VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama", Belgaum - 590 018

A COURSE PROJECT REPORT of DATABASE MANAGEMENT SYSTEM LAB

on

"Covid Medical Center"

Submitted in the Partial fulfillment of the requirements of Semester -4 of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE & ENGINEERING

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

CERTIFICATE

Certified that Course Project Work titled "**Covid Medical Center**", carried out by **Manjeera Reddy. V (1NT19CS109)** bonafide student of **Nitte Meenakshi Institute of Technology** in partial fulfilment of Semester-4 of Bachelor of Technology Degree in Computer Science & Engineering under Visvesvaraya Technological University, Belagavi during the year 2019-2020. It is certified that all corrections/ suggestions indicated for Internal Assesment have been incorporated in the Report deposited in the Departmental Library. The Course Project Report has been approved as it satisfies the Academic requirements in respect of the Course Project Work prescribed for the said Degree.

Signature of Guide

……..
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Assistant Professor,
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I

Abstract

‘Covid Medical Center’ is a hospital management system (HMS) for designated covid hospitals. In the wake of Covid, quite a few hospitals became designated covid hospitals, hence came to the need for devising an HMS for it. The HMS contains features like adding patient records, booking rooms, viewing available medicines, transferring papers, and more. It was created with the knowledge of DBMS and a bunch of scripting languages like HTML, PHP, and more. Although this project is just a tiny amount of what HMS does in daily lives, it’s a good start to learning more about HMS. HMS are synchronized with current technologies and have been in existence for over 70 years. They will continue to evolve.

II

ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of the project would be incomplete without the mentioning of the people who made it possible, whose constant guidance and encouragement crowned our efforts with success. We consider privileged to express our gratitude and respect towards all those who are guiding us throughout the completion of the project.

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Manjeera Reddy. V

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1. Introduction

1.1 Background

Hospital management systems (HMS) was introduced to solve the complications coming from managing all the paper works of every patient associated with the various departments of hospitalization with confidentiality. HMS provides the ability to manage all the paperwork in one place, reducing the work of staff in arranging and analyzing the paperwork of the patients. HMS first came into existence over 70 years ago. They have been evolving ever since and these days are synchronized with the technologies while the pursuit to modernizing healthcare facilities continues.

In the wake of COVID-19, quite a number of hospitals have become designated Covid hospitals. Designated Covid hospitals treat those with confirmed Covid cases and screens those suspected of Covid. 'Covid Medical Center' project is a hospital management system for making the task of handling data a tiny bit easier. It handles registration of new patients, allows them to enter results, diagnosis, bills and the planned treatment. Apart from this, it retrieves patient records and allows us to view other kinds of records. There's an option of viewing medicines available at the moment, transferring cases, signing discharge papers, medical certificates, booking ORs, ICUs, and more.

1.2 Brief History of DBMS and MySQL

The 'first' DBMS was designed in the year of 1960 by Charles W. Bachman. This was followed by IMS, a database system designed by IBM. Both the data systems are described as the forerunners of navigational databases. By the mid-1960s, as computers developed speed and flexibility, and became more popular, many database systems came into existence which led to the need of having a standard for these database systems. This led to Bachman forming the Database Task Group.

IBM research laboratory in San Jose developed SQL language which became commercially available by the end of 70s. At the same time, RDBMS based on other languages were published. SQL was elected was standardization.

MySQL was created by a Swedish company, MySQL AB. Original development of MySQL by Widenius and Axmark began in 1994. The first version of MySQL appeared on 23 May 1995. It was initially created for personal usage from mSQL based on the low-level language ISAM, which the creators considered too slow and inflexible. They created a new SQL interface, while keeping the same API as mSQL. By keeping the API consistent with the mSQL system, many developers were able to use MySQL instead of the (proprietarily licensed) mSQL antecedent. The key differences between SQL and MySQL are that SQL is a query language while MySQL is a database software, and SQL is a language

which is used to operate your database whereas MySQL was one of the first open-source database available in the market.

The acronym NoSQL was first used in 1998 by Carlo Strozzi while naming his lightweight, open-source “relational” database that did not use SQL. The name came up again in 2009 when Eric Evans and Johan Oskarsson used it to describe non-relational databases.

1.3 Project Motivation

The motivation for the project was the amount of mental health toll on the health workers during pandemic. And although this project doesn’t solve the pandemic crisis, it aims to reduce the work by a tiny percent. Learning more about DBMS in this semester gave me an opportunity to know more about hospital management systems and a newfound respect for all the professionals out there.

1.4 Project Objective

The objective of this project was to implement and learn more about MySQL and MongoDB to build an HMS for designated Covid hospitals. The project tries to implement the following scenario. A potential COVID patient comes to the hospital in a car/ambulance. Tests are carries out and once the results come out, the patient is assigned a doctor, room and treatment method. Care is taken of the patient until they completely recover. In situations when they have any other illness which requires supervision and even surgery, they are transferred to another hospital.

2. System Requirements Specification

Given below are the requirements for using this project.

2.1 Hardware Requirements

- 4GB RAM
- Antivirus subscription for the data to remain safe
- 1536X864 is the recommended screen resolution

2.2 Software Requirements

- XAMPP or WampServer
- Configure php.ini and sendmail.ini files

3. Proposed System

3.1 ER Diagram

The proposed system uses 10 tables and the logic behind it is that a Health Worker attends patient and checks on rooms, records. The patient (split into 2 tables namely patient and details) is assigned a room and gets treatment and a bill. The other three tables are login, medicine, deaths which are for login purposes, availability of medicine and keeping track of deaths respectively.

