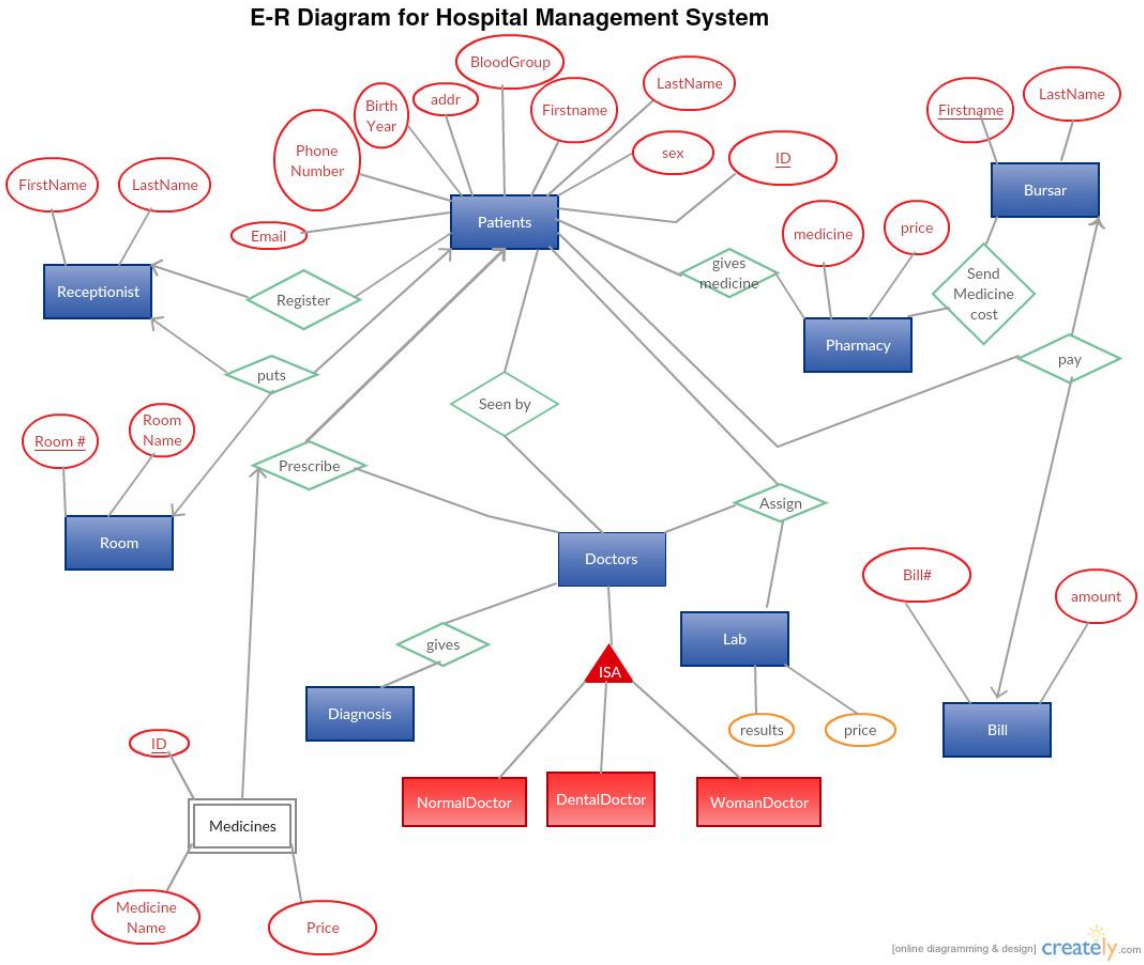
20/12/2016
Olti Asllanaj
Intro To Database

Hospital Management System E/R diagram!



To create this diagram I used creately. You need to signed in and you can use their website for free to create E/R diagrams.
https://creately.com/

In this E/R diagram I have used **one to one relationship**, **many to one**, **many to many**, **subclass**, **weak entity set**.
The doctor has three subclasses: NormalDoctor, DentalDoctor,WomanDoctor.
The doctor attends the patient.

The doctor gives the diagnosis. The doctor can assign the patient to the lab for lab tests and scans. The doctor can prescribe medicines to the patient.

The receptionist keeps truck of all the patient informations. The receptionist can register new patients. Can send the patients to the relevant doctor and can assign the room to new patients or update the room for old patients.

The pharmacy can give the medicine to the patients and also can calculate the price and send that price to the Bursar so the patient can pay.

The relations are:

1. Users(username,password,fname,sname,type)
2. Rooms(Room_no, Room_name, patientinroom)
3. Medicines(id, medicine_name, price)
4. Patients(id, fname, sname, email, address, phone, sex, Bloodgroup, birthyear)
5. Medications(id, patient_id, status, symptoms, tests, Test_result, medical, Doctor_type, Doctor_price, Test_price, medical_price, date, month, year)

FD's for relation User are:

username -> password
username -> fname
username -> sname
username -> type

So username is a key because this attribute determines all the other attributes of the relation.

FD's for relation Room are:

Room_no -> Room_name
Room_no -> patientinroom

So Room_no is a key because this attribute determines all the other attributes of the relation.

FD's for relation Medicine are:

id -> medicine_name
id -> price

So id is a key because attribute determines all the other attributes of the relation.

FD’s for relation Patients are:

id -> fname
id -> sname
id -> email
id -> address
id -> phone
id -> sex
id -> Bloodgroup
id -> birthyear

So id is a key because this attribute determines all the other attributes of the relation.

FD’s for relation Medications are:

id -> patient_id
id -> status
id -> symptoms
id -> test
id -> Test_results
id -> medical
id -> Doctor_type
id -> Doctor_price
id -> Test_price
id -> medical_price
id -> date
id -> month
id -> year

So id is the key because this attribute determines all the other attributes of the relation.

USER TABLE

	username	password	fname	sname	type
1	Admin	1234	Olti	Asllanaj	Admin
2	Reception	1234	Diana	Portillo	Reception
3	Doctor	1234	Alba	Shkurti	Doctor
4	DentalDoctor	1234	Andi	Rama	DentalDoctor
5	NormalDoctor	1234	Julian	Jackson	NormalDoctor
6	WomanDoctor	1234	Joana	Pellumbi	WomanDoctor
7	Laboratory	1234	Akim	Gjata	Laboratory
8	Pharmacy	1234	Romina	Asllanaj	Pharmacy
9	Bursar	1234	Silva	Kaziu	Bursar
10	Doctor	1234	Beni	Asllanaj	Doctor

ROOM TABLE

	Room_no	Room_name	patientinroom
1	125	Olti	1
2	67	John	1
3	56	Cristal	2
4	34	Lara	1
5	100	Xhoi	3
6	23	Miri	1
7	49	Besiana	1
8	30	Lola	2
9	15	Endri	1
10	2	John	1

MEDICINE TABLE

	id	medicine_name	price
1	786	paracetamol	50
2	121	Vitamin D	8
3	45	Advil	14
4	3462	Amoxicillin	120
5	90	ibuprofen	42
6	24	Fish Oil	12
7	13	Vitamin A	18
8	03	Oki	10
9	08	Amistar	200
10	456	Amicip	86

PATIENT TABLE

	id	fname	sname	email	address	phone	sex	Bloodgroup	birthyear
1	1	Olti	Asllanaj	Oltias1987@gmail.com	Boston	123456	Male	O	1987
2	3	Bledi	Asllanaj	bledi@yahoo.com	Danvers	342567	Male	Ab	1989
3	4	Joana	Pellumbi	joana@hotmail.com	Italy	98234	Female	B	1989
4	7	Xhino	Gallo	Xhino1987@gmail.com	Boston	598330	Male	A	1988
5	5	Alba	Shkurti	Shkurti.@gmail.com	Boston	9780345	Female	O	1986
6	6	Summit	Agrival	Summit@gmail.com	India	764934	Male	B	1990
7	9	Asha	Deka	Asha@gmail.com	Boston	546723	Female	O	1989
8	2	John	Baptista	John_1985@gmail.com	New York	6530123	Male	AB	1985
9	9	Astrit	Asllanaj	Astrit@hotmail.com	Boston	978546	Male	O	1964
10	10	Erka	Pellumbi	Erka@gmail.com	New York	764938	Female	A	1966

MEDICATION TABLE

	1	2	3	4	5	6	7	8	9
id	1	2	3	4	5	6	7	8	9
patient_id	1	2	5	6	4	9	8	5	7
status	finish	finish	finish	lab	lab	lab	lab	recdoctor	recdoctor
symptoms	headache	Brain damage	cancer	infect	Eye infect	Ear pain	Feet pain	Tooth pain	Preganacy test
tests	X-RAY	MIR	Blood test	Blood test	Read alphabet	Ear tests	massage	touch	Scan
Test_results	Negative	Positive	Negative	Positive	positive	good	good	clean	Baby is good
medical	Advil	antibiotics	nothing	antibiotic	glasses	antibiotic	nothing	antibitic	iron
Doctor_type	NormalDoctor	NormalDoctor	Normal Doctor	NormalDoctor	Normal Doctor	NormalDoctor	Normal Doctor	Dental Doctor	Woman Doctor
Doctor_price	1000	2000	150	400	200	100	56	500	100
Test_price	200	199	436	234	50	123	100	1300	400
Medical_price	345	234	664	421	876	1234	564	123	103
date	15	23	11	22	10	07	05	14	18
month	02	04	10	11	12	05	03	06	09
year	2016	2016	2016	2016	2016	2016	2016	2016	2015

USER INTERFACE

The requirement of this assignment is to create a user interface, which cooperates with the database to access the Hospital Management System.

