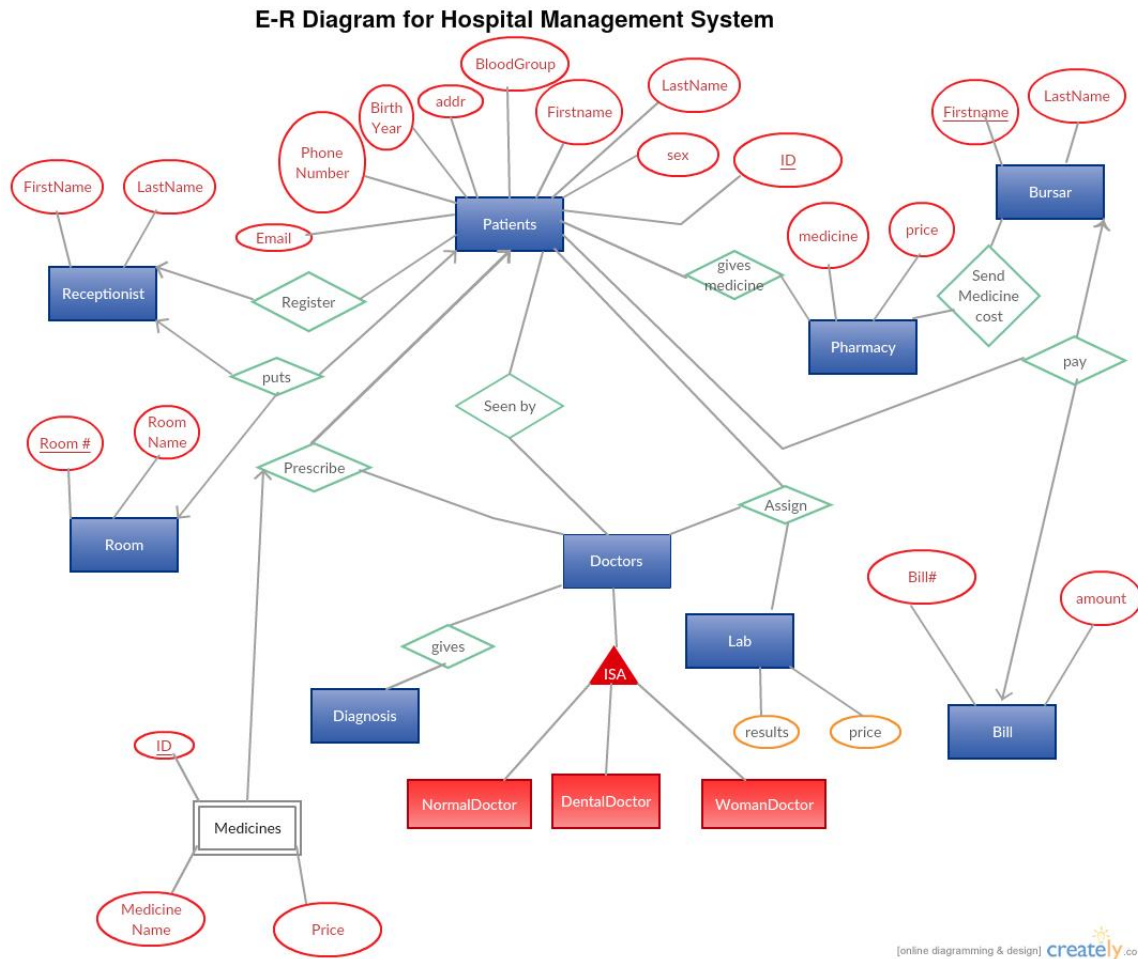


Hospital Management System E/R diagram!



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 track 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

	i d	fna me	sname	email	address	phone	sex	Bloodgro up	birthyear
1	1	Olti	Asllanaj	Oltias1987@gm ail.com	Boston	123456	Male	O	1987
2	3	Bled i	Asllanaj	bledi@yahoo.co m	Danvers	342567	Male	Ab	1989
3	4	Joan a	Pellumb i	joana@hotmail.c om	Italy	98234	Female	B	1989
4	7	Xhin o	Gallo	Xhino1987@gm ail.com	Boston	598330	Male	A	1988
5	5	Alba	Shkurti	Shkurti.@gmail.c om	Boston	9780345	Female	O	1986
6	6	Sum mit	Agrival	Summit@gmail.c om	India	764934	Male	B	1990
7	9	Asha	Deka	Asha@gmail.co m	Boston	546723	Female	O	1989
8	2	John	Baptista	John_1985@gma il.com	New York	6530123	Male	AB	1985
9	9	Astri t	Asllanaj	Astrit@hotmail.c om	Boston	978546	Male	O	1964
10	1 0	Erka	Pellumb i	Erka@gmail.com	New York	764938	Female	A	1966

[illegible][illegible]

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 chosen 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 come 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 then the patient can go home.

<u>Username</u>	<u>Password</u>
Admin	1234
Reception	1234
Doctor	1234
DentalDoctor	1234
NormalDoctor	1234
WomenDoctor	1234
Laboratory	1234
Pharmacy	1234
Bursar	1234

