PROJECT REPORT ON

HOSPITAL MANAGEMENT SYSTEM

FOR THE COURSE

DBMS – II IN COMPUTER SCIENCE

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DESCRIPTION

Organizations such as hospitals have to deal with a lot of patients daily and hence generating mammoth amounts of data. This project aims to simplify the management of data related to various tasks in hospitals, such as appointment booking, doctor schedules, patient diagnoses, and medical histories. The features proposed are as follows –

For Patients:

- A separate interface is available for patients with a unique login or one can easily create a new account by signing up.
- Patients can easily schedule appointments and provide their medical history.
- They can also view and cancel already booked appointments.
- Cancelled appointments open up slots for other patients and the system prevents overlapping appointments.
- Patients have access to their complete diagnosis, prescriptions, and medical history.
- However, only the doctor assigned to their appointment can view their medical history for privacy purposes.

For Doctors:

- A separate interface is available for doctors with a unique login.
- The system takes into account doctor schedules and does not allow appointments during busy or break times.
- Doctors can access patients' profiles and medical histories.
- They can also provide diagnoses and prescriptions, and make modifications to the diagnoses if necessary.

For Admin:

- A separate interface is available for admins with a unique login.
- Admins can create new schedules which new doctors signing up can choose to follow.

Generic Features for all types of users include a single-click button to their respective home page, Privacy features comprising a sign-out feature, and hashing the user's password for storing in the database providing added security against cyber-attacks.
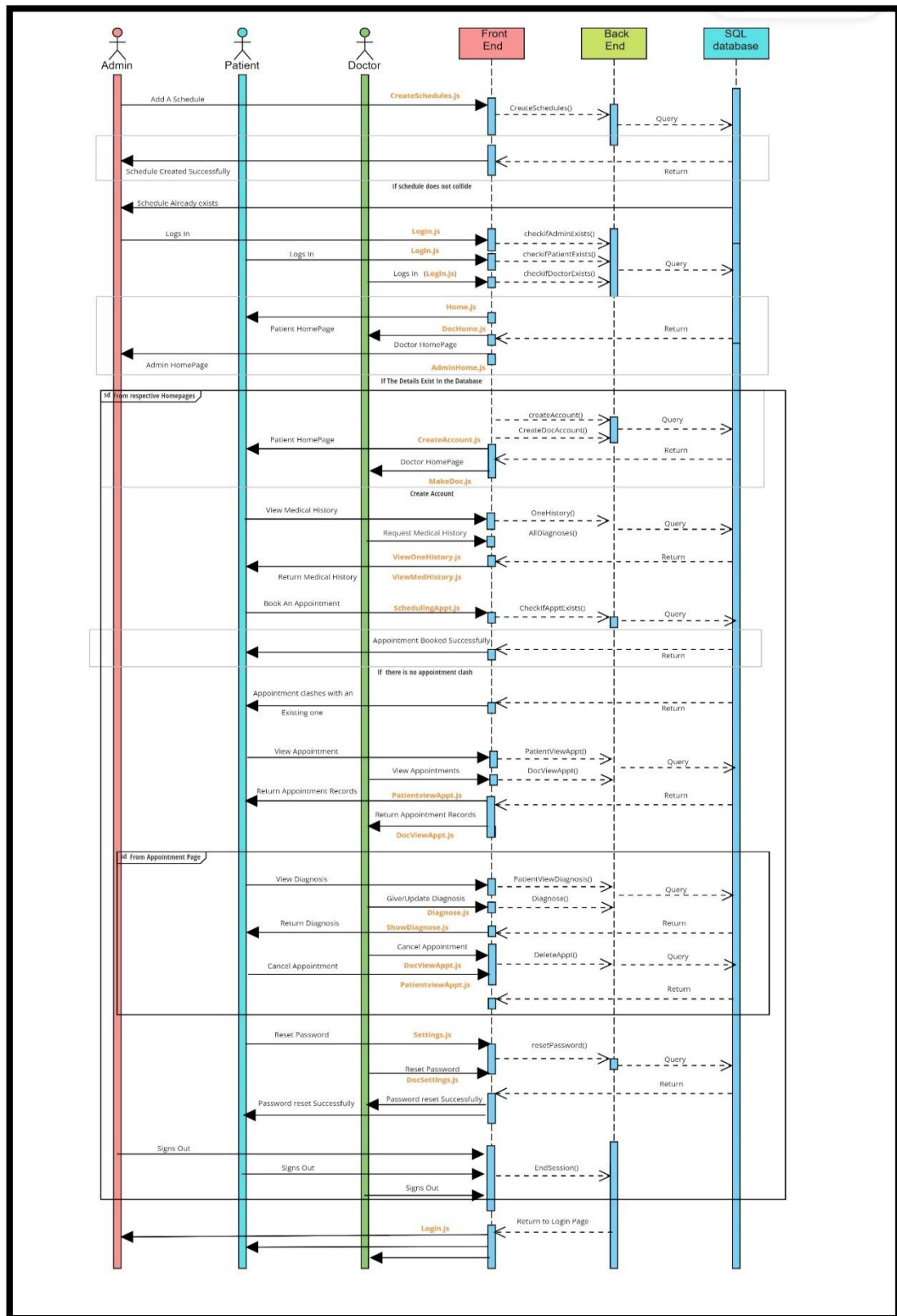
ER DIAGRAM
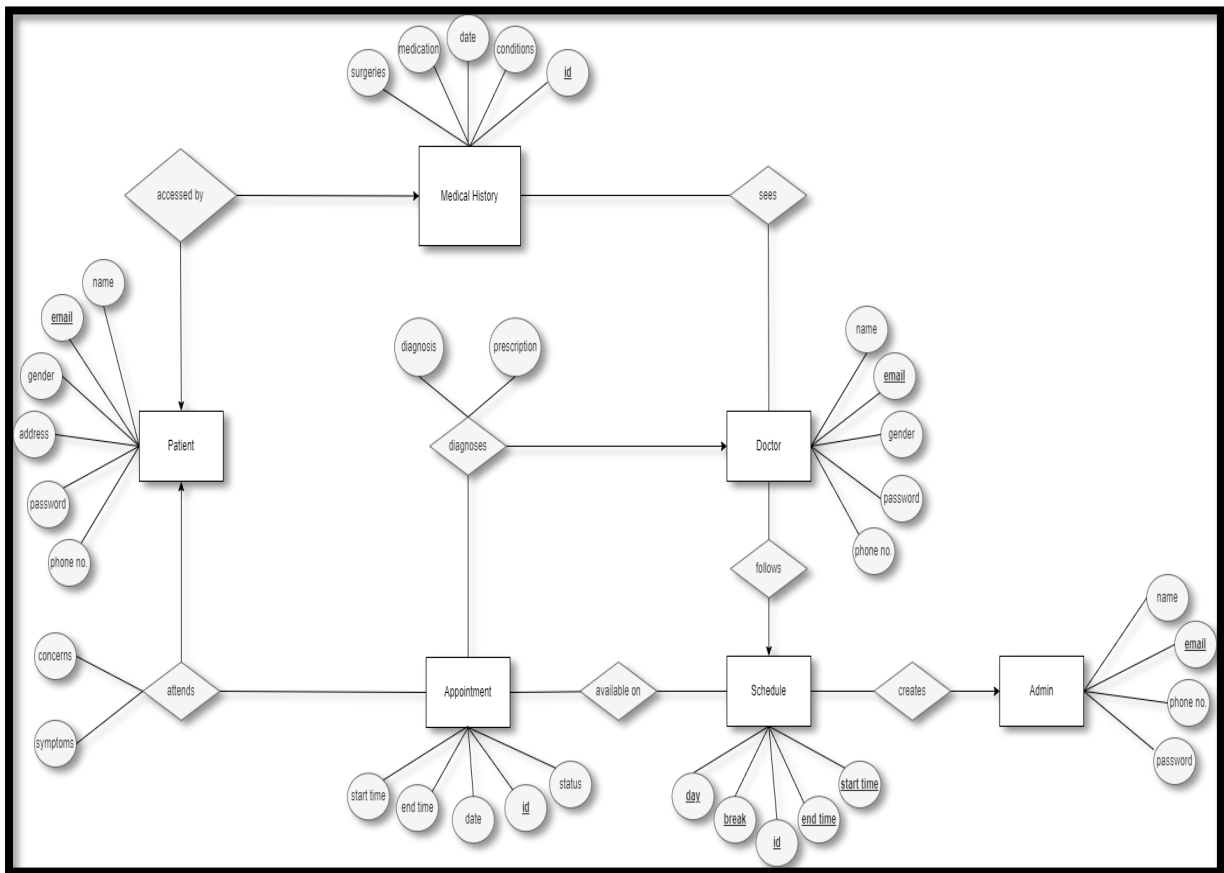
RELATIONAL SCHEMAS/ TABLES USED

- ➤ **Patient :** R = (email, password, name, address, gender, phno)
- ➤ **MedicalHistory :** R = (id, date, conditions, surgeries, medication)
- ➤ **Doctor :** R = (email, gender, password, name, phno)
- ➤ **Appointment :** R = (id, date, start time, end time, status)
- ➤ **PatientsAttendAppointments :** R = (patient, appointment, concerns, symptoms)
- ➤ **Schedule :** R = (id, start time, end time, break time, day)
- ➤ **PatientsFillHistory :** R = (patient, history)
- ➤ **Diagnose :** R = (appointment, doctor, diagnosis, prescription)
- ➤ **DoctorsHaveSchedules :** R = (schedule, doctor)
- ➤ **DoctorViewsHistory :** R = (history, doctor)
- ➤ **Admin :** R = (email, password, name, phno)

SEQUENCE DIAGRAM

[Click Here To View the Sequence Diagram](#)

TOOLS AND SOFTWARE USED

FRONT-END

React.js: React.js is a JavaScript library used for building user interfaces. It is a component-based framework that allows developers to create reusable UI components, making the development process faster and more efficient. In this project, React.js is used for the front end to create an interactive and user-friendly interface for patients, doctors, and admins.

