

NETAJI SUBHAS UNIVERSITY OF TECHNOLOGY

Azad Hind Fauj Marg
Sector - 3, Dwarka
New Delhi

PROJECT REPORT **DATABASE MANAGEMENT SYSTEM**



SUBMITTED BY:

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INTRODUCTION

Title: Hospital Management System in Database Management

In the dynamic landscape of healthcare, the efficient management of information plays a pivotal role in ensuring optimal patient care, resource utilisation, and organisational effectiveness. Recognizing this imperative, we present a state-of-the-art Hospital Management System (HMS) meticulously designed to revolutionise the way healthcare institutions handle their data.

Our HMS leverages the power of Database Management Systems (DBMS) to create a cohesive and integrated platform, addressing the complex needs of modern healthcare facilities. The system encompasses a comprehensive suite of modules tailored to streamline administrative tasks, enhance clinical workflows, and facilitate seamless communication across all departments.

This sophisticated DBMS-driven solution is built with a focus on scalability, flexibility, and security. By centralising patient records, scheduling, billing, and other critical operations within a unified database, our HMS aims to enhance accuracy, reduce redundancy, and empower healthcare professionals to make well-informed decisions swiftly.

Key features of our Hospital Management System include:

1. **Patient Information Management:** Maintain a centralised repository of patient data, ensuring accessibility, accuracy, and security. Track patient demographics, medical history, and treatment plans with ease.
2. **Appointment Scheduling:** Streamline the scheduling process for both patients and healthcare providers, reducing wait times and optimising resource allocation.
3. **Billing and Invoicing:** Simplify financial transactions with an integrated billing system, automating the generation of invoices, and facilitating efficient payment processing.
4. **Doctor and Staff Management:** Effectively manage personnel records, schedules, and performance metrics, fostering a collaborative and organised work environment.
5. **Reporting and Analytics:** Harness the power of data with robust reporting and analytics tools, enabling administrators to gain valuable insights into hospital operations, resource utilisation, and patient outcomes.
6. **Security and Compliance:** Prioritise the confidentiality and integrity of sensitive medical information through advanced security protocols, ensuring compliance with healthcare regulations.

Purpose Of Project

The Hospital Management System project, leveraging a Database Management System, aims to enhance healthcare administration by centralising patient data, streamlining administrative tasks, and fostering collaboration. It optimises patient care through efficient information access, automates appointment scheduling and billing, and facilitates data-driven decision-making with robust analytics. Prioritising data security and compliance, the project ensures confidentiality while promoting adaptability to evolving healthcare needs. It establishes a unified platform fostering seamless communication and collaboration among different departments, ultimately contributing to a more responsive, organised, and efficient healthcare ecosystem. This comprehensive solution aims to elevate the quality of care, streamline operations, and fortify the foundations of healthcare institutions for the challenges of the future. Ultimately, it improves operational efficiency, communication, and financial management, contributing to a more effective and responsive healthcare system.

Objective Of The Project

The objective of the Hospital Management System project is to holistically transform healthcare administration by harnessing the capabilities of a Database Management System. This initiative seeks to go beyond its initial purpose by not only streamlining processes but also by fostering innovation and adaptability. The primary objective is to create a dynamic and scalable system that not only centralises patient information but also adapts to the evolving needs of healthcare institutions. By integrating advanced reporting and analytics, the project aims to empower decision-makers with nuanced insights into operational efficiency, resource allocation, and patient outcomes. The overarching goal is to establish a responsive and future-ready healthcare ecosystem that prioritises not just efficiency, but also innovation, adaptability, and strategic decision-making to meet the ever-changing demands of the healthcare landscape.

REQUIREMENTS

Hardware requirements for the Hospital Management System include a server with sufficient processing power and storage, along with network infrastructure. Software prerequisites involve a Database Management System (DBMS), web servers, and secure communication protocols. Compatibility with standard browsers is essential for user access, ensuring seamless functionality.

Hardware Requirements:

1. Server:

- Processor: Dual-core or higher
- RAM: 4 GB or more
- Storage: SSD recommended for better performance

2. Database Server:

- MySQL or another relational database management system (RDBMS)
- Adequate storage for database records

Software Requirements:

1. Web Server:

- Apache, Nginx, or another compatible web server

2. Programming Languages:

- **PHP**: Server-side scripting language
- **HTML**: Markup language for creating web pages
- **CSS**: Styling language for designing web pages

- **JavaScript:** Client-side scripting language for enhancing interactivity
- **AJAX:** Asynchronous JavaScript and XML for making asynchronous requests to the server

3. Database:

- MySQL or another RDBMS
- PHPMyAdmin or a similar tool for database management

4. Development Environment:

- **Code editor:** Visual Studio Code, Sublime Text, Atom, etc.
- **Version control system:** Git

5. Dependencies and Libraries:

- PHP extensions (e.g., MySQLi for MySQL connectivity)
- JavaScript libraries/frameworks (e.g., jQuery for AJAX requests)

6. Security:

- Implement secure coding practices to prevent SQL injection, XSS, and other security vulnerabilities.

