



Department of Computer Science

CS-361 Web Development

Web Development

Health Care System

Submitted By :

Student's Name	Roll No.
Hurmat Ilyas	BSCS 2019-02

Submitted to :

Mr. Ikram Ullah Khan

Abstract

In the era of digitalization, every single thing including learning has been moved to the digital systems, mobile applications, students portal, web portals etc. There is a need to shift the healthcare system to a portal where the patients can ask for the appointment and the doctors, if available, can check whether they can facilitate at that time or not. Therefore, a healthcare management system is designed and implemented to ensure the health of people via an online system where the patients instead of waiting in hospitals can book their slots online. Moreover, it is also facilitating the doctors to check how many patients have booked the slots and also can change their slot time and date if they are not free at that time. Using Flask, Html, CSS, Bootstrap this purpose is being fulfilled.

Problem statement:

The patients have to wait for hours in hospitals for their turn. Moreover, the doctors cannot leave the patients even if they got tired or have some other important things on the way to do.

Purpose statement:

There is a dire need of an online system where the patients can book their slots with doctors of choice and the doctors can check how many patients need to be checked. Even, the doctors can change the slot time or date according to their own schedule.

Web Design & Development:

The web portal of healthcare system is designed and developed as follows:

1. Database:

SQLAlchemy is used in this project. I imported the file name hcs.sql by creating a new database named hcs on phpmyadmin and then imported that file in it. It has file tables named as doctors, patients, test, trigr and users. The database is as follows:

The screenshot shows the PHPMyAdmin interface for the 'hcs' database. The top navigation bar includes tabs for Structure, SQL, Search, Query, Export, Import, Operations, Privileges, Routines, Events, Triggers, Tracking, Designer, and Central columns. The main area displays a table of five tables: doctors, patients, test, trigr, and user. Each table row includes icons for Browse, Structure, Search, Insert, Empty, Drop, and InnoDB statistics. The 'test' table has 2 rows, while the others have 5 rows each. The 'user' table has a size of 32.0 KB. A 'Create table' dialog is open at the bottom left, showing fields for Name (empty) and Number of columns (set to 4).

Table	Action	Rows	Type	Collation	Size	Overhead
doctors	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_0900_ai_ci	16.0 KB	-
patients	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_0900_ai_ci	16.0 KB	-
test	Browse Structure Search Insert Empty Drop	2	InnoDB	utf8mb4_0900_ai_ci	16.0 KB	-
trigr	Browse Structure Search Insert Empty Drop	21	InnoDB	utf8mb4_0900_ai_ci	16.0 KB	-
user	Browse Structure Search Insert Empty Drop	5	InnoDB	utf8mb4_0900_ai_ci	32.0 KB	-
5 tables Sum					43 InnoDB utf8mb4_0900_ai_ci	96.0 KB

2. Front-end:

Using HTML, CSS and Bootstrap, the front end is designed. The main home page or dashboard is as follow:

