients.
Simultaneously updates changes made to any data,   item in the entire database.
It is faster than manual system.
The data can be retrieved easily.
The interface is very user friendly.
Doctors can view their patient treatment records and details easily.
It saves their time effort, money and the resources.
The system is convenient and flexible to be use.

Definitions, Acronyms and Abbreviations:
™
Title: HOSPITAL MANAGEMENT SYSTEM

HTML: Hypertext Markup Language is a markup language used to design static web pages.

HTTP: Hypertext Transfer Protocol is a transaction oriented client/server protocol between web browser & a Web Server.

HTTPS: Secure Hypertext Transfer Protocol is a HTTP over SSL (secure socket layer).

www: World Wide Web

TCP/IP: Transmission Control Protocol/Internet Protocol, the suite of communication protocols used to connect hosts on the Internet. TCP/IP uses several protocols, the two main ones being TCP and IP.

DB: Database

RAM: Random Access Memory

HDD: Hard Disk Drive

IIS: International Information Server

IE: Internet Explorer

IEEE: Institute of Electrical and Electronics Engineers.

OS: Operating System

PHP: PHP (Hypertext Preprocessor) is known as a general-purpose scripting language that can be used to develop dynamic and interactive websites. It was among the first server-side languages that could be embedded into HTML, making it easier to add functionality to web pages without needing to call external files for data.

Css: Cascading Style Sheets is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

Javascript: JavaScript is a text-based programming language used both on the client-side and server-side that allows you to make web pages interactive. Where HTML and CSS are languages that give structure and style to web pages, JavaScript gives web pages interactive elements that engage a user.

3. Specific Requirements
Hardware Interface

Server Side:

HDD: 20 GB or more (Free space excluding data size)

Processor: 1-2 GHz (P4) or onwards
Client Side:
RAM: 5 GB
Processor: 450 GHz (P2)
 Software Interface
Server Side:

OS: Windows Server 2003 or onwards

Web Server: database system -my sql 5.0

 Client Side:

OS: windows 7 and above

Browser: Any browser compatible with IE 5.0 or onwards

User characteristics:

The users of "HOSPITAL MANAGEMENT SYSTEM" should be computer literate.
Users of this software can be categorized as following:
DOCTORS:
VIEW WEB APPLICATION
LOGIN
EDIT PROFILE AND PASSWORD
VIEW FEEDBACK
VIEW APPOINMENETS FOR THE DAY
LOG OUT
PATIENTS:
VIEW WEB APPLICATION
LOGIN
TAKE AND CANCEL APPOINMENTS
TAKE AND CANCEL ADMISSIONS
EDIT PROFILE AND CHANGE PASSWORD
GIVE FEEDBACK
PRINT THE APPOINMENT RECEIP
ADMIN:
VIEW WEB APPLICATIONS
EDIT PROFILE AND CHANGE PASSWORD
INSERT AND DELETE FIELDS
ADD AND REMOVE DOCTORS ACCOUNT
SEPARATE ACCOUNT OF ADMIN
LOGOUT

General Constraints

Higher Order Language Functions: The PHP and HTML will be used for developing the
web-pages with the help of NOTEPAD++ and for the database information SQL Server
2008 will be used.
Criticality of the Application: The server application will be available
 24 X 7.
Safety and Security Considerations: The password and a valid username are the
security issue.
External users and Alumni will not be able to gain full functionality of the website.
Any substantial enhancement in website will require approval of the administrator.

 Technologies Used

Front End: CSS AND HTML

Back End: SQL Server 2005
Design Tool: NOTEPAD++

AVAILABILITY

The availability of this web application is upto the internet connection and need of the patients. Admin is considering to be pre registered. Doctors must be registered by admin. Patients can registered themselves, can take appointments an admissions. Others users can only browse the application.

SECURITY

Security is one of the crucial aspects of the projects. Only the valid admin is allow to access the database. The web application is secures it does not allow the users (except admin)to insert, delete or update any data on the web application.

RELIABILITY

The web application will be reliable that is program will not crash and other reliability features just like proper exception handling maintainence of integrity and consistency of database is taken care of.

PORTABILITY

The web application is an only service created in an proven portable language(PHP) and thus can easily access by all.

MAINTAINABILITY

The web application is made in a simple style so that future maintenance of the web application is easy. Different module for each different function will be made to enhance the readability of the code.