LOGGING IN

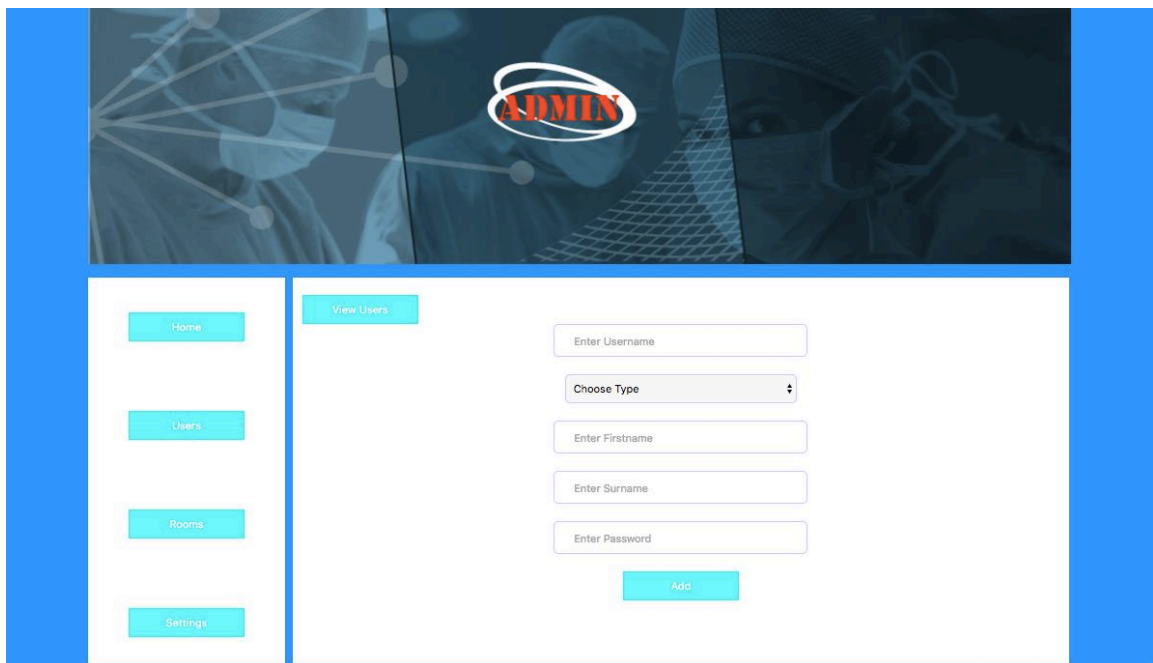
I created this interface for the Administrator or Admin to Log in to the system. The Admin is responsible for creating other users for different departments. For example: Doctors, receptionist, pharmacist, bursar, and laboratories. When the user enters the username and passwords and after clicking the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



<p>Hospital Management System</p> <p>(H:M:S)</p>	<p>Login Here</p> <div>Enter Username</div> <div>Enter Password</div> <div>Login</div>
---	--

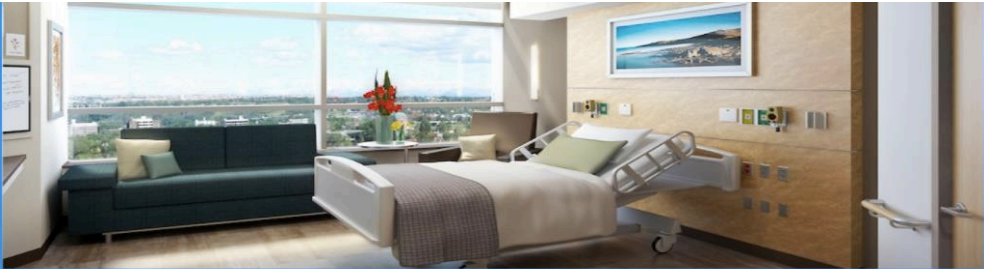
ADMINISTRATOR FUNCTIONS

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





The screenshot displays a web application interface for an administrator. At the top, there is a header banner with a dark blue background featuring a network diagram and a central logo that says "ADMIN" in red text inside a white oval. Below the banner, the interface is divided into two main sections. On the left, there is a vertical sidebar with five buttons: "Home", "Users", "Rooms", and "Settings". The "Users" button is currently selected. The main content area on the right has a "View Users" button at the top left. Below it, there are four input fields: "Enter Username", "Choose Type" (a dropdown menu), "Enter Firstname", and "Enter Surname". At the bottom of these fields is a "Add" button.