Create React App: Create React App is a command line tool created by Facebook for generating React.js applications. It provides a convenient and efficient way to start a new React.js project without having to configure build tools and other development tools. In this project, Create React App can be used to quickly generate a new React.js application.

BACK-END

Node.js: Node.js is a JavaScript runtime that runs on the server side. It enables developers to build fast, scalable, and efficient applications using JavaScript. In this project, Node.js is used as the backend to handle the server-side processing of data and provide a seamless experience for users. The backend communicates with the database to retrieve or store data, and the database is updated whenever there is a change in the data.

Express: Express is a popular web application framework for Node.js. It provides a simple and fast way to create web applications and APIs. In this project, Express is used to handle routing, middleware, and server-side rendering.

DATABASE

MySQL: MySQL is a widely used relational database management system. It is known for its reliability, scalability, and performance. In this project, MySQL is used to store and manage data like appointments, doctor schedules, patient diagnoses, medical histories, etc.
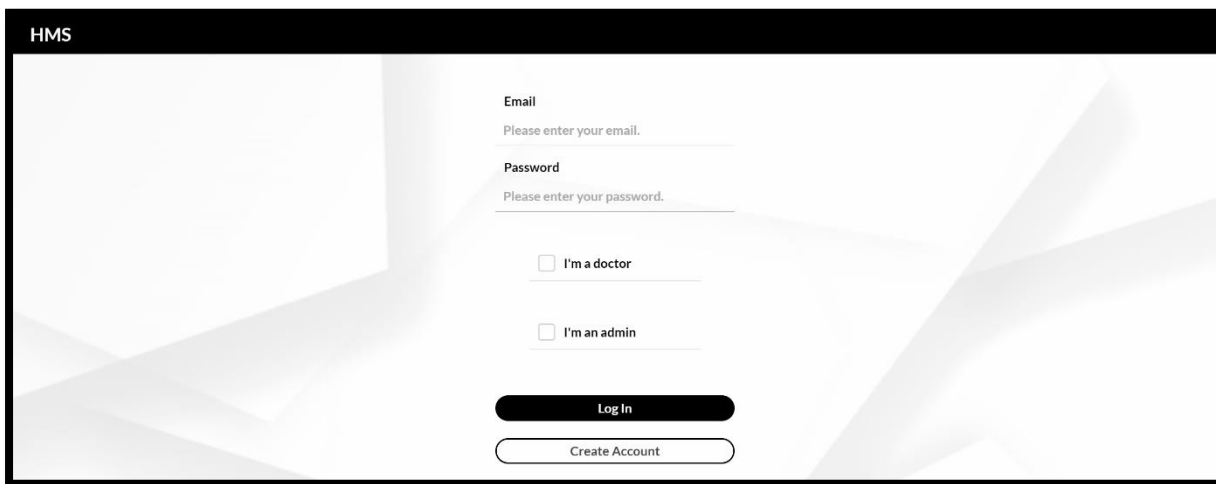
TESTING

Brave Browser: Brave Browser is a web browser that is built on the Chromium engine. It is known for its privacy-focused features and fast browsing experience. In this project, Brave Browser is used for testing the application to ensure that it is working correctly and as expected.

INTERFACE DESIGN
Please Note that images were cropped to fit

Login Page –

HMS

Email
Please enter your email.

Password
Please enter your password.
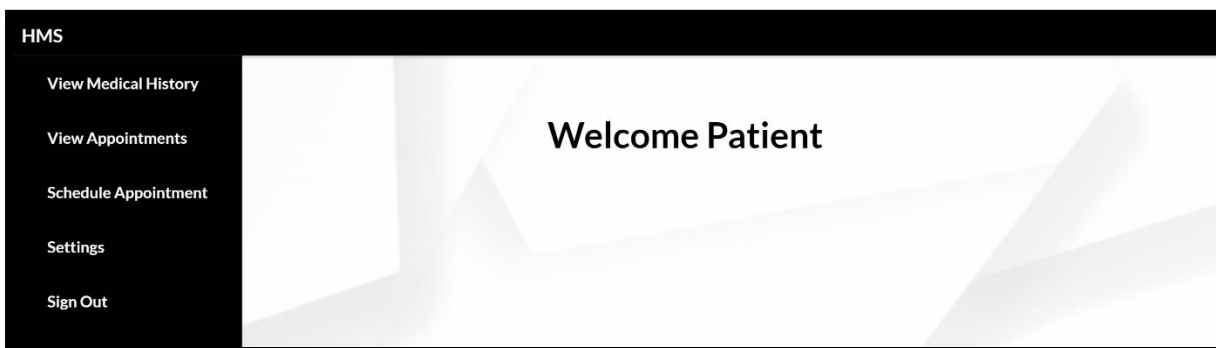
☐ I'm a doctor

