



# MINI PROJECT REPORT ON

" Hospital Management System"

Submitted By:- Submitted To:-

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University Institute of Computing
Chandigarh University, Gharuan, Mohali





### **DECLARATION**

We hereby declare that this submission is our own work and that, to the best of mine knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award for any other degree or diploma of the university or other institute of higher learning, except where acknowledgement has been made in the text.

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Session 2024 – 26





### **CERTIFICATE**

It is to certify that Moirangthem Satyabrata of class MCA 1st Year under University Roll Number: 24MCA20343 has completed the project titled "Hospital Management System" in which the language used is HTML, CSS, JS, MySQL, XAMPP, and phpMyAdmin for the Masters of Computer Application 2<sup>nd</sup> Semester under my supervision. The work done in project is a result of the candidate's own efforts and report maintains is satisfied as per requirement.

Project Guide :-

Danish Rashid Pala (E17308)





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#### Introduction

In recent years, the healthcare industry has seen a significant shift towards digitization to improve service delivery, patient care, and operational efficiency. Hospitals and clinics often struggle with managing large volumes of patient data, appointments, staff schedules, medical histories, billing information, and more. Traditional paper-based systems are time-consuming, prone to errors, and often lead to miscommunication and delays. As a result, there is a growing need for a centralized and digital solution that can streamline hospital operations in a secure and organized manner.

A Hospital Management System (HMS) is a web-based software application developed to address these challenges. It allows seamless integration of all major hospital functions such as patient registration, appointment scheduling, electronic medical records, prescription generation, billing, and administrative management. This system ensures better coordination among departments, reduces manual workload, eliminates data redundancy, and provides real-time access to information for better decision-making. The HMS not only benefits medical staff and hospital administrators but also improves the overall patient experience by reducing waiting times and enhancing service quality. This project is developed as part of the Advanced Internet Programming (AIP) subject and demonstrates the use of full-stack web development concepts such as form handling, session management, server-side scripting, and database integration. The system is built using HTML, CSS, JavaScript, PHP, and MySQL, offering a modular structure with rolebased access control for admins, doctors, receptionists, and patients. The goal of this project is to showcase how modern internet programming techniques can be applied to solve real-world problems in the healthcare domain while also promoting the idea of efficient, secure, and accessible digital health management.

#### **Abstract**

The Hospital Management System (HMS) is a comprehensive web-based application designed to digitize and streamline the day-to-day operations of a hospital or clinic. The primary objective of this system is to manage patient information, doctor schedules, appointments, billing, prescriptions, and other essential healthcare processes in an organized and efficient manner. By eliminating the traditional manual process, this system helps reduce human error, enhances productivity, and ensures a smooth workflow between





departments. It also ensures the availability of real-time data for better decision-making and overall patient satisfaction.

Developed under the Advanced Internet Programming (AIP) subject, this project leverages web technologies such as HTML, CSS, JavaScript, PHP, and MySQL to create a dynamic, role-based platform accessible to administrators, doctors, patients, and receptionists. The system is designed with scalability and security in mind, featuring functionalities such as user authentication, appointment scheduling, digital medical records, and automated billing. This project highlights the practical application of internet programming concepts to address real-world challenges in the healthcare industry, aiming to improve the quality, speed, and reliability of hospital services.

# **Objective**

The primary objective of the Hospital Management System project is to design and develop a web-based application that efficiently manages various hospital operations by automating routine administrative and clinical tasks. The system aims to improve the quality of patient care by streamlining processes such as patient registration, appointment booking, doctor scheduling, medical record maintenance, billing, and report generation. Additionally, it seeks to reduce manual workload, eliminate human errors, and ensure secure, real-time access to patient information for authorized users. The project also aims to apply full-stack development concepts learned in the Advanced Internet Programming (AIP) course to build a practical, scalable, and user-friendly healthcare solution.

# **Technology Used**

Introduction to HTML, CSS, JS, MySQL, XAMPP, and phpMyAdmin:-

 PHP – Used as the primary server-side scripting language to handle backend logic, form processing, database operations, session management, and dynamic content rendering.