You can ADD the room by pressing the button Add Room

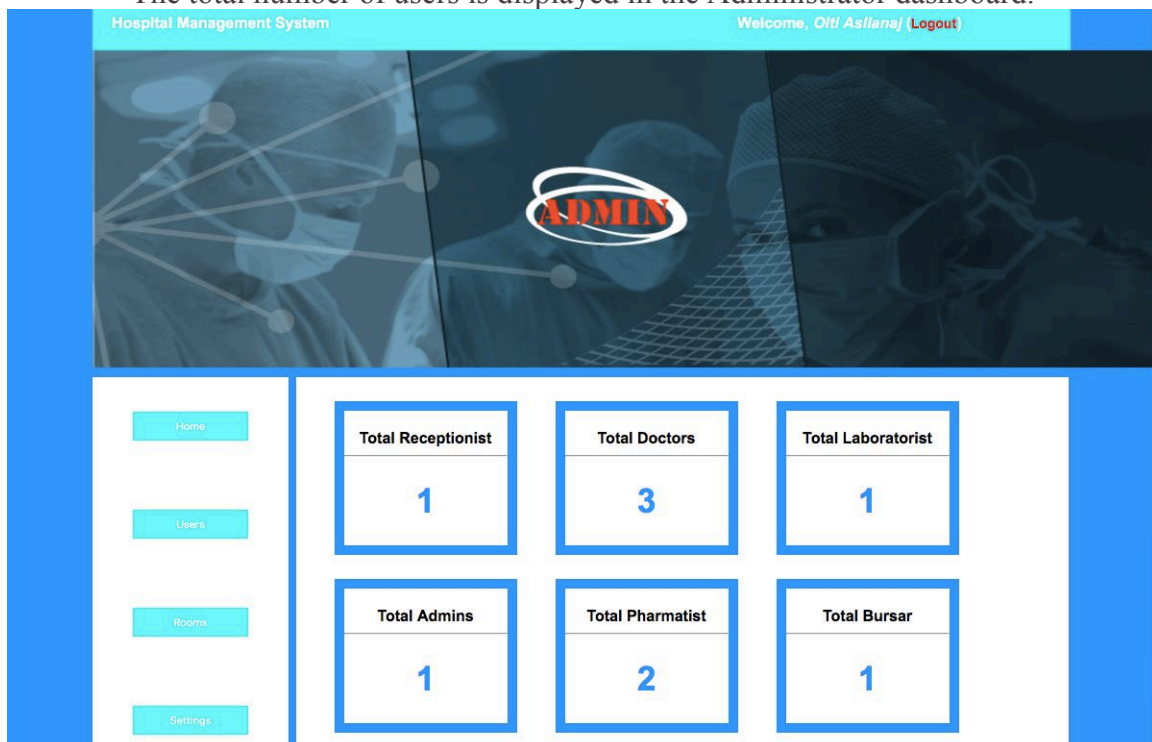


The image shows a modern hospital room with a large window overlooking a city. Inside, there is a green sofa, a hospital bed with a white blanket, and medical equipment on the wall. The room is bright and clean.

Below the image is a user interface for managing hospital rooms. It features a sidebar with navigation buttons: Home, Users, Rooms, and Settings. The main content area has an 'Add Room' button and a table displaying room information.

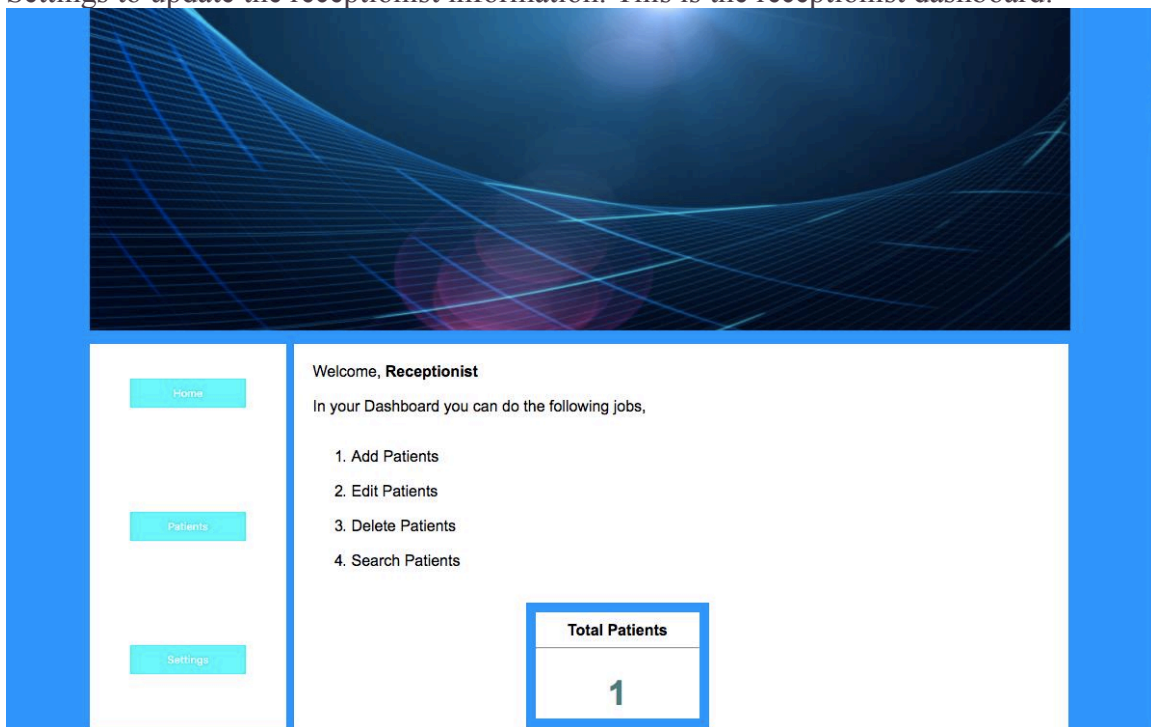
Room Number	Room Name	Patients In Room	Edit	Delete
125	Olti	0		