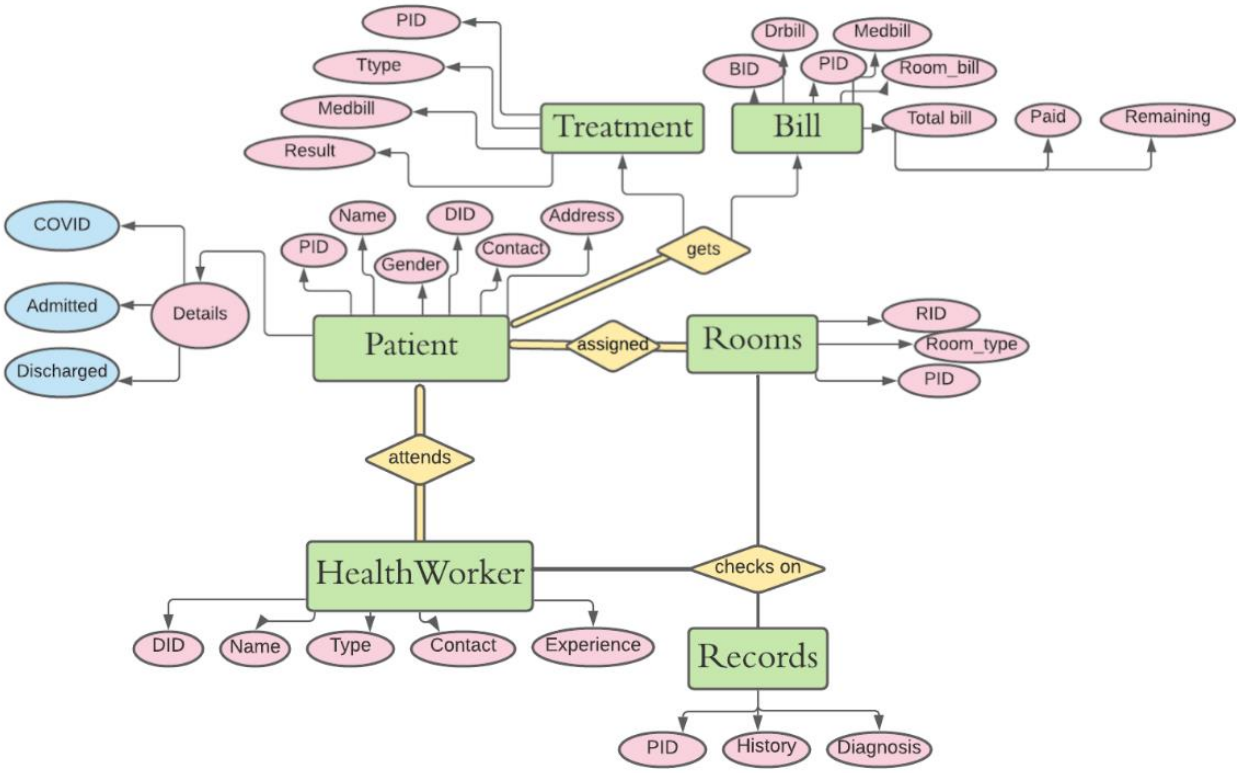


Fig. 3.1 ER diagram

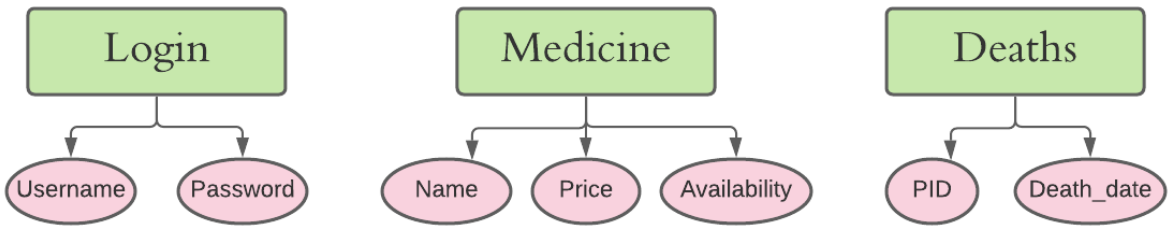


Fig. 3.2 Additional tables

3.2 Schema Diagram for Covid Medical Center

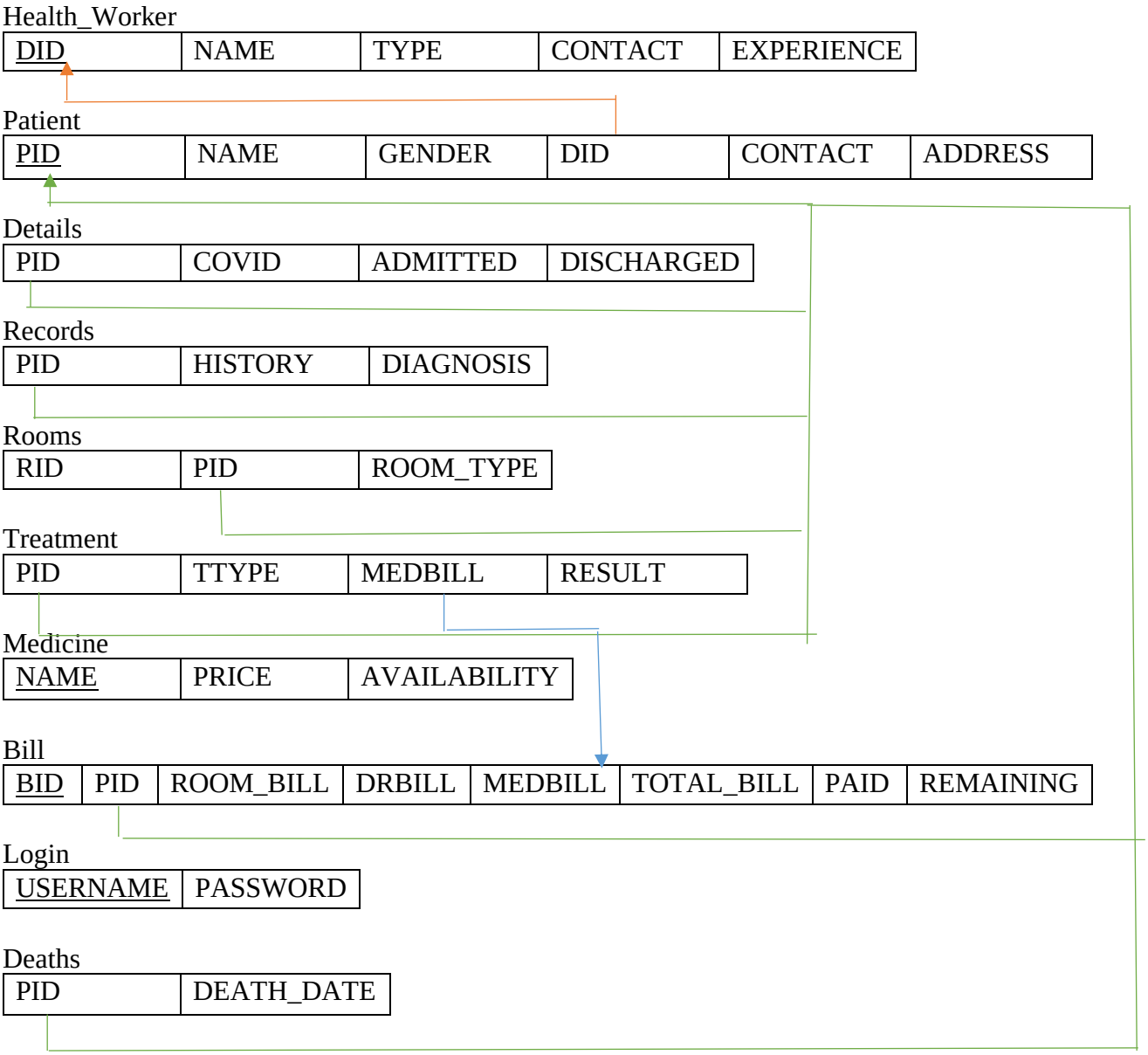


Table 3.1 Schema Diagram

DID, PID, NAME, BID which are Health_Worker ID, Patient ID, Name of Medicine, Bill ID are primary keys in health_worker, patient, Medicine and bill tables respectively. These values uniquely identify each row in a table.

DID in Patient is a foreign key to DID in Health_Worker Table.
PID in Details, Records, Rooms, Treatment, Bill, Deaths act as foreign keys for PID from Patient table.

Type in Health_Worker has a limited set of possible values.

USERNAME in Login is a unique key.

RID which is Room ID in Rooms can't be null.

3.3 Relational Database Schema

HEALTH_WORKER(DID String, NAME String, TYPE String, CONTACT Int, EXPERIENCE Int)

PATIENT(PID String, NAME String, GENDER String, DID String, CONTACT Int, ADDRESS String)

DETAILS(PID String, COVID Boolean, ADMITTED Date, DISCHARGED Date)

RECORDS(PID String, HISTORY String, DIAGNOSIS String)

ROOMS(RID String, PID String, ROOM_TYPE Int)

TREATMENT(PID String, TTYPE String, MEDBILL Int, RESULT String)

MEDICINE(NAME String, PRICE Int, AVAILABILITY Int)

BILL(BID String, PID String, ROOM_BILL Int, DRBILL Int, MEDBILL Int, TOTAL_BILL Int, PAID Int, REMAINING Int)

LOGIN(USERNAME String, PASSWORD String)

DEATHS(PID String, DEATH_DATE Datetime)

Although most of the attributes are of type String and Int, COVID, ADMITTED and DISCHARGED from DETAILS are of type Boolean, Date, Date. DEATH_DATE from DEATHS is Datetime.

4. Implementation

Queries in SQL

4.1 Login page

SELECT * FROM LOGIN WHERE USERNAME=? AND PASSWORD=?;
If the result returns a row, the login was successful.

4.2 Registration page

INSERT INTO LOGIN (?, ?);

4.3 Patient Option

4.3.1 New Patient

INSERT INTO PATIENT VALUES (?,?,?,?,?,?);
This inserts values into the patient table and DID is initially set to NA.

INSERT INTO BILL VALUES(?,?,0,0,0,0,0,0);
This creates Bill ID for the patient and initializes bills it to 0.

4.3.2 View Single Record

SELECT P.PID, P.NAME, P.GENDER, P.DID, P.CONTACT, P.ADDRESS, D.COVID, D.ADMITTED, D.DISCHARGED FROM PATIENT P, DETAILS D WHERE P.PID=D.PID AND P.PID=?;
This uses tables PATIENT and DETAILS to display the record.

4.3.3 View all the patient records

SELECT P.PID, P.NAME, P.GENDER, P.DID, P.CONTACT, P.ADDRESS, D.COVID, D.ADMITTED, D.DISCHARGED FROM PATIENT P, DETAILS D WHERE P.PID=D.PID;
Similar to viewing single record but it retrieves all the rows instead of a specific one.

4.3.4 Enter results

INSERT INTO DETAILS (PID, COVID, ADMITTED) VALUES(?,?,?);
UPDATE PATIENT SET DID=? WHERE PID=?;
Inserts values into details table and updates DID from ‘NA’ to the assigned one.

4.3.5 Medical Certificate

INSERT INTO DEATHS VALUES(?,?);
Registers death.

4.3.6 Diagnosis

INSERT INTO RECORDS VALUES (?,?,?);

4.3.7 Treatment

INSERT INTO TREATMENT VALUES(?, ?, ?, ?);

4.3.8 Bill

UPDATE BILL SET ROOM_BILL=ROOM_BILL+?, DRBILL=DR_BILL+?, MEDBILL=MEDBILL+?, TOTAL_BILL=TOTAL_BILL+?, PAID=PAID+?, REMAINING=REMAINING+? WHERE PID=?;
It adds the new bill amount to existing bill for different segments.

4.4 Record

Can execute any query you enter

4.5 Pharmacy

SELECT Name, Price FROM MEDICINE WHERE Availability=1;
Selects the medicines available in pharmacy.

4.6 Book a Room

4.6.1 Book an OR

SELECT RID FROM ROOMS WHERE PID = '0' AND RID LIKE 'O%';
Displays Room IDs which begin with O and are available for booking.

4.6.2 Book an ICU

SELECT RID FROM ROOMS WHERE PID = '0' AND RID LIKE 'I%';
Displays Room IDs which begin with I and are available for booking.

4.6.3 Book a Room

SELECT RID FROM ROOMS WHERE PID = '0' AND RID LIKE 'R%';
Displays Room IDs which begin with R and are available for booking.

4.6.4 Book a Suite

SELECT RID FROM ROOMS WHERE PID = '0' AND RID LIKE 'S%';
Displays Room IDs which begin with S and are available for booking.

UPDATE ROOMS SET PID = ? WHERE RID = ?;
To book the room.

4.7 Transfer Papers

SELECT NAME, GENDER, CONTACT FROM PATIENT WHERE PID = ?;
SELECT HISTORY, DIAGNOSIS FROM RECORDS WHERE PID = ?;
For retrieving values that will be contained in the email of transfer case.

4.8 Discharge Papers

UPDATE DETAILS SET DISCHARGED=? WHERE PID = ?;
It updates the details table to enter Discharge date.

Queries in MongoDB

Login

use covid_medical_center;
db.login.find({"username":?,"password":?},{"username":1}).pretty();
If a row is returned, then the login was successful.

Register

db.login.insert({“username”:?, “password”:?});

5. System Testing

XAMPP's Apache and MySQL modules were started before testing the system. XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages.

5.1 Login Page

It starts with a login page.

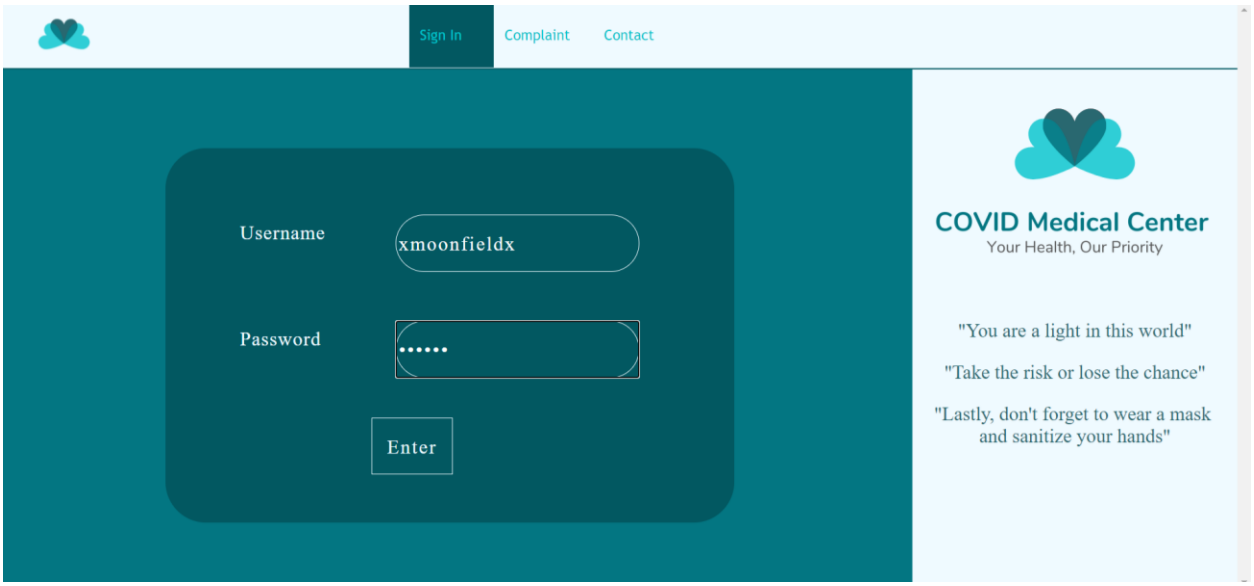


Fig 5.1a Login page

When the user enters wrong credentials, it throws an alert message. Else redirects them to the patient page shown in Fig 5.2a.