- HTML Used within PHP files to structure the content and layout of web pages like forms, tables, buttons, and user interfaces.
- CSS For styling the HTML elements and creating a clean, user-friendly UI.
- JavaScript Used for basic client-side validations, interactivity, and dynamic page behavior (like hiding/showing sections, form checks, etc.).
- MySQL Used as the relational database to store user data, appointments, billing information, prescriptions, etc.
- XAMPP / WAMP / LAMP A local server environment to run and test PHP-MySQL-based web applications during development.
- phpMyAdmin For managing the MySQL database through a web interface.

# **System Modules**

The Hospital Management System is architecture in a modular and scalable format, ensuring separation of concerns and efficient access control. Each user type—Admin, Patient, and Doctor, — has their own interface and responsibilities. This modularity makes the system secure, user-friendly, and easy to maintain.

#### **Admin Panel**

The Admin Panel is the central control unit of the entire Hospital Management System. Admin users have the highest authority and can access all records and modules.

#### **Key Features:-**

- Dashboard: Displays key hospital statistics such as total patients, doctors, ongoing appointments, admissions, and revenue summaries.
- User Management :- Add, update, or remove doctors, receptionists, billing staff, and patients. Assign roles and permissions accordingly.
- Department & Service Setup :- Create and manage hospital departments (e.g., Cardiology, Neurology) and list services offered like X-rays, blood tests, and emergency care.
- Policy Management :- Configure settings for visiting hours, appointment slot durations, consultation charges, holidays, insurance partners, etc.





- Report Generation: Export real-time reports like daily patient logs, financial reports, and appointment summaries in Excel/PDF formats.
- Audit Log Monitoring :- View system usage history for transparency and internal audits.

Benefits:- Ensures centralized control, administrative transparency, and supports smooth interdepartmental coordination.

#### **Patient Panel**

The Patient Panel is a user-friendly interface for patients to manage their health records and interact with hospital services.

#### **Key Features:-**

- Registration: New patients can register by submitting basic information, contact details, address proof, and emergency contact.
- Secure Login: Access patient account using a username/password, with optional email or OTP verification for added security.
- Appointment Booking: View doctor profiles, check availability, and schedule appointments. The system shows time slots and auto-generates booking confirmations.
- Health Records Access: Patients can view lab reports, past prescriptions, admission history, and doctor's recommendations from their dashboard.
- Feedback & Help Desk :- Submit service feedback or raise support tickets for complaints, rescheduling, or inquiries.

Benefits:- Enables patients to become active participants in their healthcare with easy access to services and records.

#### **Doctor Panel**

The Doctor Panel serves as the digital workspace for doctors, giving them all the tools they need to manage patient interactions, appointments, and treatment records.





#### **Key Features:-**

- Personal Dashboard:- Shows upcoming appointments, patient summaries, alerts, and notifications for new bookings.
- Patient Details: Doctors can access full medical history, view lab results, review previous diagnoses, and write new prescriptions.
- E-Prescriptions: Create and submit digital prescriptions which are automatically shared with the patient and optionally printed or sent to the pharmacy.
- Treatment Updates :- Add treatment progress, notes, and recommend further tests or follow-ups.
- Referral System: Forward complex cases to specialist doctors within the same system, ensuring a smooth transition of care.

Benefits:- Enhances efficiency, reduces paperwork, and supports better diagnosis through instant access to patient history.

## **Feature Scope**

The Hospital Management System (HMS) is designed to provide a complete digital solution to manage the core functions of a hospital or clinic. The feature scope defines the functionalities included in the system that aim to simplify and automate daily healthcare operations while ensuring accuracy, efficiency, and data security. Below are the major features covered in this project:-

- 1. User Authentication & Role-Based Access:-Secure login system with separate dashboards and access rights for Admin, Doctor, Receptionist, Billing Staff, and Patient users.
- 2. Patient Registration and Profile Management:-Allows new patient registration, editing personal details, and storing complete patient history for future use.
- 3. Appointment Scheduling:Enables patients to book appointments online by checking doctor availability.
  Doctors can view, accept, or reschedule appointments.





## 4. Doctor Management :-

Admins can add or remove doctors, assign departments, and manage their profiles and availability.

#### 5. Medical Records and E-Prescriptions:-

Doctors can upload, view, and manage patient medical history, diagnoses, and prescriptions electronically.