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

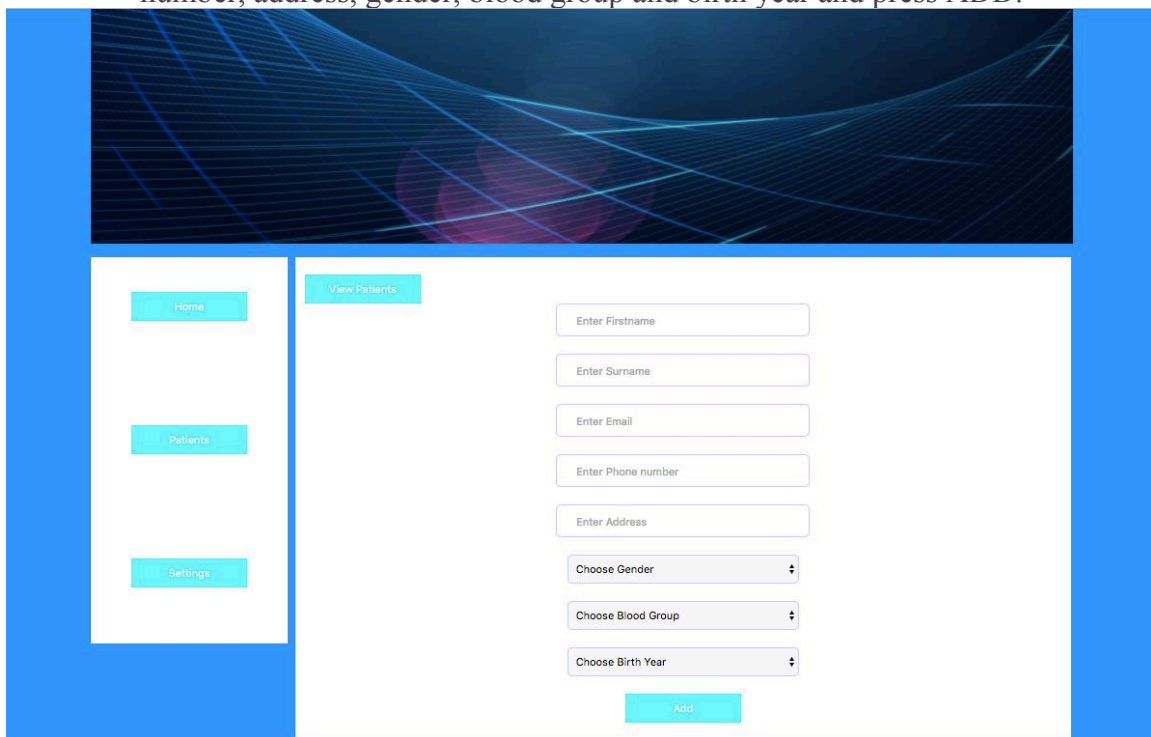


RECEPTIONIST DASHBOARD && FUNCTIONS

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.




The screenshot displays a web application interface for patient registration. At the top, there is a decorative header with a blue background and a glowing, abstract pattern of lines. Below the header, the interface is divided into two main sections. On the left, a vertical sidebar contains three buttons: 'Home', 'Patients', and 'Settings'. The 'Patients' button is highlighted. The main content area on the right is titled 'View Patients' and contains a form for adding a new patient. The form includes the following fields: 'Enter Firstname', 'Enter Surname', 'Enter Email', 'Enter Phone number', 'Enter Address', 'Choose Gender' (a dropdown menu), 'Choose Blood Group' (a dropdown menu), and 'Choose Birth Year' (a dropdown menu). At the bottom of the form is a blue 'Add' button.

Field	Type
Enter Firstname	Text Input
Enter Surname	Text Input
Enter Email	Text Input
Enter Phone number	Text Input
Enter Address	Text Input
Choose Gender	Dropdown Menu
Choose Blood Group	Dropdown Menu
Choose Birth Year	Dropdown Menu
Add	Submit Button

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

Hospital Management System

Welcome, Diana Portillo (Logout)



Home

Patients

Settings

Add Patient

Search Patient By ID

Id	Firstname	Surname	Phone	Sex	View	Edit	Delete
P-1	Olti	Asllanaj	9782197438	Male	View	✎	🗑

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.

Home

Patients

Settings

Add Patient

Search Patient By ID

ID	P-1
FIRSTNAME	Olti
SURNAME	Asllanaj
EMAIL	oltias1987@gmail.com
ADDRESS	21 Sherwood Ave
PHONE	9782197438
GENDER	Male
BLOOD GRUOP	B
YEARS	29

✓ Choose Doctor

NormalDoctor

DentalDoctor


WomenDoctor

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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.

Hospital Management System

Welcome, *Diana Portillo* [Logout](#)



Home

Patients

Settings

Reception

Diana

Portillo

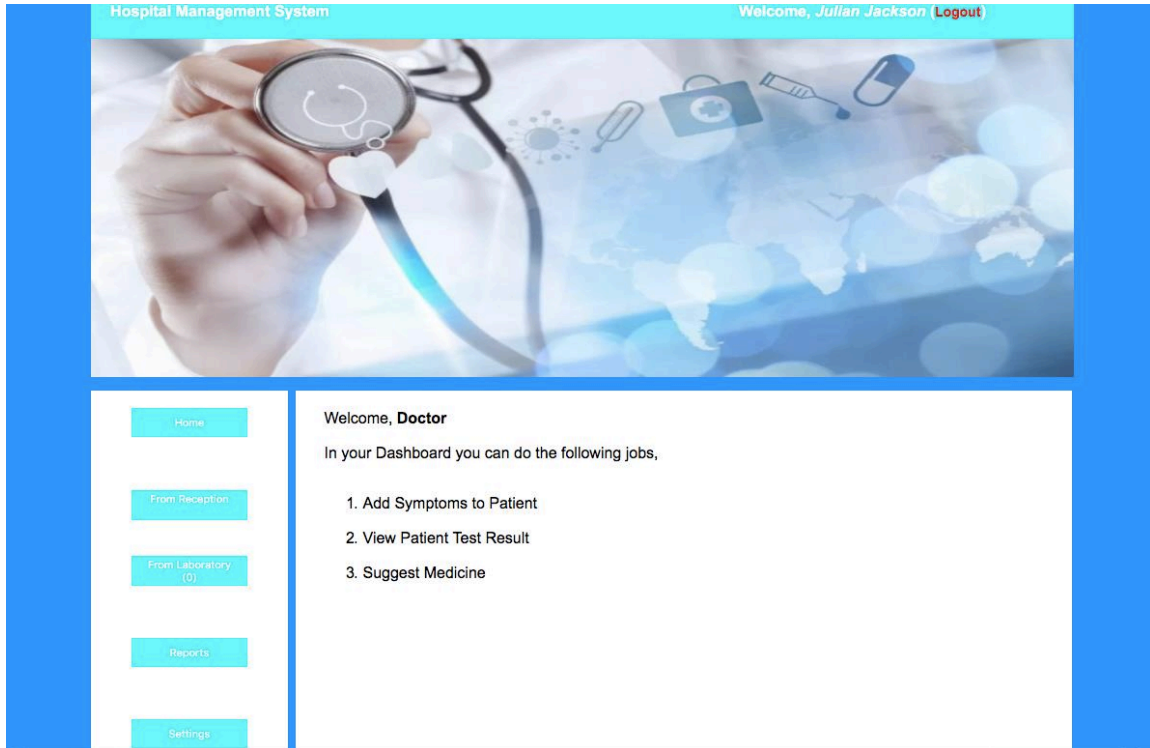
Enter Password

Re-enter Password

Update

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.

