SE 201.3 - Systems Analysis and Design

Group Assignment

Health center module

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PROBLEM DESCRIPTION

ABOUT THE ORGANIZATION

NSBM Green University Town is the first ever green university in South Asia and sets an example for the whole South Asia by paving the way for environmental sustainability. The university is open for both national and international student community and it has turned a new chapter in Sri Lankan higher education.

In here we will focus one of main departments of NSBM, which is its **Medical Center.** Medical center is equipped with many facilities ensuring that the students and the staff get the best service. Current situation of medical center is every task handled manually by its staff. All the records of students are currently updated on manually on papers. This sometimes is very costly and takes so much time. So that we are hoping to propose a system that will make everyone's lives so easy.

In here we will focus one of main department of NSBM which is medical center. Current situation of medical center is every task handled manually by its staff to get the best service. All the records of students are updated manually on papers. There is a student medical report for every student in university. All the medical data of a student(diseases, skills)are recorded in this card. Sometimes this is very costly, difficult and take so much time. So , we have to design efficient and an effective system for the medical department.

Problem 1

In manual file system-based system doctor has to go through previous files manually one by one to find a previous patient medical report.

Solution-

In our solution system previous patient recorded that are stored in databases can be accessed instantly by searching the name. The doctor can update the patient medical records very conveniently.

One doctor has many students. But every student doesn't need treatments at one time.

Problem 2-

In a manual file system-based system doctor has to go through previous files manually one by one to find the blood pressure, weght,height,blood sugar, body temperature etc. of a student.

In addition, doctor need to record updated data about student. Sometimes this is very costly, difficult and takes so much time.

Solution-

In our solution system student ,themselves can record parameters of blood pressure, height, weight , temperature etc.

These parameters are recorded in databases can be accessed instantly by searching student name/student ID.

Problem 3-

In a manual file system-based system doctor has to write a reference letter or an advice note to the patient.

Solution-

Doctor can print reference letter or an advice letter to refer super specialist ,hospitals for further checkup.

Doctor can type the reference letter and upload it to medical center database.

Doctor can print the reference letter instantly making it more professional.

Problem 4-

In the previous system students have to go to the doctor for get the medical reports whenever medical reports are needed to sit for an exam which he/she has been absent before because of a medical issue. Sometimes they have to travel even they are still sick because they will lose marks on their absent exams as a repeater.

This is very difficult and takes so much time.

Solution-

Students can upload medical reports to the doctor whenever medical reports are needed.

The doctor recommend that student is in a disease and doctor will be informed it to the exam division.

USER REQUIREMENTS AND FEASIBILTY STUDY

ID	Requirement Description	Completed	Functional/ non-Functional
	System administration(Doctor) requirements	Yes	Non-Functional
	Doctor should login to do any specific task	Yes	Non-Functional
	Doctor should be able to change the password	Yes	Non-Functional
	Doctor should be able to record medical parameters(blood pressure, weight, height, blood sugar, body temperature)	Yes	Functional
	Doctor should be able to print reference letter of a patient/student	Yes	Functional
	Doctor should be able to see the personal details(name, address, faculty, contact number, guardian's name) of a student	Yes	Functional
	Doctor should be able to see the medical history of a students	Yes	Functional
	Doctor should be able to edit the medical history of a students	Yes	Functional
	Doctor should be able to see recommended drug details in the medical store	Yes	Functional
	Doctor should be able to delete the student details	No	Functional
	Student should login to do any task	yes	Functional

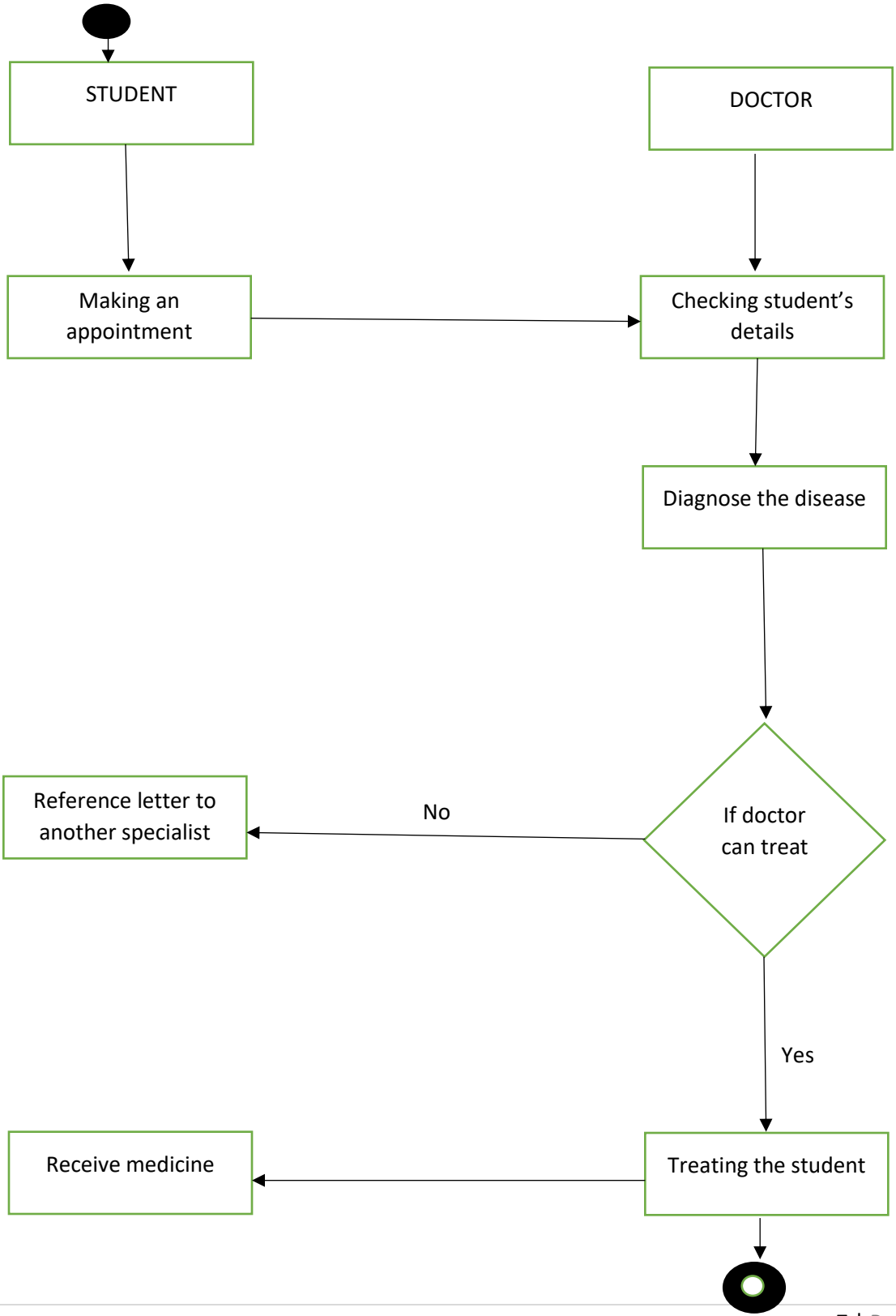
	Student should be able to upload medical report to the doctor(Whenever medical reports are needed to sit for an exam which he/she has been absent before because of a medical issue)	Yes	Functional
	Student should be able to edit the personal details	Yes	Functional
	Student should be able to change the medical history of himself	No	Functional
	Student should be able to see the medical history	Yes	Functional
	Student should be able to chat with a doctors about their medical problems.	No	Functional
	Student should be able to get appointment to see doctor	yes	Functional