Software Product Features

3.1 Functional Requirements

We describe the functional requirements by giving various use cases:

USE CASE DIAGRAM OF ADMIN

USE CASE OF DOCTOR

USE CASE OF PATIENTS
Sign Up

Use Case No"
Use Case Name•6–vâ W
Actors:•&V6W –öæ—7BÂ FÖ–âÂ æB atients•
Descriptions•F†—2 ÖöGVÆR †VÇ 2 F†R FÖ–æ—7G ator, patients
and recepionist to create new accounts.•
Input' Æöv–â –B æB 70word.•
Normal Course Events• atients and doctors enter their e-mail address.
Patients and doctors enter their passwords.
Patients and doctors enters other required Information.
4.Patients and doctors click sign up button.
        and System connects to database.
     5.Activation mail is sent.•
Alternative Courses•6 ÖR Æöv–âÖ–B Pxists in database
Error message appears.
Continue with step 1 in the normal course
events.•
" â W'&÷" Ö y occur during the database
operation.
System shows error messages.•
Output"æPw user account will be created.   •

Table 1: Use Case of Sign Up Function
Sign In

Use Case No")
Use Case Name•6–vâ –é
Actors:• atients.doctor,admin and receptionist•
Descriptions•F†—2 ÖöGVÆR †VÇ 2 F†R &V6W F–öæ—7BÆFö7F÷" Æ FÖ–â æ@
 patients to login.•
Pre-conditions•F†R W6W" Đust be a member of the system.•
Input' Æöv–â –B æB 70word.•
Normal Course Events•W6W'2 VçFW" F†V—" Æöv–âÖ–Bà
Users enter their password.
Users click login button.
System connects to database.
Homepage displayed.•
Alternative Courses•W6W" VçFW'2 –æ6÷'&V7B W6W" æ ÖR æBö÷"
password.
Error message appears.
Continue with step 1 in the normal course
 events.
An error may occur during the database
operation.

System shows error messages.•
Output•W6W" †öÖW vR v–ÆÂ &R F—7 Æ yed.
•

Table 2: Use Case of Sign in Function
Sign Out

Use Case No."9
Use Case Name•6–vâ ÷WI
Actors:" FÖ–âÆFö7F÷" æB   F–VçB æB &V6W F–öæ—7I
Descriptions•F†—2 ÖöGVÆR †VÇ 2 F†R FÖ–æ—7G ator, patients,doctor,
And recepionist to sign out.•
Pre-conditions•F†R W6W" Đust be Signed in to the software.•
Normal Course Events•F†R 6ögGpare users click to Sign Out button.
DB connection terminated.
The software users Sign out successfully.
The software will be directed to homepage.
•
Alternative Courses"–â 6 6P, user accidentally closes the tab then the user will be
automatically Signed out from her/his
account but it is recommended to Sign out from the account using "Sign Out" option for security
 purposes.
•
Output—6ögGpare homepage will be displayed.
•
Table 3: Use Case of Sign Out Function
Password Recovery

Use Case No"I
Use Case Name• assword Recovery•
Actors:" FÖ–âÇ&V6W F–öæ—7BÆFö7F÷" æB   F–VçG0.•
Descriptions•F†—2 ÖöGVÆR †VÇ 2 F†R &V6W F–öæ—7BÆFö7F÷ ,admin and
patients to remind their forgotten password.•
Pre-conditions•F†R W6W" Đust be a member of the system.•
Input' VÖ –ÂÖ FG&W70.•
Normal Course Events•W6W'2 VçFW" F†V—" VÖ –ÂÖ FG&W70.
Users click on Forgot Password button.
Password is sent to e-mail address.
•
Alternative Courses•w&öær VÖ –ÂÖ FG&W72 —2 VçFW&VBà
Error message appears.
Continue with step 1 in the normal course
events. •
Output•W6W" †öÖW vR v–ÆÂ &R F—7 Æ yed.
•

Table 4: Use Case of Password Recovery Function

SystemArchitecturalDesign

1 Structure Chart

Data flow diagram
DFD is a graphical representation of a system that shows data flows to, from and within the system.
 These are used to depict specific data flows from both physical & logical view point.
 The DFD's are divided into different levels starting from 0th level until we get the final description of system.
<div align="center">0-LEVEL DIAGRAM</div>

Database description

In this we include ,maintain & format Data bases and its tables.

The table s corresponding to each of the entity, holding the information about the mare designed.

The tables have the fields ,their description, and their data type as we las integrity constraints.