Hospital Management System

Welcome, Julian Jackson (Logout)

Home

From Receptionist

From Laboratory (0)

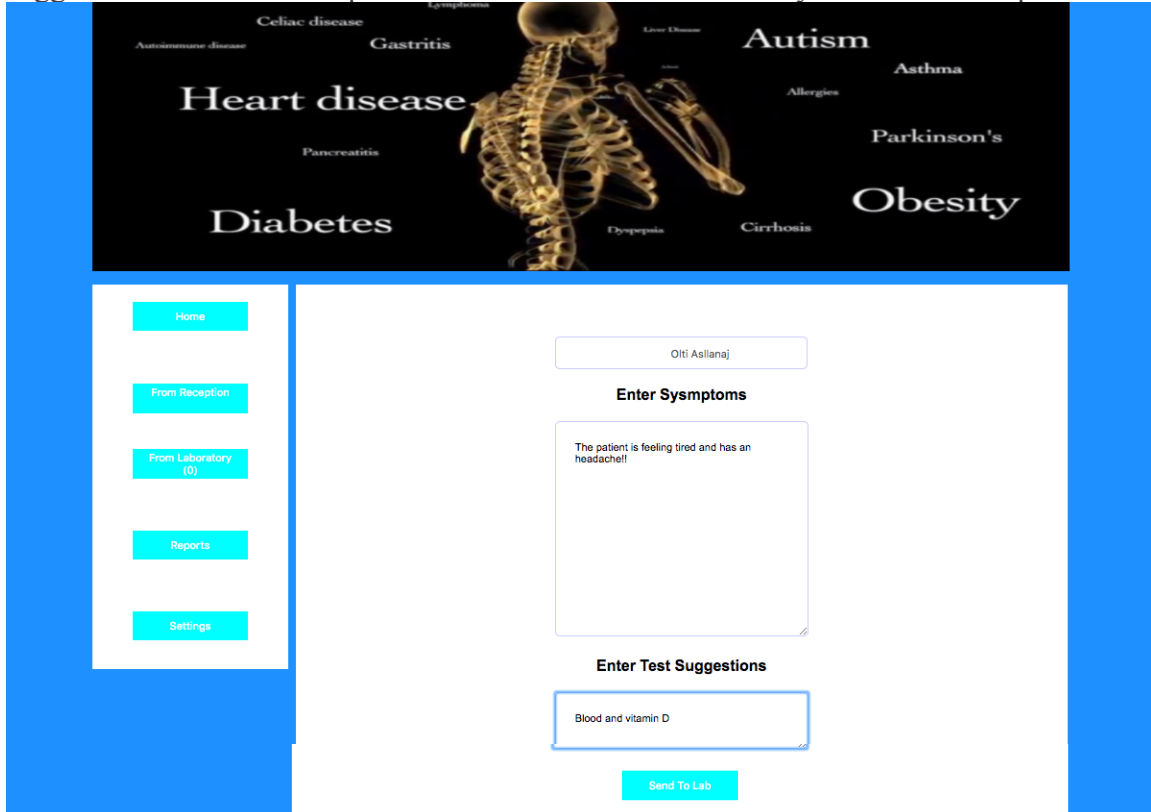
Reports

Settings

Search Patient By ID

ID	Firstname	Surname	Gender	Add symptoms
1	Olti	Asllanaj	Male	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:



The screenshot displays a medical application interface. On the left is a blue sidebar with a white panel containing five navigation buttons: "Home", "From Reception", "From Laboratory (0)", "Reports", and "Settings". The main content area has a black header featuring a human skeleton and various disease names: "Celiac disease", "Autoimmune disease", "Gastritis", "Heart disease", "Pancreatitis", "Diabetes", "Autism", "Liver Disease", "Asthma", "Allergies", "Parkinson's", "Obesity", "Dyspepsia", and "Cirrhosis". Below the header, the patient name "Olti Asllanaj" is shown in a white box. Underneath is a section titled "Enter Symptoms" with a text area containing the text "The patient is feeling tired and has an headache!!". Below this is a section titled "Enter Test Suggestions" with a text area containing the text "Blood and vitamin D". At the bottom of the main area is a red button labeled "Send To Lab".

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 screenshot displays a medical application interface with a blue header and footer. The header features a banner image of a doctor's hand with a stethoscope. The main content area is divided into a left sidebar and a central panel. The sidebar contains buttons for 'Home', 'From Reception', 'From Laboratory (1)', 'Reports', and 'Settings'. The central panel shows the patient's name 'Olti Asllanaj' and the text 'The Following are Results' followed by 'Vitamin D is Low. Everything else is in the range.' Below this is a section titled 'Enter Medicine' with a text input field containing 'Vitamin D 500 mg' and a 'Send To Pharmacy' button. At the bottom, there is a 'CARDS' section with two dropdown menus showing '13' and '12', a 'Choose Year' dropdown menu with options from 2015 to 2020 (2017 is selected), and a 'View Report' button. The footer contains the copyright notice '© 2016 By Olti Asllanaj'.

Home

From Reception

From Laboratory (1)

Reports

Settings

Olti Asllanaj

The Following are Results

Vitamin D is Low. Everything else is in the range.