- Completed: Yes (Completely implemented)
- NO (not implemented)
- Partially (partially implemented, more description under remarks subsection)
- Unknown (completion status not known)
- Dropped (requirement was dropped during the course of the proje

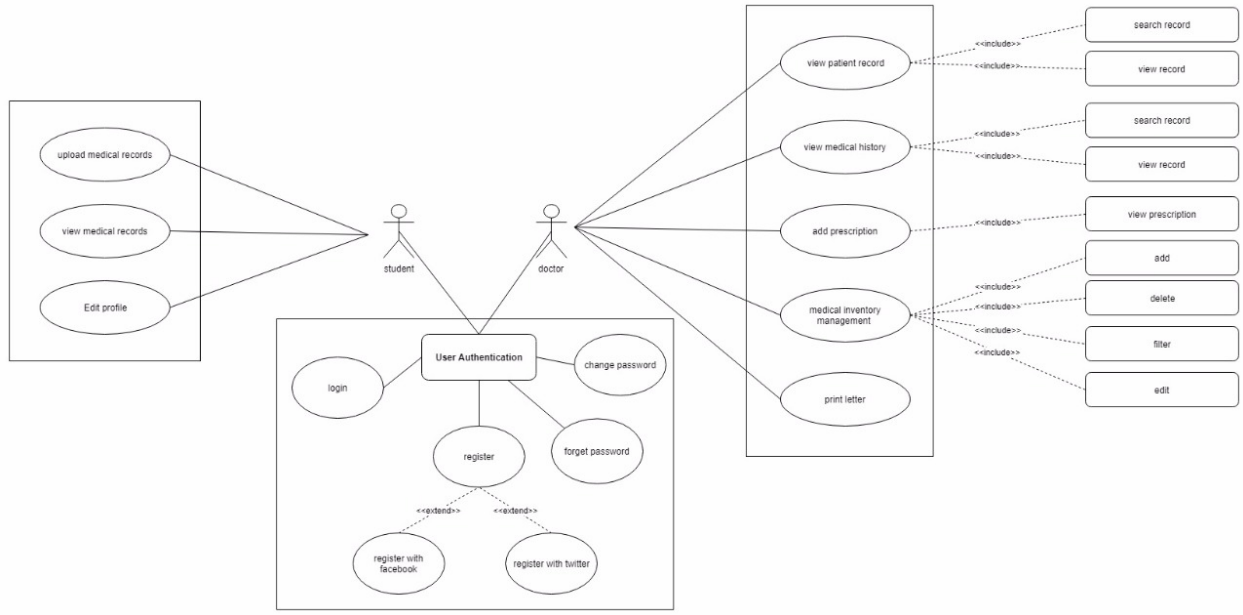
Requirement Compliance Summary

Total number of requirements	17
Number of requirements implemented	14
Requirements partially fulfilled	0
Requirements not fulfilled	3
Requirements dropped	0

