TELEMEDICINE MANAGEMENT SYSTEM

A COURSE PROJECT REPORT

By

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Under the guidance of **Dr.P.Vishalakshi**

In partial fulfillment for the Course

18CSC303J-Database Management Systems

In

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COLLEGE OF ENGINEERING & TECHNOLOGY

SRM INSTITUTE OF SCIENCE & TECHNOLOGY

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BONAFIDE CERTIFICATE

Certified that this project report **"Telemedicine management system"** is the bonafide

work of "K.HEMANTH REDDY" [RA2111030010087] o f   III   Year/VI   Sem

B.tech (CSE) who carried out the mini project work under my supervision for the course

18CSC303J DATABASE MANAGEMENT SYSTEM in SRM Institute of Science and

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Acknowledgement

We would like to express our gratitude to our Professor, Dr. S. Babu who gave us the golden opportunity to do this wonderful project on the topic

"TELEMEDICINE DATABASE SYSTEM" which also helped us in doing a lot of research and we came to know about so many new things we are really thankful to him.

We are also thankful to all the other faculty, teaching and non-teaching staff members of our department for their kind co-operation and help.

Lastly, we would also like to thank our friends who helped us a lot in finishing this project within the limited time. We are making this project not only for marks but to also increase our knowledge.

KAMBHAM HEMANTH REDDY

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CHAPTER-1
1.INTRODUCTION

The Telemedicine System (TMS) is a groundbreaking digital solution designed to reshape the landscape of healthcare delivery by facilitating remote medical consultations and services. Developed to address the pressing need for accessible healthcare, particularly in areas with limited resources or geographical constraints, the TMS offers a lifeline to patients and healthcare providers alike. With a user-friendly interface and robust features, including video conferencing, appointment scheduling, and secure medical records management, the TMS empowers patients to connect with healthcare professionals from anywhere, at any time. By breaking down barriers to access and enhancing communication between patients and providers, the TMS revolutionizes the delivery of healthcare, ensuring timely interventions, continuity of care, and improved health outcomes for all.

1.1 Advantages of HTML and MySQL:

The Telemedicine System (TMS) development began with translating requirements into diagrams. HTML crafted user interfaces, while CSS styled pages for dynamism and validation. XAMPP facilitated database creation, using MySQL for efficient data management. PHP served as the scripting language, linking interfaces with the database. TMS aimed to streamline remote medical consultations with ease. The system design phase relied on data flow and entity relationship diagrams. Implementation ensured user-friendly interfaces and robust data handling. HTML and CSS combination enabled visually appealing web pages. XAMPP provided a comprehensive development environment for database construction. PHP scripting ensured seamless connectivity for efficient remote healthcare delivery.

1.1 Problem Definition:

Telemedicine seeks to address challenges in healthcare accessibility and efficiency by enabling remote medical consultations. It aims to overcome geographical barriers and optimize resource allocation in delivering healthcare services. Telemedicine provides a solution for individuals who face difficulty accessing traditional healthcare facilities, offering convenient and timely medical consultations remotely. By leveraging technology, telemedicine strives to enhance patient outcomes and improve overall healthcare delivery.

CHAPTER-2

2.1 About the Project:

The Telemedicine Project aims to revolutionize healthcare delivery by enabling remote medical consultations and services. Through innovative digital solutions, it facilitates seamless communication between patients and healthcare providers. Utilizing features like video conferencing and secure medical records management, the project ensures quality care from any location. By breaking down geographical barriers, it enhances accessibility and efficiency in healthcare delivery. Ultimately, the Telemedicine Project strives to improve patient outcomes and enhance the overall quality of care.

2.1.2 Main features are:

1. Teleconsultation Management
2. Financial Performance Analysis
3. Electronic Health Record (EHR) Management
4. Telepharmacy Integration
5. Disease Category Analytics
6. Intelligent Search Functionality
7. Comprehensive Reporting
8. Clinic Information:Number