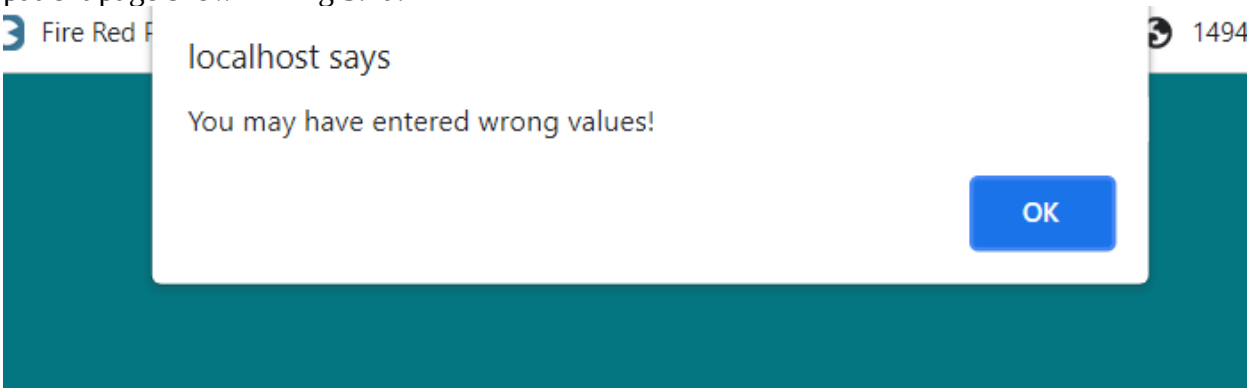


Fig 5.1b Wrong credentials

5.2 Patient Page

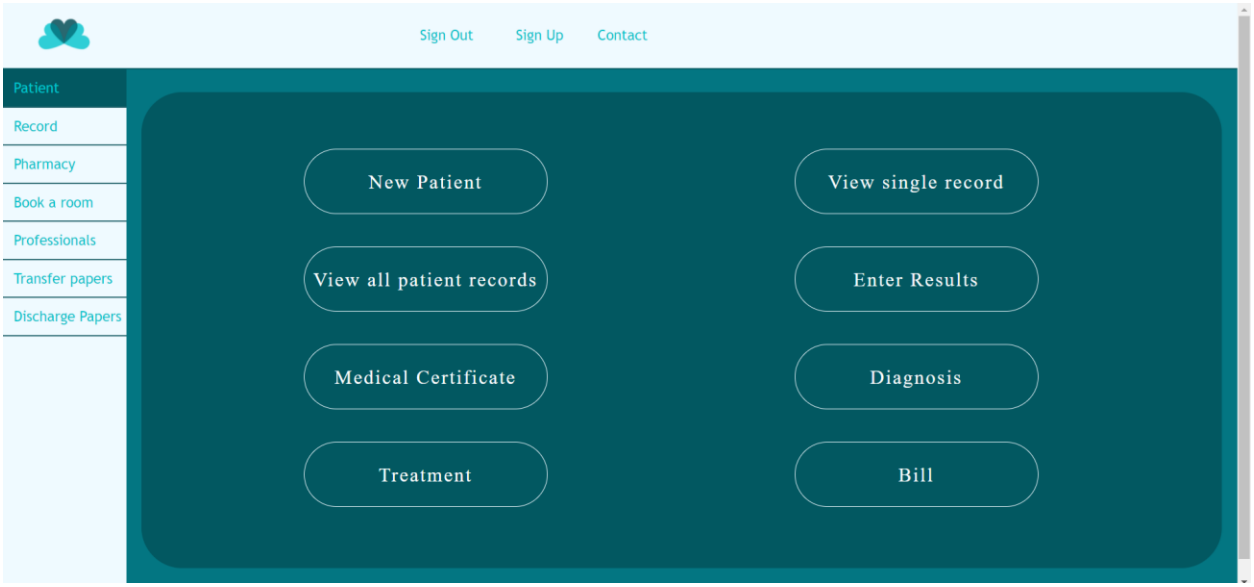


Fig 5.2 Patient Page

5.2.1 New Patient

A new patient can be added by clicking on new patient option as shown in Fig 5.2.1a. For the details entered in Fig 5.2.1b, the data stored is shown in 5.2.1c and it gets registered in the database as shown in Fig 5.2.1d.

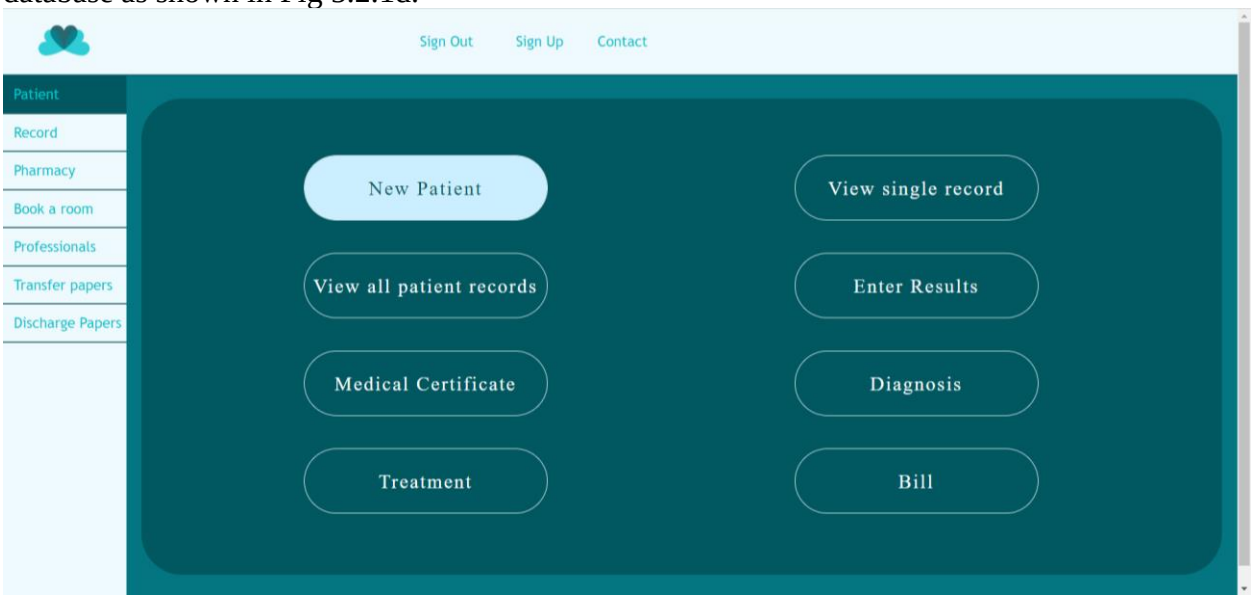


Fig 5.2.1a New Patient option

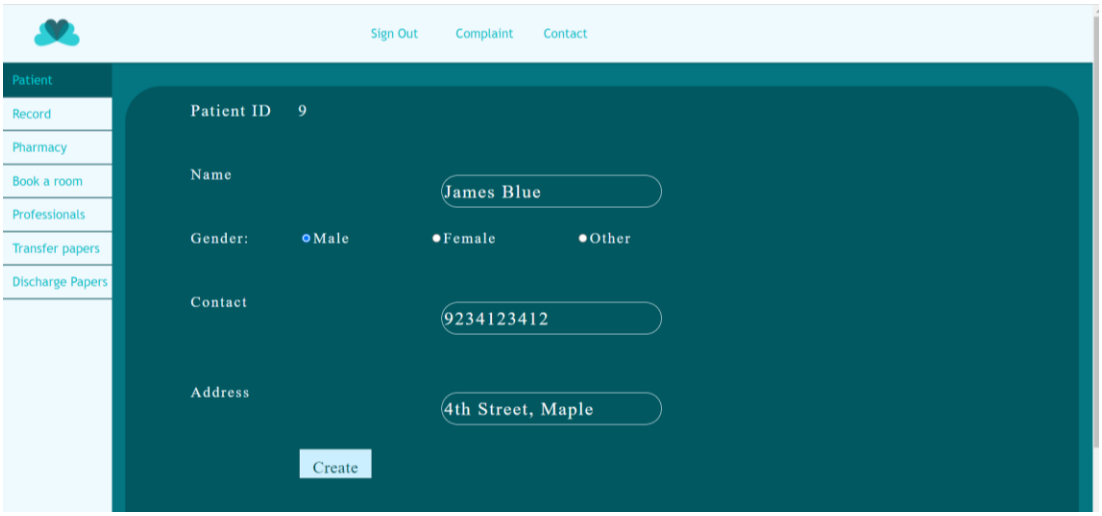


Fig 5.2.1b Enter data for new patient

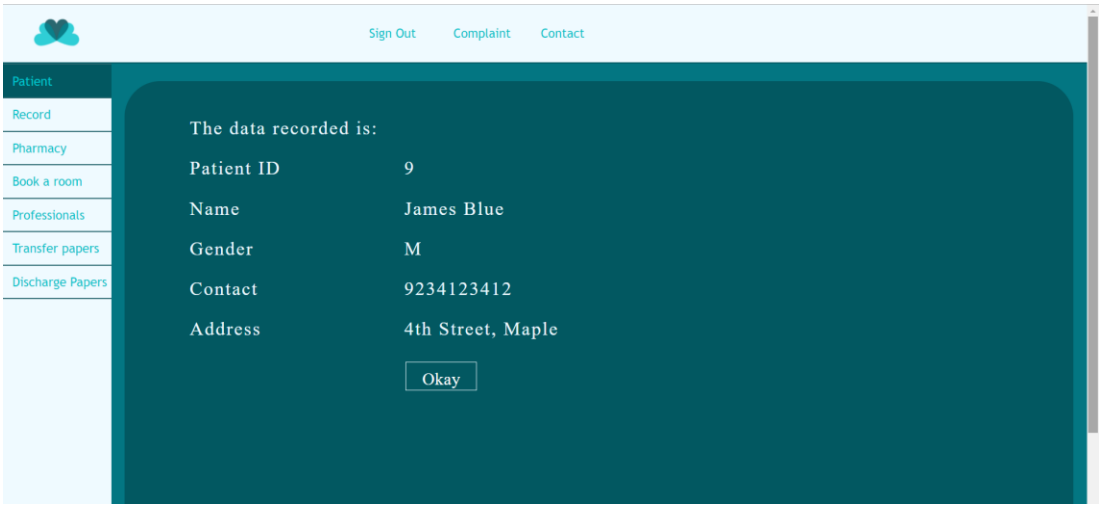


Fig 5.2.1c Succesfull

PID	NAME	GENDER	DID	CONTACT	ADDRESS
100	Andrea Miller	F	1	1234567891	215, Tarabai Park
101	Kalinda Narayan	M	1	2345678912	412, Rajarampuri
102	Josh Kim	NB	2	3456789123	12, Csiber
103	Kwon Yun Bok	F	1	1231231231	1, DYP
104	Maharaj Maharaj	M	1	2342342341	Unknown
105	Laine Bridge	F	2	1234512345	7, Jadhavwadi
106	Adarsh Singh	M	1	9876598765	4, Nagala Park
107	Melinda Brown	F	2	9542380812	7, Butterfly
108	Riann Ali	M	2	2342342341	21, Street
109	Nita Chakshu	NB	1	9876543210	4, Mangalwar Peth
6	Rose	F	1	1234567891	Tarabai Park
7	Manjeera	F	2	7218081467	Jadhavwadi
8	Natalie	F	1	213456789	Nagala Park
9	James Blue	M	*NULL*	9234123412	4th Street, Maple

Fig 5.2.1d Stored data in 9th row

5.2.2 View Single Record

Enter the Patient ID as shown in Fig 5.2.2a and the result is shown in 5.2.2b.