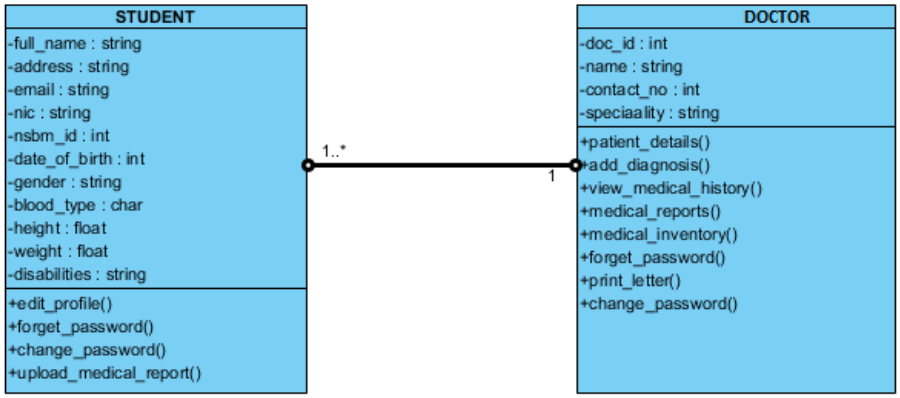
ACTIVITY DIAGRAM



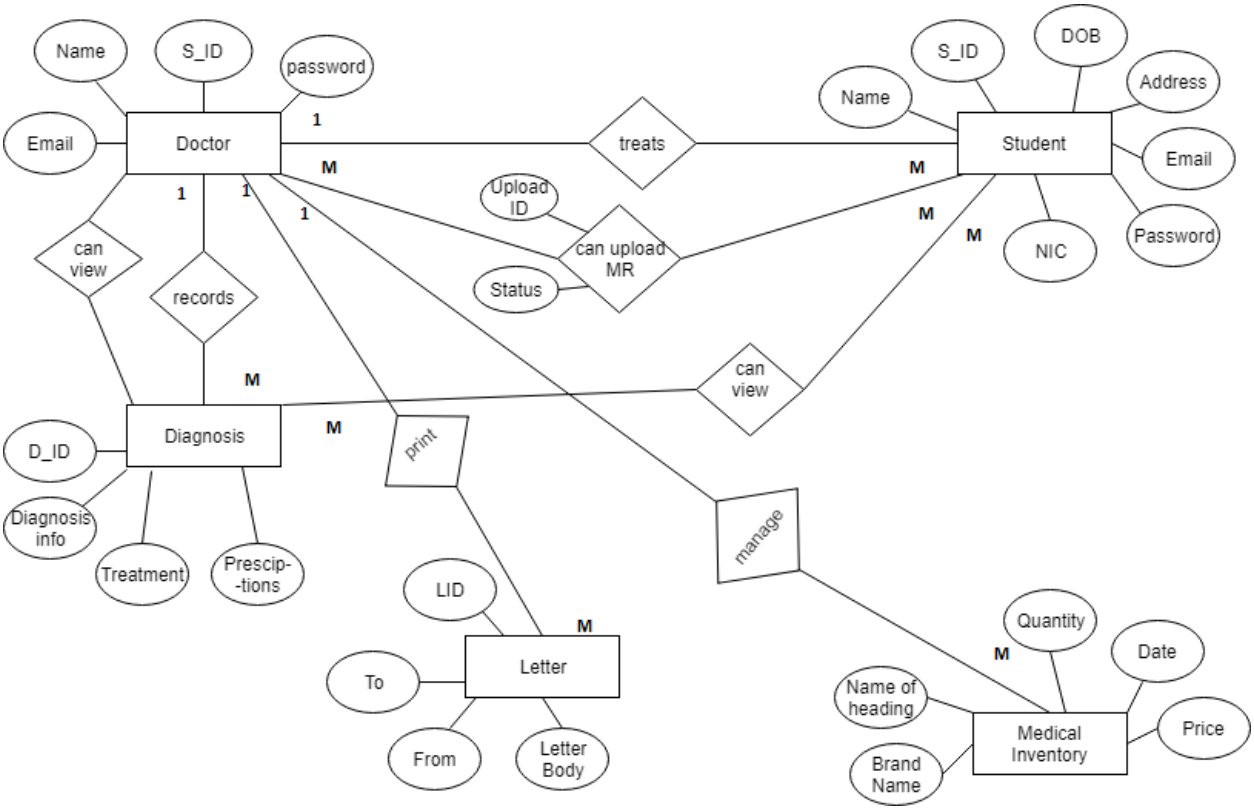
USECASE DIAGRAM



CLASS DIAGRAM



ER DIAGRAM


Name
S_ID
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1
M
treats
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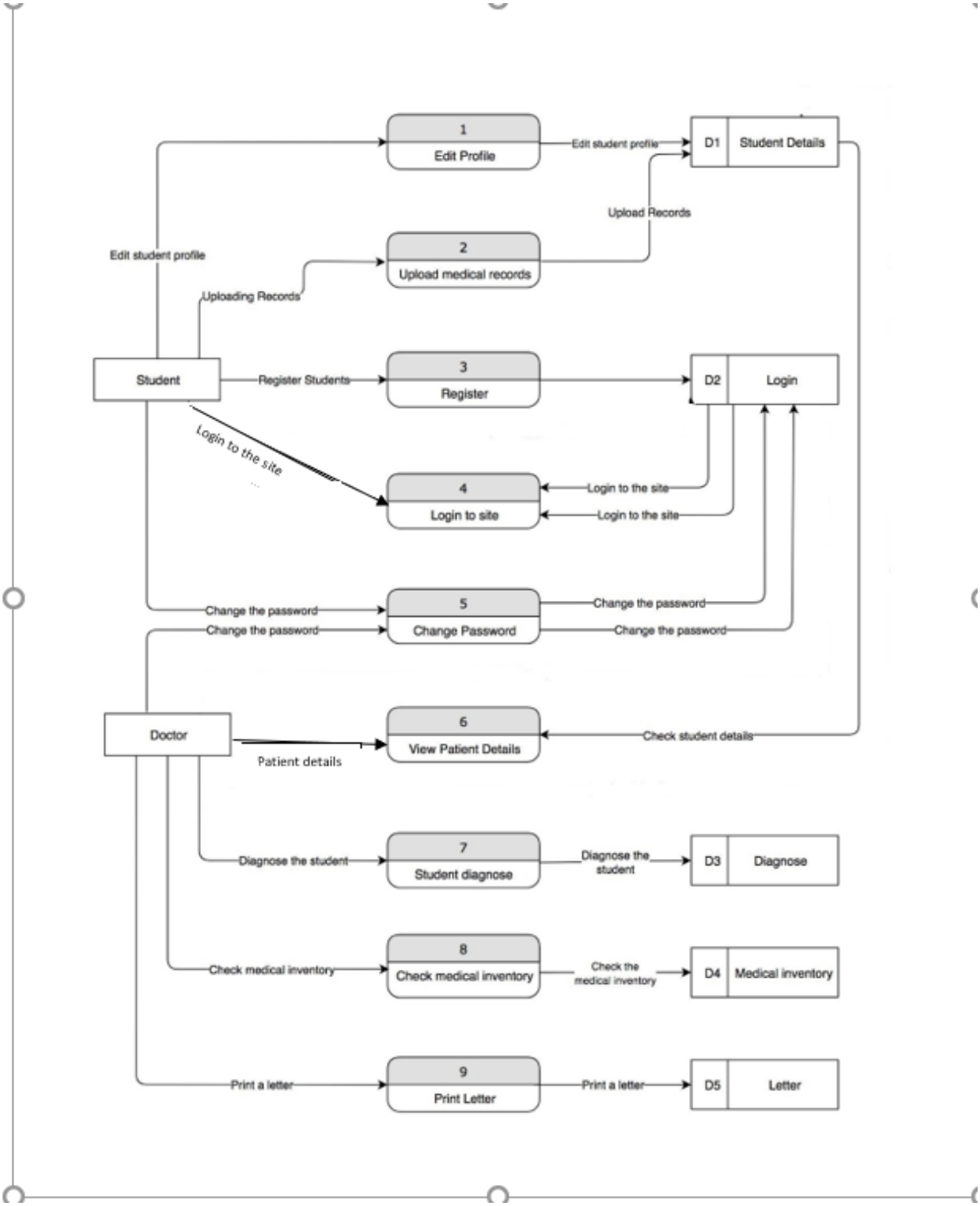