2.1.3 Objectives:

1. Patient Consultation Records by Clinic/Region/State.Financial Performance Analysis
2. Telepharmacy Integration
3. Clinic Information:Number, Region, Address.Intelligent Search Functionality.
4. Pending Consultations or Appointments.
5. Payment Status for Services Rendered or Pending to Healthcare Providers.
6. Profit Calculation by Date/Month/Season for Telemedicine Services.
7. Electronic Health Record (EHR) Management: Stock Details of Medical Supplies.
8. Tracking Telemedicine Consultation Delivery.
9. Automated Stock Replenishment based on Usage and Profit Calculation for Telemedicine Services.
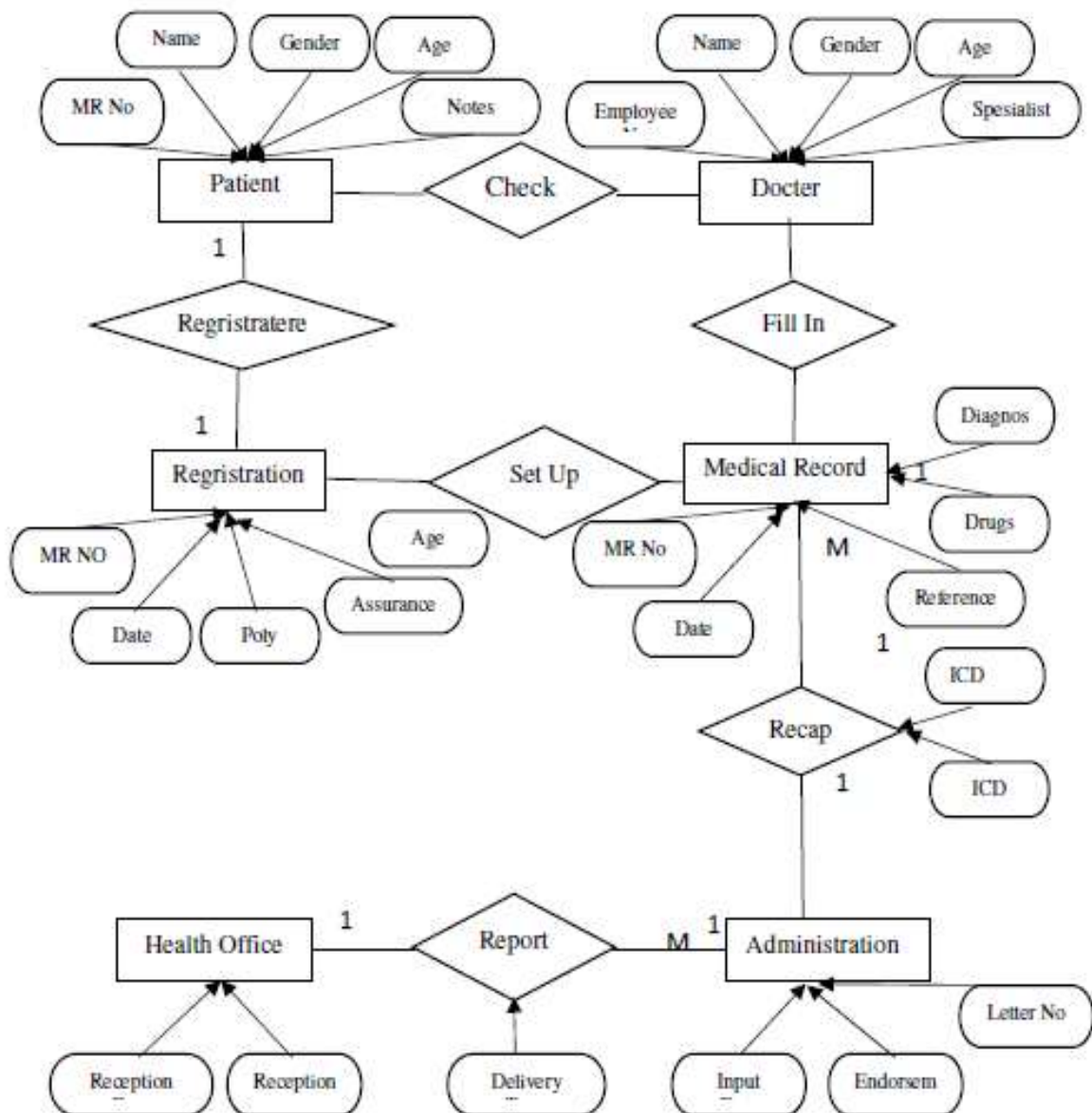
CHAPTER-3