### 6. Billing and Invoice Generation:-

Automatically generates patient bills based on services used, with options for discounts, taxes, and different payment modes.

## 7. Receptionist Panel:-

Allows real-time appointment confirmations, check-in/check-out handling, and bed/room assignments for admitted patients.

#### 8. Administrative Dashboard:

Admins can monitor hospital activities, generate reports, and manage all users and services from one place.

# 9. Feedback and Support System:-

Patients can submit feedback or raise service-related queries to the hospital support staff.

# 10. Reports and Data Export :-

Generate and export daily, weekly, or monthly reports for appointments, billing, and patient registrations in PDF or Excel formats.

## Limitation

The Hospital Management System (HMS) developed in this project offers a wide range of features and improves hospital workflow, it also has certain limitations that need to be addressed in future versions:-





- 1. Limited to Web Interface Only: The system is accessible only through a web browser and is not yet optimized for mobile applications, which may limit accessibility for users on the go.
- 2. No Real-Time Communication: There is currently no chat or real-time communication feature between doctors and patients for consultations or follow-ups.
- 3. No Integration with External Systems :- The HMS does not support integration with pharmacy inventory systems, diagnostic labs, or third-party insurance providers.
- 4. Security Features are Basic :- While role-based access is implemented, the system lacks advanced security features like two-factor authentication, encryption of sensitive data, or secure backup strategies.
- 5. No Offline Support :- The application depends on a continuous internet connection and cannot be used offline, which could be an issue in low-connectivity areas.
- 6. Limited Data Analytics: The system does not include advanced data analytics or visual dashboards to analyze trends in patient visits, treatment success rates, or financial performance.