For user interface, I have choosen to use PHP, HTML && CSS for the Front End and SQL for Back End.

HOW THE SYSTEM WORKS

1. Patient comes to the hospital and talks to the Receptionist.

2. The receptionist asks about the patient's details e.g. Name, last name, email, phone number, address, gender, blood group, birth year. After taking all the patient information and stored in the system , the receptionist assigns the patient to the relevant doctor and gives the doctor all the patient information.

3. The patient meets with the doctor, and he/she asks about what problems or symptoms the patient has or is suffering from. After, the doctor visits the patient and listens to him about the symptoms, he assigns the patient to the lab for further tests.

4. The laboratories' will receive all the patient's information from the doctor and start the tests and scans that will determine the condition of the disease and why the patient has this type of symptoms. After the tests are done and the lab knows the results, they will send the result back to the doctor.

5. When the tests comes and the doctor knows the condition ('s) of the patient he prescribes medicine for the patients and sends him to the pharmacy.

6. The Pharmacist starts to prepare the medicine that the patient needs to be healthy. When the patient comes in the pharmacy the pharmacist calculates the price and send the patient to the bursar so he can pay.

7. The Bursar asks for the payment and than the patient can go home.

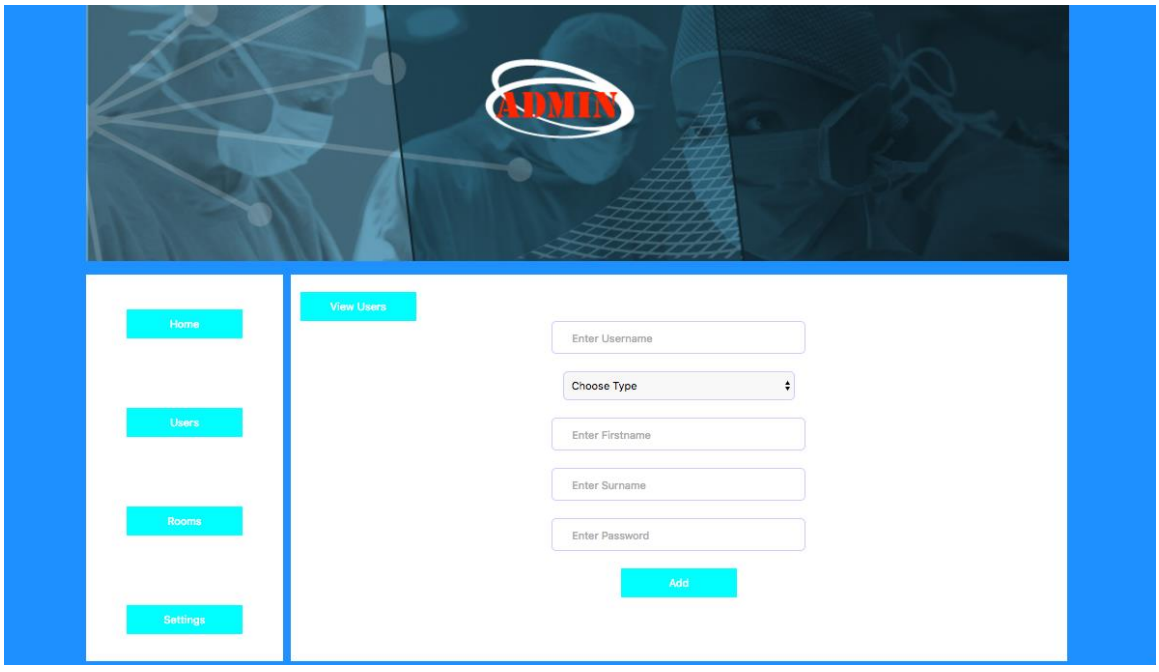
Username	Password
Admin	1234
Reception	1234
Doctor	1234
DentalDoctor	1234
NormalDoctor	1234
WomenDoctor	1234
Laboratory	1234
Pharmacy	1234
Bursar	1234

LOGGING IN

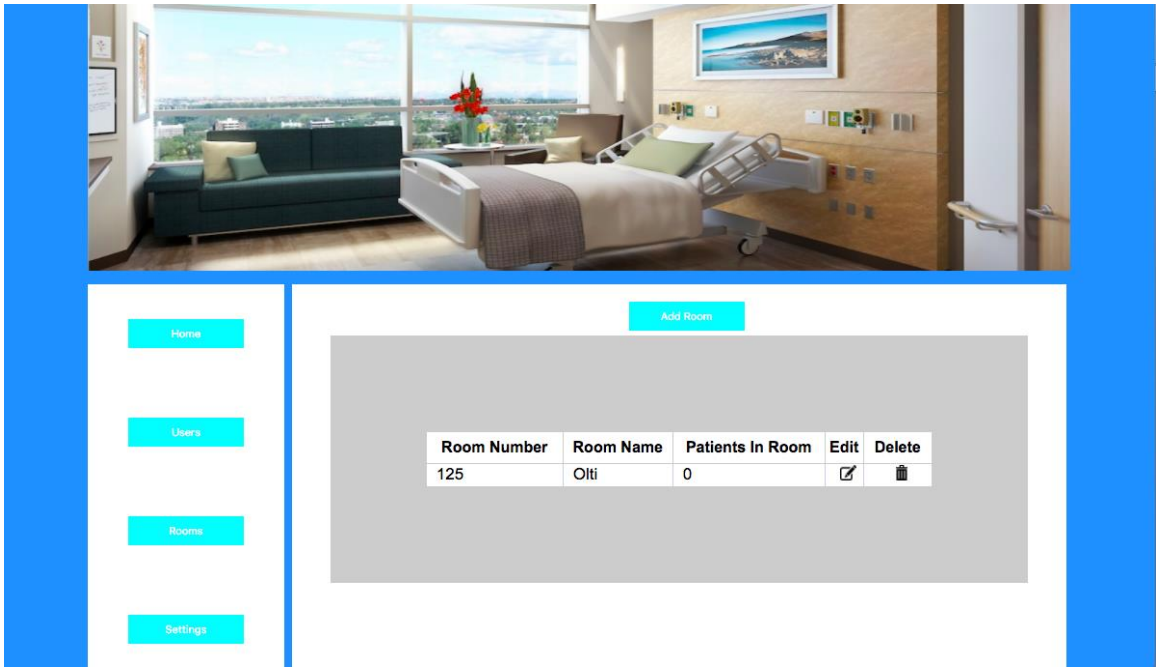
I created this interface for the Administrator or Admin to Log in to the system. The Admin is responsible for creating other users for different departments. For example: Doctors, receptionist, pharmacist, bursar, and laboratories. When the user enters the username and passwords and after clicking the login in button it takes the user to the index page if the credentials are correct.