3.1 BACK-END DESIGN

3.1.1 Conceptual Database Design(ER-Diagram)

3
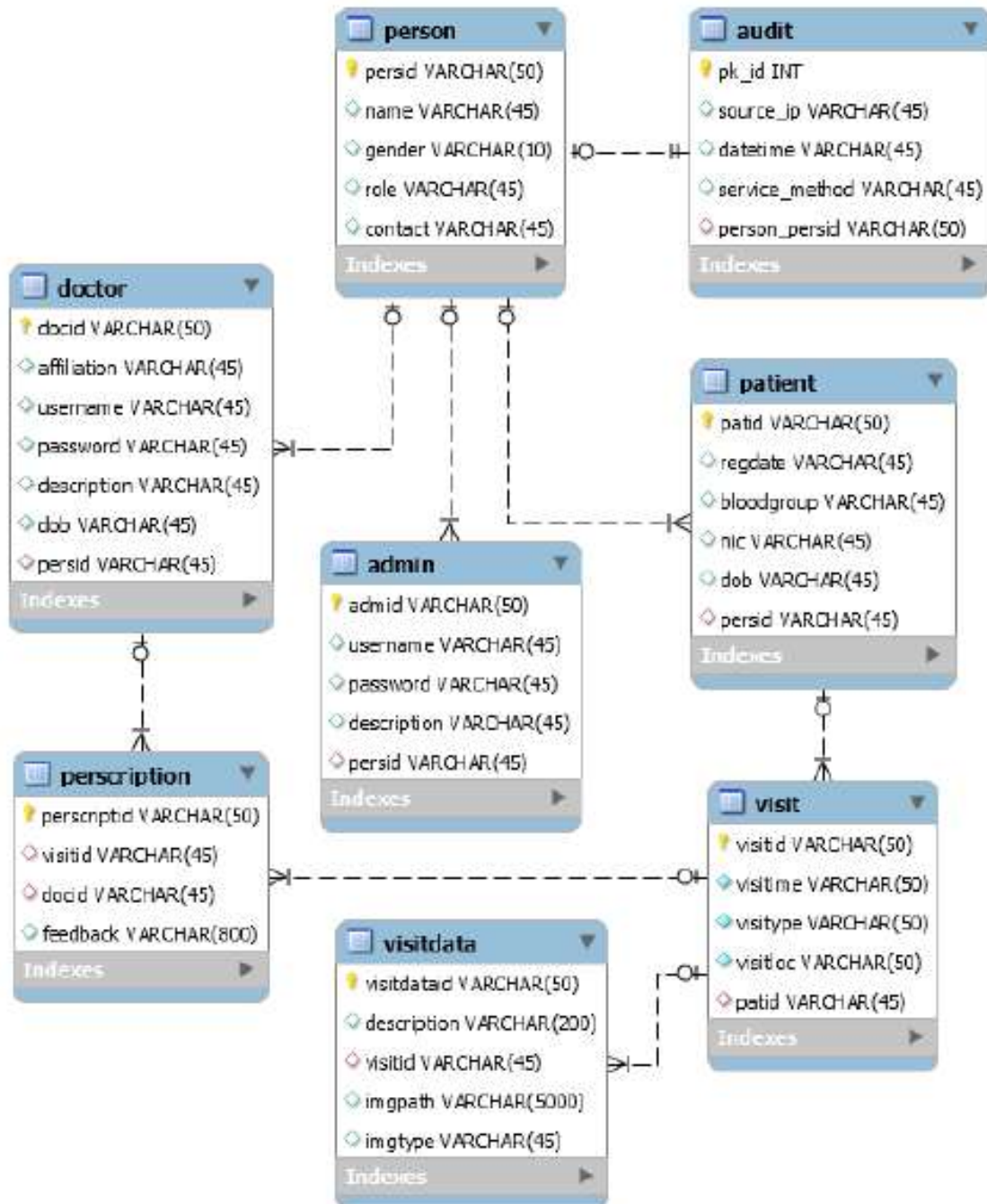
3.1.2 Logical Database Design(ER Mapping)

❖ The entities are represented as tables.

❖ The tables contain the attributes.

❖ The attributes which are underlined are referred as primary keys.

ER DIAGRAM

3.2   FRONT-END DESIGN

3.2.1 Front-end web development details

- **HTML** : Provides the foundational structure of web pages, essential for all web professionals and the starting point for web content creation.
- **CSS** : Controls presentation, formatting, and layout of HTML elements, enhancing the visual appearance of websites.
- **JAVASCRIPT** : Controls the behavior of elements on web pages, adding interactivity and complexity to site functionality.