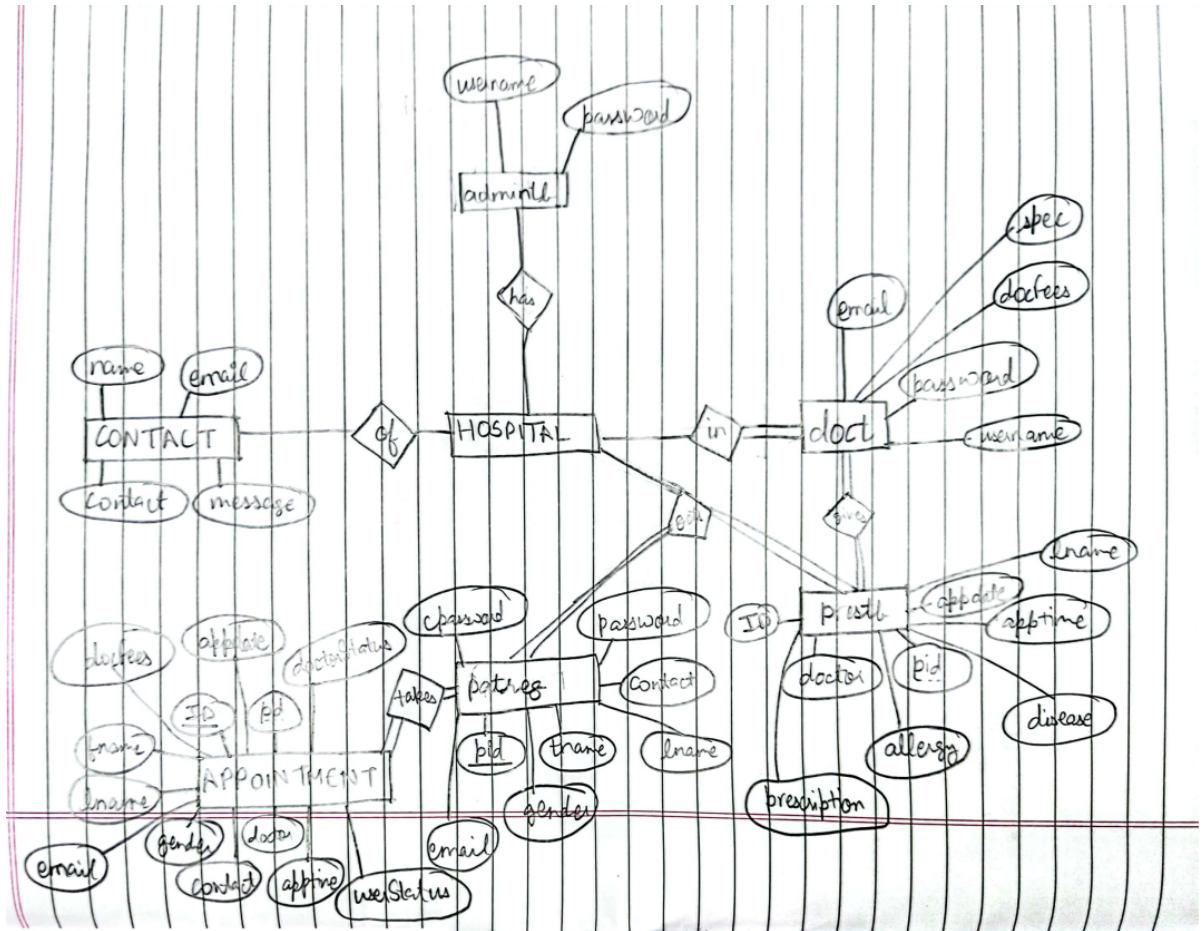
7. Browser Compatibility:

- Ensure the system works well on popular browsers like Chrome, Firefox, Safari, and Edge.