Necessary Tables

Field•@ype"6öç7G aints•
Username•`archar(20)• imary key •
Password•`archar(20)"æ÷B çVÆÉ
Admin table
Field•@ype"6öç7G aints•
Name•`archar(20)• imary key•
Id•`archar(20)"æ÷B àull •
Username •`archar(20)"`orgin key •
E-mail •`archar(20)"æ÷B çVÆÉ

DOCTOR TABLE

Field•@ype"6öç7G aints•
D_id•`archar(20)"æ÷B àull•
D_name•`archar(20)"æ÷B çVÆÉ
USERNAME •`archar(20)"`orgin key •
Filled_id•`archar(20)"`orgin key •
Experinced "6† "ƒ ™Not Null•
Status •`archar(20)"æ÷B àull •
Email"F FUF–ÖYNot Null•
Room_id•`archar(50)"`orgin key•
Patient Table

Field•@ype"6öç7G aints•
P_name •`archar(20)"æ÷B çVÆÉ
P_id •`archar(20)• imary key•
Username •`archar(20)"`orgin key •
DOB•`archar(20)"æ÷B çVÆÉ
Gender"6† "ƒ ™Not Null•
Mobile_number •`archar(20)"æ÷B çVÆÉ
E_mail •`archar(20)"æ÷B çVÆÉ
Address•`archar(50)"æ÷B çVÆÉ
Ph_no"çVÖW ic(10)"æ÷B çVÆÉ

ADMIT TABLE
Field•@ype"6öç7G aints•
Room_id •`archar(20)• imary key•
Room_number •`archar(20)"æ÷B àull •
Type •`archar(20)"æ÷B àull •
Status •`archar(20)"æ÷B çVÆÉ
FEEDBACK TABLE
Field•@ype"6öç7G aints•
Username •`archar(20)"`orgin key•
Description •`archar(20)"æ÷B àull •
Date "F FR Not null•
APPOIntment TABLE
Field•@ype"6öç7G aints•
Appointment_id •`archar(20)• imary key •
Doctor_id •`archar(20)"`orgin key•
Field_id •`archar(20)"`orgin key •
Username •`archar(20)"`orgin key•
Time
"F FR÷F–ÖR Not null •
Date "F FR÷F–ÖR Not null •
FIELD TABLE
Field•@ype"6öç7G aints•
Field _id •`archar(20)• imary key •
Field _name •`archar(20)"æ÷B àull•
DEscription •`archar(20)"æ÷B àull•
Date "F FR÷F–ÖR Not null •
DOCTOR ROOMS Table
Field•@ype"6öç7G aints•
Room _id •`archar(20)• imary key •
Room_no •`archar(20)"æ÷B àull•

Description of the user interface

Registration Module

Description of Component

This module allows the new user to be come the member of the site.

InterfaceDescription

Inputs:-All user details
Outputs:-The successful User register submission page.

Processing Details

Display the form containing field so future details to be filed by user in order to get registered.

Check whether the information submitted is proper or not and all fields are properly filed or not user id is unique or not.

Login Module

Description of component

In order to make the system safe from unauthorized access it is protected with user name and password ,so that only valid and

Legitimate users can access the system

Interface Description

Inputs:-Usertype, User ID and Password
Outputs:-The Home page wil open up

Processing Details

Display the form with user type, user name and password field. Mark al the fields as compulsory.

Check whether the user name is valid or not ,if yes check whether password matches or not. Open the main form. Patients Module

Description of components

To add any register user as patient we have to know the user id and that should not be already registered.

Interface Description

Inputs:-User ID
Outputs:-User Home page

Processing Details

Display the users Homepage in which display user information buton is present.
If patients want to view the person al details then it must be entered through patient id and password.

   Check whether the patient id is registered or not .if patient id is

    Not registered then he\she wil notify.

After registered successfully the patients home page is loaded on the screen.

NOTICES

Description of components
This module is used to view, add and delete notices according to user authorization.

ADDNOTICES

Description
Admin and Receptionit can add the notices.

Interface Description

Input:-Hospital schedule ,Open and close schedule,doctor round schedule.
Output:-Newnotices
Processing Details

Admin and Receptionist can click on add notices option to add any new notice.
VIEW NOTICES

Description

Admin, Receptionist, Patients and Doctors can view the notice.

Interface Description

Input:-Click the notice buton
Output:-View notices

Processing Details

Admin and Receptionist ,doctor ,and patients can click on notice subject to view any existing notice.

DELETE NOTICES

Description
Admin can delete the notices.

Update module
Description of components
This module is used to up date the data base by Admin and
Receptionist.

Interface Description

Input:-Account details.
Output:-Update the data base and display a message for updated
successfuly

Processing Details
First admin enters the desired information which is to be modified

And then submission of changes is done.

.

Search module

Description of components

This module provides facility to search registered member of the site.

Interface Description

Input:-Member detail
Output:-Searched detail

Processing detail

First user fils Registered details, verification is done,if verified then results are displayed.