HTML

HTML is at the core of every web page, regardless the complexity of a site or number of technologies involved. It's an essential skill for any web professional. It's the starting point for anyone learning how to create content for the web. And, luckily for us, it's surprisingly easy to learn.

CSS

CSS stands for Cascading Style Sheets. This programming language dictates how the HTML elements of a website should actually appear on the frontend of the page.

JavaScript

JavaScript is a more complicated language than HTML or CSS, and it wasn't released in beta form until 1995. Nowadays, JavaScript is supported by all modern web browsers and is used on almost every site on the web for more powerful and complex functionality.

3.2.2 Connectivity (front end and Back end):

PHP is an amazing and popular language!
It is powerful enough to be at the core of the biggest blogging system on the web (WordPress)!,It is deep enough to run the largest social network (Facebook)!,It is also easy enough to be a beginner's first server side language!

- PHP is an acronym for "PHP: Hypertext Preprocessor"
- PHP is a widely-used, open source scripting language.
- PHP scripts are executed on the server.
- PHP is free to download and use.
- PHP files can contain text, HTML, CSS, JavaScript, and PHP code
- PHP code are executed on the server, and the result is returned to the browser as plain HTML.
- With PHP you are not limited to output HTML. You can output images, PDF files, and even Flash movies. You can also output any text, such as XHTML and XML.

CHAPTER-4
OUTPUT

HOME
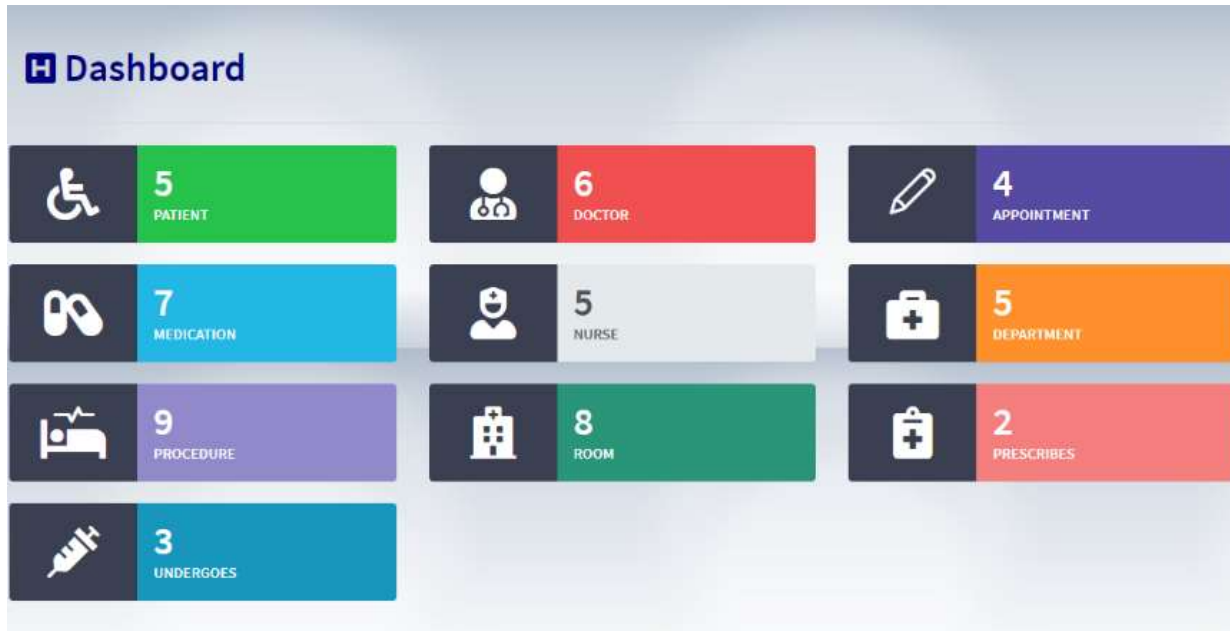
Home Page : This is the page of the Telemedicine Management System

ADMIN LOGIN PAGE

Admin Login Page:This is the login page where admin can login with valid username and password

ADMIN HOME PAGE

Dashboard:This is Dashboard ,where all entries are visible.