## Code





```
} ?>
<!doctype html>
<html lang="en">
<head>
  <meta charset="utf-8">
  <meta name="viewport" content="width=device-width, initial-scale=1, shrink-</pre>
to-fit=no">
  <title> Hospital management System </title>
  k rel="shortcut icon" href="assets/images/fav.jpg">
  <link rel="stylesheet" href="assets/css/bootstrap.min.css">
  <link rel="stylesheet" href="assets/css/fontawsom-all.min.css">
  <link rel="stylesheet" href="assets/css/animate.css">
  <link rel="stylesheet" type="text/css" href="assets/css/style.css" />
</head>
  <body>
  <header id="menu-jk">
    <div id="nav-head" class="header-nav">
      <div class="container">
        <div class="row">
           <div class="col-lg-2 col-md-3 col-sm-12" style="color:#000;font-</pre>
weight:bold; font-size:42px; margin-top: 1% !important;">HMS
            <a data-toggle="collapse" data-target="#menu" href="#menu" ><i
class="fas d-block d-md-none small-menu fa-bars"></i>
           </div>
```





```
<div id="menu" class="col-lg-8 col-md-9 d-none d-md-block nav-</pre>
item">
           <ul>
             <a href="#">Home</a>
             <a href="#services">Services</a>
             <a href="#about us">About Us</a>
             <a href="#gallery">Gallery</a>
             <a href="#contact_us">Contact_Us</a>
             a href="#logins">Logins</a>
           </div>
         <div class="col-sm-2 d-none d-lg-block appoint">
           <a class="btn btn-success" href="hms/user-login.php">Book an
Appointment</a>
         </div>
       </div>
     </div>
   </div>
 </header>
  <div class="slider-detail">
   <div id="carouselExampleIndicators" class="carousel slide" data-</pre>
ride="carousel">

    class="carousel-indicators">

       class="active">
       data-target="#carouselExampleIndicators" data-slide-to="1">
     <\!\!/ol\!\!>
```





```
<div class="carousel-inner">
         <div class="carousel-item">
            <img class="d-block w-100" src="assets/images/slider/slider 2.jpg"</pre>
alt="Second slide">
            <div class="carousel-cover"></div>
            <div class="carousel-caption vdg-cur d-none d-md-block">
              <h5 class="animated bounceInDown">Hospital Management
System</h5>
            </div>
         </div>
         <div class="carousel-item active">
            <img class="d-block w-100" src="assets/images/slider/slider 3.jpg"</pre>
alt="Third slide">
             <div class="carousel-cover"></div>
            <div class="carousel-caption vdg-cur d-none d-md-block">
              <h5 class="animated bounceInDown">Hospital Management
System</h5>
            </div>
         </div>
       </div>
       <a class="carousel-control-prev" href="#carouselExampleIndicators"
role="button" data-slide="prev">
         <span class="carousel-control-prev-icon" aria-hidden="true"></span>
         <span class="sr-only">Previous</span>
       </a>
       <a class="carousel-control-next" href="#carouselExampleIndicators"
role="button" data-slide="next">
```





```
<span class="carousel-control-next-icon" aria-hidden="true"></span>
        <span class="sr-only">Next</span>
      </a>
    </div>
  </div>
 <section id="logins" class="our-blog container-fluid">
    <div class="container">
    <div class="inner-title">
        <h2>Logins</h2>
      </div>
      <div class="col-sm-12 blog-cont">
        <div class="row no-margin">
          <div class="col-sm-4 blog-smk">
            <div class="blog-single">
                <img src="assets/images/patient.jpg" alt="">
              <div class="blog-single-det">
                <h6>Patient Login</h6>
                <a href="hms/user-login.php" target="_blank">
                   <button class="btn btn-success btn-sm">Click
Here</button>
                </a>
              </div>
            </div>
```





```
</div>
           <div class="col-sm-4 blog-smk">
              <div class="blog-single">
                   <img src="assets/images/doctor.jpg" alt="">
                <div class="blog-single-det">
                   <h6>Doctors login</h6>
                  <a href="hms/doctor" target=" blank">
                     <button class="btn btn-success btn-sm">Click
Here</button>
                   </a>>
                </div>
              </div>
           </div>
           <div class="col-sm-4 blog-smk">
              <div class="blog-single">
                   <img src="assets/images/admin.jpg" alt="">
                <div class="blog-single-det">
                   <h6>Admin Login</h6>
                  <a href="hms/admin" target="_blank">
                     <button class="btn btn-success btn-sm">Click
Here</button>
                   </a>
                </div>
              </div>
           </div>
```





```
</div>
      </div>
    </div>
  </section>
  <!-- ########### Our Departments Starts
Here##################--->
  <section id="services" class="key-features department">
    <div class="container">
      <div class="inner-title">
         <h2>Our Key Features</h2>
         Take a look at some of our key features
      </div>
      <div class="row">
         <div class="col-lg-4 col-md-6">
           <div class="single-key">
             <i class="fas fa-heartbeat"></i>
             <h5>Cardiology</h5>
           </div>
         </div>
         <div class="col-lg-4 col-md-6">
           <div class="single-key">
             <i class="fas fa-ribbon"></i>
```





```
<h5>Orthopaedic</h5>
  </div>
</div>
<div class="col-lg-4 col-md-6">
  <div class="single-key">
    <i class="fab fa-monero"></i>
    <h5>Neurologist</h5>
  </div>
</div>
<div class="col-lg-4 col-md-6">
  <div class="single-key">
    <i class="fas fa-capsules"></i>
    <h5>Pharma Pipeline</h5>
  </div>
</div>
<div class="col-lg-4 col-md-6">
  <div class="single-key">