ADMINISTRATOR FUNCTIONS

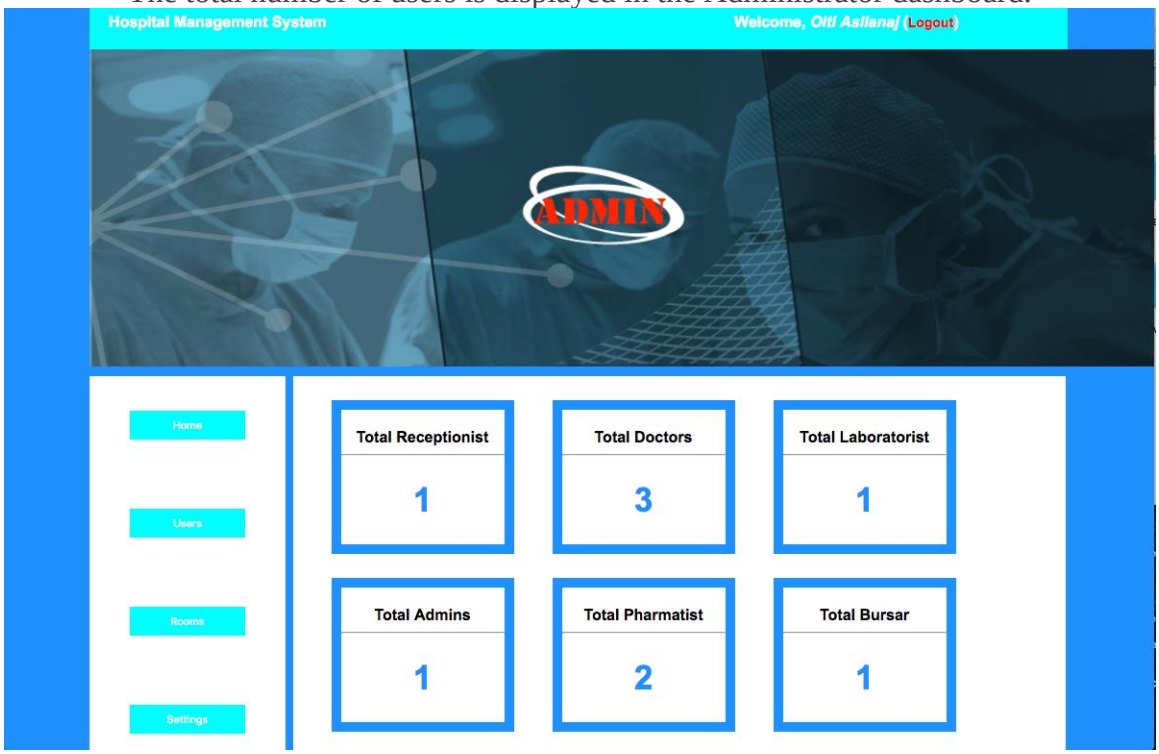
The administrator is responsible for adding users, adding rooms, and updating. The users referred here are receptionist, Doctor, Pharmacist, Lab, Bursar, Admins, and Bursar.



You can ADD the room by pressing the button Add Room

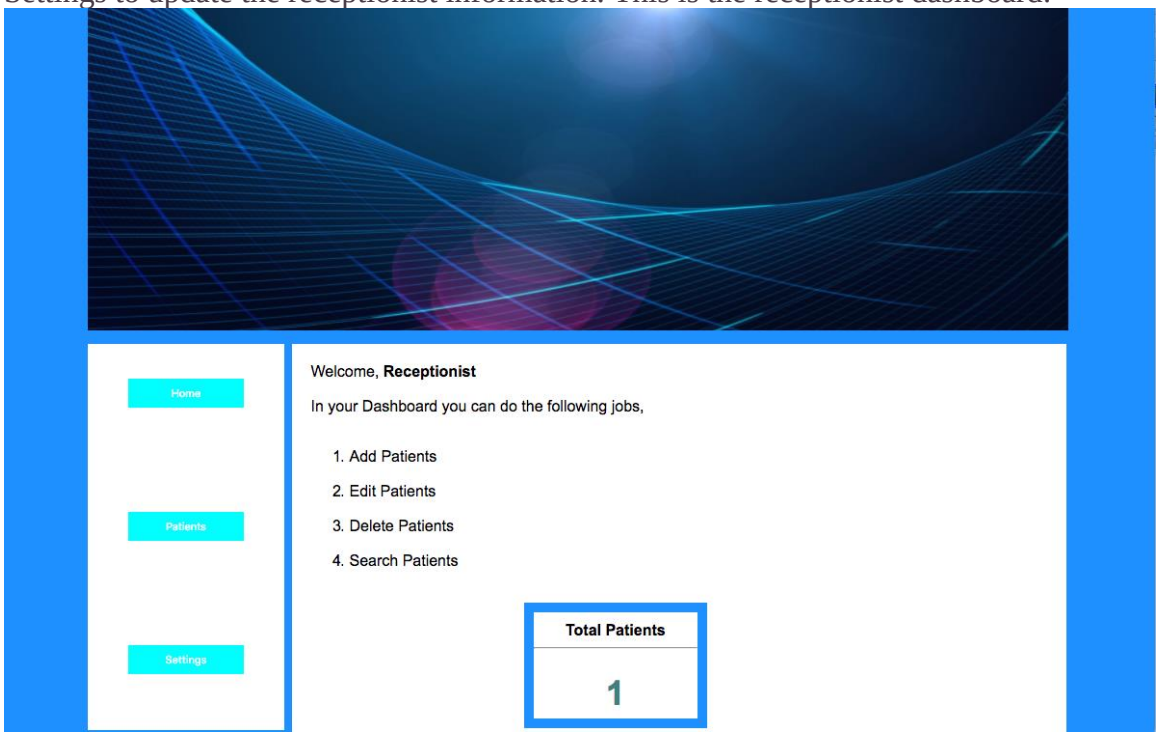


The total number of users is displayed in the Administrator dashboard.

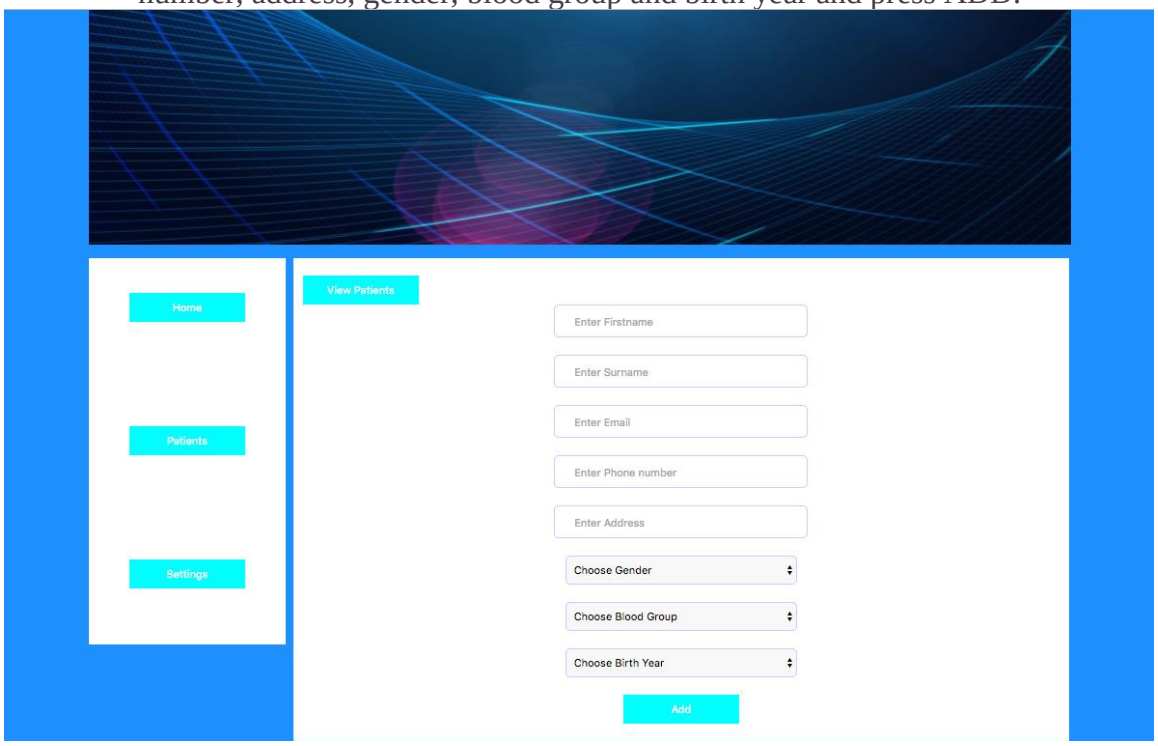


RECEPTIONIST DASHBOARD && FUNCTIONS

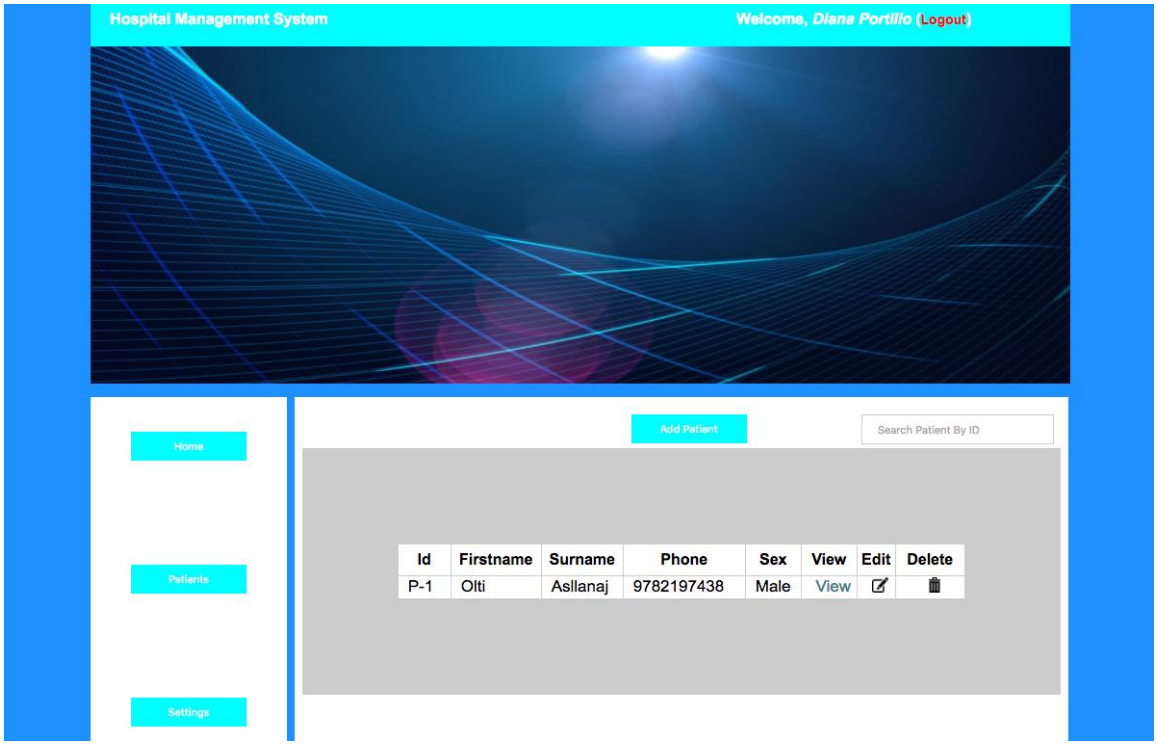
The receptionist logs into the system using the username and password created by the Administrator. In the receptionist dashboard you can choose Patients to Add patients and Settings to update the receptionist information. This is the receptionist dashboard:



The receptionist can add patient’s details by using the form:
So you need to enter these details for the patients: first name, last name, email, phone number, address, gender, blood group and birth year and press ADD.

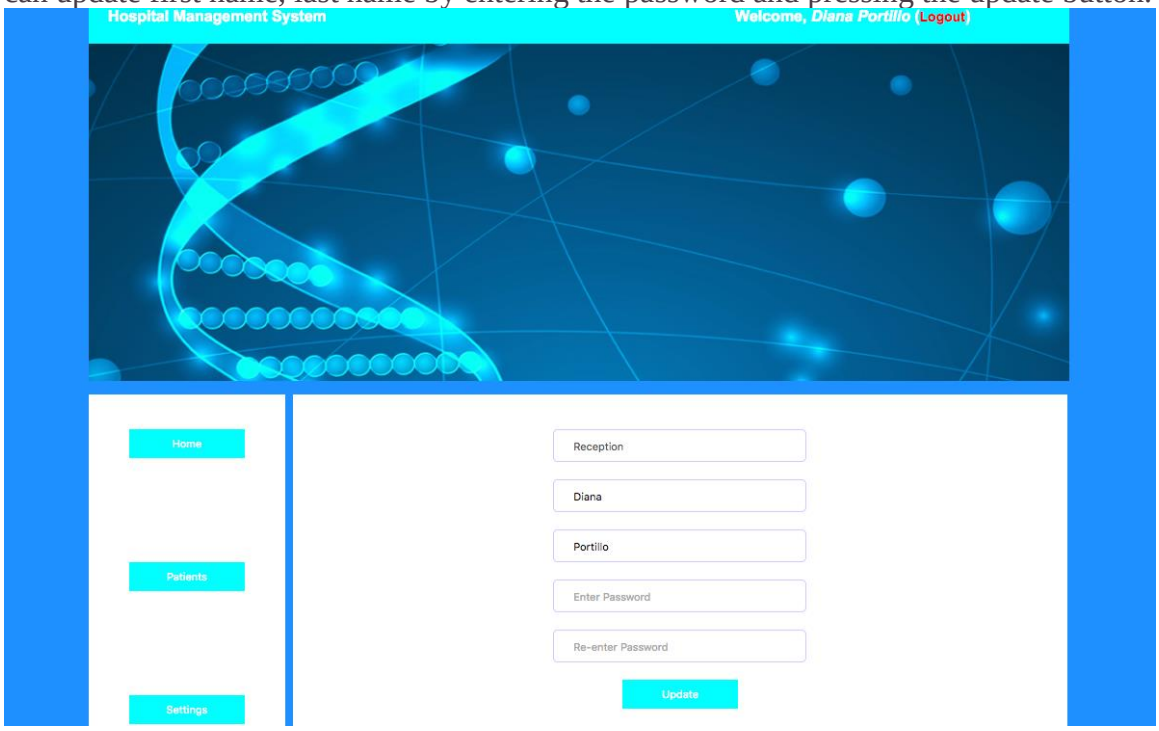


After adding the patient to the system we can press view and we can send the patient to the relevant doctor.



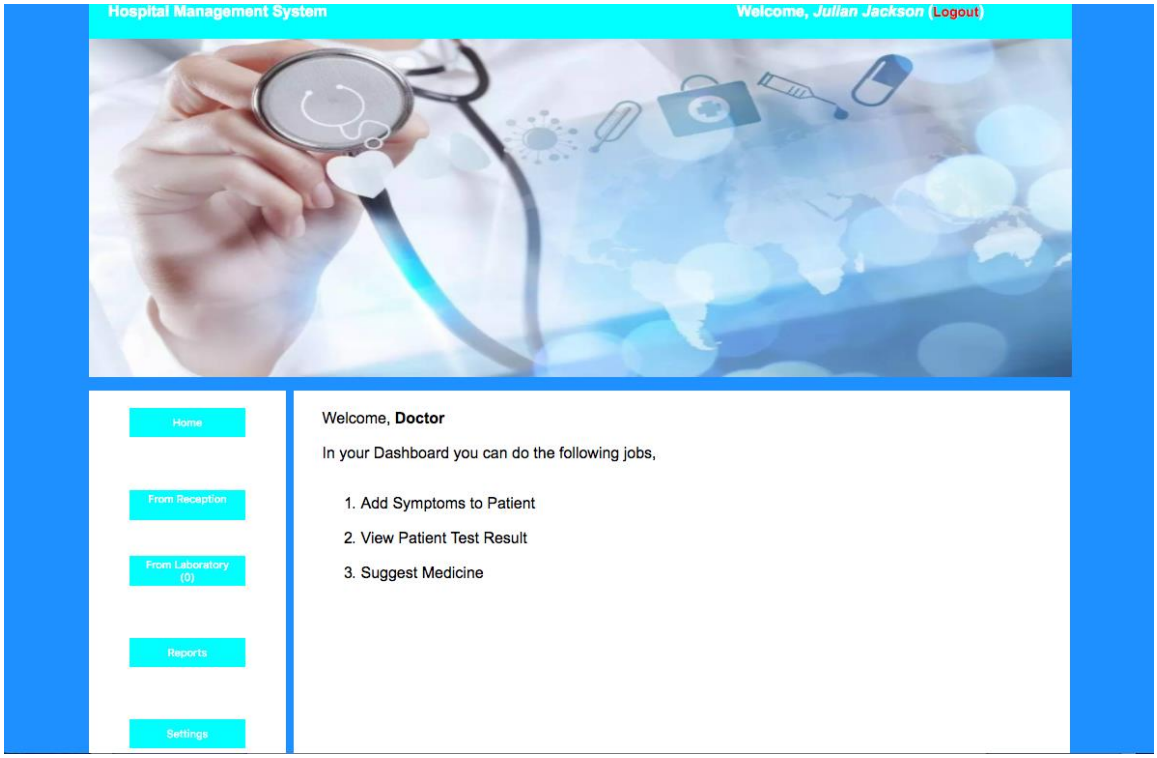
After pressing view we can see all the patient information and choose the doctor for the patient. For example: normal doctor, eye doctor, woman doctor and you can create other doctors from the admin dashboard.

The receptionist can update his/her information after logging for the first time. He/she can update first name, last name by entering the password and pressing the update button.