APPOINTMENT INFO DETAILS
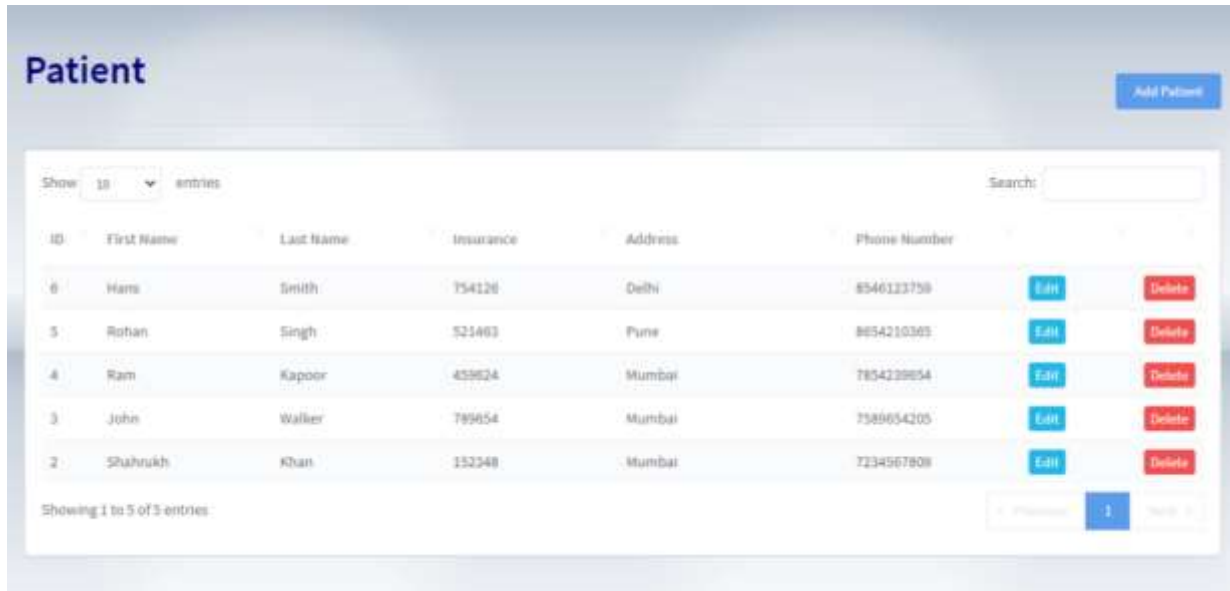
Appointment:This is Doctor Profile section where Doctor can see the details of patients.

MANAGING PATIENT DETAILS

Managing Patient Deatails:Here we can manage the details of patients.
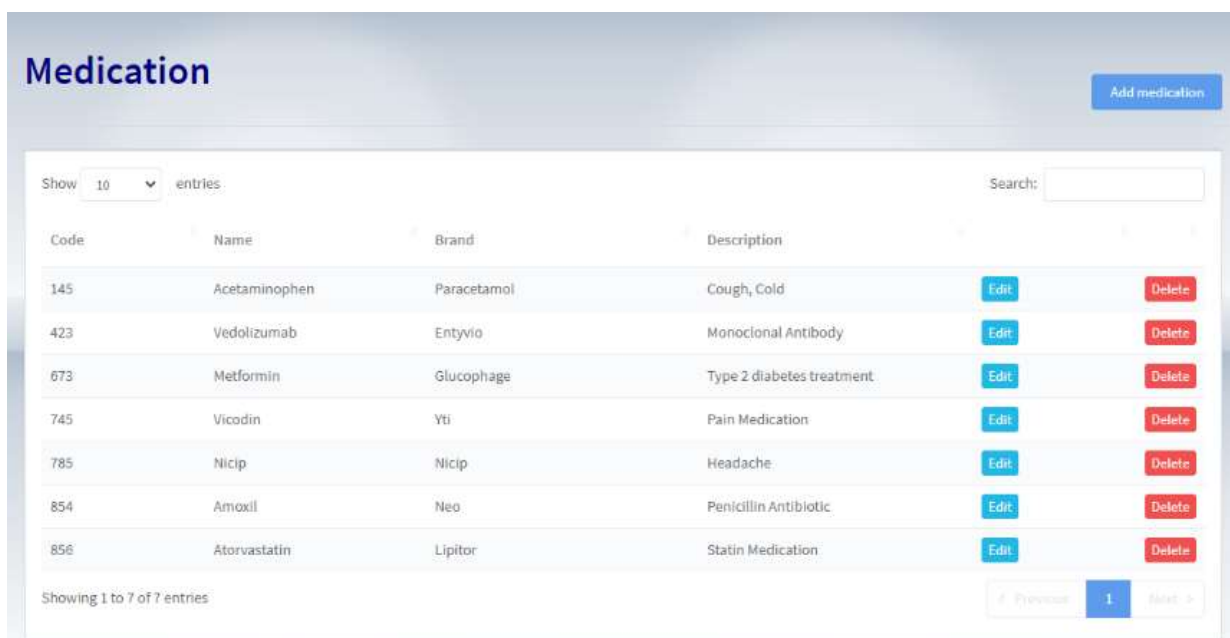
Patient