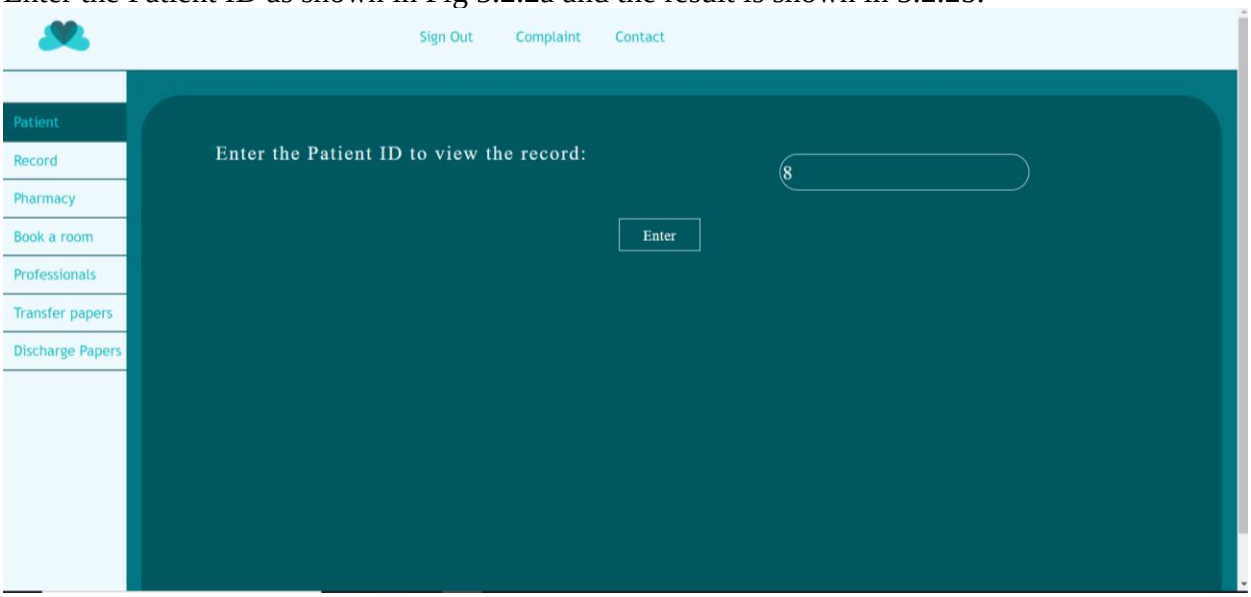


Fig 5.2.2a Enter PID

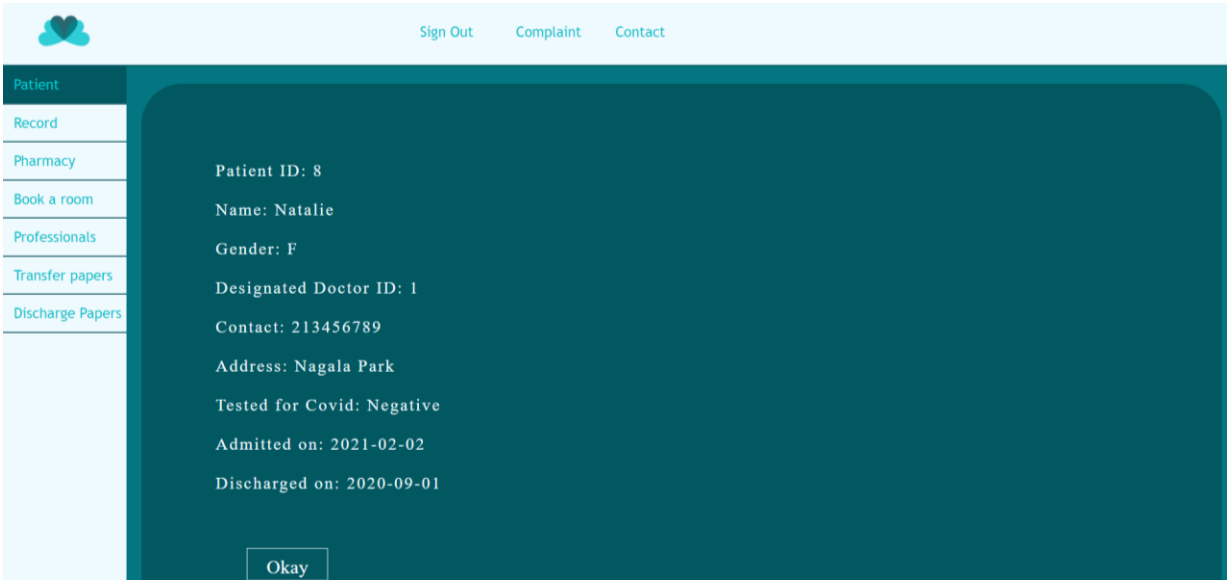
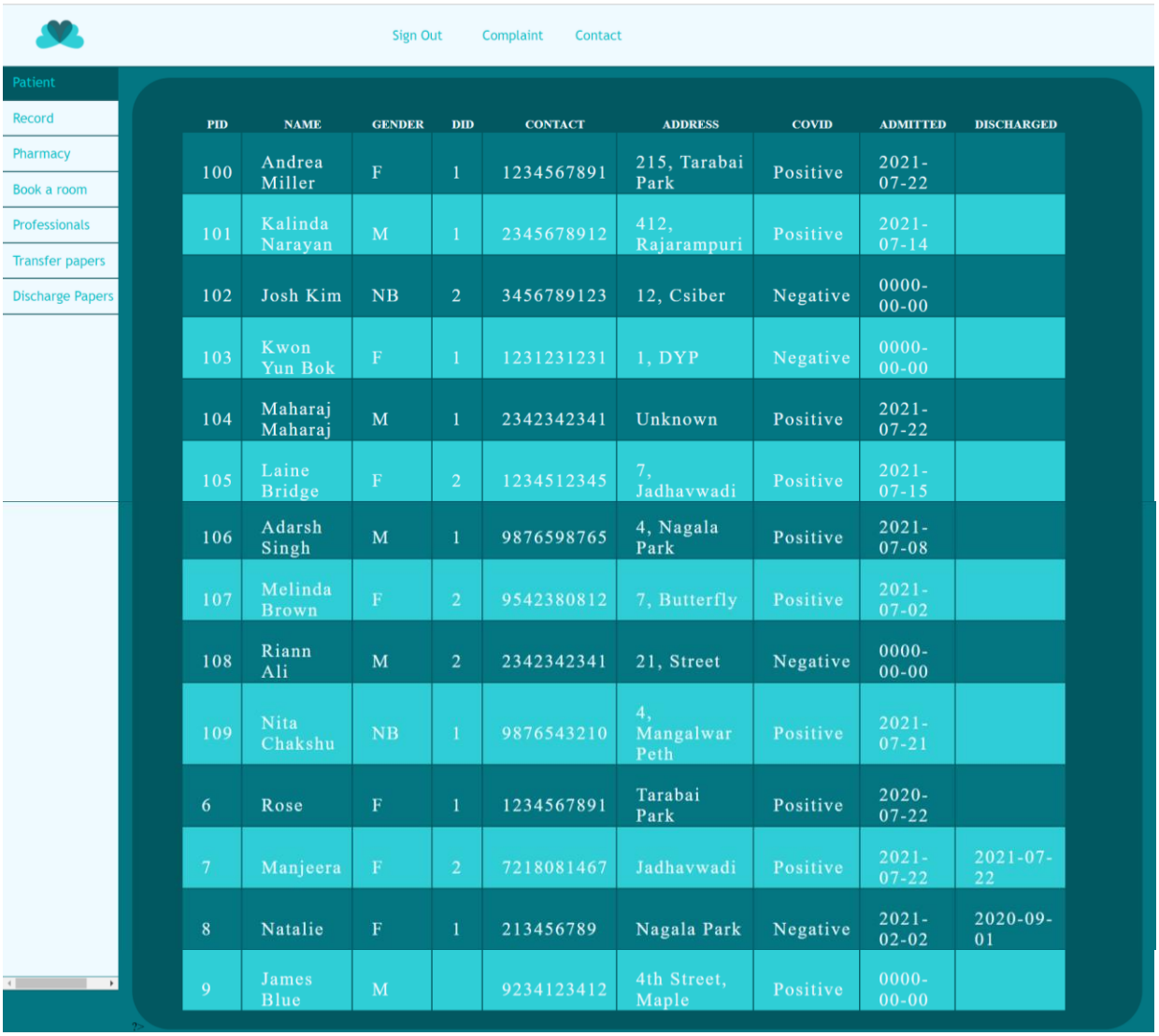


Fig 5.2.2b Retrieval

5.2.3 View all patient records



PID	NAME	GENDER	DID	CONTACT	ADDRESS	COVID	ADMITTED	DISCHARGED
100	Andrea Miller	F	1	1234567891	215, Tarabai Park	Positive	2021-07-22	
101	Kalinda Narayan	M	1	2345678912	412, Rajarampuri	Positive	2021-07-14	
102	Josh Kim	NB	2	3456789123	12, Csiber	Negative	0000-00-00	
103	Kwon Yun Bok	F	1	1231231231	1, DYP	Negative	0000-00-00	
104	Maharaj Maharaj	M	1	2342342341	Unknown	Positive	2021-07-22	
105	Laine Bridge	F	2	1234512345	7, Jadhavwadi	Positive	2021-07-15	
106	Adarsh Singh	M	1	9876598765	4, Nagala Park	Positive	2021-07-08	
107	Melinda Brown	F	2	9542380812	7, Butterfly	Positive	2021-07-02	
108	Riann Ali	M	2	2342342341	21, Street	Negative	0000-00-00	
109	Nita Chakshu	NB	1	9876543210	4, Mangalwar Peth	Positive	2021-07-21	
6	Rose	F	1	1234567891	Tarabai Park	Positive	2020-07-22	
7	Manjeera	F	2	7218081467	Jadhavwadi	Positive	2021-07-22	2021-07-22
8	Natalie	F	1	213456789	Nagala Park	Negative	2021-02-02	2020-09-01
9	James Blue	M		9234123412	4th Street, Maple	Positive	0000-00-00	