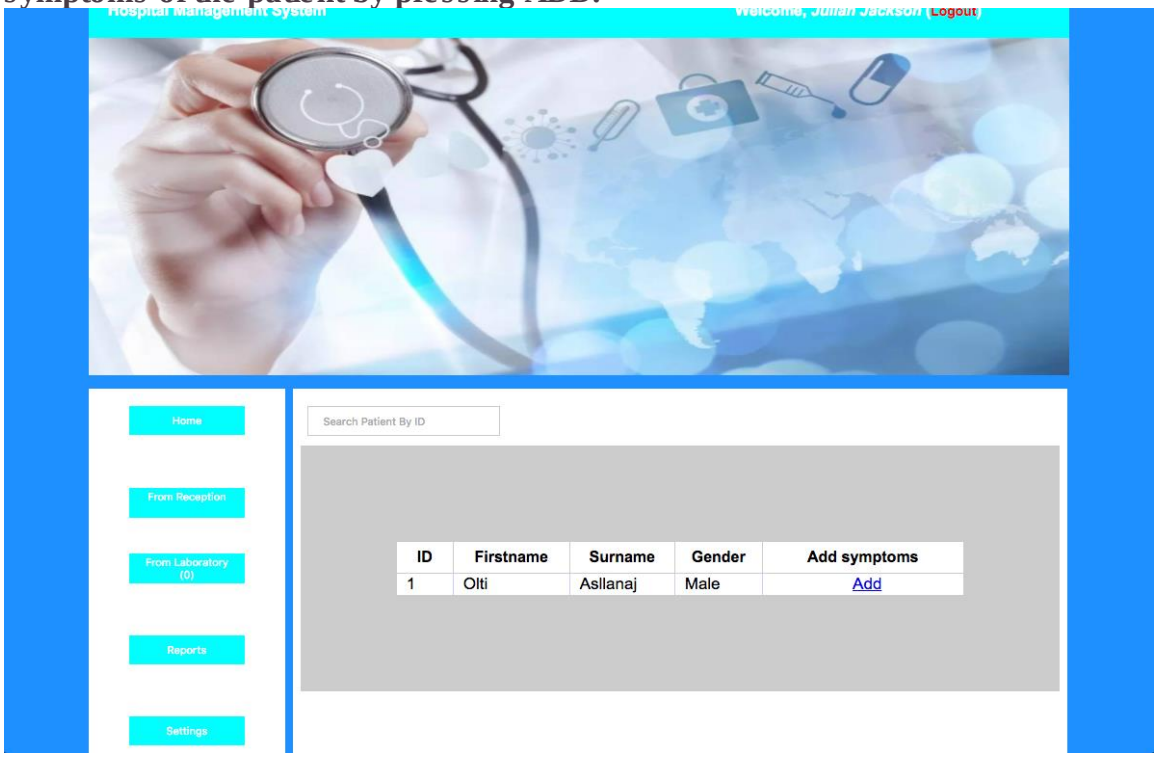


DOCTOR DASHBOARD && FUNCTIONS

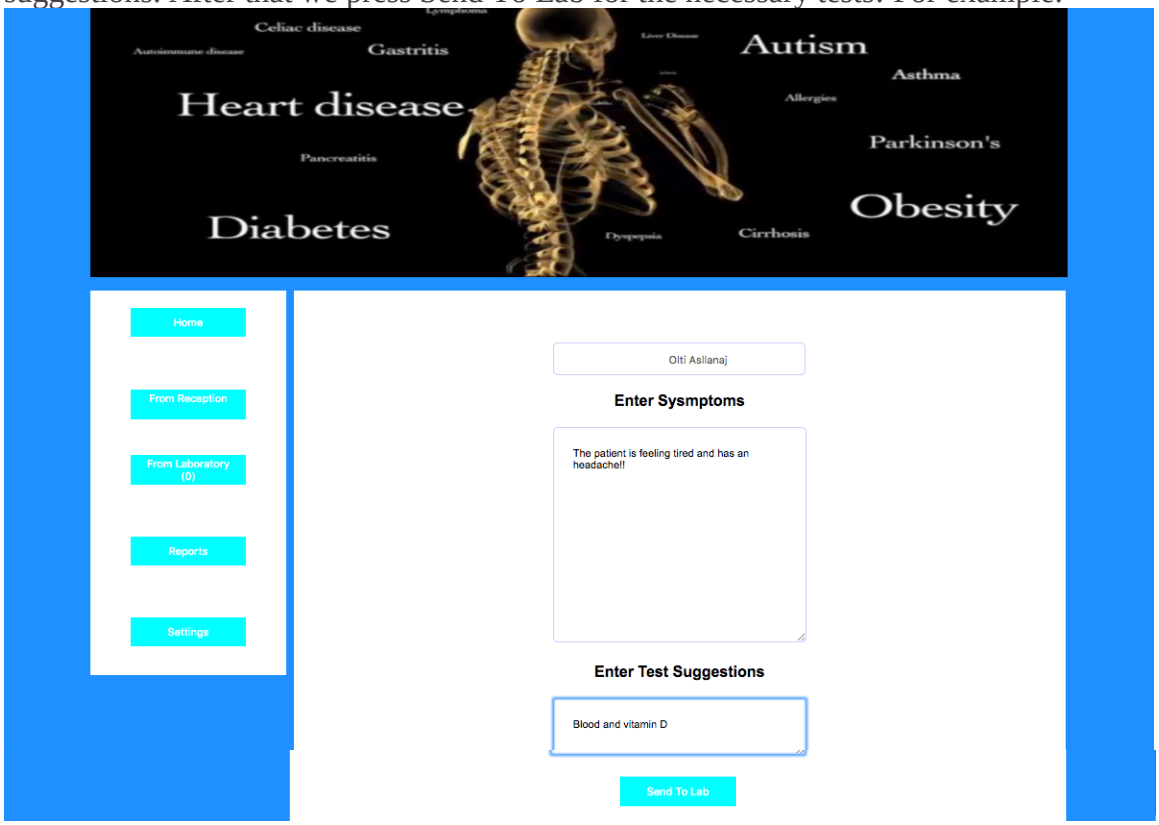
The doctor dashboard has more functions. This is the doctor dashboard:



The patient information is assigned now to the doctor from the receptionist. So to see the patient information we need to press From Receptionist and we can add symptoms of the patient by pressing ADD.

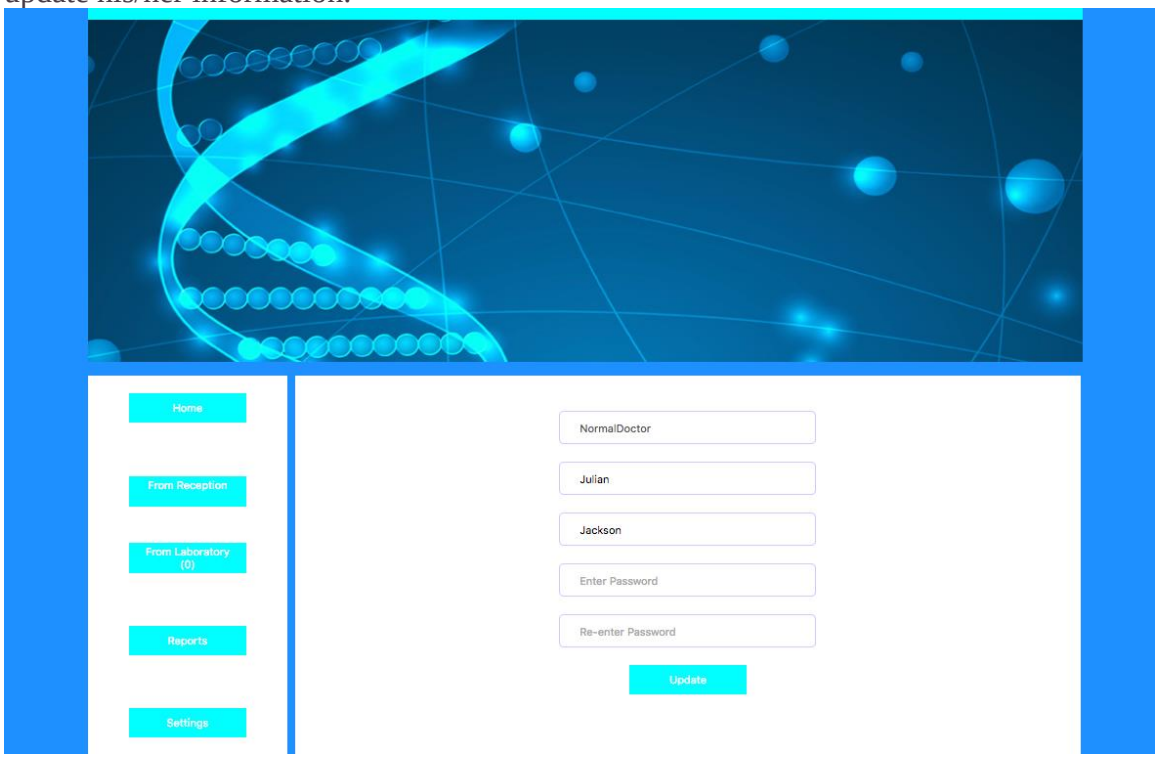


After you press ADD you can see the patient name and enter the symptoms and test suggestions. After that we press Send To Lab for the necessary tests! For example:



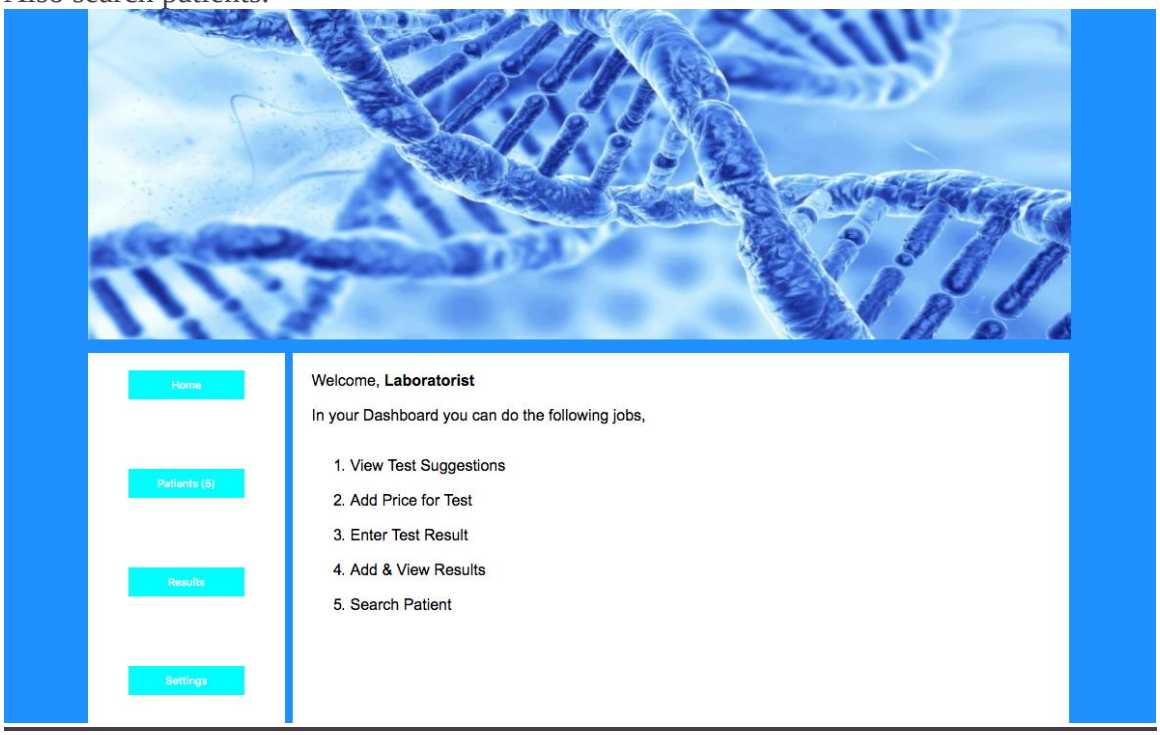
After send those to the laboratory the doctor needs to wait for the results. After the results are here we need to press From Laboratory to see the test results. After we press From Laboratory we can see the patient information and press view to check the blood results and give to the patient the Medicine. After, we send the information to the Pharmacy where the patient can get the medicine and go home. After the doctor has the possibility to find the every report for every patient by pressing Reports.

The last one is Setting when the doctor that is using the system for the first time can update his/her information.

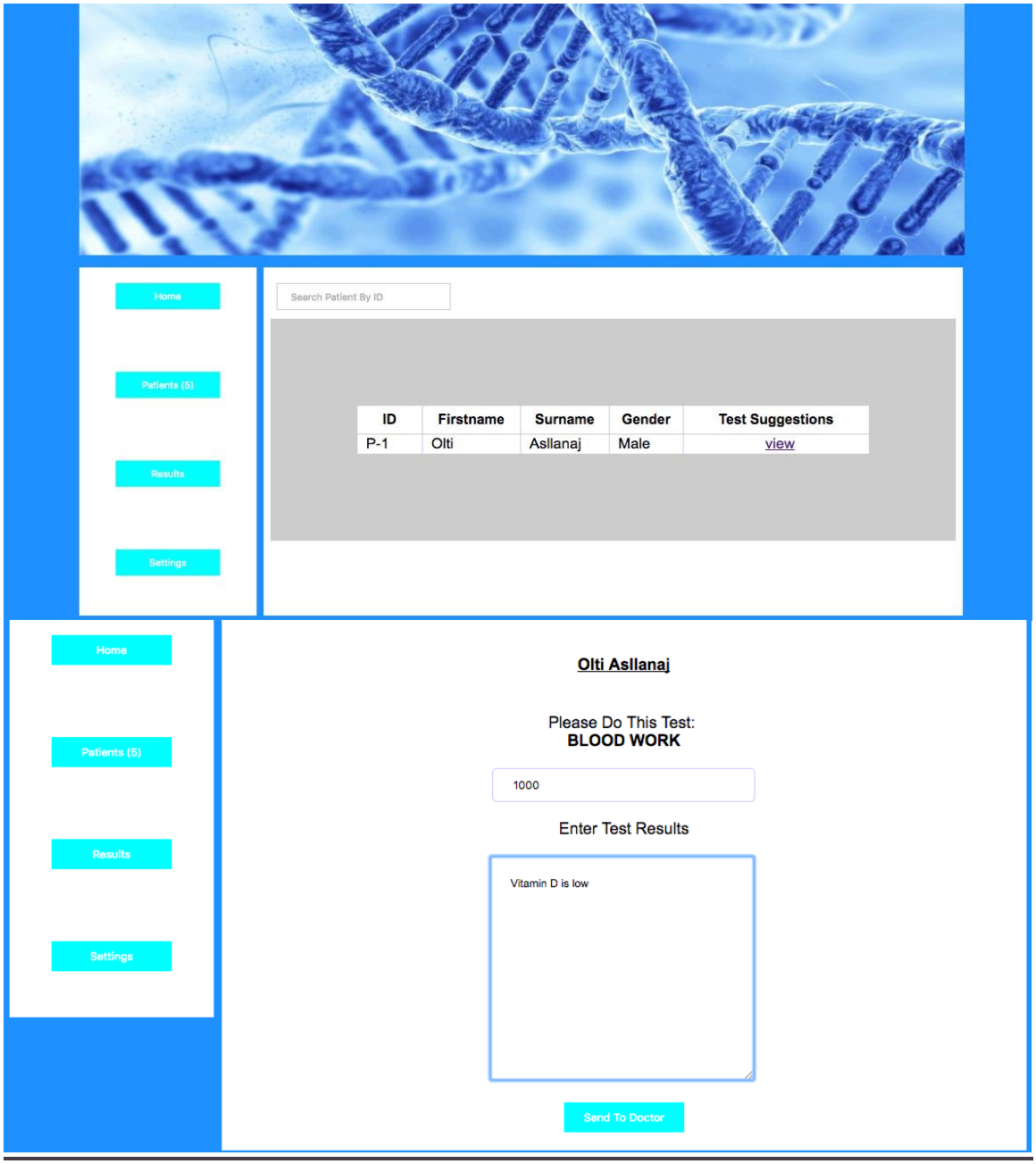


LABORATORY DASHBOARD && FUNCTIONS

The laboratory can view test suggestions from the doctor and patient information. Also can add the price for the different test and enter test results and send those to the doctor. Also search patients.

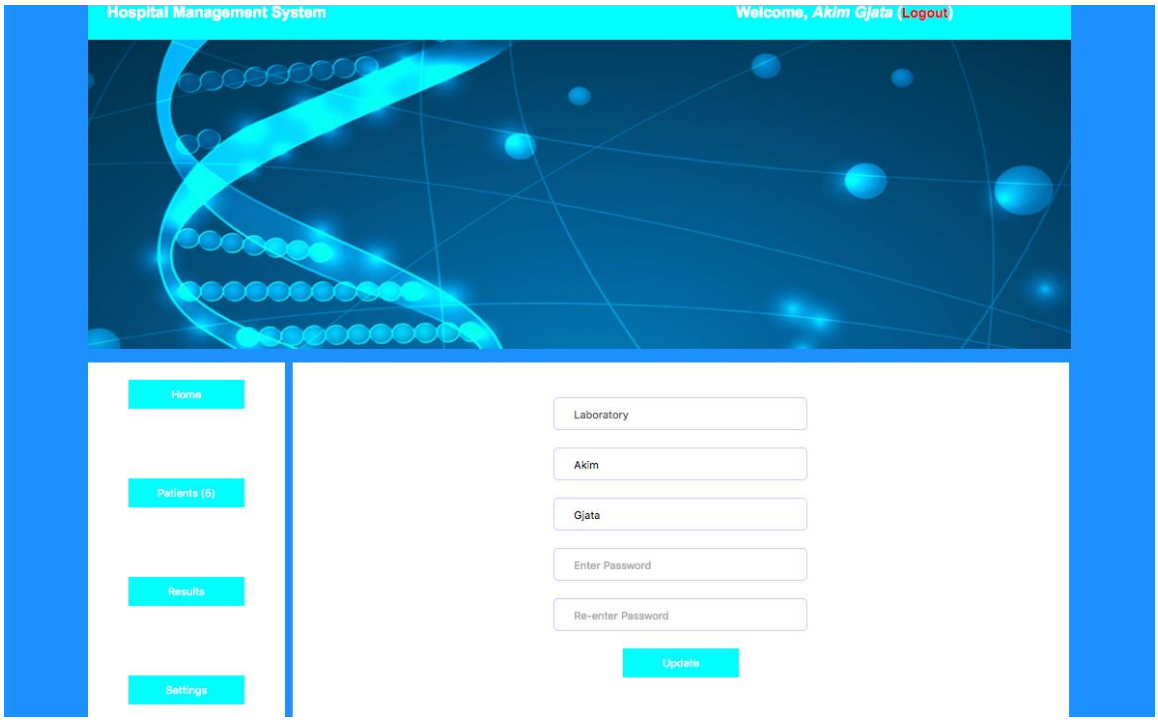


If we press Patient button we are going to see the patient information and after we press view we can do the test and send the test results to the doctor.