Profile Updation module

Description of components
This module is used to update the profile information of the user.

Interface Description

Input:-User can change any field information.
Output:-Update din formation.

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Processing detail

User enters the required new information. Verification is done on in put data

If it is in valid ,aner or message is displayed Other wise users profile information is updated.

Message

Description of components

This module is used to view, add and delete messages

SEND Messages

Description
User can send the message.

Interface Description

Input:-Receive rid, Subject ,Message detail
Output:-Message wil be sent.

Processing Details

User can enter the text message to be sent in text box and then click the send buton to select the person to whom the message is to be sent,a message wil appear that "your message has been sent successfuly".

VIEW Messages

Description
User and Doctor can view the messages.

Interface Description

Input:-Click the message buton.
Output:-View messages.

.

Processing Details

User can select the message subject toview the required message.

DELETE Messages

Description
User can delete the messages.

Interface Description

Input:-Message ID.
Output:-Message is deleted.

Processing Details

User can select the message subject to view the required message and then use the
delete option to delete the respective message.

Feedback

Description of components

This module is used to give the feedback of this site.

Interface Description

Input:-Feedback given.
Output:-Redirect on user homepage

Processing Details

Click on feedback buton and after this write the feedback on feedback form.
Personal Information

Description of components

This module is used to maintain some personal information.

Interface Description

Input:-Personal information of the patient.
Output:-Information maintain.

Processing Details
Click on Personal Information buton and after this write the personal detail.
.

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User Interface screen :-

Home page

Doctor details form

Admin login

Patient login page

FEEDBACK FORM

SAMPLE PROGRAM CODE
Code for database connectivity

```php
<?php

    $conn = mysqli_connect('localhost','root');
    mysqli_select_db($conn,'database1');

    // if($conn){
    //     echo "database is connected";
    // }
```

```php
    // else{
    //     echo "database is not connected";
    // }

    ?>
```

Code for inserting values in database

```php
<?php

    include'conn.php';
    $insert=FALSE;
    if(isset($_POST['done'])){
        $username = $_POST['username'];
        $password = $_POST['password'];

        $sql = "INSERT INTO `crud`( `username`, `password`) VALUES ('$username',
'$password')";

        $result = mysqli_query($conn,$sql);
        $insert=TRUE;
        {
            echo "record is inserted ";
        }
    }
?>
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>

    <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/css/
bootstrap.min.css">
  <!-- CSS only -->
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.1/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
F3w7mX95PdgyTmZZMECAngseQB83DfGTowi0iMjiWaeVhAn4FJkqJByhZMI3AhiU"
crossorigin="anonymous">
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/3.5.1/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.4.1/js/bootstrap.min.js"></
script>
</head>
<body>
```

```html
    <div class="mg-auto col-lg-6">
        <form action="" method="POST">
            <br><div class="card">
                <div class="card-header bg-dark">
                    <h1 class="text-white text-center">
                        Insert details
                    </h1>
                </div><br>
                <label for="">username</label>
                <input type="text" name="username" class="form-control"><br>

                <label for="">password</label>
                <input type="text" name="password" class="form-control"><br>

                <button class="btn btn-success" type="submi" name="done" >submit</button><br>
            </div>
        </form>
        <a href="display.php">show </a>
    </div>
</body>
</html>
```

Code for deleting any value from database

```php
?php
    include'conn.php';

    $id = $_GET['id'];
    $sql = "DELETE FROM `crud` WHERE id = $id";
    $result = mysqli_query($conn,$sql);

    header('location:display.php');
?>
```

Testing Issues

Software testing can best at edas the process of validating and verifying that a software program/application/product:

1.Meets the requirements that guided its design and development;

2.Works as expected; and

3.Can be implemented with the same characteristics.

Testing is the process of making sure that the program performs the intended tasks.

Unit Testing:Each component or part of the system is tested individualy.

Module Testing: A colection of dependent components such as an object class ,procedures and functions are tested in this testing.

Integration Testing: In this, many units tested modules are combined into sub systems ,which are then tested.

System Testing: Entire system software is tested. It is a testing of the system against its initial objectives.

CONCLUSION

Taking into account all the mentioned details, we can make the conclusion that the hospital management system is the inevitable part of the lifecycle of the modern medical institution. It automates numerous daily operations and enables smooth interactions of the users. Developing the hospital system software is a great opportunity to create the distinct, efficient and fast delivering healthcare model.

Implementation of hospital management system project helps to store all the kinds of records, provide coordination and user communication, implement policies, improve day-to-day operations, arrange the   human resources, and market hospital services.

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