Add Patient

Show 10 ⌄ entries   Search:

ID	First Name	Last Name	Insurance	Address	Phone Number		
6	Hans	Smith	754126	Delhi	8546123758	Edit	Delete
5	Rohan	Singh	521463	Pune	8654210365	Edit	Delete
4	Ram	Kapoor	459624	Mumbai	7854239654	Edit	Delete
3	John	Walker	789654	Mumbai	7589654205	Edit	Delete
2	Shahrukh	Khan	152348	Mumbai	7234567809	Edit	Delete

Showing 1 to 5 of 5 entries   Previous **1** Next

MEDICATION DETAILS

Manage Medication Details:Here we can manage all the medication details of patients.
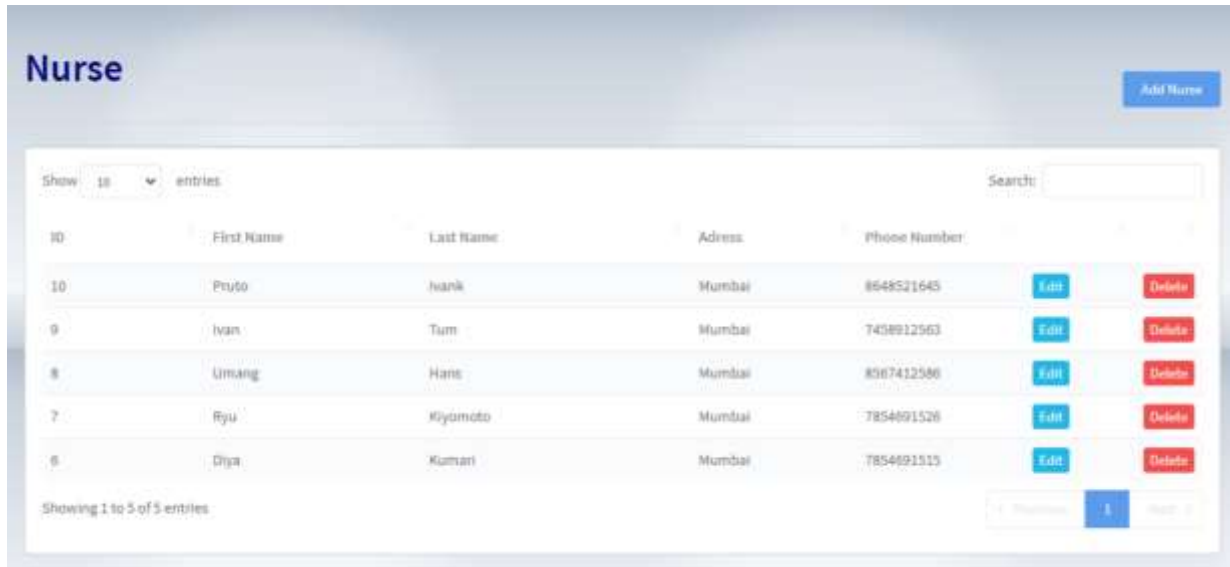
Medication

Add medication

Show 10 ⌄ entries   Search:

Code	Name	Brand	Description		
145	Acetaminophen	Paracetamol	Cough, Cold	Edit	Delete
423	Vedolizumab	Entyvio	Monoclonal Antibody	Edit	Delete
673	Metformin	Glucophage	Type 2 diabetes treatment	Edit	Delete
745	Vicodin	Yti	Pain Medication	Edit	Delete
785	Nicip	Nicip	Headache	Edit	Delete
854	Amoxil	Neo	Penicillin Antibiotic	Edit	Delete
856	Atorvastatin	Lipitor	Statin Medication	Edit	Delete

Showing 1 to 7 of 7 entries   Previous **1** Next

MANAGING NURSE DETAILS

Manage Nurse Details:Here we can manage all the details of Nurse.