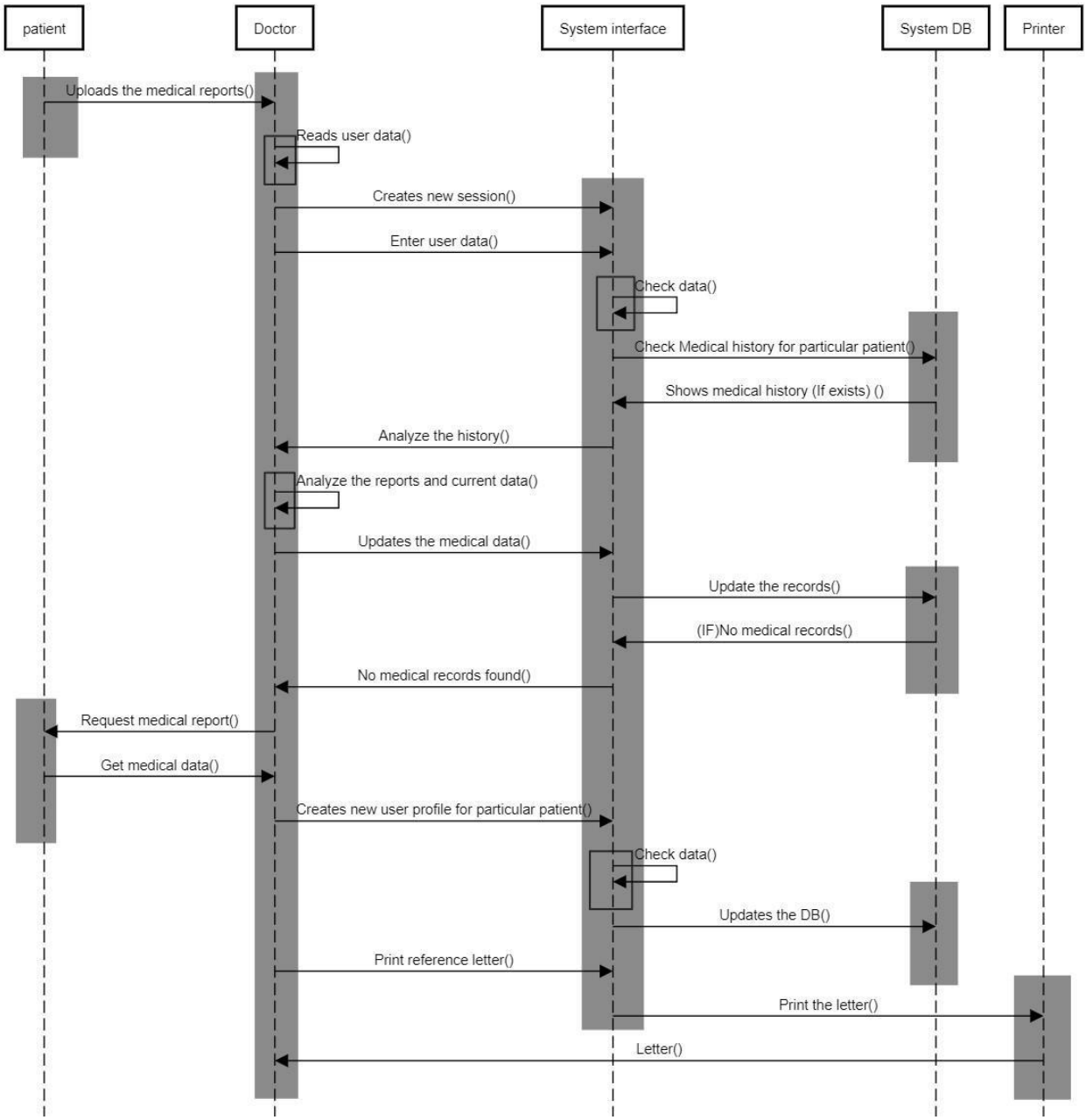
DOB
Name
Address
Student
Email
Password
NIC
M
M
M
1
1
1
Upload ID
can upload MR
Status
can view
records
M
can view
Diagnosis
M
print
D_ID
Diagnosis info
Treatment
Prescip--tions
manage
LID
M
Letter
To
From
Letter Body
Quantity
Date
M
Name of heading
Price
Medical Inventory
Brand Name