Enter Medicine

Vitamin D 500 mg

Send To Pharmacy

Reports

Settings

CARDS

13 12

Choose Year

2015

2016

2017

2018

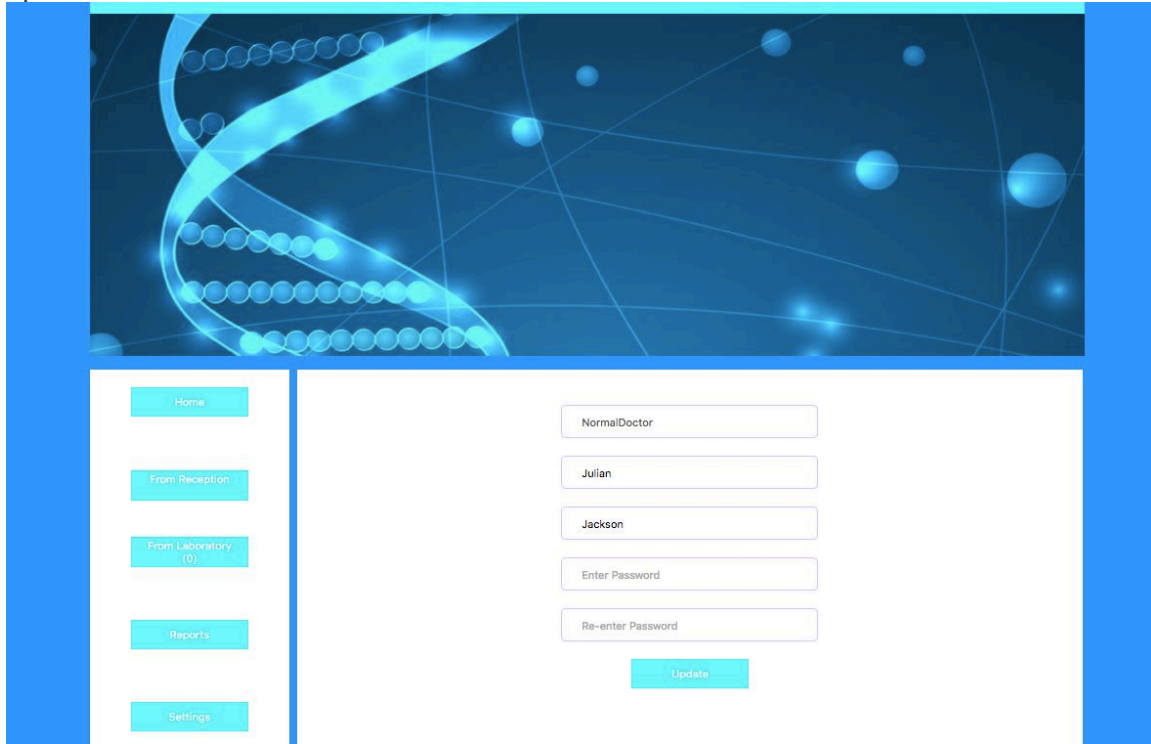
2019

2020

View Report

© 2016 By Olti Asllanaj

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



Home

From Reception

From Laboratory (0)

Reports

Settings

NormalDoctor

Julian

Jackson

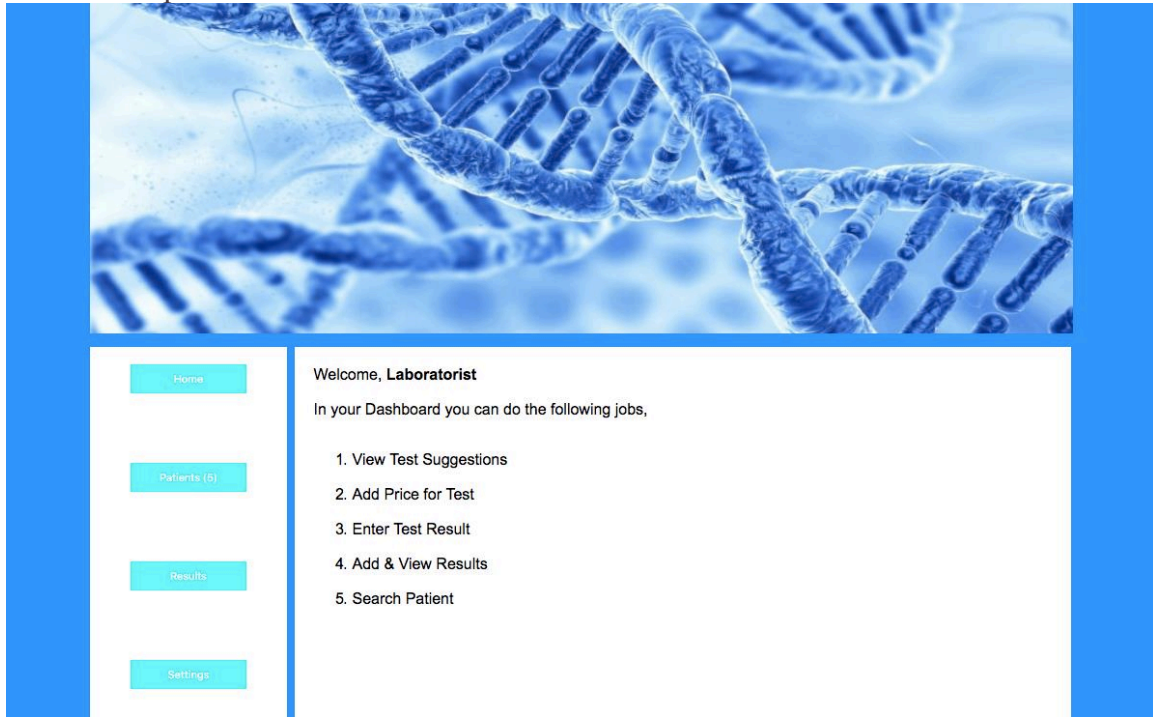
Enter Password

Re-enter Password

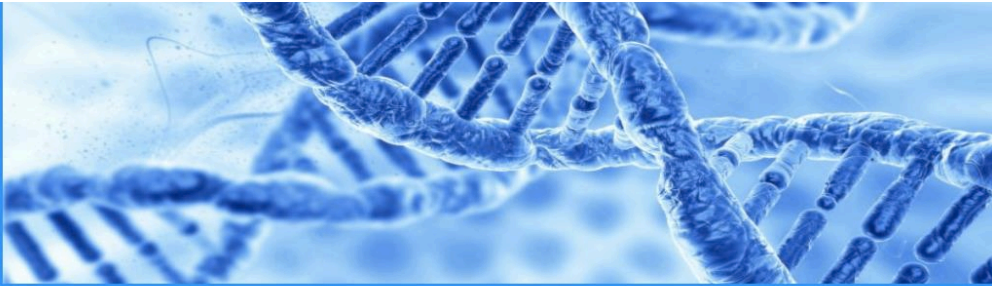
Update

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.