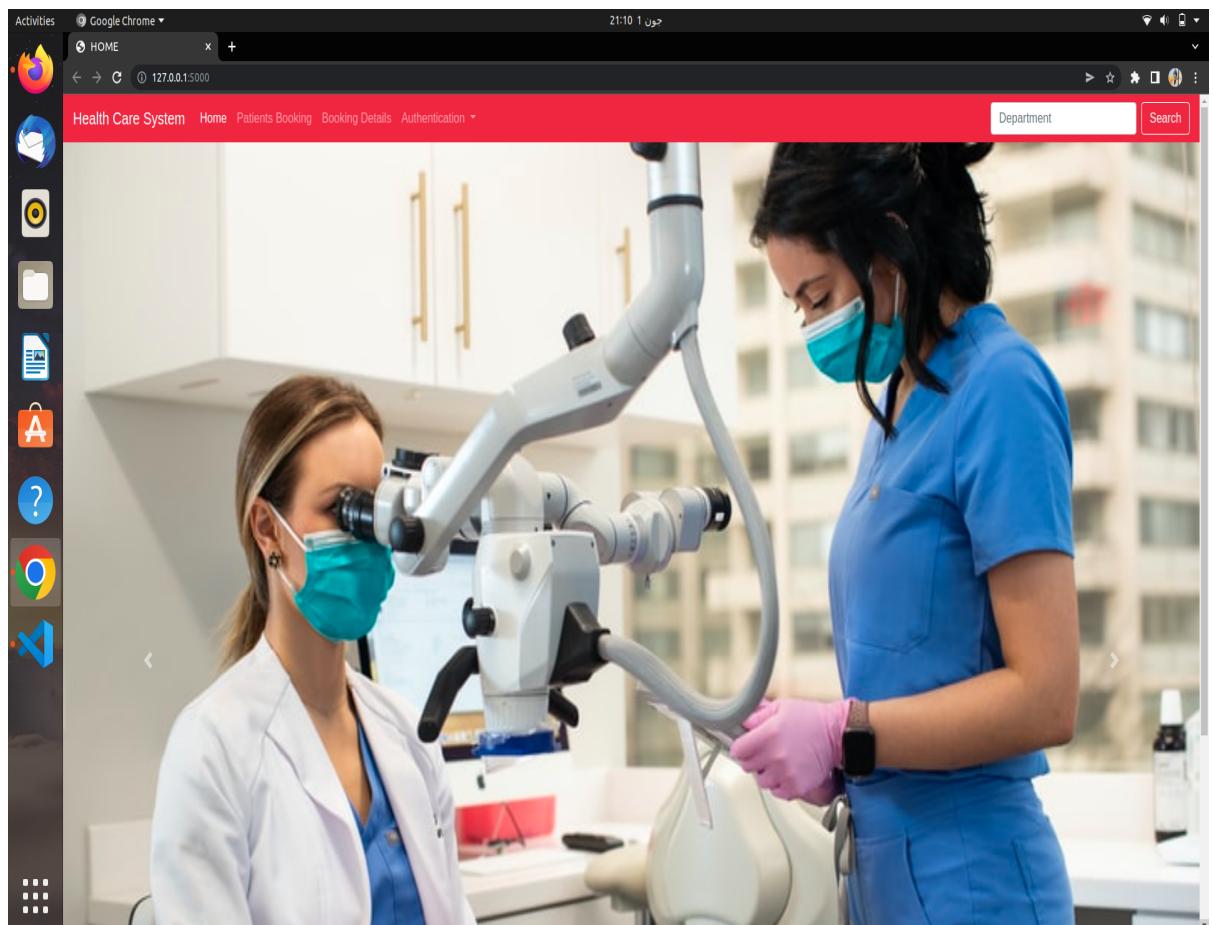
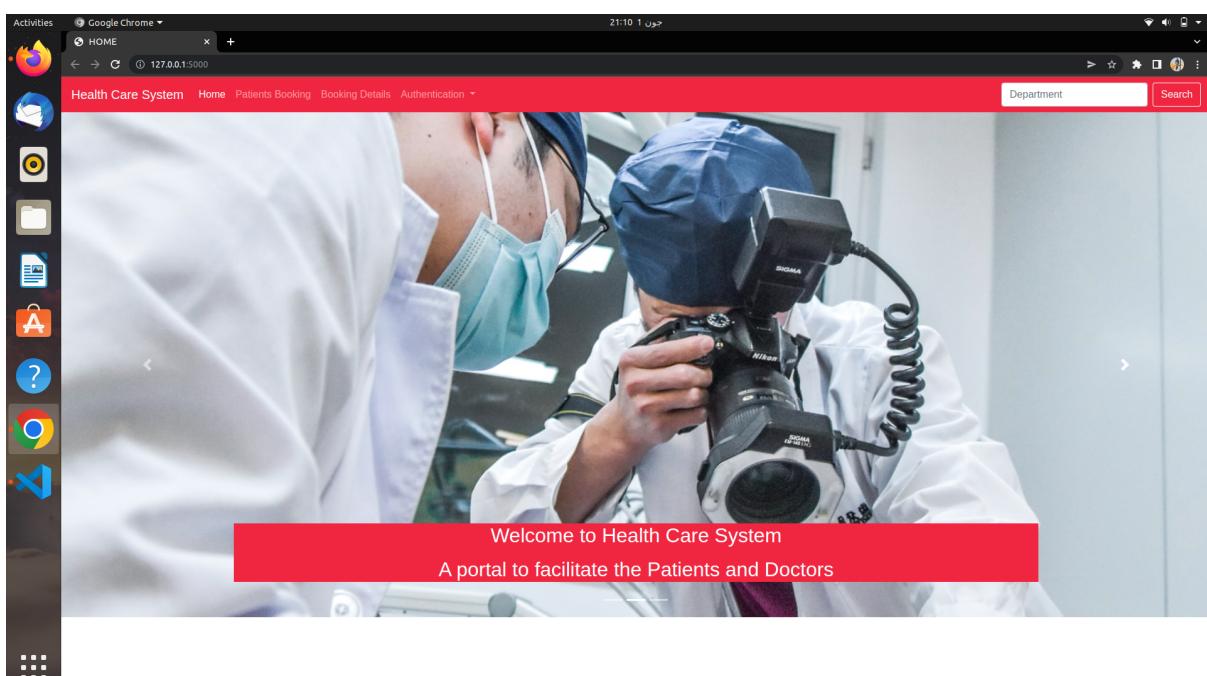