Nurse

Add Nurse

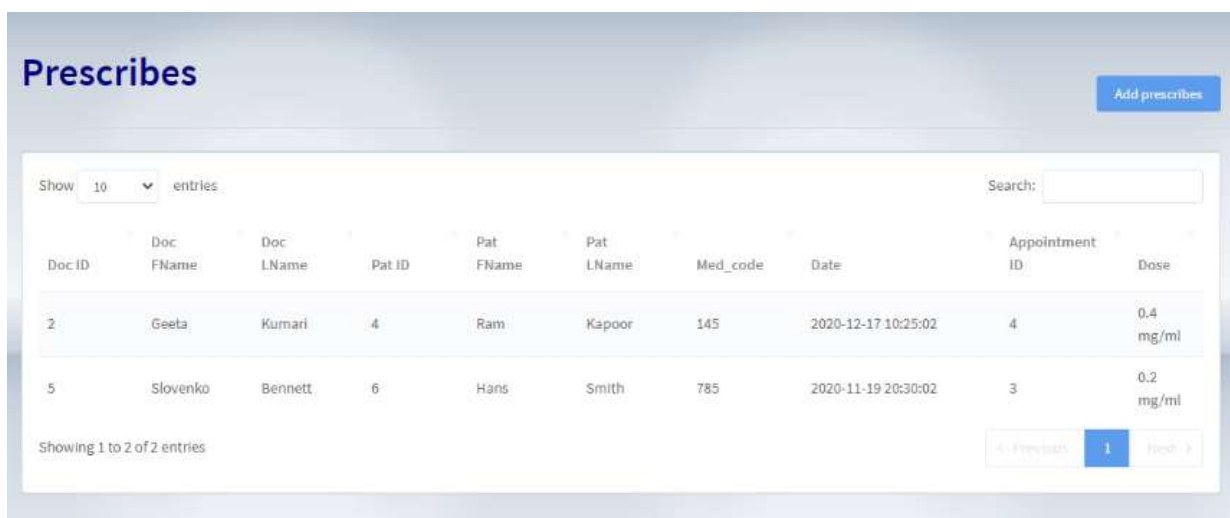Show 10 ▼ entries   Search:

ID	First Name	Last Name	Adress	Phone Number		
10	Pruto	Ivank	Mumbai	8648521645	Edit	Delete
9	Ivan	Tum	Mumbai	7458912563	Edit	Delete
8	Umang	Hans	Mumbai	8567412586	Edit	Delete
7	Ryu	Kiyomoto	Mumbai	7854691526	Edit	Delete
6	Diya	Kumari	Mumbai	7854691515	Edit	Delete

Showing 1 to 5 of 5 entries   Previous **1** Next

DETAILS OF PRESCRIBES

Manage prescription Details:Here we can manage all the details of prescription from Doctors.

Prescribes

Add prescribes

Show 10 ▼ entries   Search:

Doc ID	Doc FName	Doc LName	Pat ID	Pat FName	Pat LName	Med_code	Date	Appointment ID	Dose
2	Geeta	Kumari	4	Ram	Kapoor	145	2020-12-17 10:25:02	4	0.4 mg/ml
5	Slovenko	Bennett	6	Hans	Smith	785	2020-11-19 20:30:02	3	0.2 mg/ml

Showing 1 to 2 of 2 entries   Previous **1** Next

DETAILS OF WARDS

Manage Ward Details:Here we can manage all the details of rooms for Patients.

FINDING THE ACCOUNT

Finding the account:Here we can the missing accounts of patients as well as Doctors.

ACTIVATE YOUR BENEFITS

Activating your Benifits:Here we can activate the benefits from management and any insurances.

TeleMedicine.com

Activate Your Benefit

Let's start by finding your account. Please enter your member information to begin

Last Name

Last Name

Date Of Birth

MM-DD-YYYY

Zip Code

75023

I've read and agreed with the Terms of Use and Privacy Policy

Find My Account

CONTACT DETAIL

Contact Details:Here we can find the contact details of telemedicine online service.

TeleMedicine.com

CONDITIONS WE TREAT   FAQS   BLOG   CLINICS & HOSPITALS   CONTACT   BECOME A MEMBER   LOG IN   EN

Contact Us

Home - Contact Us

First Name*   Last Name*

Email*   Phone

Message

Contact Information

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USER SIGNUP

User Sign Up:Here user can sign up to create their account if it is not created.