Fig 5.2.3 All the patient records

5.2.4 Enter results

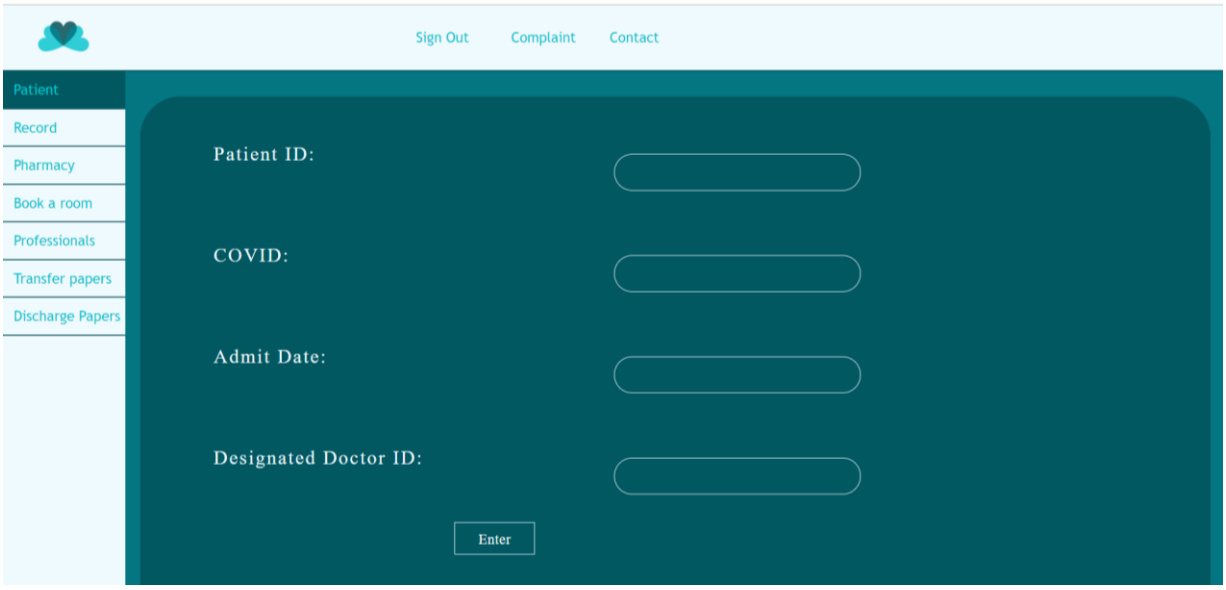


Fig 5.2.4 Enter results

5.2.5 Medical Certificate

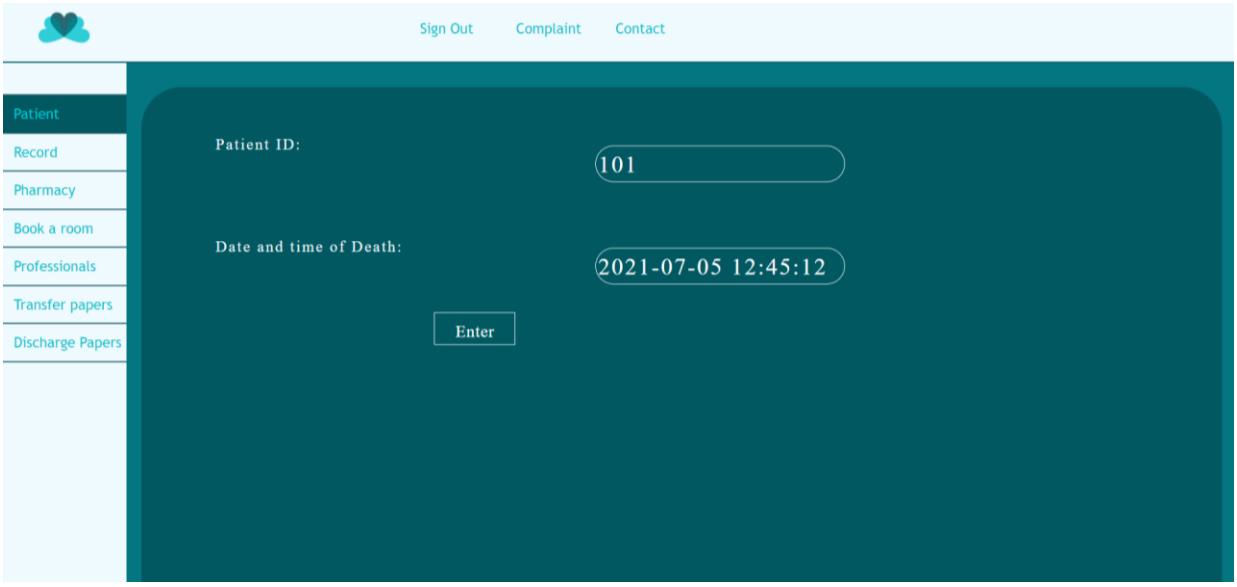


Fig 5.2.5 Medical certficate

5.2.6 Diagnosis

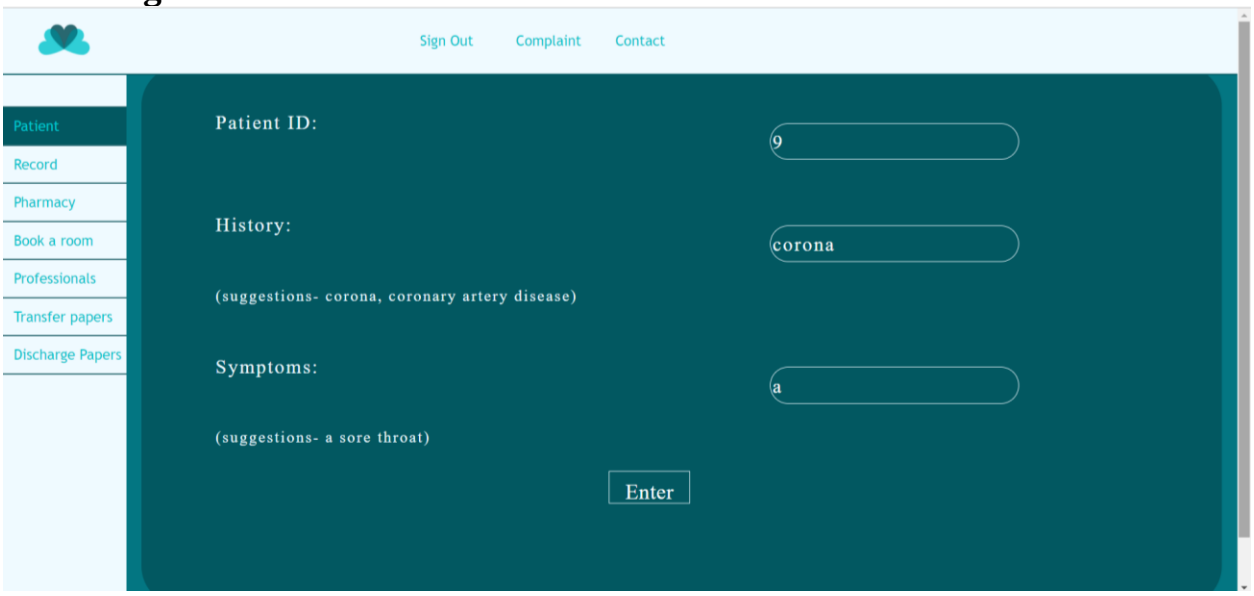


Fig 5.2.6a Entering Diagnosis

PID	HISTORY	DIAGNOSIS
7	coronary artery disease	shortness of breath
8	coronary artery disease	chills, cough
9	corona	a

Fig 5.2.6b Updated data

5.2.7 Treatment

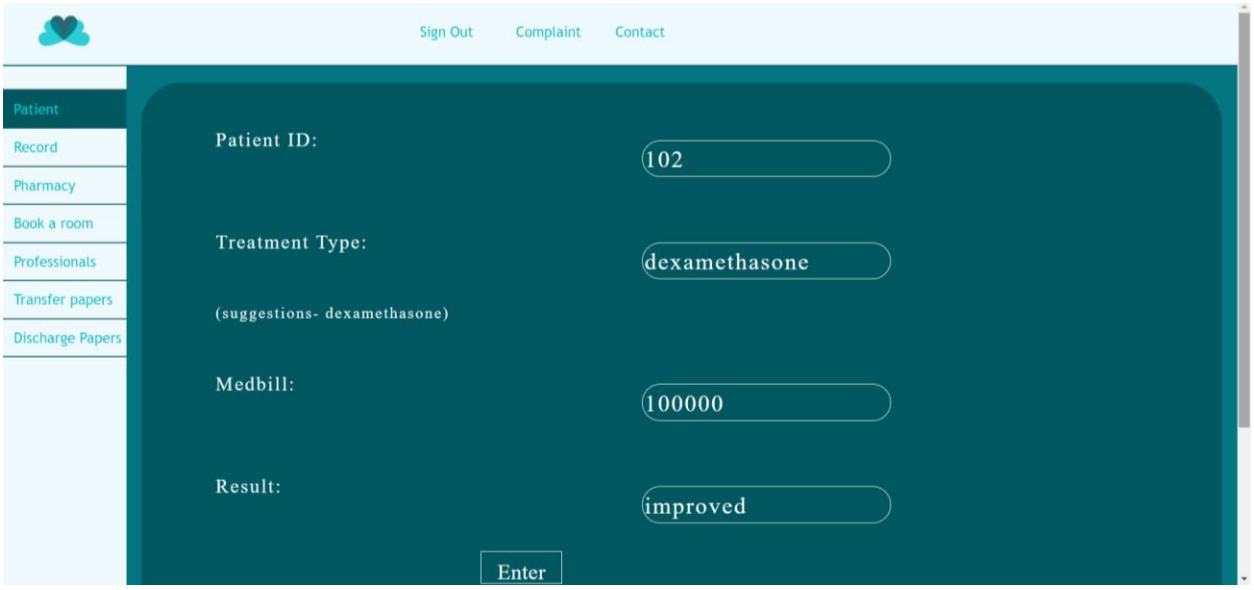


Fig 5.2.7a Entering treatment plan

PID	TTYPE	MEDBILL	RESULT
7	remdesvir	50000	average
8	remdesvir	50000	good
102	dexamethasone	100000	improved

5.2.7b Updated data

5.2.8 Bill

Initially the bill is 0 as shown in fig 5.2.8a. After adding bill amount in fig 5.2.8b, the updated data is shown in 5.2.8c.