☐ I'm an admin

Log In

Create Account

Patient Home –

HMS

View Medical History

View Appointments
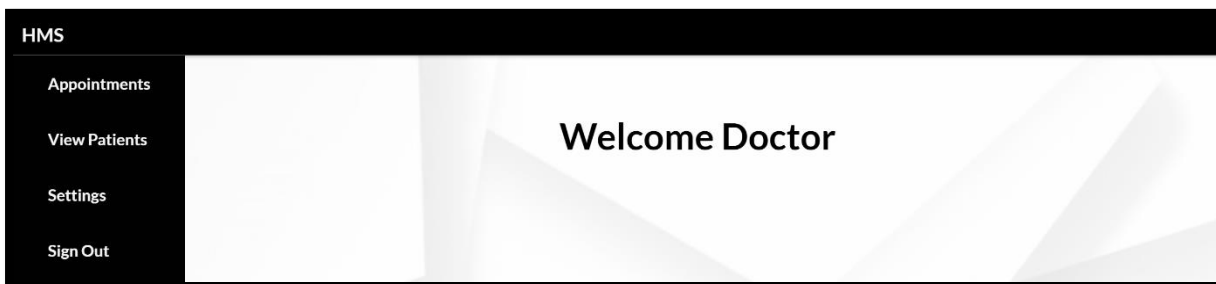
Schedule Appointment

Settings

Sign Out

Welcome Patient

Doctor Home –

HMS

Appointments

View Patients

Settings

Sign Out

Welcome Doctor

Admin Home –

HMS

Create Schedule

Sign Out

Welcome Admin

Viewing Medical History -

HMS

Name	Rakesh	Email	rakesh@gmail.com	
Gender	male	Address	Gujarat	
Conditions	Body Pain	Phone Number:	1234567890	
Surgeries	none			
Medications	Iodex			

Date	2019-01-17	Doctor	doc2@gmail.com	
Concerns	nausea	Symptoms	fever	
Diagnosis	Vitamin Deficiency			
Prescription	Good Diet			

Date	2023-02-09	Doctor	doc1@gmail.com	
Concerns	ac	Symptoms	sds	
Diagnosis	A			
Prescription	B			

Date	2023-02-23	Doctor	doc1@gmail.com	
Concerns	kwcn	Symptoms	ksdfn	
Diagnosis	A			
Prescription	B			

Patient Viewing Appointments –

HMS

Date of Appointment	Start Time	End Time	Concerns	Symptoms	Status		
1/18/2019	14:00	15:00	nausea	fever	Done	See Diagnosis	Delete
2/10/2023	10:00	11:00	ac	sds	Done	See Diagnosis	Delete
2/24/2023	11:00	12:00	kwcn	ksdfn	Done	See Diagnosis	Delete
3/3/2023	11:00	12:00	Viral Fever	Running Nose	NotDone	See Diagnosis	Cancel

Patient Scheduling Appointments –

HMS

localhost:3000 says
Appointment successfully scheduled!

OK

3/3/2023 11:00 📅

Viral Fever

Running Nose

Attempt To Schedule

Doctor Viewing Appointments –

ID	Name	Date	Start Time	Concerns	Symptoms	Status		
5	Rakesh	2/10/2023	10:00:00	ac	sds	Done	Edit Diagnosis	
7	Rakesh	2/24/2023	11:00:00	kwcn	ksdfn	Done	Edit Diagnosis	
10	Rakesh	3/3/2023	11:00:00	Viral Fever	Running Nose	NotDone	Diagnose	Cancel
1	Ramesh	1/15/2019	09:00:00	none	itchy throat	Done	Edit Diagnosis	
9	Ramesh	3/17/2023	11:00:00	sd	sd	Done	Edit Diagnosis	
6	Suresh	2/24/2023	10:00:00	a	ss	Done	Edit Diagnosis	

Doctor Viewing Patients –

HMS

Name	Profile
Rakesh	Medical Profile
Ramesh	Medical Profile
Suresh	Medical Profile

Admin Creating Schedule –

HMS

Create A Schedule

ID
A
invalid

Start Time
09:00

End Time
18:00

Break Time
13:00

Day
Monday

Submit

Password Reset –

HMS

Password Change

Old Password

New Password

Change Password

THE END