    <i class="fas fa-prescription-bottle-alt"></i>
    <h5>Pharma Team</h5>
  </div>
</div>
<div class="col-lg-4 col-md-6">
  <div class="single-key">
    <i class="far fa-thumbs-up"></i>
    <h5>High Quality treatments</h5>
```





```
</div>
       </div>
     </div>
   </div>
 </section>
 <!-- *********** About Us Starts Here
<section id="about us" class="about-us">
   <div class="row no-margin">
     <div class="col-sm-6 image-bg no-padding">
     </div>
     <div class="col-sm-6 abut-yoiu">
       <h3>About Our Hospital</h3>
<?php
$ret=mysqli query($con,"select * from tblpage where PageType='aboutus' ");
while ($row=mysqli fetch array($ret)) {
?>
 <?php echo $row['PageDescription'];?>.<?php } ?>
     </div>
   </div>
 </section>
     <div id="gallery" class="gallery">
```





```
<div class="container">
        <div class="inner-title">
          <h2>Our Gallery</h2>
          View Our Gallery
       </div>
         <div class="row">
     <div class="gallery-filter d-none d-sm-block">
       <button class="btn btn-default filter-button" data-filter="all">All</button>
       <button class="btn btn-default filter-button" data-</pre>
filter="hdpe">Dental</button>
       <button class="btn btn-default filter-button" data-
filter="sprinkle">Cardiology</button>
       <button class="btn btn-default filter-button" data-filter="spray">
Neurology</button>
       <button class="btn btn-default filter-button" data-</pre>
filter="irrigation">Laboratry</button>
     </div>
     <br/>>
       <div class="gallery product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
hdpe">
          <img src="assets/images/gallery/gallery 01.jpg" class="img-</pre>
responsive">
       </div>
       <div class="gallery product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
sprinkle">
```





```
<img src="assets/images/gallery/gallery 02.jpg" class="img-</pre>
responsive">
       </div>
       <div class="gallery product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
hdpe">
          <img src="assets/images/gallery/gallery 03.jpg" class="img-</pre>
responsive">
       </div>
       <div class="gallery product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
irrigation">
          <img src="assets/images/gallery/gallery 04.jpg" class="img-</pre>
responsive">
       </div>
       <div class="gallery_product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
spray">
          <img src="assets/images/gallery/gallery 05.jpg" class="img-</pre>
responsive">
       </div>
       <div class="gallery product col-lg-4 col-md-4 col-sm-4 col-xs-6 filter</pre>
spray">
          <img src="assets/images/gallery/gallery 06.jpg" class="img-
responsive">
       </div>
     </div>
  </div>
```





```
</div>
    <!-- ####### Gallery End ####### -->
  <section id="contact us" class="contact-us-single">
    <div class="row no-margin">
      <div class="col-sm-12 cop-ck">
        <form method="post">
        <h2 >Contact Form</h2>
          <div class="row cf-ro">
             <div class="col-sm-3"><label>Enter Name :</label></div>
             <div class="col-sm-8"><input type="text" placeholder="Enter</pre>
Name" name="fullname" class="form-control input-sm" required ></div>
          </div>
          <div class="row cf-ro">
             <div class="col-sm-3"><label>Email Address :</label></div>
             <div class="col-sm-8"><input type="text" name="emailid"</pre>
placeholder="Enter Email Address" class="form-control input-
sm" required></div>
          </div>
           <div class="row cf-ro">
             <div class="col-sm-3"><label>Mobile Number:</label></div>
             <div class="col-sm-8"><input type="text" name="mobileno"</pre>
placeholder="Enter Mobile Number" class="form-control input-sm" required
></div>
          </div>
           <div class="row cf-ro">
```





```
<div class="col-sm-3"><label>Enter Message:</label></div>
              <div class="col-sm-8">
               <textarea rows="5" placeholder="Enter Your Message"
class="form-control input-sm" name="description" required></textarea>
              </div>
           </div>
            <div class="row cf-ro">
              <div class="col-sm-3"><label>
              <div class="col-sm-8">
              <button class="btn btn-success btn-sm" type="submit"</pre>
name="submit">Send Message</button>
              </div>
         </div>
       </form>
       </div>
    </div>
  </section>
  <!-- ############## Footer Starts Here##############################
  <footer class="footer">
    <div class="container">
       <div class="row">
         <div class="col-md-6 col-sm-12">
           <h2>Useful Links</h2>
           ul class="list-unstyled link-list">
              <1i><a ui-sref="about" href="#about">About us</a><i class="fa fa-
angle-right"></i>
```





```
<a ui-sref="portfolio" href="#services">Services</a><i
class="fa fa-angle-right"></i>/li>
             <a ui-sref="products" href="#logins">Logins</a><i class="fa
fa-angle-right"></i>
             <a ui-sref="gallery" href="#gallery">Gallery</a><i class="fa"
fa-angle-right"></i>
             <a ui-sref="contact" href="#contact">Contact us</a><i
class="fa fa-angle-right"></i>/li>
           </div>
         <div class="col-md-6 col-sm-12 map-img">
           <h2>Contact Us</h2>
           <address class="md-margin-bottom-40">
<?php
$ret=mysqli query($con,"select * from tblpage where PageType='contactus' ");
while ($row=mysqli fetch array($ret)) {
?>
             <?php echo $row['PageDescription'];?> <br>
             Phone: <?php echo $row['MobileNumber'];?> <br>
             Email: <a href="mailto:<?php echo $row['Email'];?>"
class=""><?php echo $row['Email'];?></a><br>
             Timing: <?php echo $row['OpenningTime'];?>
           </address>
    <?php } ?>
         </div>
      </div>
    </div>
```