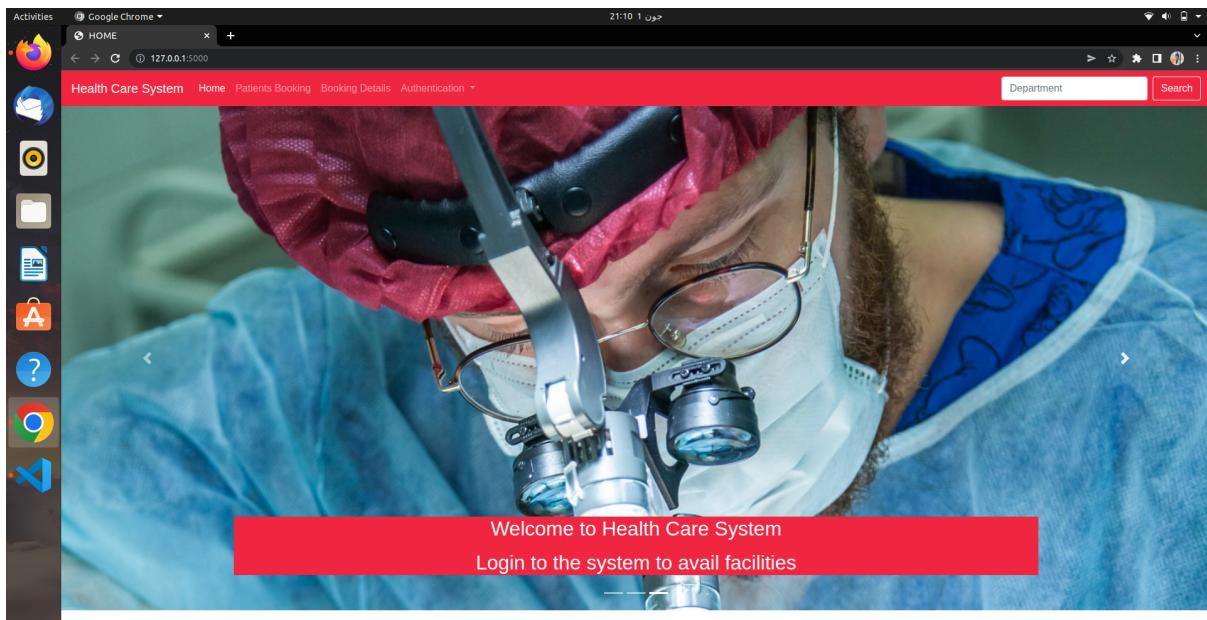
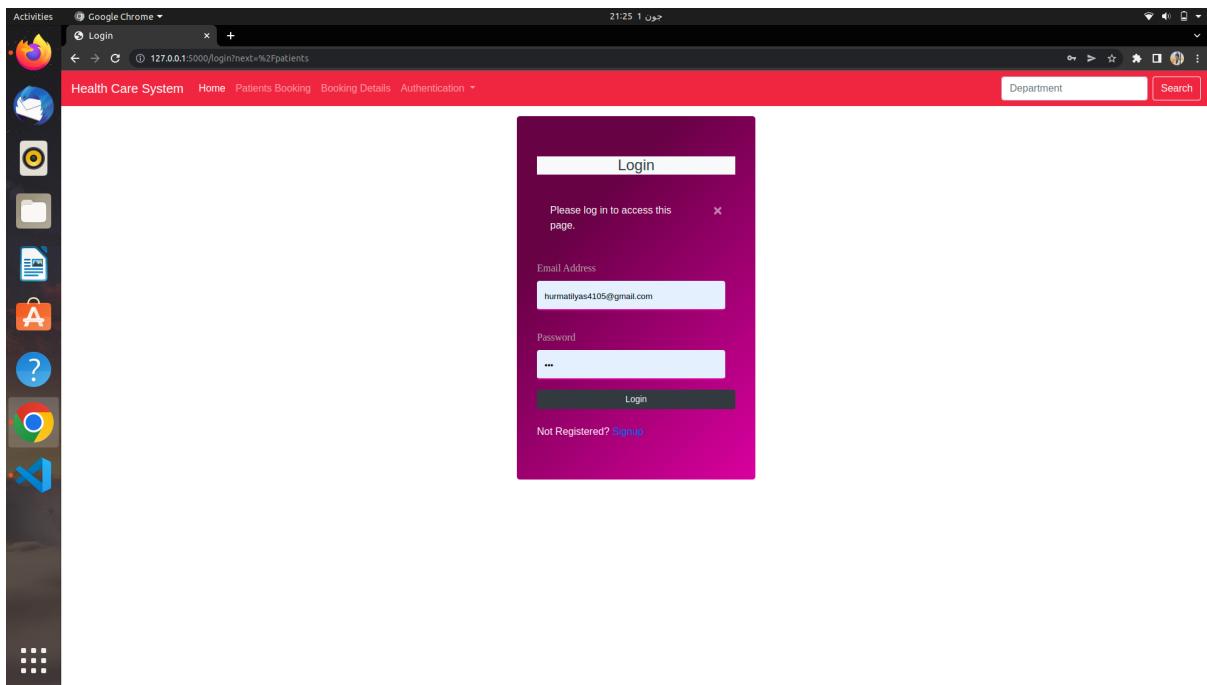