BID	PID	ROOM_BILL	DRBILL	MEDBILL	TOTAL_BILL	PAID	REMAINING
9	9	0	0	0	0	0	0

Fig 5.2.8a Initially

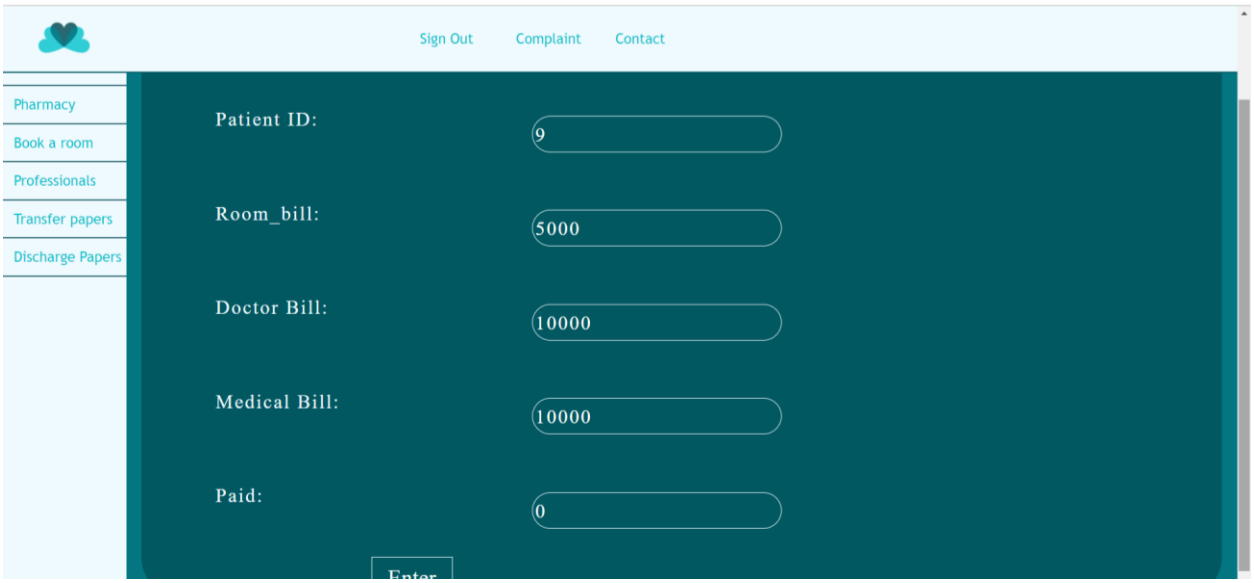


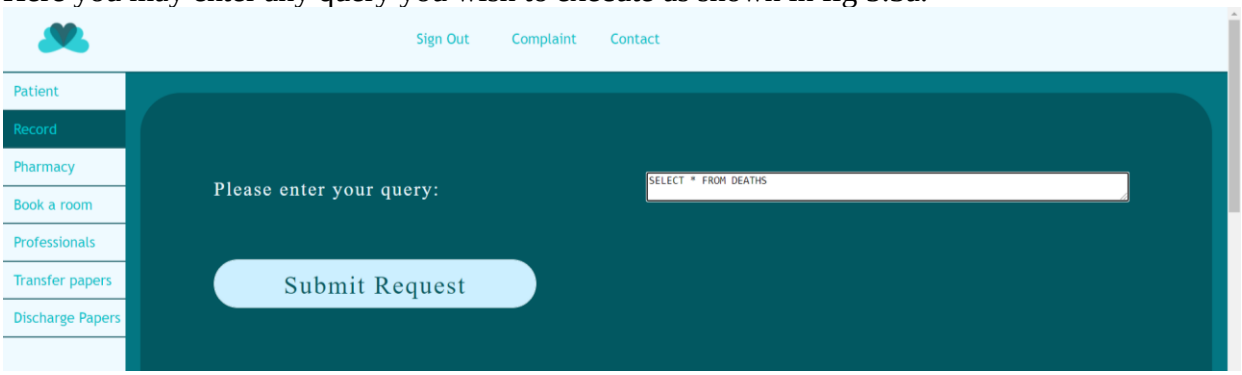
Fig 5.2.8b Bill

BID	PID	ROOM_BILL	DRBILL	MEDBILL	TOTAL_BILL	PAID	REMAINING
9	9	5000	10000	10000	25000	0	25000

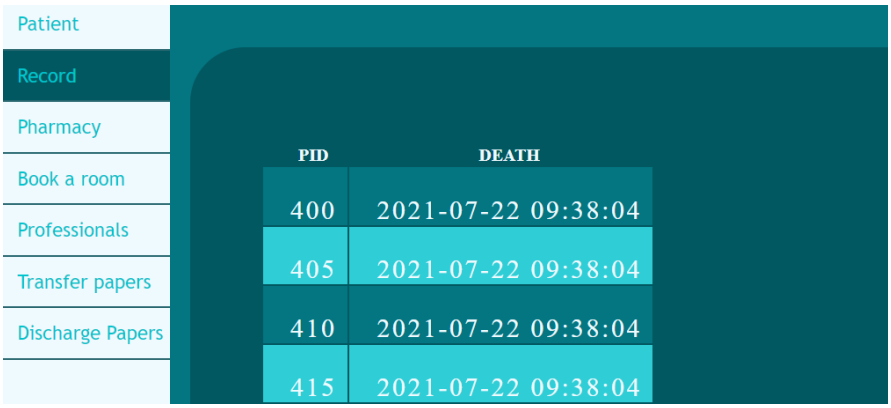
Fig 5.2.8c Updated data

5.3 Record

Here you may enter any query you wish to execute as shown in fig 5.3a.



5.3a Query



5.3b Result

5.4 Pharmacy

Pharmacy option fetches all the medicines currently available in the pharmacy as shown in fig 5.4.

Fig 5.4 Pharmacy

5.5 Book a Room

It gives you option of picking the type of room (fig 5.5a) followed by showing the available rooms and booking one (fig 5.5b).

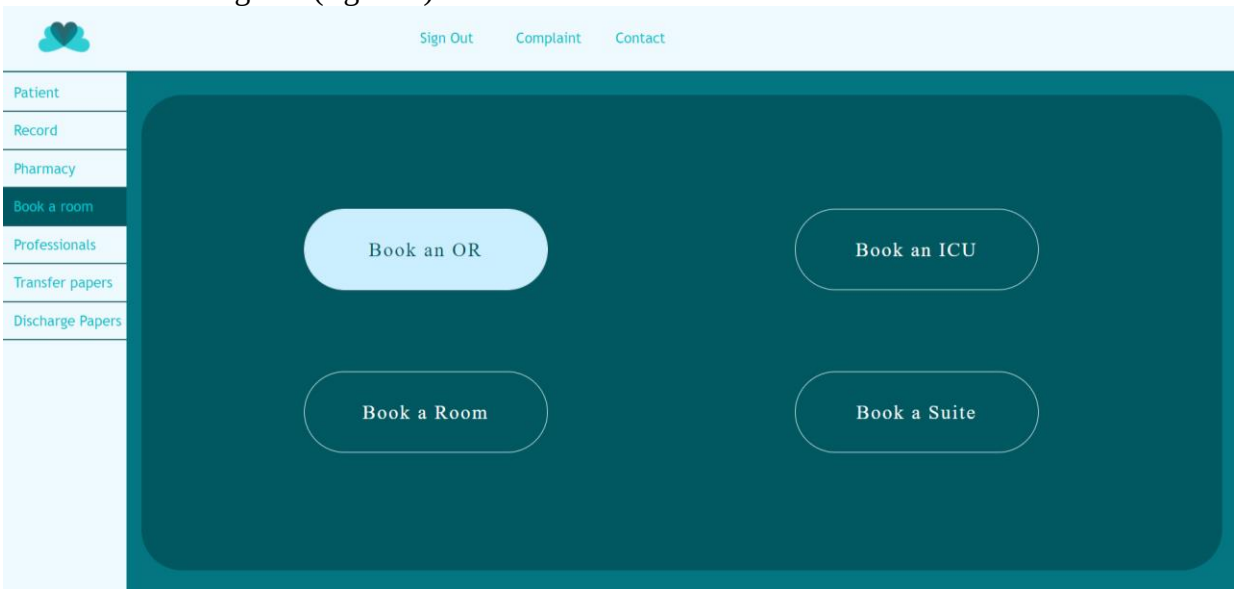


Fig 5.5a Type of room you wish to book

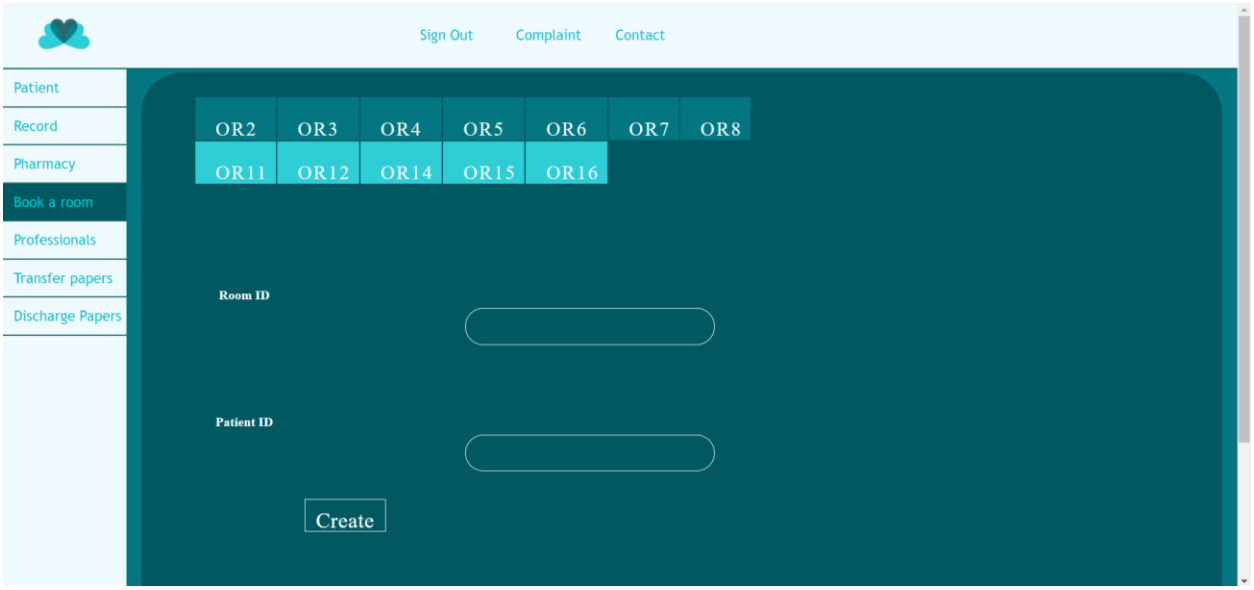


Fig 5.5b Booking the room

5.6 Professionals

It allows us to add a professional on board as shown in fig 5.6a and fig 5.6b.