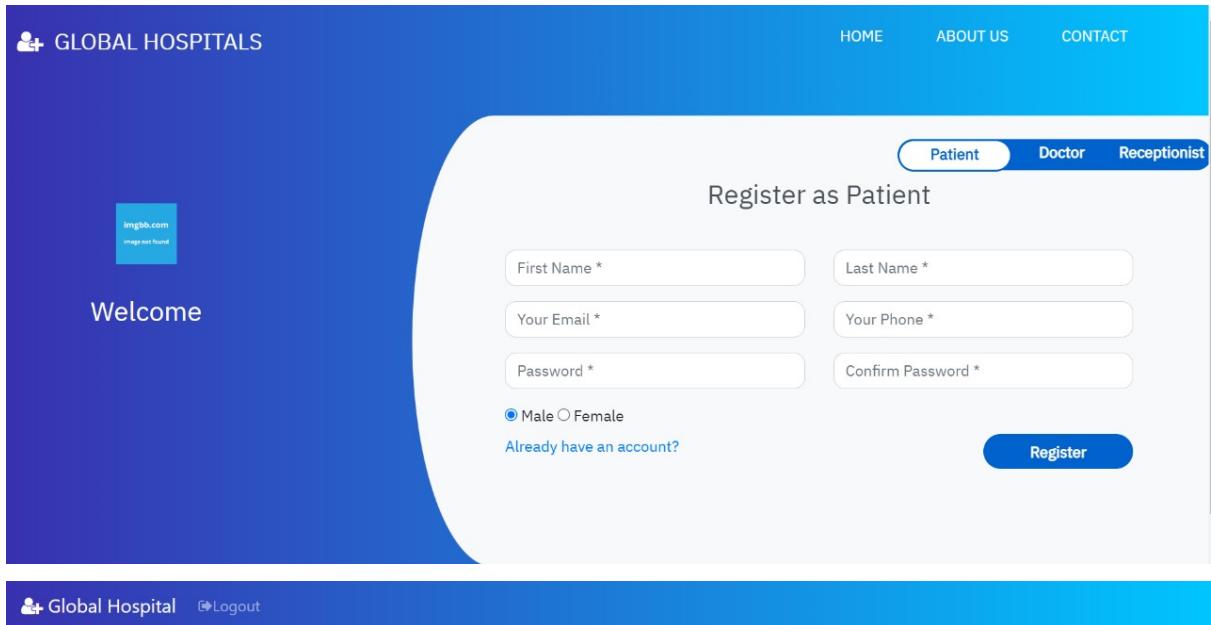
8. SSL Certificate:

- Implement SSL for secure data transmission.

ER Model



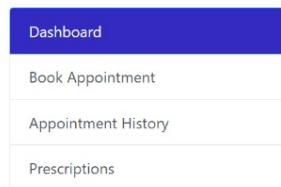
WEBSITE



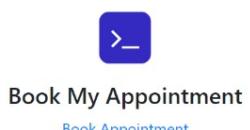
The screenshot shows the patient registration page of the Global Hospitals website. At the top, there is a navigation bar with links for HOME, ABOUT US, and CONTACT. Below the navigation bar, there are three tabs: Patient (selected), Doctor, and Receptionist. The main content area has a heading "Register as Patient". It contains fields for First Name*, Last Name*, Your Email*, Your Phone*, Password*, and Confirm Password*. There are also radio buttons for Male and Female, and a link "Already have an account?". A blue "Register" button is at the bottom right.



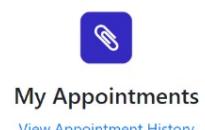
Welcome sameer sethi



A vertical sidebar menu with a blue header labeled "Dashboard". Below it are four items: Book Appointment, Appointment History, and Prescriptions.