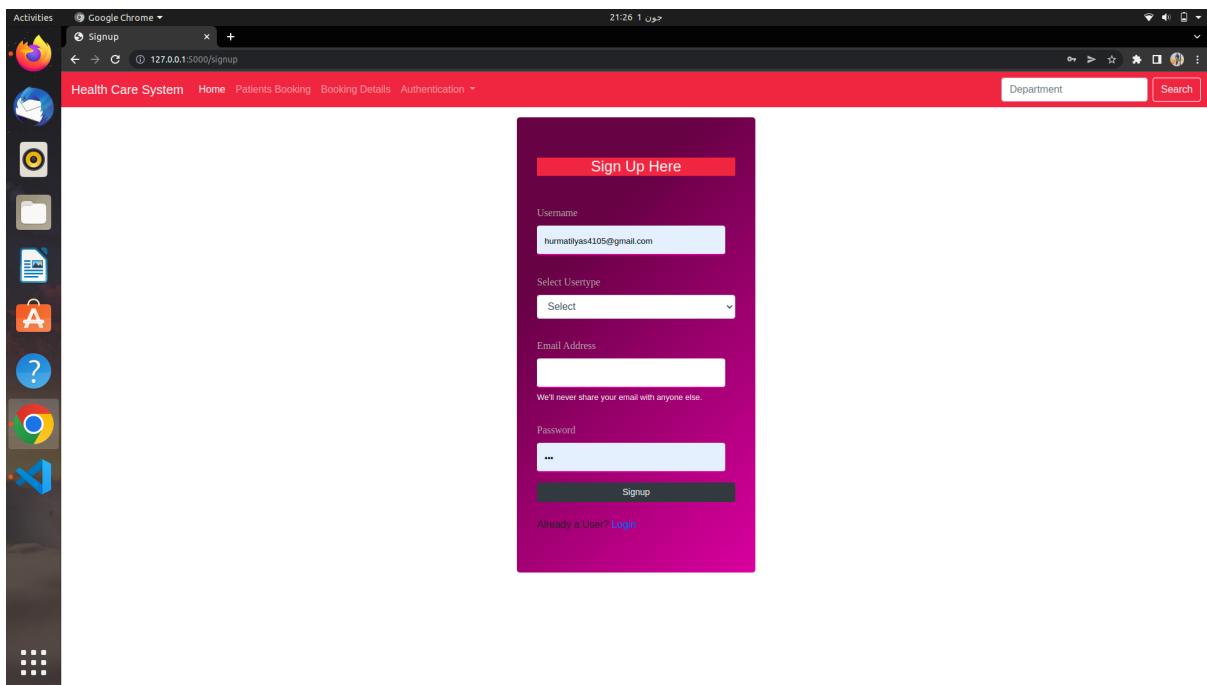
Image slider is implemented. These images can be slided as three images are inserted and text is being placed on each image. Other two are as follows:



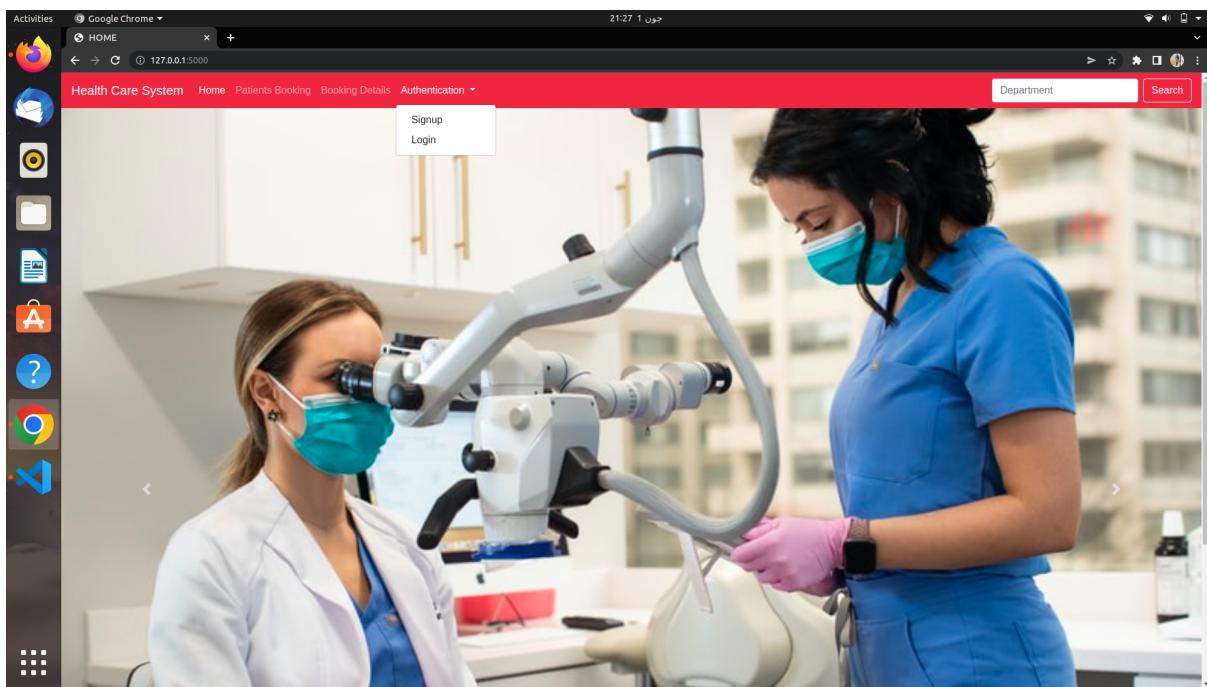
On clicking the fields of Patients Booking and Booking details in the navigation bar, it redirects to the login form.