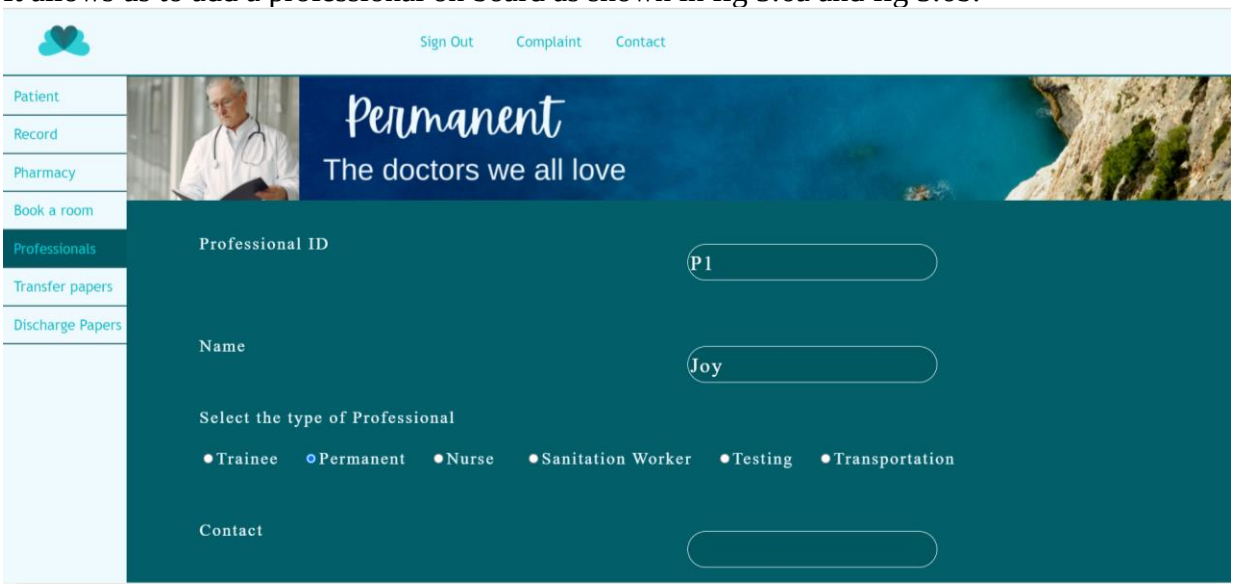


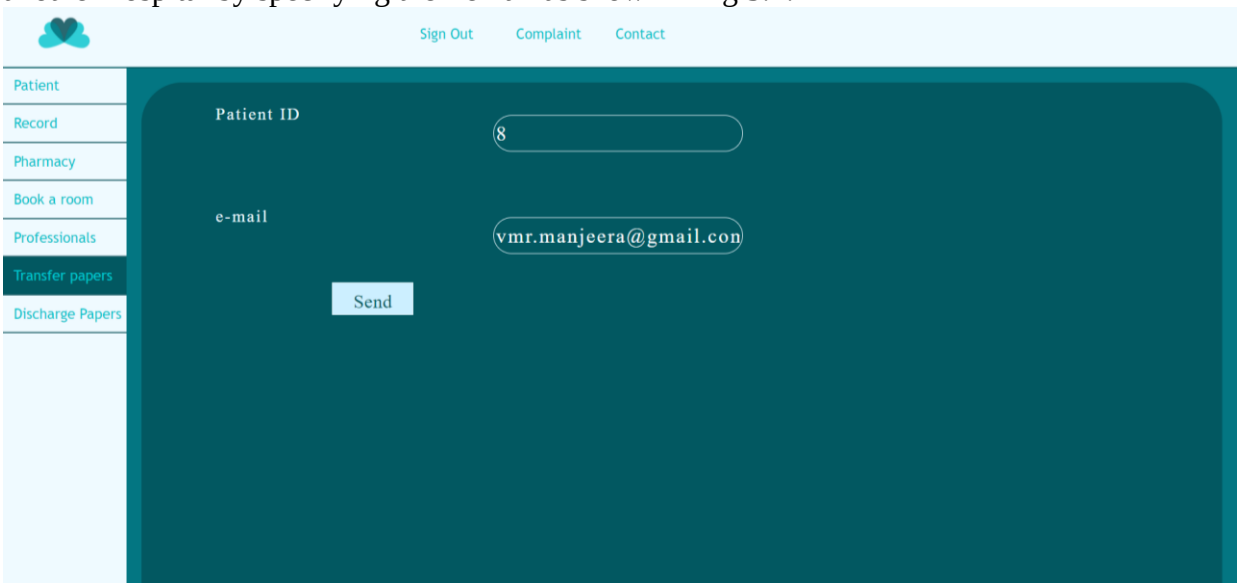
Fig 5.6a Adding a professional

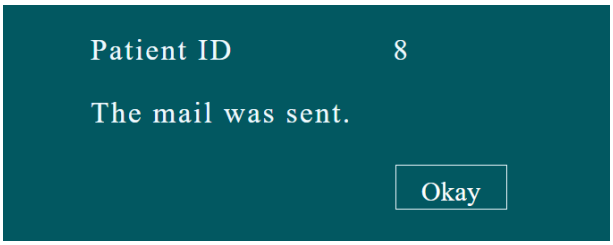
DID	NAME	TYPE	CONTACT	EXPERIENCE
P1	Joy	Permanent	4123512345	20

Fig 5.6b Data

5.7 Transferring case

When we enter the Patient ID and specify email of the person, the case should get transferred to another hospital by specifying their email as shown in fig 5.7.





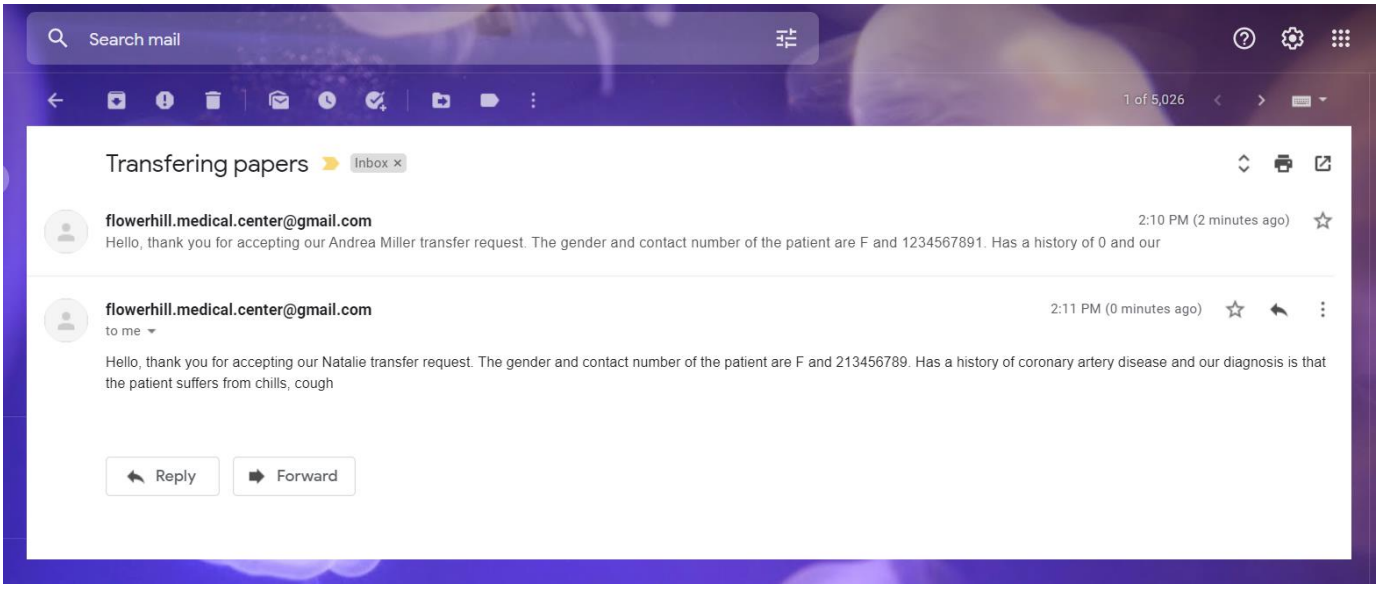
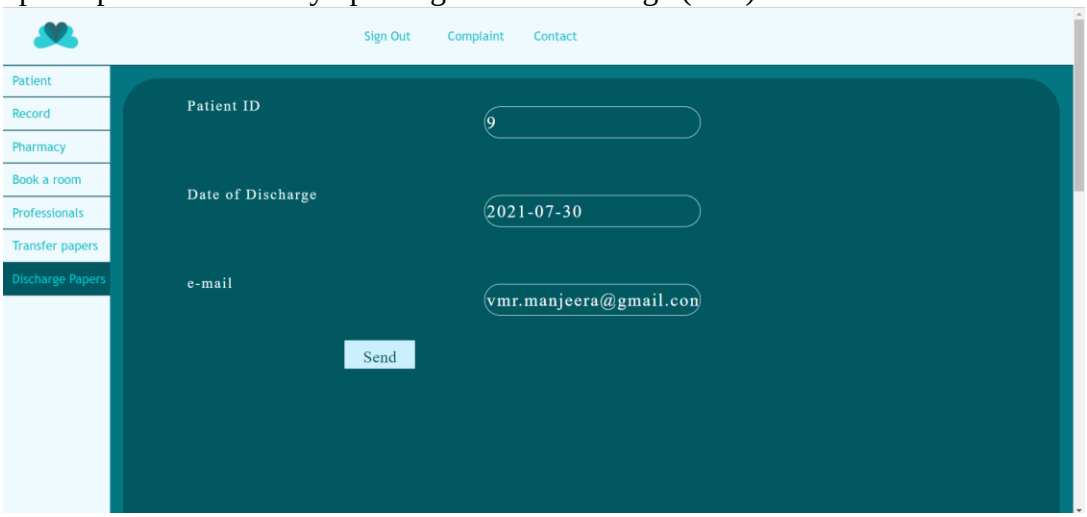


Fig 5.7 Transferring case

5.8 Discharge Papers

When a patient becomes free of COVID, their discharge date is to be mentioned along with email as shown in fig 5.8a. It would send an email to the given email address (fig 5.8b) and update patient records by updating date of discharge (5.8c).