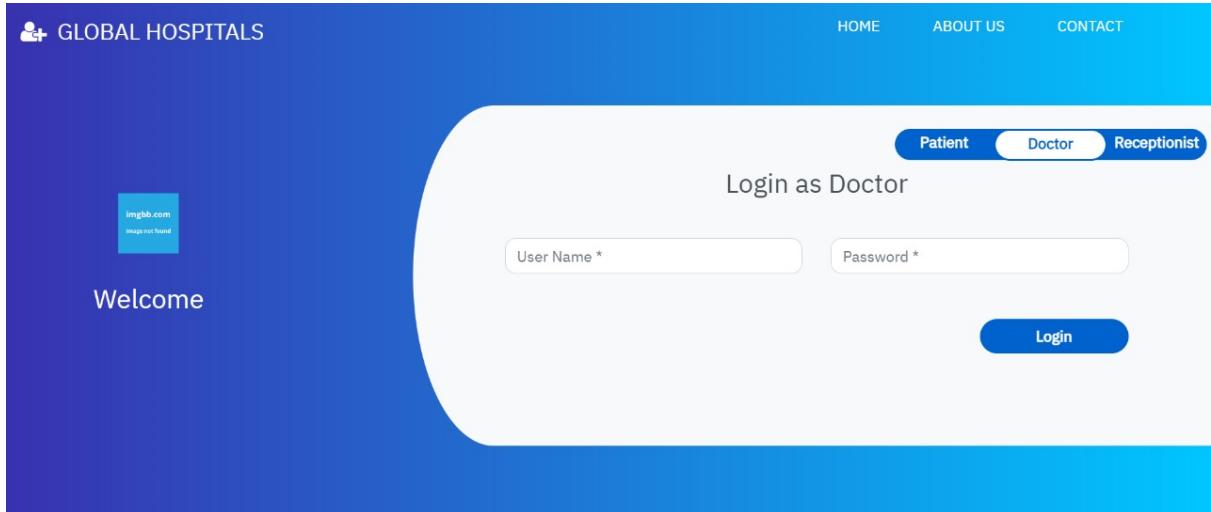
Book My Appointment
[Book Appointment](#)



My Appointments
[View Appointment History](#)



Prescriptions
[View Prescription List](#)



The screenshot shows the doctor login page of the Global Hospitals website. At the top, there is a navigation bar with links for HOME, ABOUT US, and CONTACT. Below the navigation bar, there are three tabs: Patient (selected), Doctor (selected), and Receptionist. The main content area has a heading "Login as Doctor". It contains fields for User Name* and Password*. A blue "Login" button is at the bottom right.

Welcome sameer sethi

- Dashboard
- Book Appointment**
- Appointment History
- Prescriptions

Create an appointment

Specialization:

Doctors:

Consultancy Fees

Appointment Date

Appointment Time

Create new entry



[HOME](#) [ABOUT US](#) [CONTACT](#)

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- Affordable monthly premium packages**
Lorem ipsum dolor sit amet, in verterem persecuti vix, sit te meis
- Choose your favourite services**
Lorem ipsum dolor sit amet, in verterem persecuti vix, sit te meis
- Only use friendly environment**
Lorem ipsum dolor sit amet, in verterem persecuti vix, sit te meis

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SCHEMA

ADMIN

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	username	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	2	password	varchar(30)	latin1_swedish_ci		No	<i>None</i>		

APPOINTMENT

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	pid	int(11)			No	<i>None</i>		
<input type="checkbox"/>	2	ID 	int(11)			No	<i>None</i>		AUTO_INCREMENT
<input type="checkbox"/>	3	fname	varchar(20)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	4	Iname	varchar(20)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	5	gender	varchar(10)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	6	email	varchar(30)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	7	contact	varchar(10)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	8	doctor	varchar(30)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	9	docFees	int(5)			No	<i>None</i>		
<input type="checkbox"/>	10	apptime	date			No	<i>None</i>		
<input type="checkbox"/>	11	apptime	time			No	<i>None</i>		
<input type="checkbox"/>	12	userStatus	int(5)			No	<i>None</i>		
<input type="checkbox"/>	13	doctorStatus	int(5)			No	<i>None</i>		

CONTACT

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1	name	varchar(30)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	2	email	text	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	3	contact	varchar(10)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	4	message	varchar(200)	latin1_swedish_ci		No	<i>None</i>		

DOCTOR

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1 username	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	2 password	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	3 email	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	4 spec	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	5 docFees	int(10)			No	<i>None</i>		

PATIENT

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1 pid 	int(11)			No	<i>None</i>		AUTO_INCREMENT
<input type="checkbox"/>	2 fname	varchar(20)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	3 Iname	varchar(20)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	4 gender	varchar(10)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	5 email	varchar(30)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	6 contact	varchar(10)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	7 password	varchar(30)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	8 cpassword	varchar(30)	latin1_swedish_ci		No	<i>None</i>		

PRESCRIPTION

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
<input type="checkbox"/>	1 doctor	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	2 pid	int(11)			No	<i>None</i>		
<input type="checkbox"/>	3 ID	int(11)			No	<i>None</i>		
<input type="checkbox"/>	4 fname	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	5 Iname	varchar(50)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	6 apptime	date			No	<i>None</i>		
<input type="checkbox"/>	7 apptime	time			No	<i>None</i>		
<input type="checkbox"/>	8 disease	varchar(250)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	9 allergy	varchar(250)	latin1_swedish_ci		No	<i>None</i>		
<input type="checkbox"/>	10 prescription	varchar(1000)	latin1_swedish_ci		No	<i>None</i>		