DATA FLOW DIAGRAM

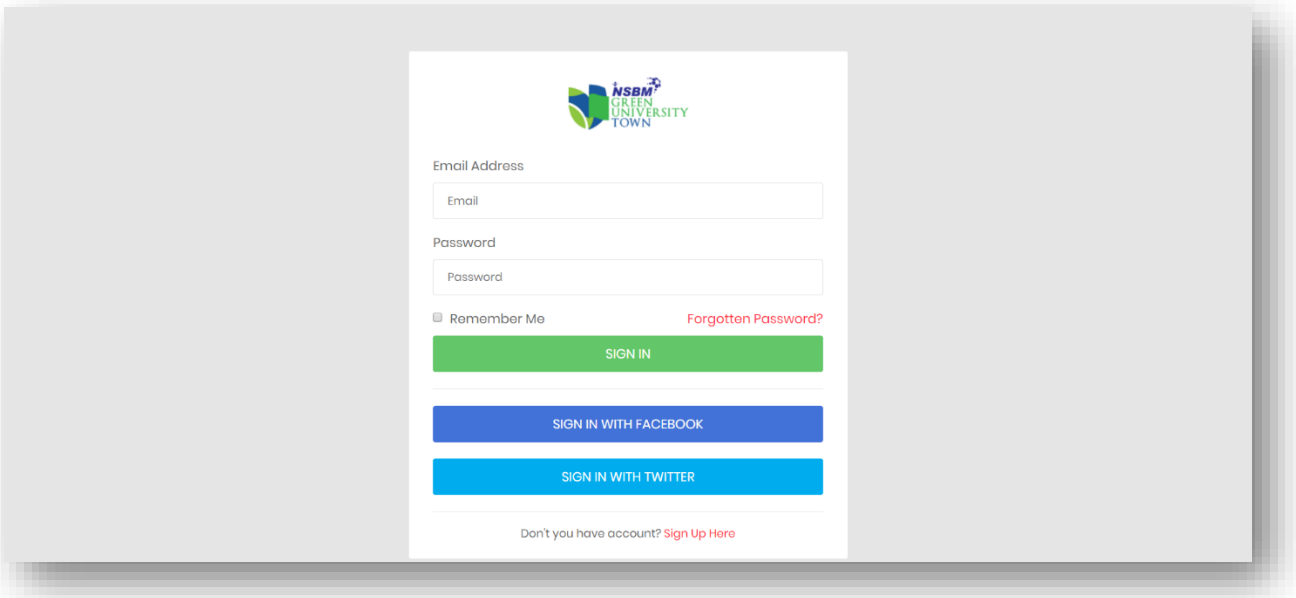


SEQUENCE DIAGRAM

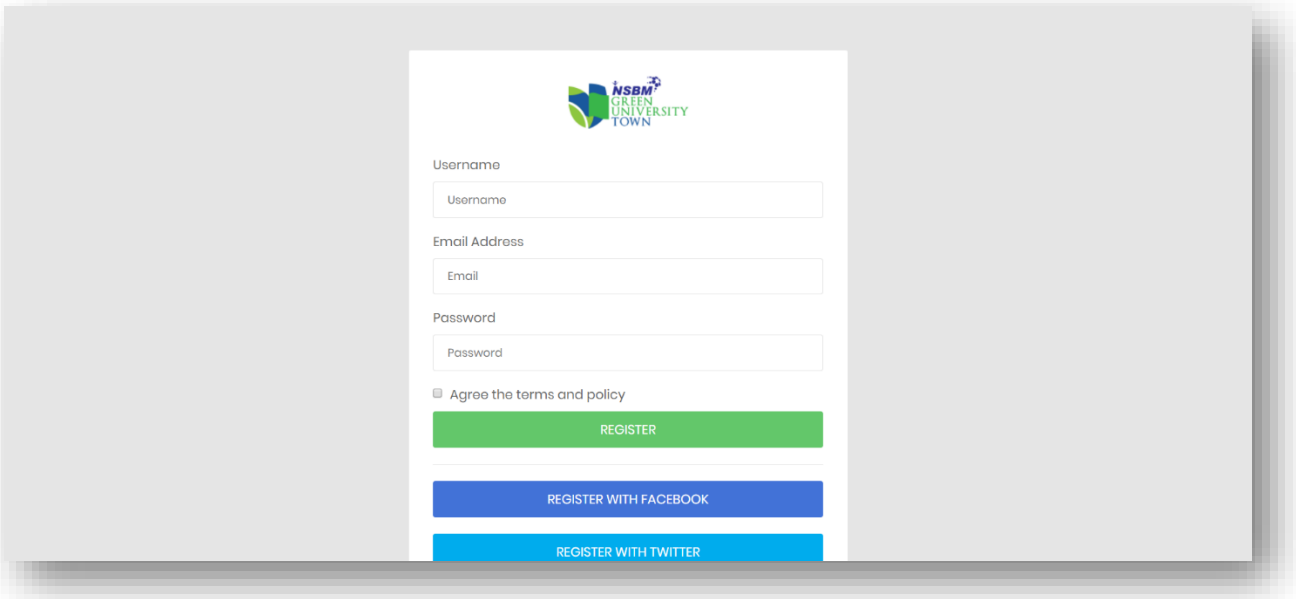


USER INTERFACE SPECIFICATIONS AND OPERATIONS