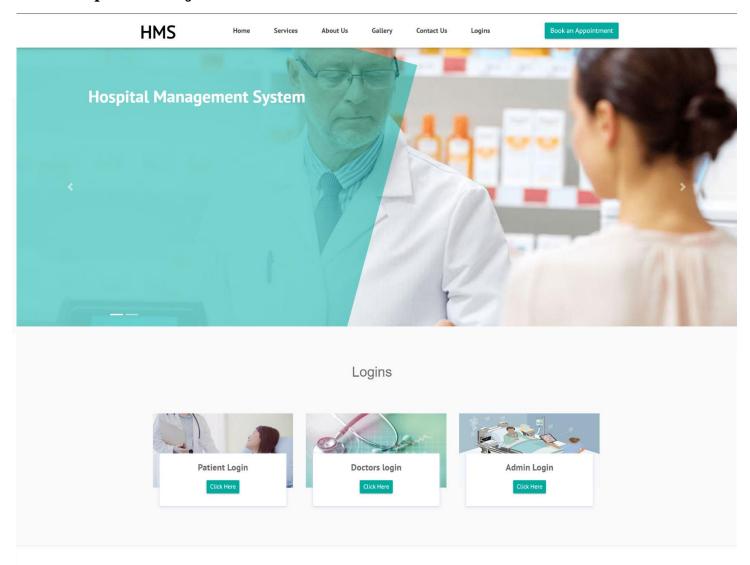






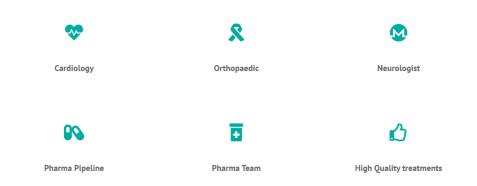


# **Output of Project**



#### Our Key Features

Take a look at some of our key features









#### **About Our Hospital**

 $\label{thm:continuous} The \ Hospital \ Management \ System \ (HMS) \ is \ designed \ for \ Any \ Hospital \ to \ replace \ their \ existing \ manual,$  $paper\ based\ system. The\ new\ system\ is\ to\ control\ the\ following\ information; patient\ information, room$  $availability, staff \ and \ operating \ room \ schedules, and \ patient \ invoices. These \ services \ are \ to \ be \ provided \ in$ an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks.

A significant part of the operation of any hospital involves the acquisition, management and timely retrieval of great volumes of information. This information typically involves; patient personal information and medical history, staff information, room and ward scheduling, staff scheduling, operating theater scheduling and various facilities waiting lists. All of this information must be managed in an efficient and cost wise fashion so that an institution's resources may be effectively utilized HMS will automate the management of the hospital making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

#### Our Gallery

View Our Gallery

Dental

Cardiology Neurology

Laboratry















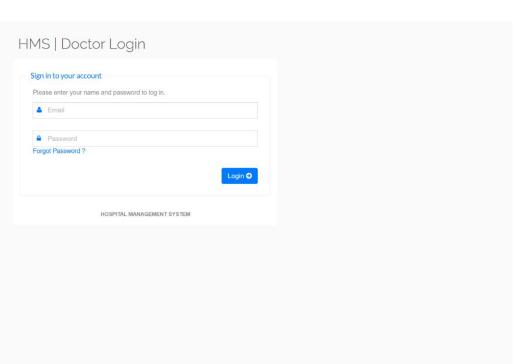


Contact Form				
Enter Name :		Enter Name		
Email Address :		Enter Email Address		
Mobile Number:		Enter Mobile Number		
Enter Message:		Enter Your Message		
		Send Message		·
		Seno message		
		<u> </u>		
Useful Links			Contact Us	
	About us		D-204, Hole Town South West, Delhi-110096,India Phone: 1122334455	
	Services		Email: info@gmail.com Timing: 9 am To 8 Pm	
	Logins		Tilling. 2 and 10 0 Till	
	Gallery			
	Contact us			
	Hospital Management S	System		