Home

Patients (5)

Results

Settings

Search Patient By ID

ID	Firstname	Surname	Gender	Test Suggestions
P-1	Olti	Asllanaj	Male	view

Home

Patients (5)

Results

Settings

Olti Asllanaj

Please Do This Test:
BLOOD WORK

1000

Enter Test Results

Vitamin D is low

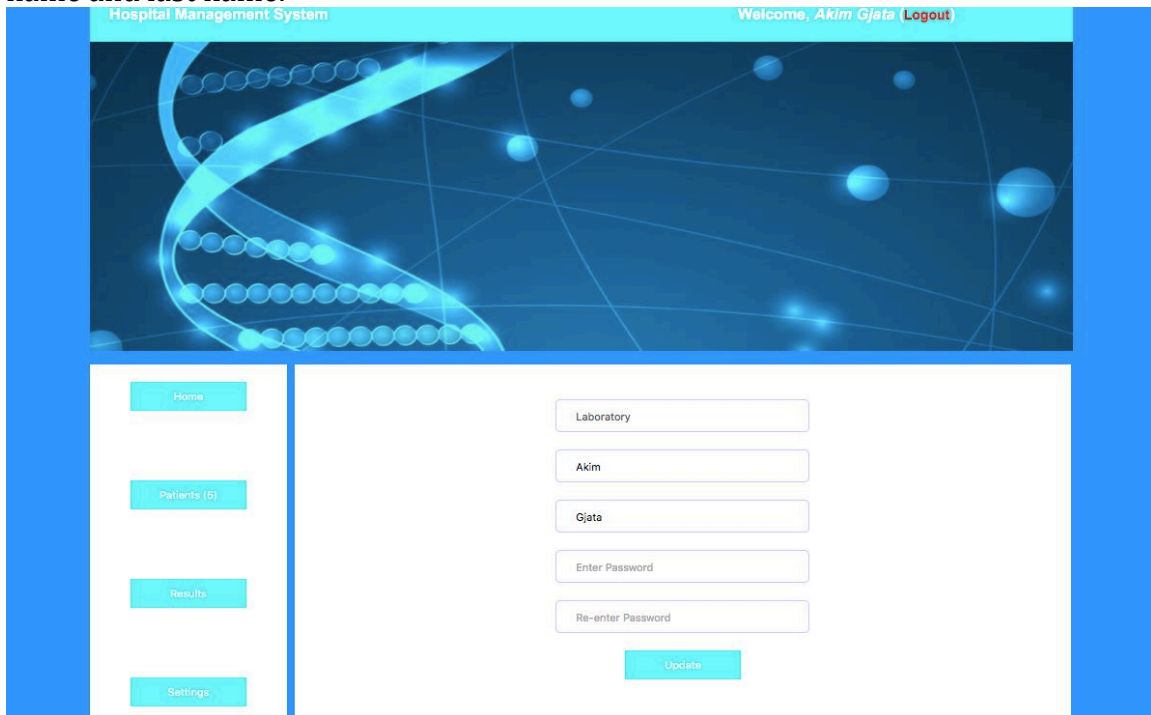
Send To Doctor

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



ID	Name	Gender	Date	Result
P-1	Olti Asllanaj	Male	1 - 2 - 2016	POZITIVE
P-2	John Stakosha	Male	3 - 12 - 2016	NEGATIVE
P-1	Olti Asllanaj	Male	8 - 12 - 2016	NEGATIVE
P-1	Olti Asllanaj	Male	16 - 12 - 2016	Vitamin D is Low. Everything else is in the range.
P-2	John Stakosha	Male	16 - 12 - 2016	Positive for stomach bug

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



Hospital Management System

Welcome, Akim Gjata (Logout)