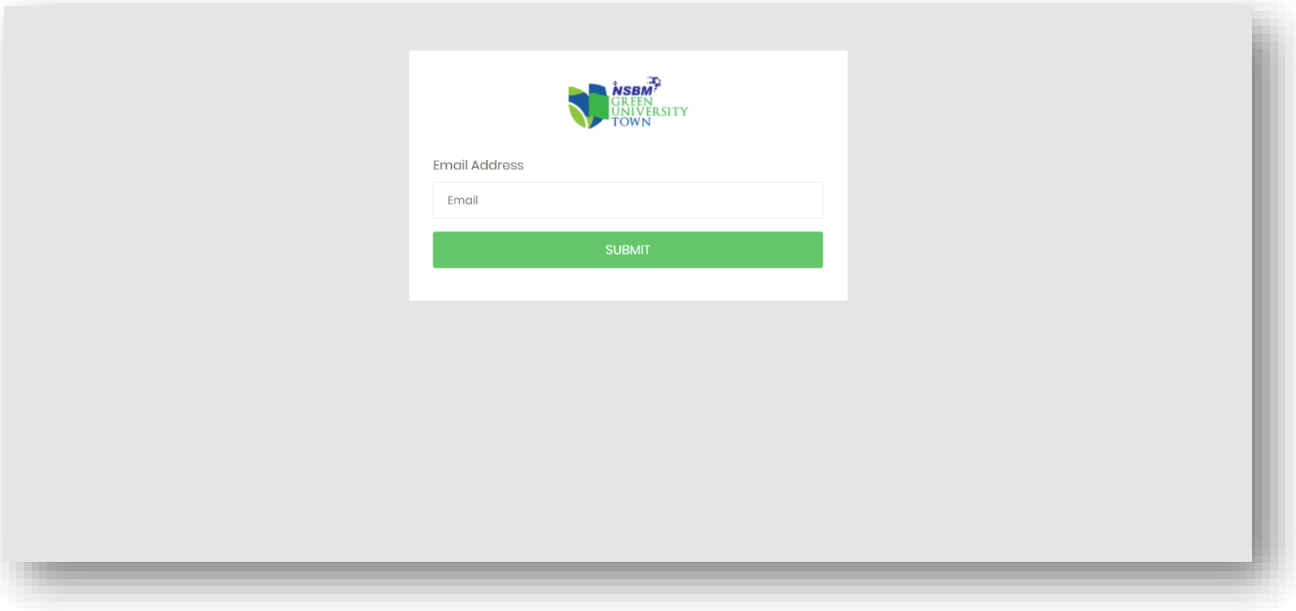
Login



Register

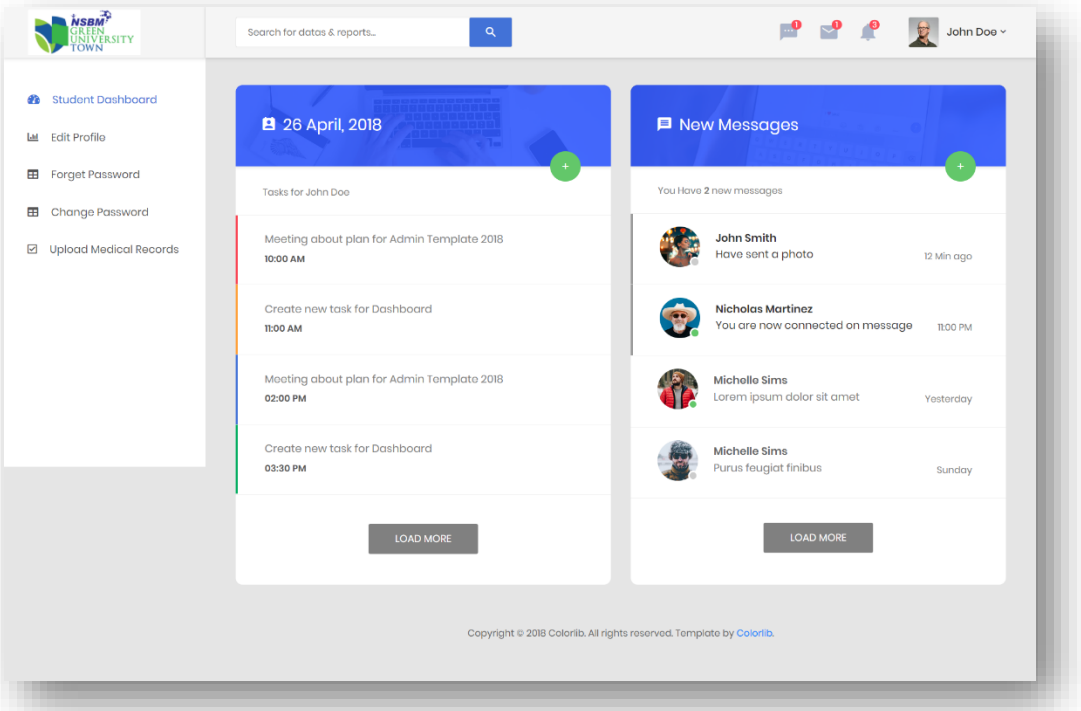


Forget password

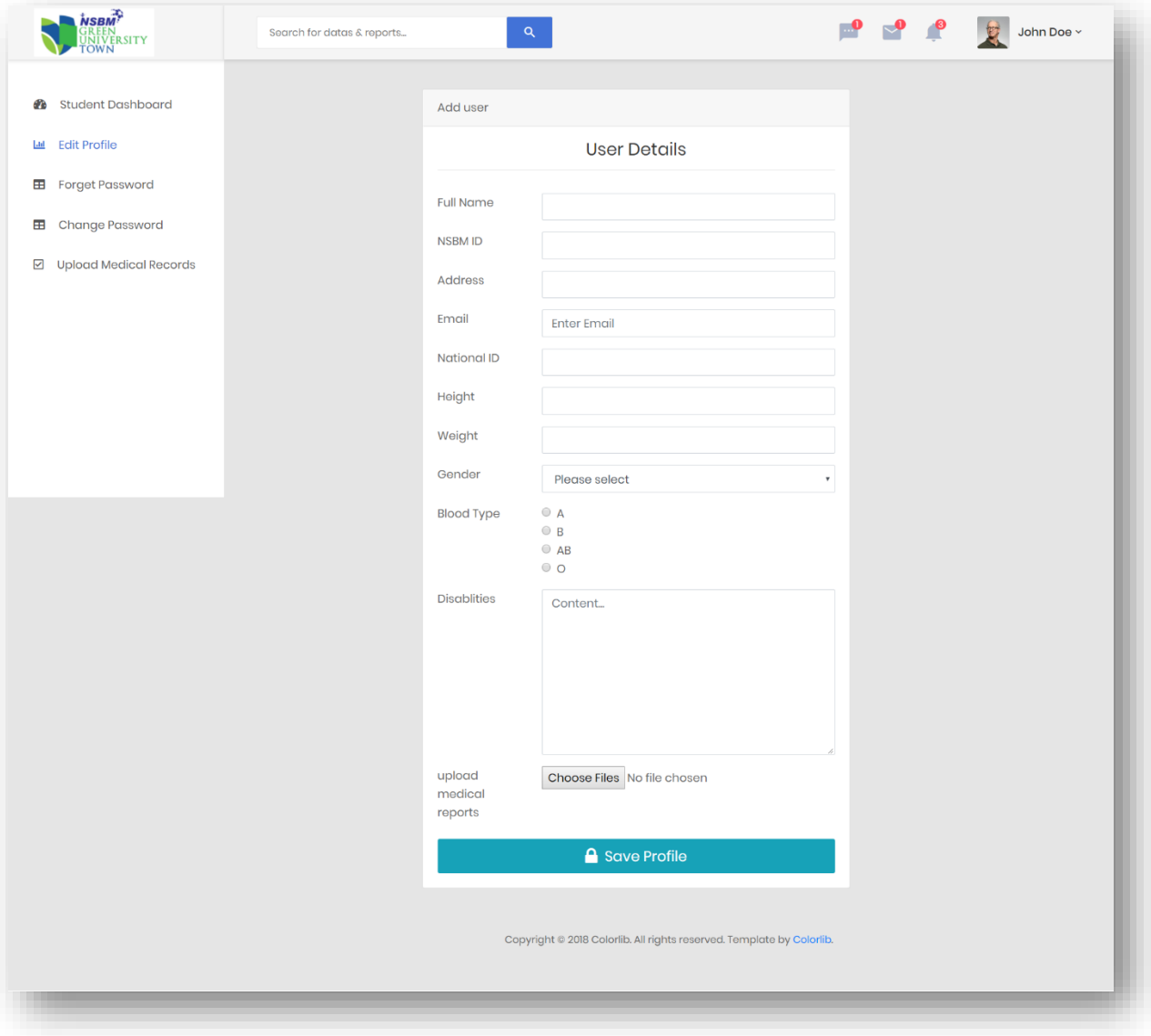


STUDENTS ACCOUNT