5.8a Discharge papers

Thank you for staying strong. Inbox ×

flowerhill.medical.center@gmail.com
to me

We are happy that you are getting discharged! Take care and eat healthy.
Regards, Flowerhill Medical Center

Reply Forward

5.8b email

PID	NAME	GENDER	DID	CONTACT	ADDRESS	COVID	ADMITTED	DISCHARGED
100	Andrea Miller	F	1	1234567891	215, Tarabai Park	Positive	2021-07-22	
101	Kalinda Narayan	M	1	2345678912	412, Rajarampuri	Positive	2021-07-14	
102	Josh Kim	NB	2	3456789123	12, Csiber	Negative	0000-00-00	
103	Kwon Yun Bok	F	1	1231231231	1, DYP	Negative	0000-00-00	
104	Maharaj Maharaj	M	1	2342342341	Unknown	Positive	2021-07-22	
9	James Blue	M		9234123412	4th Street, Maple	Positive	0000-00-00	2021-07-30

5.8c Updated discharge date

6. Result Analysis

For the analysis of results, here's the updated tables after all the insertions displayed in phpMyAdmin and the project.

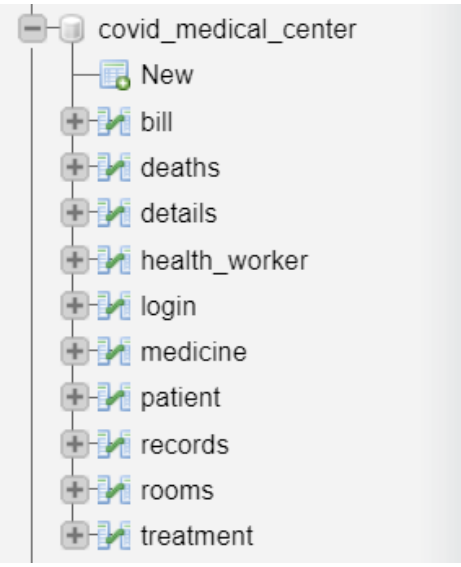


Fig 6.1 Tables

6.1 Health_Worker

DID	NAME	TYPE	CONTACT	EXPERIENCE
0	NA	29	0	*NULL*
1	Maya	Transporta	0	*NULL*
1111	Manjeera	Testing	7218081467	0
1112	Jyoti	Transporta	8600644588	0
12	Melinda	Testing	7218081467	0
1234	Manjeera	Unknown	7218081467	0
1237	Megan	Sanitation	123456712	1
2	Maya	29	10	*NULL*
3	Laine	Baine	10	*NULL*
4567	Nolan	Transporta	7218081467	5
5	Laine	Baine	10	1
NA	NA	29	0	*NULL*
P1	Joy	Permanent	4123512345	20

DID	NAME	TYPE	CONTACT	EXPERIENCE
0	NA	29	0	
1	Maya	Transporta	0	
1111	Manjeera	Testing	7218081467	0
1112	Jyoti	Transporta	8600644588	0
12	Melinda	Testing	7218081467	0
1234	Manjeera	Unknown	7218081467	0
1237	Megan	Sanitation	123456712	1
2	Maya	29	10	
3	Laine	Baine	10	
4567	Nolan	Transporta	7218081467	5
5	Laine	Baine	10	1

Table 6.1 Health_Worker

6.2 Patient

PID	NAME	GENDER	DID	CONTACT	ADDRESS
100	Andrea Miller	F	1	1234567891	215, Tarabai Park
101	Kalinda Narayan	M	1	2345678912	412, Rajarampuri
102	Josh Kim	NB	2	3456789123	12, Csiber
103	Kwon Yun Bok	F	1	1231231231	1, DYP
104	Maharaj Maharaj	M	1	2342342341	Unknown
105	Laine Bridge	F	2	1234512345	7, Jadhavwadi
106	Adarsh Singh	M	1	9876598765	4, Nagala Park
107	Melinda Brown	F	2	9542380812	7, Butterfly
108	Riann Ali	M	2	2342342341	21, Street
109	Nita Chakshu	NB	1	9876543210	4, Mangalwar Peth
6	Rose	F	1	1234567891	Tarabai Park
7	Manjeera	F	2	7218081467	Jadhavwadi
8	Natalie	F	1	213456789	Nagala Park
9	James Blue	M	*NULL*	9234123412	4th Street, Maple

PID	NAME	GENDER	DID	CONTACT	ADDRESS
100	Andrea Miller	F	1	1234567891	215, Tarabai Park
101	Kalinda Narayan	M	1	2345678912	412, Rajarampuri
102	Josh Kim	NB	2	3456789123	12, Csiber
103	Kwon Yun Bok	F	1	1231231231	1, DYP
104	Maharaj Maharaj	M	1	2342342341	Unknown
105	Laine Bridge	F	2	1234512345	7, Jadhavwadi
106	Adarsh Singh	M	1	9876598765	4, Nagala Park
107	Melinda Brown	F	2	9542380812	7, Butterfly
108	Riann Ali	M	2	2342342341	21, Street
109	Nita Chakshu	NB	1	9876543210	4, Mangalwar Peth
6	Rose	F	1	1234567891	Tarabai Park

Table 6.2 Patient

6.3 Details

PID	COVID	ADMITTED	DISCHARGED
100	1	2021-07-22	*NULL*
101	1	2021-07-14	*NULL*
102	0	0000-00-00	*NULL*
103	0	0000-00-00	*NULL*
104	1	2021-07-22	*NULL*
105	1	2021-07-15	*NULL*
106	1	2021-07-08	*NULL*
107	1	2021-07-02	*NULL*
108	0	0000-00-00	*NULL*
109	1	2021-07-21	*NULL*
6	1	2020-07-22	*NULL*
7	1	2021-07-22	2021-07-22
8	0	2021-02-02	2020-09-01
9	1	0000-00-00	2021-07-30

PID	COVID	ADMITTED	DISCHARGED
100	1	2021-07-22	
101	1	2021-07-14	
102	0	0000-00-00	
103	0	0000-00-00	
104	1	2021-07-22	
105	1	2021-07-15	
106	1	2021-07-08	
107	1	2021-07-02	
108	0	0000-00-00	
109	1	2021-07-21	

Table 6.3 Details

6.4 Records

PID	HISTORY	DIAGNOSIS
7	coronary artery disease	shortness of breath
8	coronary artery disease	chills, cough
9	corona	a

PID	HISTORY	DIAGNOSIS
7	coronary artery disease	shortness of breath
8	coronary artery disease	chills, cough
9	corona	a

Table 6.4 Records

6.5 Rooms

RID	PID	ROOM_TYPE
OR1	NA	10
OR2	0	10
OR3	0	10
OR4	0	10
OR5	0	8
OR6	0	7
OR7	0	8
OR8	0	7
ICU1	500	3
ICU2	0	2
ICU3	0	3
ICU4	0	2
R1	0	3
R2	0	3
R3	0	3
R4	0	3
R5	0	3
S1	0	1
S4	0	1
OR11	0	10
OR12	0	10
OR14	0	10
OR15	0	10
OR16	0	8
OR18	8	7

RID	PID	ROOM_TYPE
OR1	NA	10
OR2	0	10
OR3	0	10
OR4	0	10
OR5	0	8
OR6	0	7
OR7	0	8
OR8	0	7
ICU1	500	3
ICU2	0	2
ICU3	0	3

Table 6.5 Records

6.6 Treatment

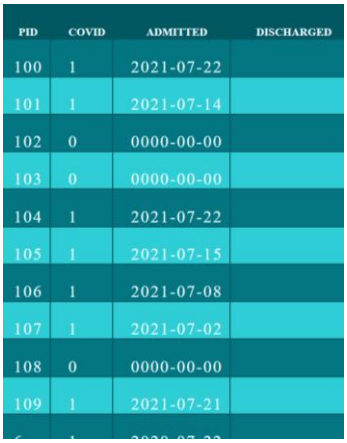
PID	TTYPE	MEDBILL	RESULT
7	remdesvir	50000	average
8	remdesvir	50000	good
102	dexamethasone	100000	improved

PID	TTYPE	MEDBILL	RESULT
7	remdesvir	50000	average
8	remdesvir	50000	good
102	dexamethasone	100000	improved

Table 6.6 Treatment

6.7 Details

PID	COVID	ADMITTED	DISCHARGED
100	1	2021-07-22	*NULL*
101	1	2021-07-14	*NULL*
102	0	0000-00-00	*NULL*
103	0	0000-00-00	*NULL*
104	1	2021-07-22	*NULL*
105	1	2021-07-15	*NULL*
106	1	2021-07-08	*NULL*
107	1	2021-07-02	*NULL*
108	0	0000-00-00	*NULL*
109	1	2021-07-21	*NULL*
6	1	2020-07-22	*NULL*
7	1	2021-07-22	2021-07-22
8	0	2021-02-02	2020-09-01
9	1	0000-00-00	2021-07-30



PID	COVID	ADMITTED	DISCHARGED
100	1	2021-07-22	
101	1	2021-07-14	
102	0	0000-00-00	
103	0	0000-00-00	
104	1	2021-07-22	
105	1	2021-07-15	
106	1	2021-07-08	
107	1	2021-07-02	
108	0	0000-00-00	
109	1	2021-07-21	

Table 6.7 Details

The queries working on the backend are specified in Chapter 4 (SQL queries) and the checking for their working is displayed in Chapter 5 (System Testing). And after comparing 7 tables, the table insertions and deletions are working properly.

Conclusion & Way Forward

And this is how 'Covid Medical Center HMS' was created. It includes a bunch of features that HMS uses with respect to the current pandemic situation. It creates new patient records, allows us to view them, adds health workers, books rooms, creates medical certificates etc. Although this project is just a tiny portion of what happens in HMS, with addition of several features like adding an option of viewing appointments, attaching result files, notifying doctors and handling data more efficiently with more database security, this project could be made into an app. It would also have the option of food management for patients' needs.

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Tutorials

- W3schools SQL
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- W3schools CSS
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- W3schools AJAX
- W3schools jQuery

Annexure

This is the procedure to make the project runnable.
1.Install XAMPP or WAMP server.

2. Once it's done, configure php.ini and sendmail.ini files
php.ini
SMTP=smtp.gmail.com
smtp_port=587
sendmail_from = YourGmailId@gmail.com
sendmail_path = "\"C:\xampp\sendmail\sendmail.exe\" -t"

sendmail.ini file.
Find [sendmail] by pressing ctrl + f.
Search and pass the following values
smtp_server=smtp.gmail.com
smtp_port=587 or 25 //use any of them
error_logfile=error.log
debug_logfile=debug.log
auth_username=YourGmailId@gmail.com
auth_password=Your-Gmail-Password
force_sender=YourGmailId@gmail.com(optional)

3. Import the provided database covid_medical_center (SQL file).

4. Start Apache and MySQL modules.

5.Now the project is runnable. Double click on loginpage.html to open the website.