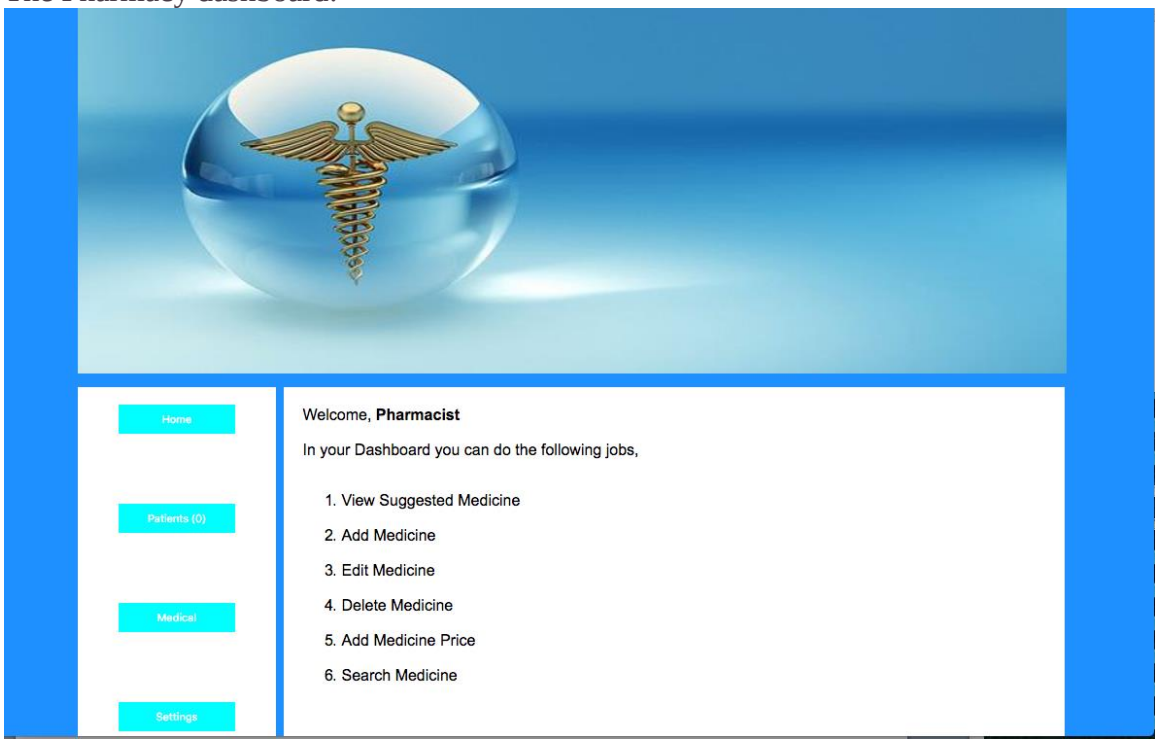
In the result table your going to see different patients with different test results.

The doctor dashboard has settings where the doctor that is new can update his/her name and last name.

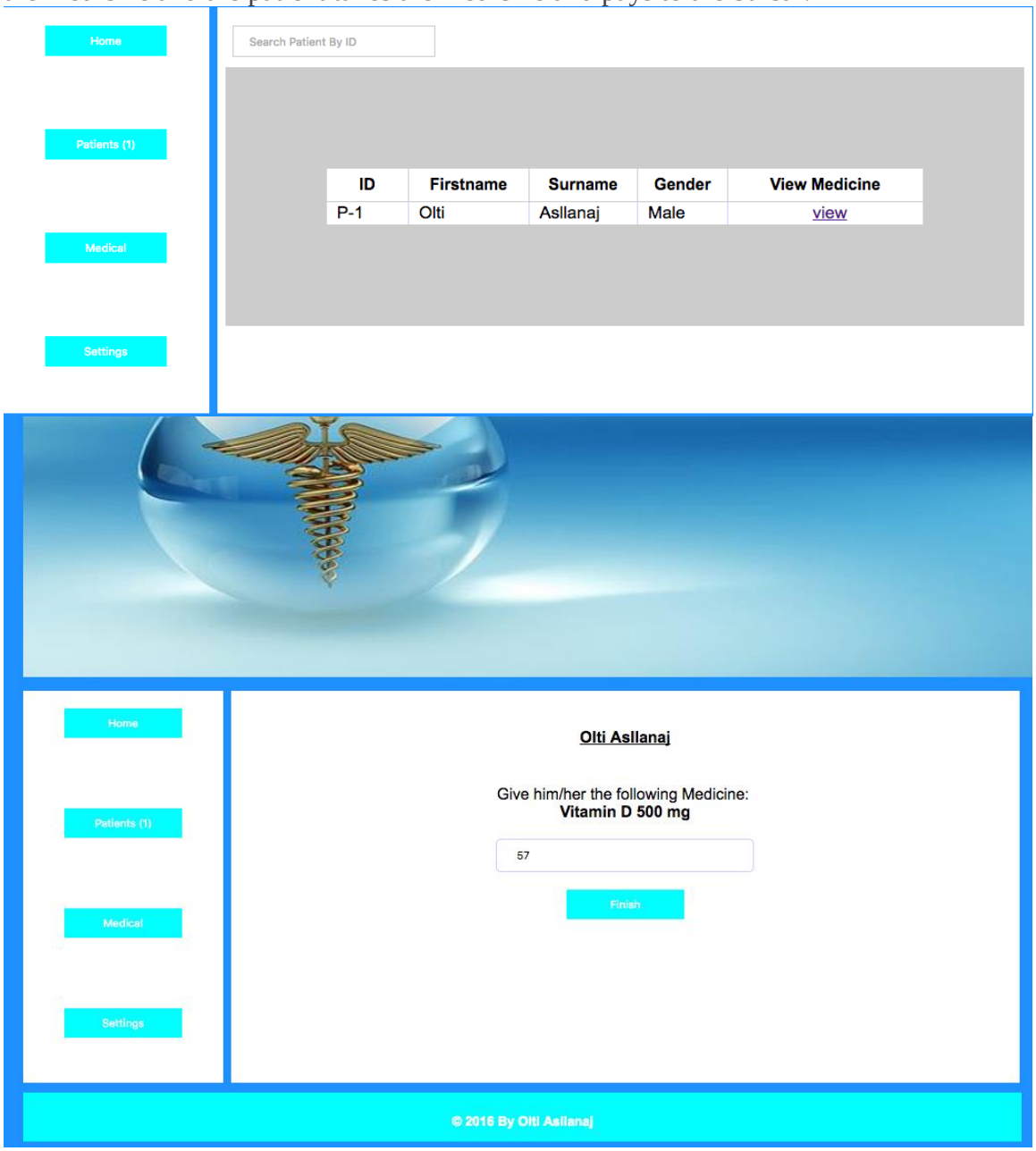


PHARMACY DASHBOARD AND FUNCTIONS

The pharmacy gets the prescription from the doctor. The pharmacy can enter the price of the Medicine. The pharmacist can add different medicines in the stock, edit and deleted.
The Pharmacy dashboard:

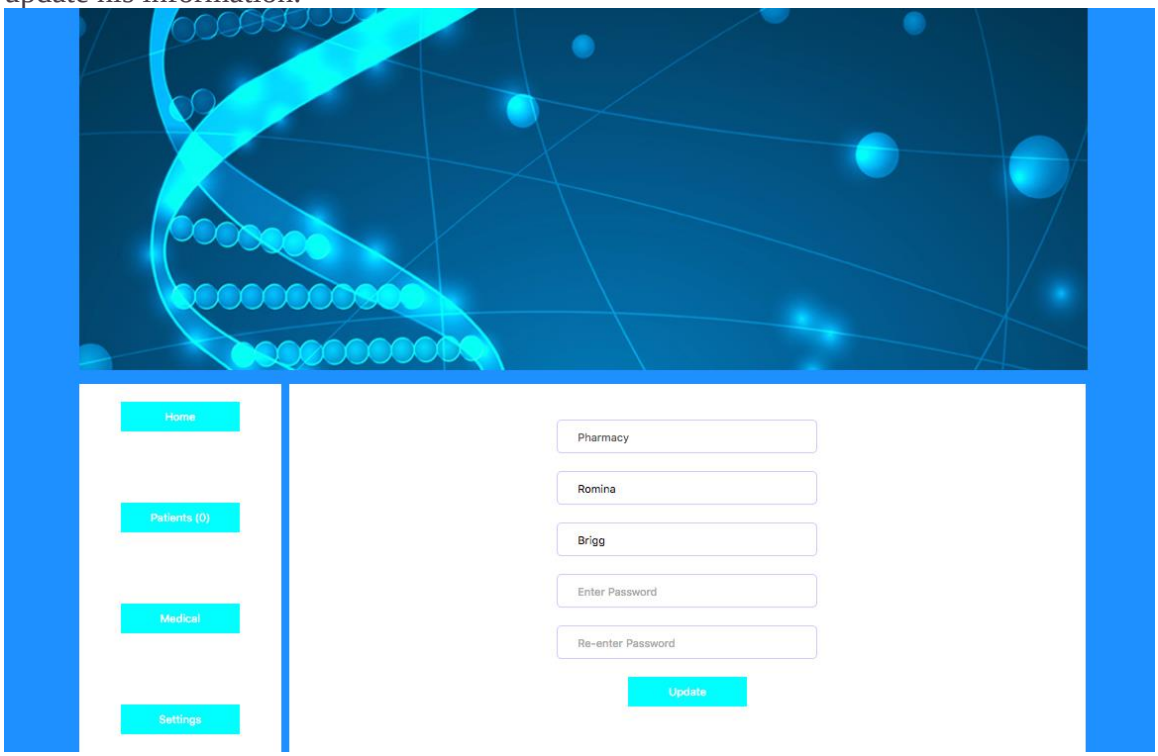


In the Patients dashboard you can see the information of the patient and after pressing view you can see the doctor prescription of the medicine. Then you can enter the price of the medicine and the patient takes the medicine and pays to the bursar.



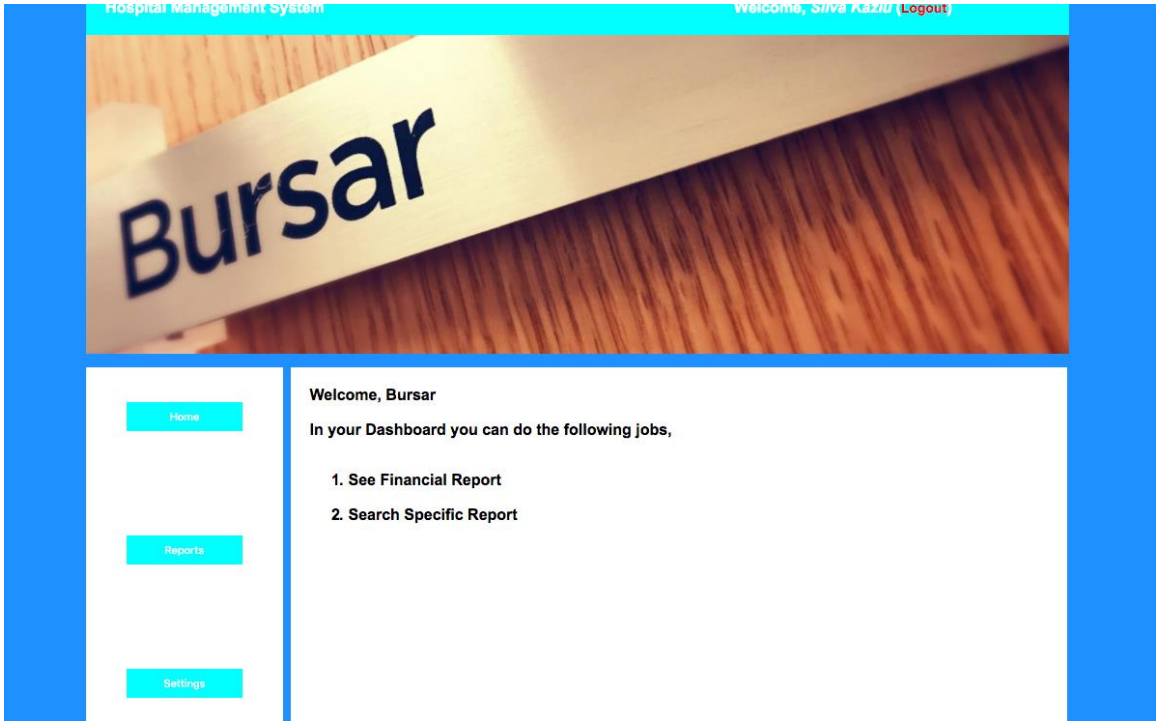
In the medical dashboard the pharmacist can add, update and delete medicines. He/she can store those in the stock or update and delete from the stock.

In the Settings dashboard the pharmacist that is accessing the system for the first time can update his information.

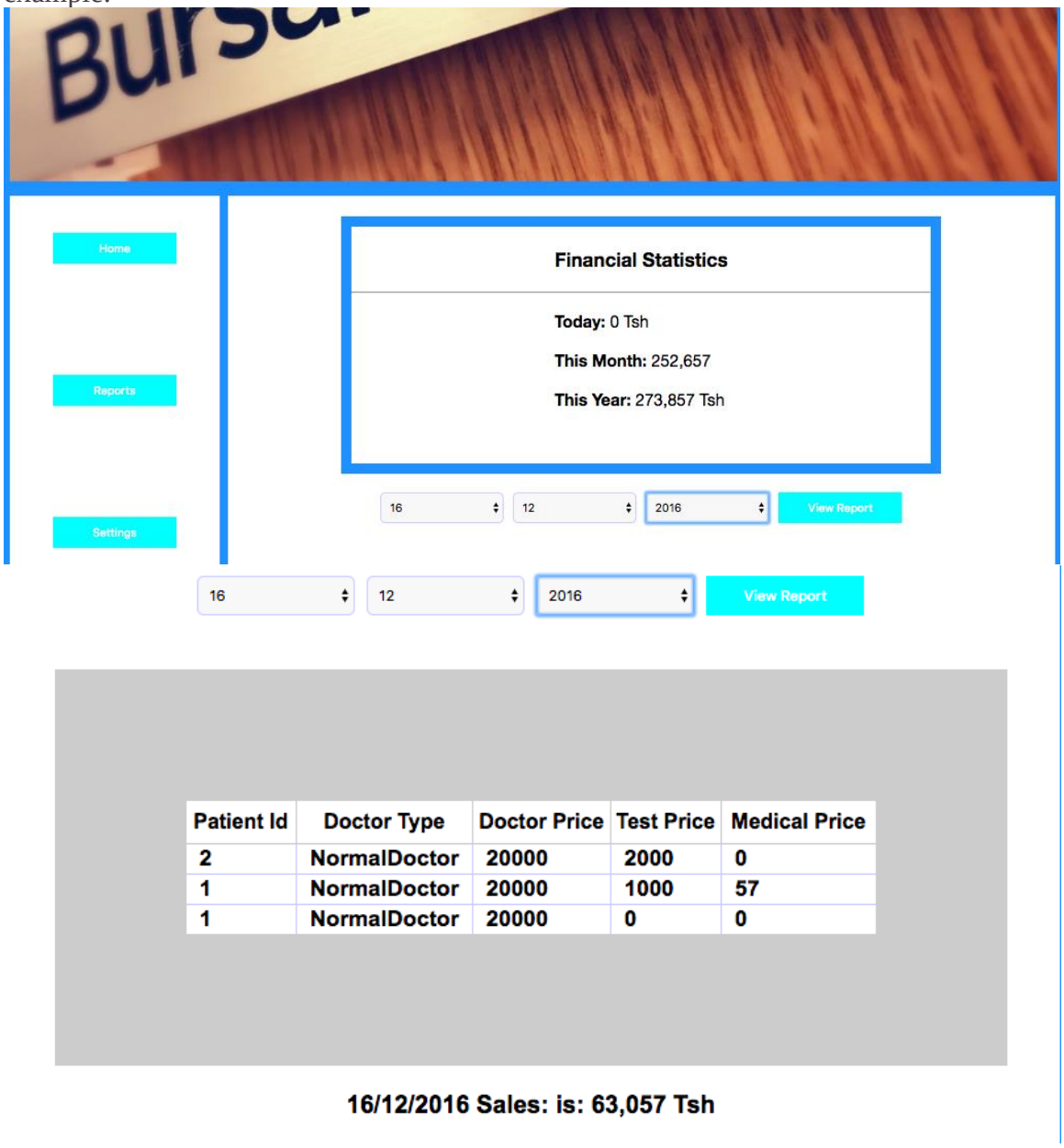


BURSAR DASHBOARD AND FUNCTIONS

In the bursar dashboard the bursar or accountant can see the financial report of the year and he/she can search for a specific report. The Bursar is Silva Kaziu. This is the Bursar dashboard:



In the report dashboard we can see the financial report and check for specific reports. For example:



Conclusion

This project was very useful and helped me to understand more how to work with front-end and back-end. This project was great not just because was fun but at the same time I learned two different programming languages SQL and PHP + HTML + CSS. I will continue to work on this project during the break!! I will add this project to my resume for my internship interviews. Great project.

Thank you,
Olti Asllanaj