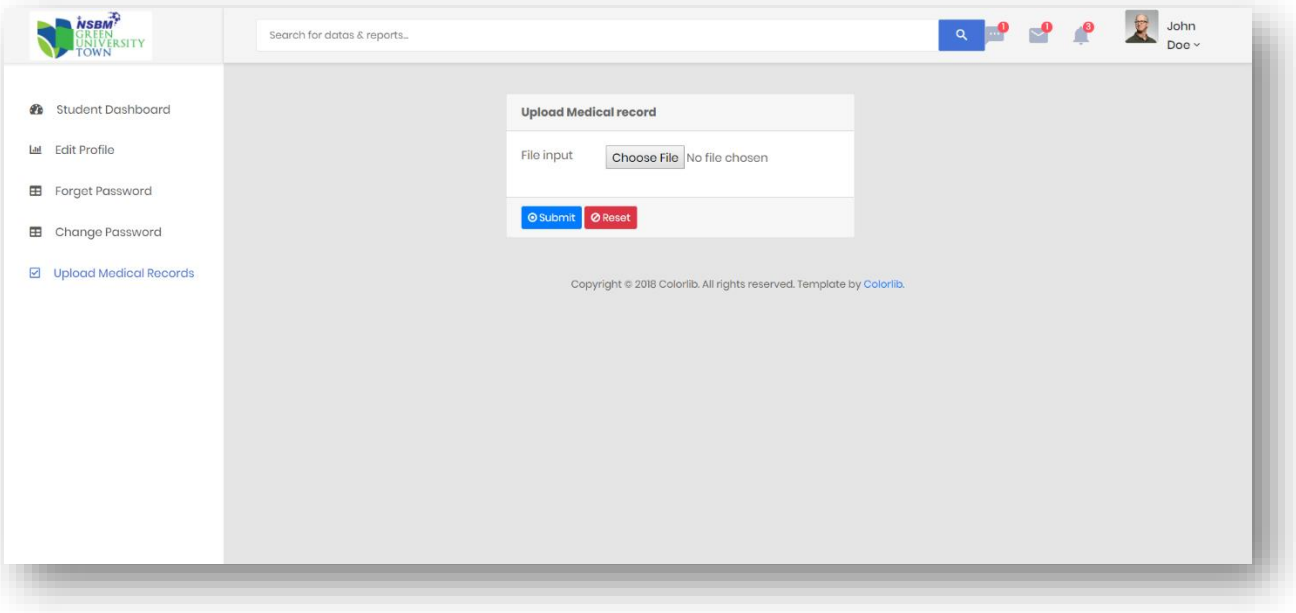
Student dashboard



Edit profile

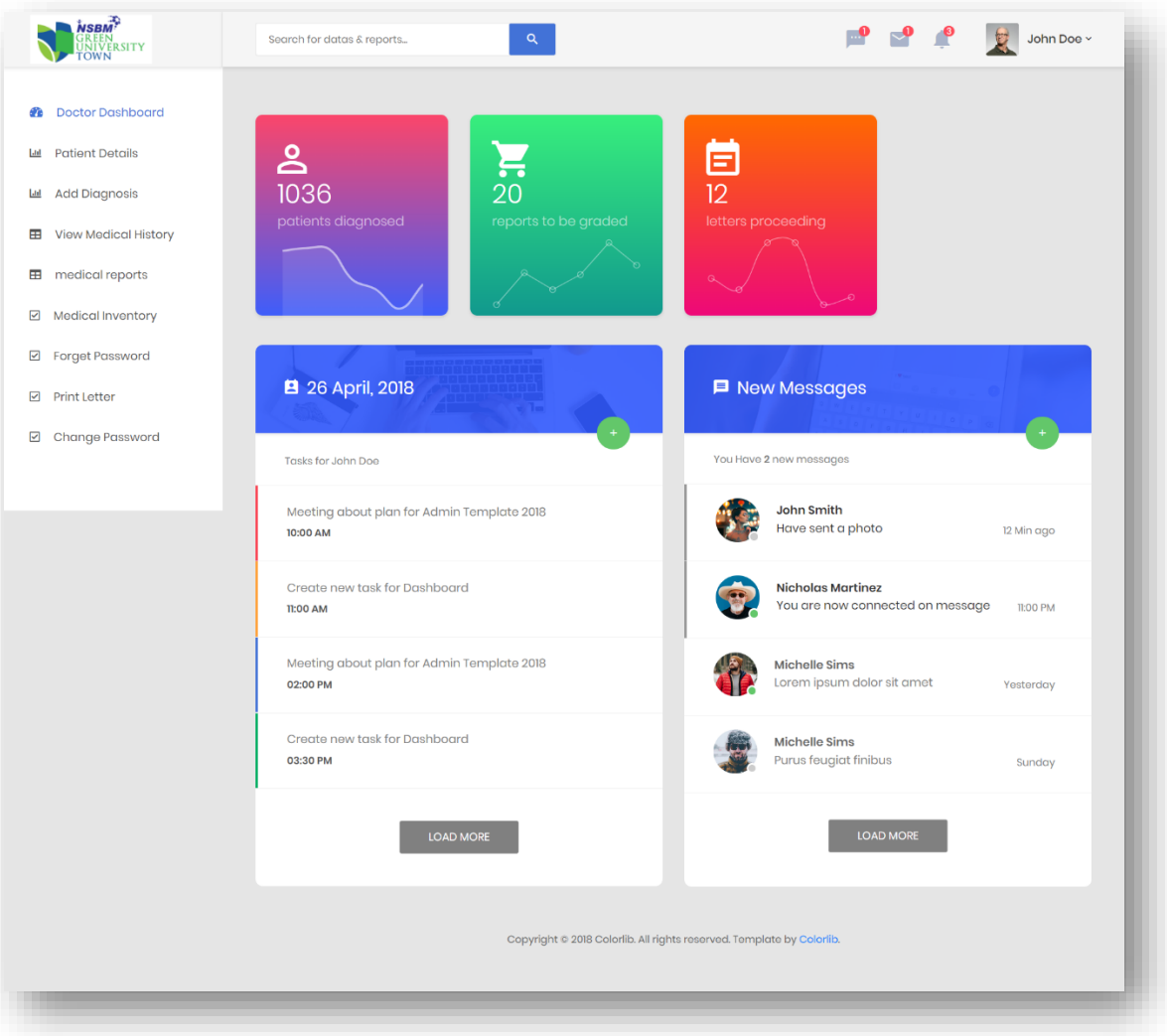


Upload medical records

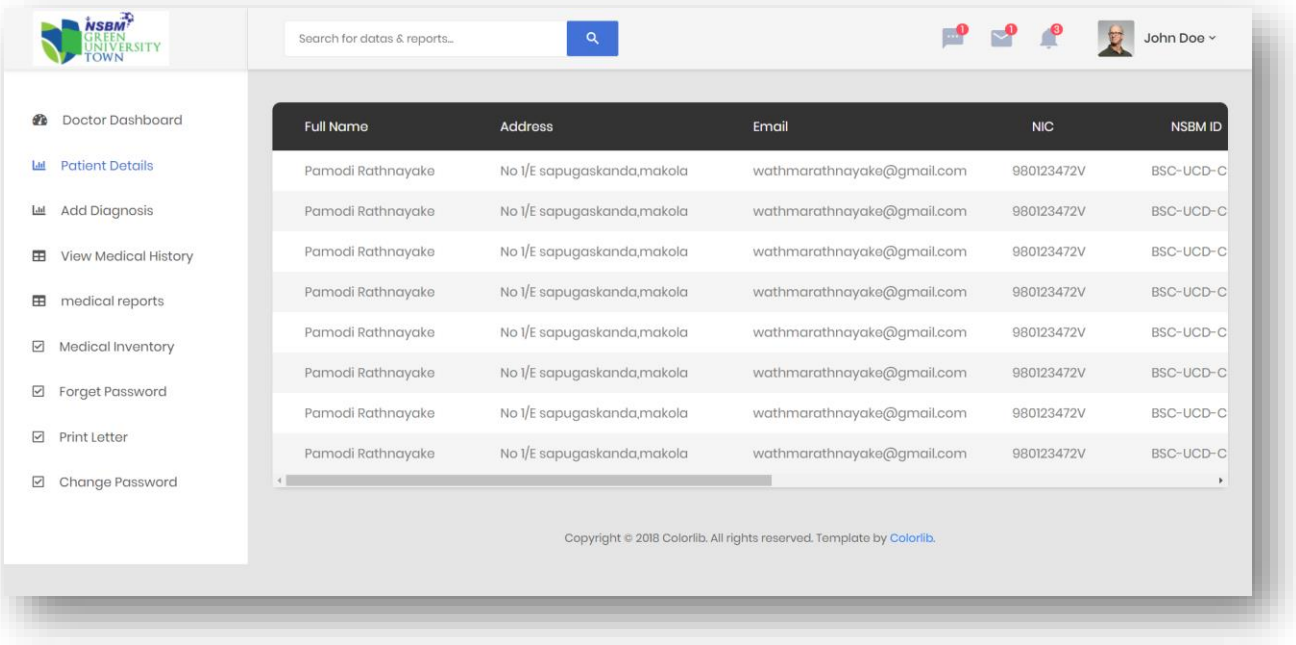


DOCTORS ACCOUNT