MODULES

- **User Module**: Manages user registration, login, profile settings, appointment scheduling, and viewing medical history.
- **Doctor Module**: Provides functionalities for healthcare professionals to manage their profiles, availability, appointment requests, prescriptions, and patient consultations.
- **Admin Module**: Enables system administrators to manage users, doctors, set service fees, generate reports, handle system configurations, and ensure compliance with regulations such as HIPAA (Health Insurance Portability and Accountability Act).
- **Medical Records Module**: Stores and manages patient medical records securely, including past diagnoses, treatments, prescriptions, and lab results, with appropriate access permissions.
- **Appointment Module**: Facilitates scheduling, rescheduling, and canceling appointments between patients and doctors, with notifications and reminders.
  Payment Module: Handles secure payment transactions for consultation fees, integrates with various payment gateways, and provides options for one-time payments or subscription-based plans.
- **Teleconsultation Module**: Enables real-time video or audio consultations between patients and doctors, with features like file sharing, chat, and virtual examinations.
- **Prescription Module**: Allows doctors to generate and send prescriptions electronically to pharmacies or directly to patients, ensuring accuracy and compliance with regulations.
- **Medical AI Module** : Integrates artificial intelligence to assist doctors in diagnosis, treatment suggestions, and triage, enhancing efficiency and accuracy in patient care.
- **Feedback and Rating Module**: Enables patients to provide feedback and ratings for consultations and overall experience, helping improve service quality and patient satisfaction.
- **Health Tracker Module** : Allows patients to track health metrics such as blood pressure, blood sugar levels, and exercise activity, with the option to share data with their healthcare providers for better monitoring.

APPLICATION

- **Remote Consultations**: Patients can consult with healthcare providers via video calls, phone calls, or secure messaging platforms without needing to visit a clinic or hospital physically. This is especially useful for minor illnesses, follow-up visits, or routine check-ups.
- **Remote Monitoring**: Telemedicine facilitates remote monitoring of patients with chronic conditions such as diabetes, hypertension, or heart disease. Devices like wearable sensors or smart scales can transmit vital signs and health data to healthcare providers, allowing for timely interventions and adjustments to treatment plans.
- **Specialist Consultations**: Patients in rural or underserved areas can access specialist care through telemedicine, eliminating the need for long-distance travel. This is particularly valuable for rare conditions or specialized treatments where expertise may be limited locally.
- **Mental Health Services**: Telemedicine offers confidential and convenient access to mental health professionals for therapy sessions, counseling, or psychiatric consultations. This can help overcome barriers such as stigma or geographical limitations that may prevent individuals from seeking help in person.
- **Medication Management**: Telemedicine platforms can assist with medication management by enabling electronic prescriptions, medication reviews, and adherence monitoring. Pharmacists and healthcare providers can remotely counsel patients on proper medication usage and potential side effects.
- **Post-Discharge Care**: Telemedicine facilitates post-discharge follow-up care for patients recovering from surgery or hospitalization. Virtual visits allow healthcare providers to assess recovery progress, address concerns.
- **Emergency Triage**: Telemedicine can support emergency triage services by enabling remote assessment of patients' symptoms and conditions. This helps prioritize care based on severity and urgency, directing patients to appropriate levels of care and reducing unnecessary emergency room visits.
- **Health Education**: Telemedicine platforms can deliver health education resources, such as videos, webinars, or interactive modules, to patients and caregivers. These resources can cover topics ranging from disease management and prevention to lifestyle modifications and healthy living tips.

7.CONCLUSION

In conclusion, our telemedicine project has been a learning journey in HTML/CSS/JS/PHP/MySQL and database management, emphasizing user-friendly design and error minimization. We've grasped the criteria for creating in-demand software and the importance of simplicity. Our platform prioritizes user experience, making it easy for both patients and healthcare providers to navigate. Telemedicine holds promise in revolutionizing healthcare access and outcomes. We're committed to refining our platform to further leverage technology in advancing healthcare delivery.

During the development process, we studied carefully and understood the criteria for making a software more demanding, we also realized the importance of maintaining a minimal margin for errors.

BIBLIOGRAPHY

It has been a matter of immense pleasure, honor and challenge to have this opportunity to take up this project and complete it successfully.

We have obtained information from various resources to design and implement our project.We have acquired most of the knowledge from the Internet.

The following are some of the resources:

➢ www.w3schools.com

➢ www.tutorialspoint.com

➢ Google and Youtube Tutorials.