On clicking signup, it redirects to this page.

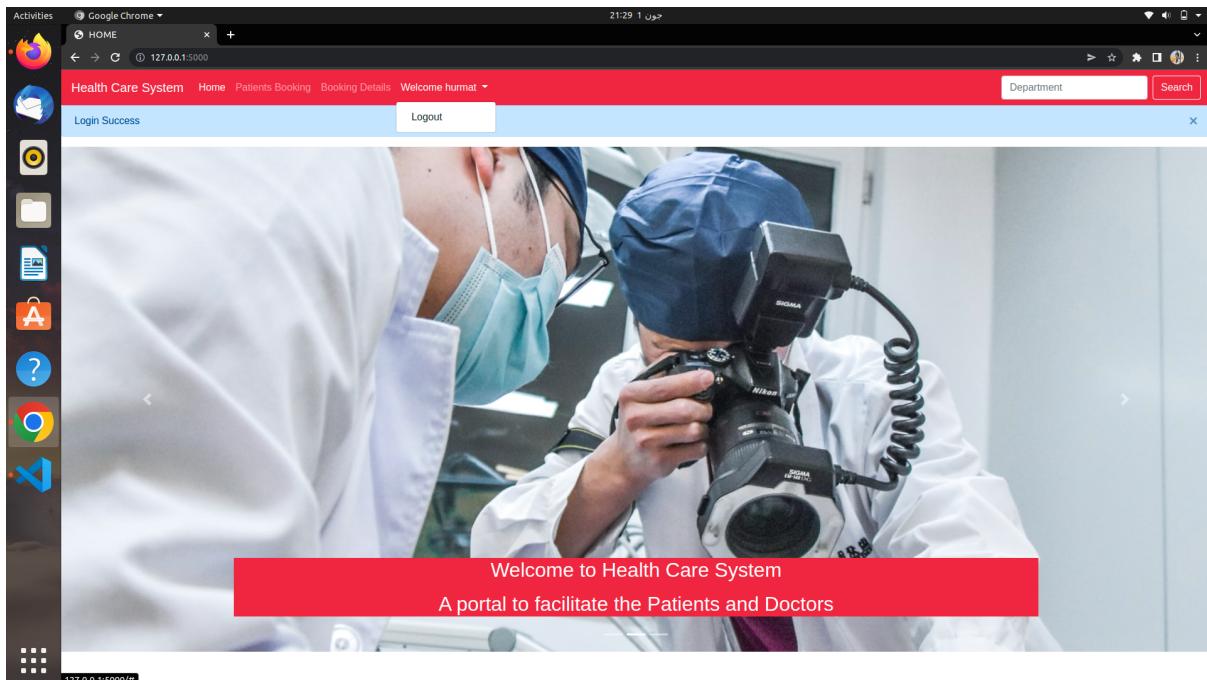


If we click on the authentication page,

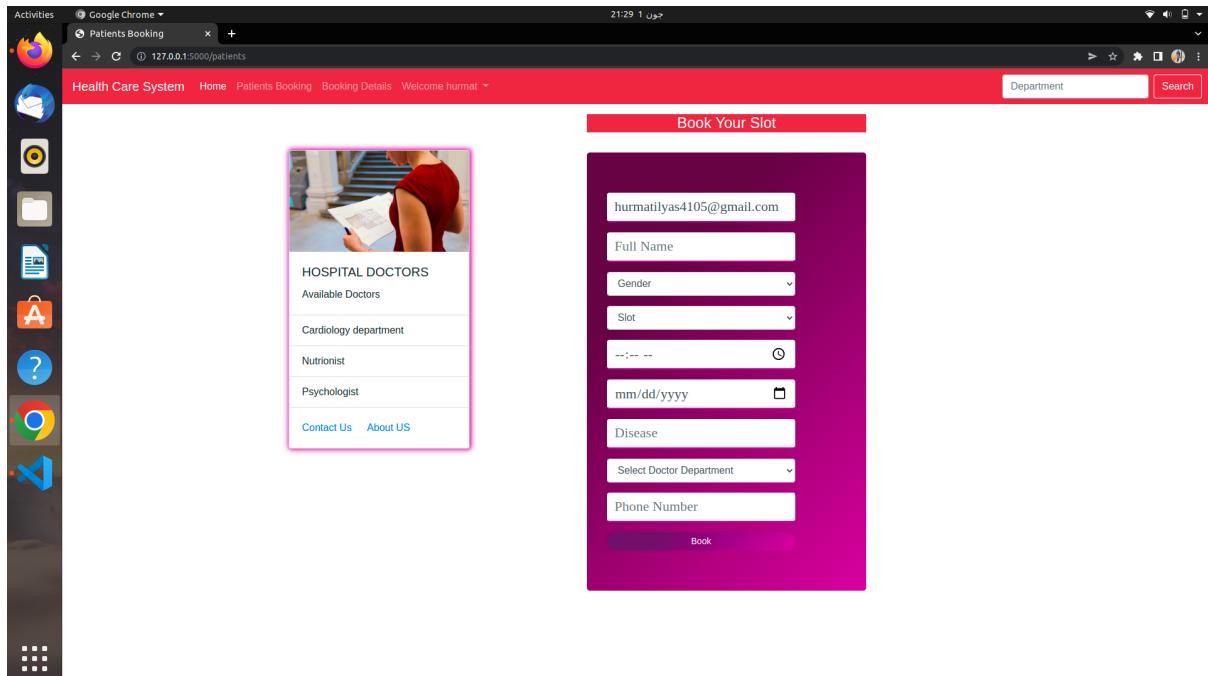


It shows these two options. If we click on sign up, it redirects to the signup page and on clicking the login page, it redirects to the login page shown above.

On signing up and logging in as a patient, this is the dashboard.



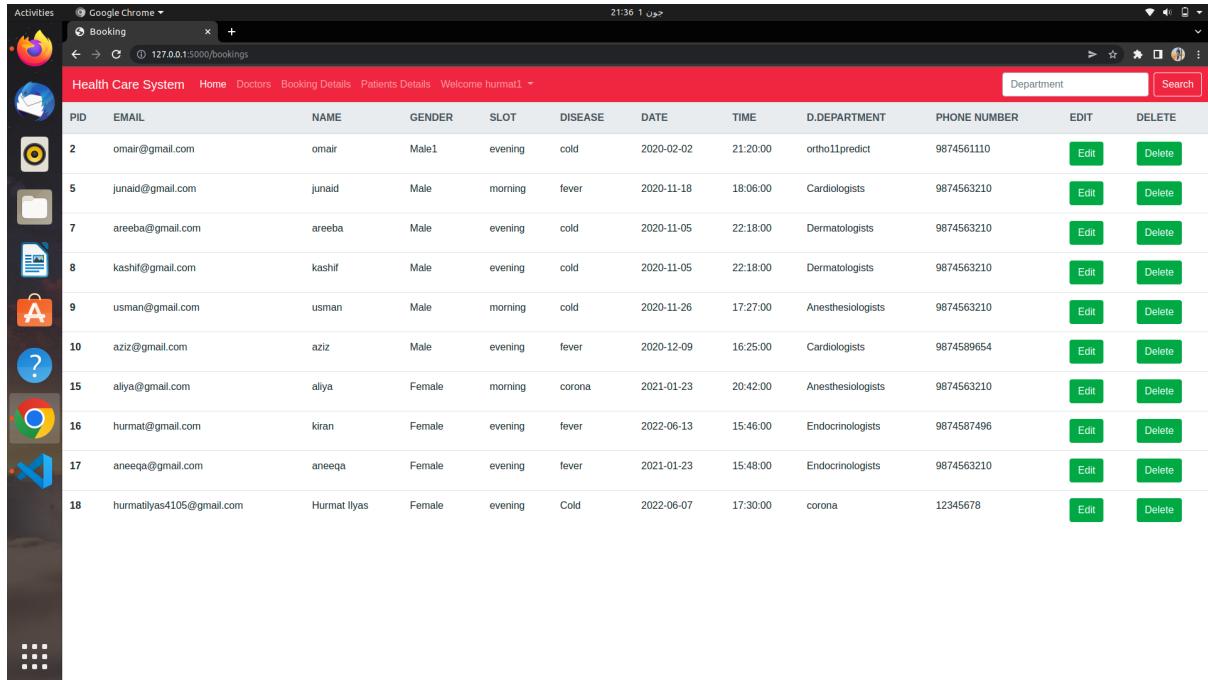
On patient booking, this page appears where patients can book the slots.



On booking details, the booked slot's details can be seen. Moreover, it can be edited and deleted too.