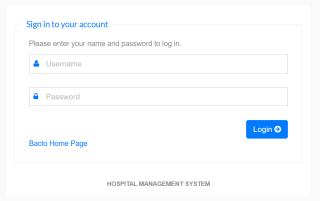
# Sign Up Enter your personal details below: Full Name Address City Gender Pemale Male Enter your account details below: Enter your account details below: Enter your account details below: Password Password Password Password Password Spin 1 agree Afready have an account? Log-in





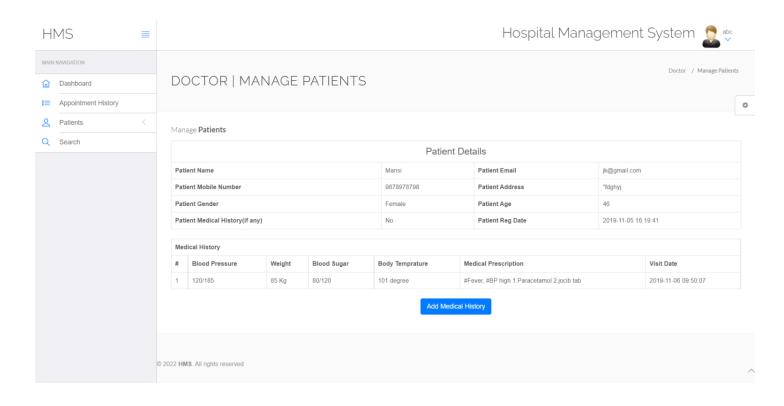


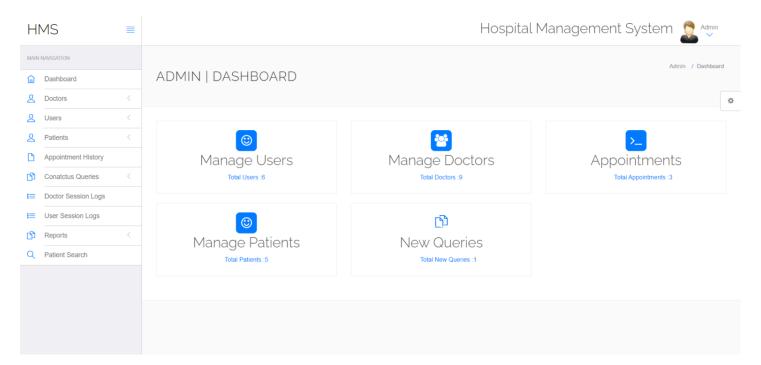
# Admin Login











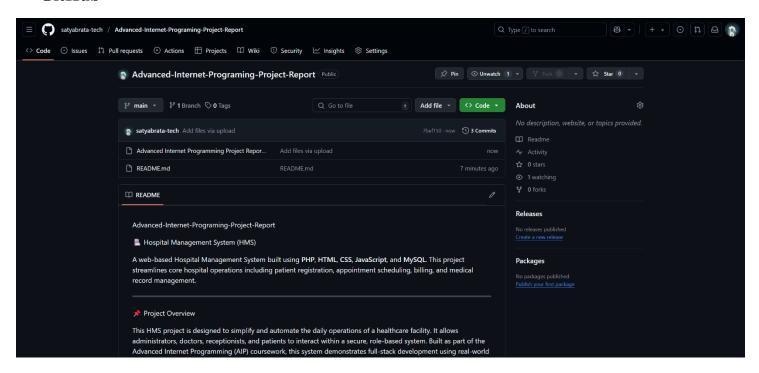




#### Conclusion

The Hospital Management System project provides an effective solution for managing hospital operations digitally, reducing manual effort and improving efficiency across departments. It brings together key functionalities such as patient registration, appointment scheduling, billing, and medical record management into one user-friendly platform. By applying web development skills and internet programming concepts, the system demonstrates how technology can streamline healthcare processes and improve the overall patient experience. This project not only enhances our understanding of full-stack development but also highlights the importance of automation in modern healthcare environments.

#### GitHub



GitHub Link :- <a href="https://github.com/satyabrata-tech/Advanced-Internet-Programing-Project-Report">https://github.com/satyabrata-tech/Advanced-Internet-Programing-Project-Report</a>