Laboratory

Akim

Gjata

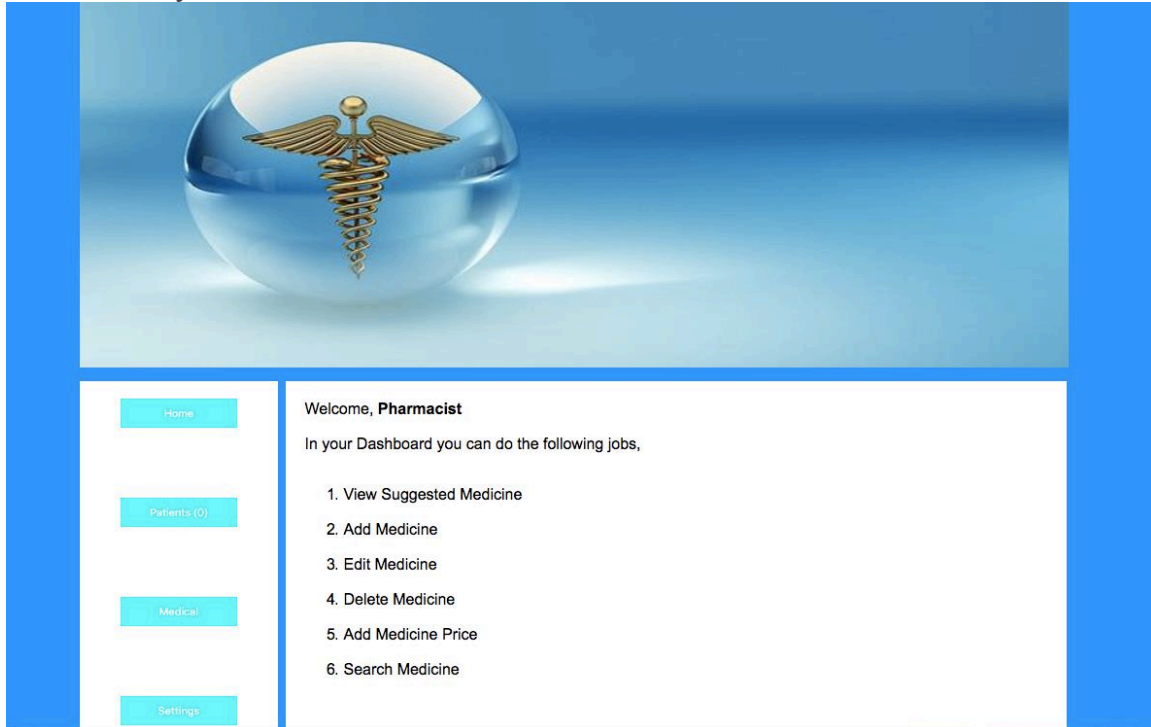
Enter Password

Re-enter Password

Update

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.

Home

Patients (1)

Medical

Settings

Search Patient By ID

ID	Firstname	Surname	Gender	View Medicine
P-1	Olti	Asllanaj	Male	view

Home

Patients (1)

Medical

Settings

Olti Asllanaj


Give him/her the following Medicine:
Vitamin D 500 mg

57

Finish

© 2016 By Olti Asllanaj

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.



Home

Patients (0)

Medical

Settings

View Medicine

Search Medicine By Name

Vitamin D

57

Add

© 2016 By Oliti Asllanaj

Home





Patients (0)

Medical

Settings

Add Medicine

Search Medicine By Name

Medicine Name	Price	Edit	Delete
Paracetamol	100		
Vitamin D	57		

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

Home

Patients (0)

Medical

Settings

Pharmacy

Romina

Brigg

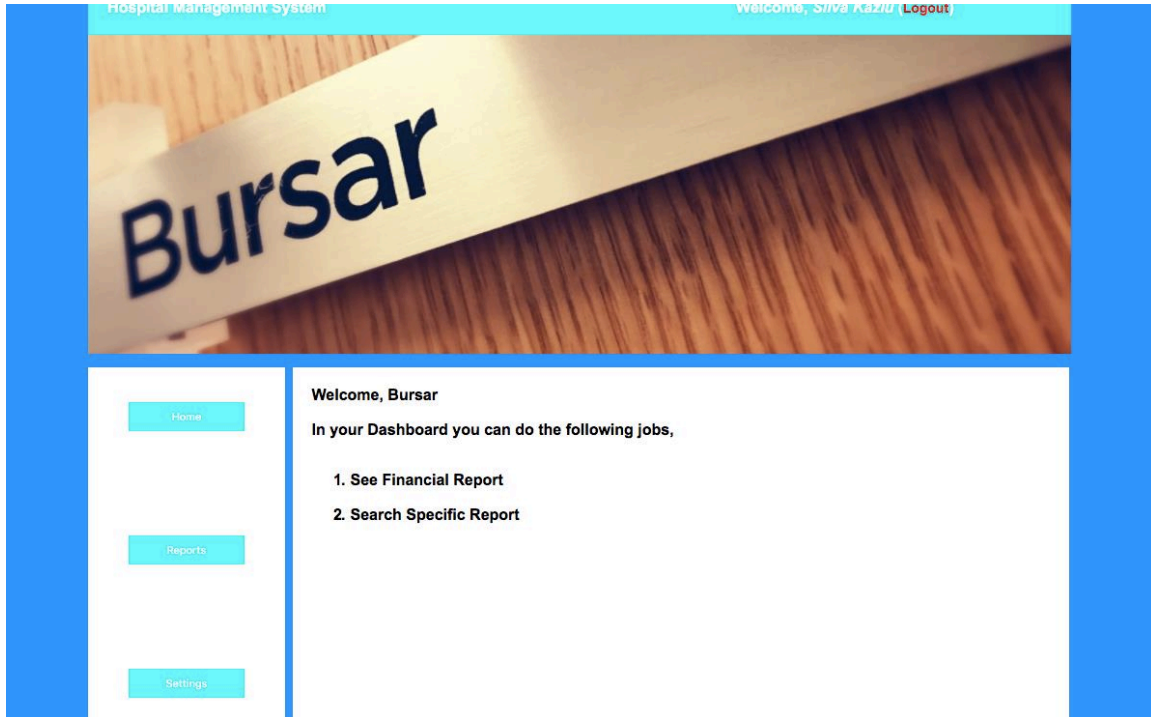
Enter Password

Re-enter Password

Update

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:

The screenshot displays a web application interface for a report dashboard. At the top, there is a header image with the text "Bursu" partially visible. Below the header, the dashboard is divided into a sidebar and a main content area. The sidebar contains three buttons: "Home", "Reports", and "Settings". The main content area features a "Financial Statistics" box with the following data:

- Today: 0 Tsh
- This Month: 252,657
- This Year: 273,857 Tsh

Below the statistics box, there are two sets of filters. The first set includes dropdowns for "16", "12", and "2016", followed by a "View Report" button. The second set includes dropdowns for "16", "12", and "2016", followed by a "View Report" button. Below the filters, there is a table with the following data:

Patient Id	Doctor Type	Doctor Price	Test Price	Medical Price
2	NormalDoctor	20000	2000	0
1	NormalDoctor	20000	1000	57
1	NormalDoctor	20000	0	0

At the bottom of the dashboard, there is a summary text: "16/12/2016 Sales: is: 63,057 Tsh".

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