CONTENTS OF TABLE

Appointment table

	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	pid	ID	fname	Iname	gender	email	contact	doctor	docFees	apptime	appdate	userStatus	doct
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	1	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Ganesh	550	2020-02-14	10:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	2	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Dinesh	700	2020-02-28	10:00:00	0	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	3	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Amit	1000	2020-02-19	03:00:00	0	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	11	4	Shraddha Kapoor		Female	shraddha@gmail.com	9768946252	ashok	500	2020-02-29	20:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	5	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Dinesh	700	2020-02-28	12:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	6	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Ganesh	550	2020-02-26	15:00:00	0	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	2	8	Alia	Bhatt	Female	alia@gmail.com	8976897689	Ganesh	550	2020-03-21	10:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	5	9	Gautam	Shankaram	Male	gautam@gmail.com	9070897653	Ganesh	550	2020-03-19	20:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	10	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Ganesh	550	0000-00-00	14:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	11	Kishan	Lal	Male	kishansmart0@gmail.com	8838489464	Dinesh	700	2020-03-27	15:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	9	12	William	Blake	Male	william@gmail.com	8683619153	Kumar	800	2020-03-26	12:00:00	1	
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	9	13	William	Blake	Male	william@gmail.com	8683619153	Tiwary	450	2020-03-26	14:00:00	1	

Patient

	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	pid	ID	fname	Iname	gender	email	contact	password	cpassword
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	1	Ram	Kumar		Male	ram@gmail.com	9876543210	ram123	ram123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	2	Alia	Bhatt		Female	alia@gmail.com	8976897689	alia123	alia123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	3	Shahrukh	khan		Male	shahrukh@gmail.com	8976898463	shahrukh123	shahrukh123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	4	Kishan	Lal		Male	kishansmart0@gmail.com	8838489464	kishan123	kishan123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	5	Gautam	Shankaram		Male	gautam@gmail.com	9070897653	gautam123	gautam123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	6	Sushant	Singh		Male	sushant@gmail.com	9059986865	sushant123	sushant123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	7	Nancy	Deborah		Female	nancy@gmail.com	9128972454	nancy123	nancy123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	8	Kenny	Sebastian		Male	kenny@gmail.com	9809879868	kenny123	kenny123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	9	William	Blake		Male	william@gmail.com	8683619153	william123	william123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	10	Peter	Norvig		Male	peter@gmail.com	9609362815	peter123	peter123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	11	Shraddha	Kapoor		Female	shraddha@gmail.com	9768946252	shraddha123	shraddha123
<input type="checkbox"/>	<input type="button" value="Edit"/>	<input type="button" value="Copy"/>	<input type="button" value="Delete"/>	12	Kabir	Kapoor		Male	kabir12345@gmail.com	8639284320	123456789	123456789

Prescription

doctor	pid	ID	fname	Iname	appdate	apptime	disease	allergy	prescription
Dinesh	4	11	Kishan	Lal	2020-03-27	15:00:00	Cough	Nothing	Just take a teaspoon of Benadryl every night.
Ganesh	2	8	Alia	Bhatt	2020-03-21	10:00:00	Severe Fever	Nothing	Take bed rest
Kumar	9	12	William	Blake	2020-03-26	12:00:00	Sever fever	nothing	Paracetamol -> 1 every morning and night.
Tiwarey	9	13	William	Blake	2020-03-26	14:00:00	Cough	Skin dryness	Intake fruits with more water content

Doctors

username	password	email	spec	docFees
ashok	ashok123	ashok@gmail.com	General	500
arun	arun123	arun@gmail.com	Cardiologist	600
Dinesh	dinesh123	dinesh@gmail.com	General	700
Ganesh	ganesh123	ganesh@gmail.com	Pediatrician	550
Kumar	kumar123	kumar@gmail.com	Pediatrician	800
Amit	amit123	amit@gmail.com	Cardiologist	1000
Abbis	abbis123	abbis@gmail.com	Neurologist	1500
Tiwary	tiwary123	tiwary@gmail.com	Pediatrician	450
Aman Kr Jha	aman123	amanjha2@gmail.com	Pediatrician	1500
vishwangi raj	vishwa123	vishwa123@gmail.in	Neurologist	1200
riya	123	riya123@gmail.com	General	123