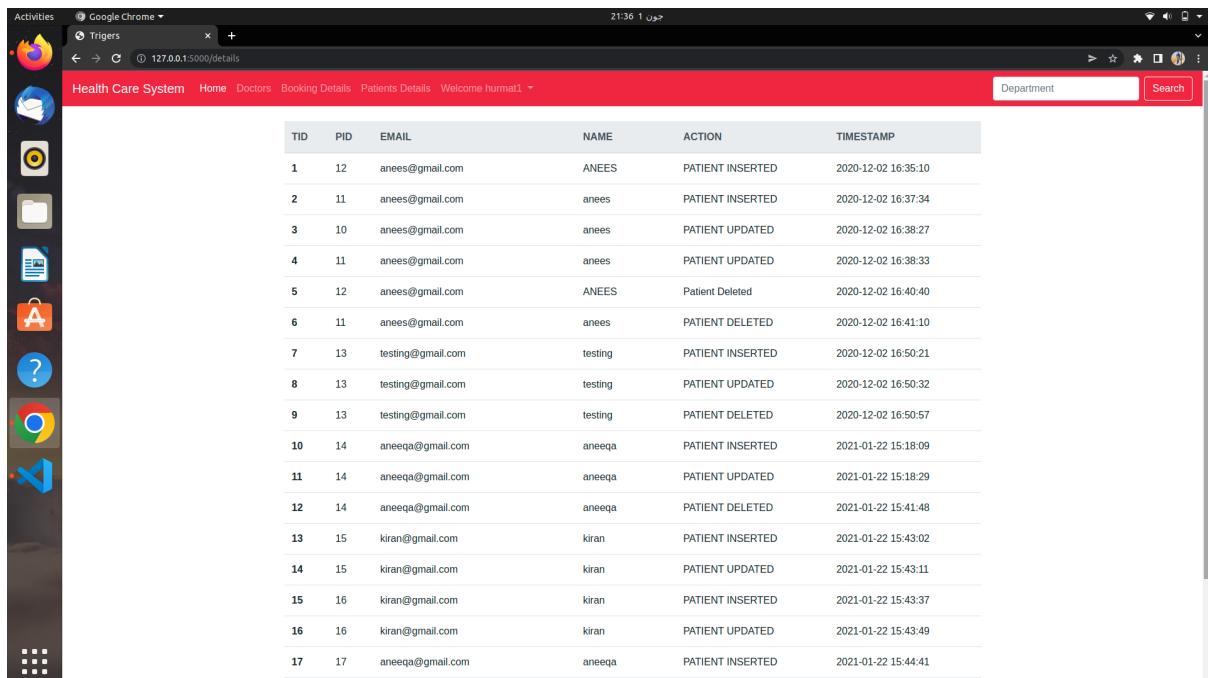
PID	EMAIL	NAME	GENDER	SLOT	DISEASE	DATE	TIME	D.DEPARTMENT	PHONE NUMBER	EDIT	DELETE
18	humrattyas4105@gmail.com	Hurmat Ilyas	Female	evening	Cold	2022-06-07	17:30:00	corona	12345678	<button>Edit</button>	<button>Delete</button>

If we sign up and login as a doctor, this is what we can do. We can see the patients booking as follows:



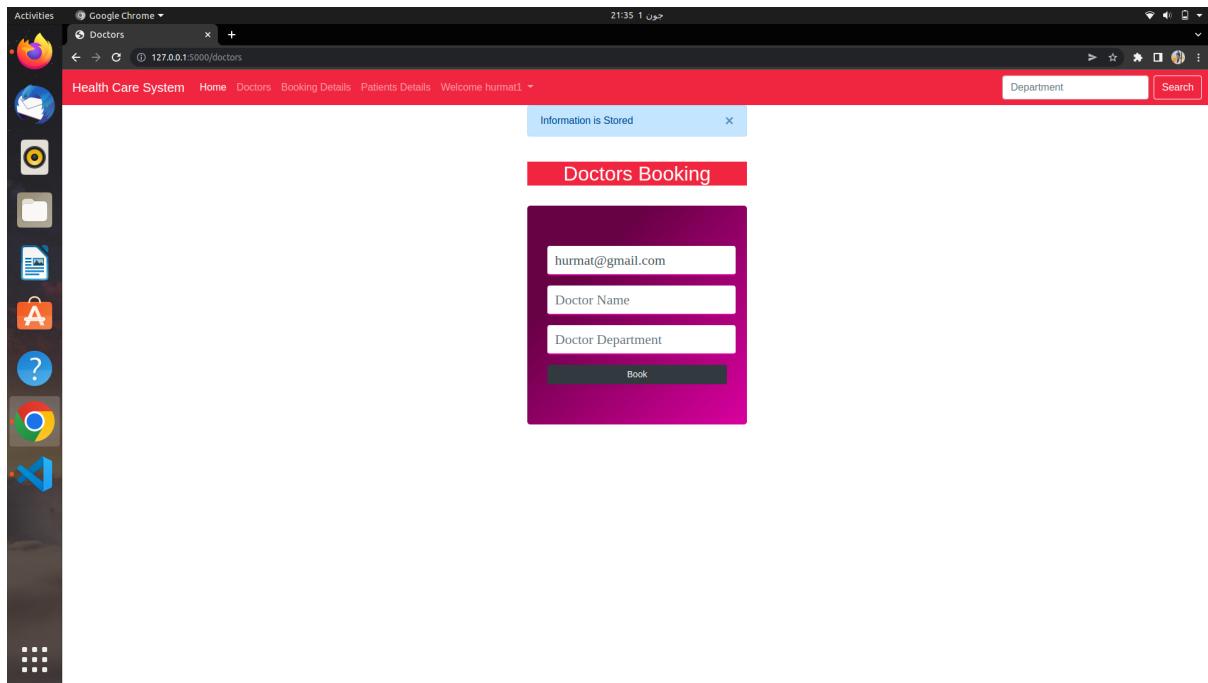
PID	EMAIL	NAME	GENDER	SLOT	DISEASE	DATE	TIME	D. DEPARTMENT	PHONE NUMBER	EDIT	DELETE
2	omair@gmail.com	omair	Male1	evening	cold	2020-02-02	21:20:00	ortho11predict	9874561110	<button>Edit</button>	<button>Delete</button>
5	junaid@gmail.com	junaid	Male	morning	fever	2020-11-18	18:06:00	Cardiologists	9874563210	<button>Edit</button>	<button>Delete</button>
7	areeba@gmail.com	areeba	Male	evening	cold	2020-11-05	22:18:00	Dermatologists	9874563210	<button>Edit</button>	<button>Delete</button>
8	kashif@gmail.com	kashif	Male	evening	cold	2020-11-05	22:18:00	Dermatologists	9874563210	<button>Edit</button>	<button>Delete</button>
9	usman@gmail.com	usman	Male	morning	cold	2020-11-26	17:27:00	Anesthesiologists	9874563210	<button>Edit</button>	<button>Delete</button>
10	aziz@gmail.com	aziz	Male	evening	fever	2020-12-09	16:25:00	Cardiologists	9874589654	<button>Edit</button>	<button>Delete</button>
15	aliya@gmail.com	aliya	Female	morning	corona	2021-01-23	20:42:00	Anesthesiologists	9874563210	<button>Edit</button>	<button>Delete</button>
16	hurmat@gmail.com	kiran	Female	evening	fever	2022-06-13	15:46:00	Endocrinologists	9874587496	<button>Edit</button>	<button>Delete</button>
17	aneeqa@gmail.com	aneeqa	Female	evening	fever	2021-01-23	15:48:00	Endocrinologists	9874563210	<button>Edit</button>	<button>Delete</button>
18	hurmatlyas4105@gmail.com	Hurmat Ilyas	Female	evening	Cold	2022-06-07	17:30:00	corona	12345678	<button>Edit</button>	<button>Delete</button>

The patients details can be seen as:



TID	PID	EMAIL	NAME	ACTION	TIMESTAMP
1	12	anees@gmail.com	ANEES	PATIENT INSERTED	2020-12-02 16:35:10
2	11	anees@gmail.com	anees	PATIENT INSERTED	2020-12-02 16:37:34
3	10	anees@gmail.com	anees	PATIENT UPDATED	2020-12-02 16:38:27
4	11	anees@gmail.com	anees	PATIENT UPDATED	2020-12-02 16:38:33
5	12	anees@gmail.com	ANEES	Patient Deleted	2020-12-02 16:40:40
6	11	anees@gmail.com	anees	PATIENT DELETED	2020-12-02 16:41:10
7	13	testing@gmail.com	testing	PATIENT INSERTED	2020-12-02 16:50:21
8	13	testing@gmail.com	testing	PATIENT UPDATED	2020-12-02 16:50:32
9	13	testing@gmail.com	testing	PATIENT DELETED	2020-12-02 16:50:57
10	14	aneeqa@gmail.com	aneeqa	PATIENT INSERTED	2021-01-22 15:18:09
11	14	aneeqa@gmail.com	aneeqa	PATIENT UPDATED	2021-01-22 15:18:29
12	14	aneeqa@gmail.com	aneeqa	PATIENT DELETED	2021-01-22 15:41:48
13	15	kiran@gmail.com	kiran	PATIENT INSERTED	2021-01-22 15:43:02
14	15	kiran@gmail.com	kiran	PATIENT UPDATED	2021-01-22 15:43:11
15	16	kiran@gmail.com	kiran	PATIENT INSERTED	2021-01-22 15:43:37
16	16	kiran@gmail.com	kiran	PATIENT UPDATED	2021-01-22 15:43:49
17	17	aneeqa@gmail.com	aneeqa	PATIENT INSERTED	2021-01-22 15:44:41

The booking of a doctor can be done.



This is the overview of this healthcare management system.

Security:

The security aspect is also implemented as I have saved the password as encrypted using hashing where the password is encrypted to a hash and also stored as a hash. If both the hashes match, only then a user can login to the system.

Conclusion:

The healthcare management system designed and implemented to facilitate the patients and doctors is still not a complete solution. Moreover, advanced functionalities can be added like preparing report online which I tried to implement but was not able to complete this task.