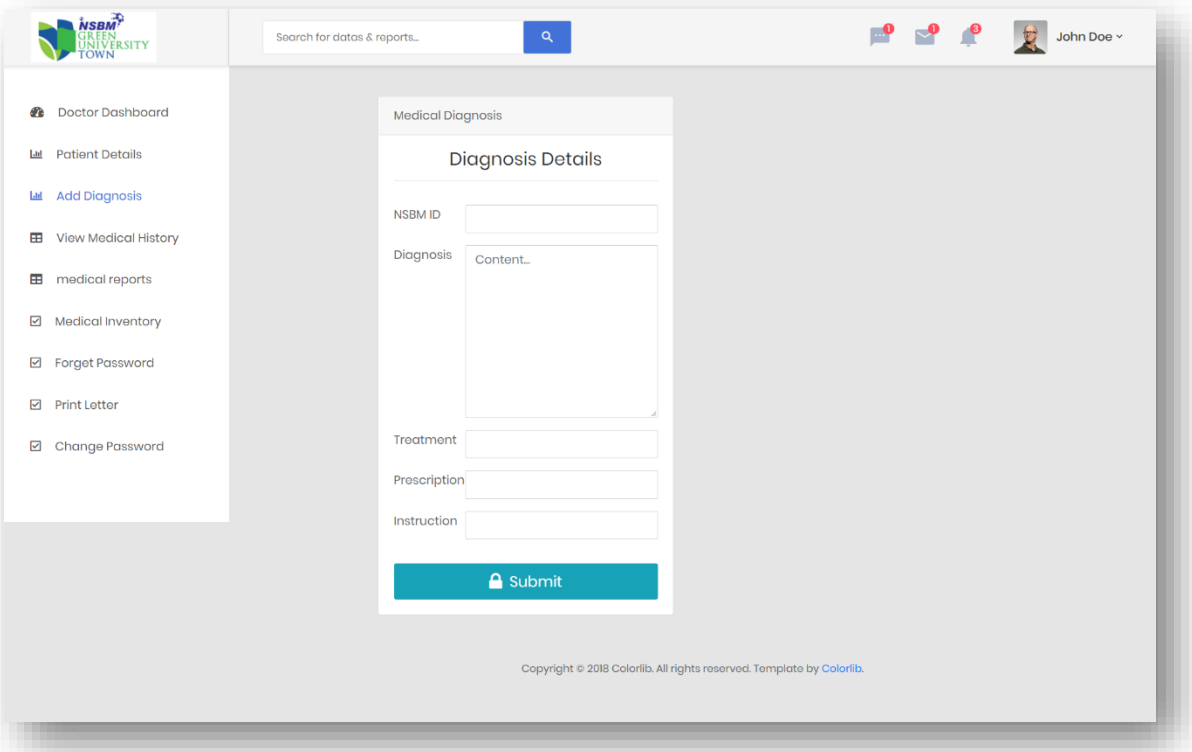
Doctors dashboard



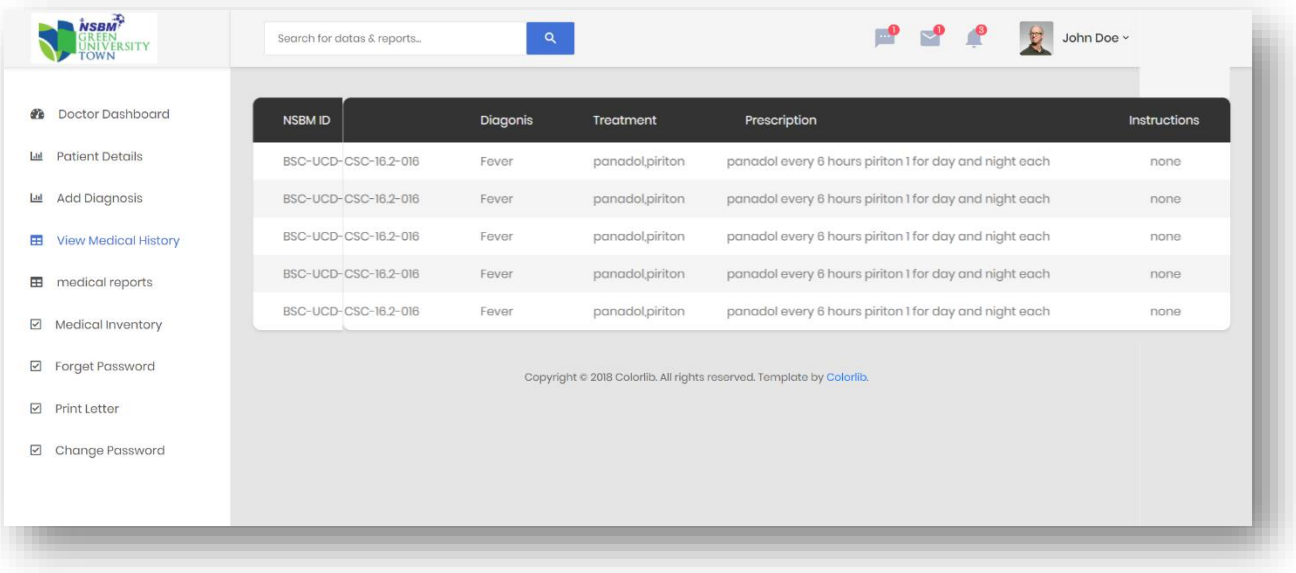
View patient details



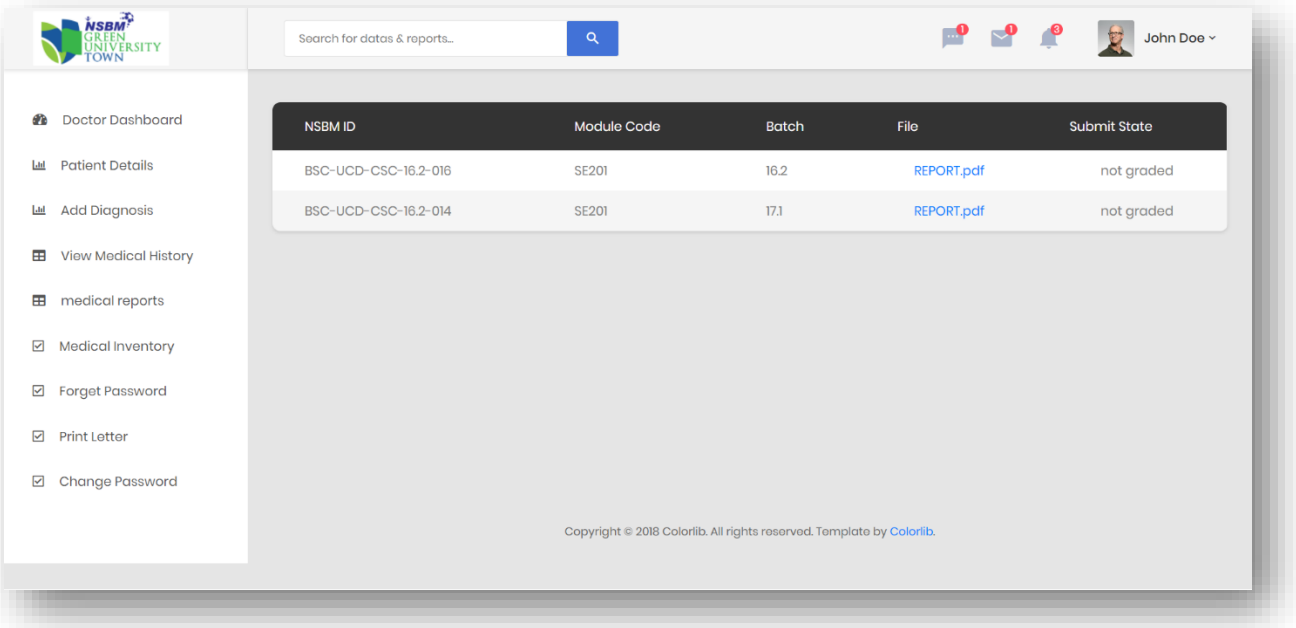
Add diagnosis



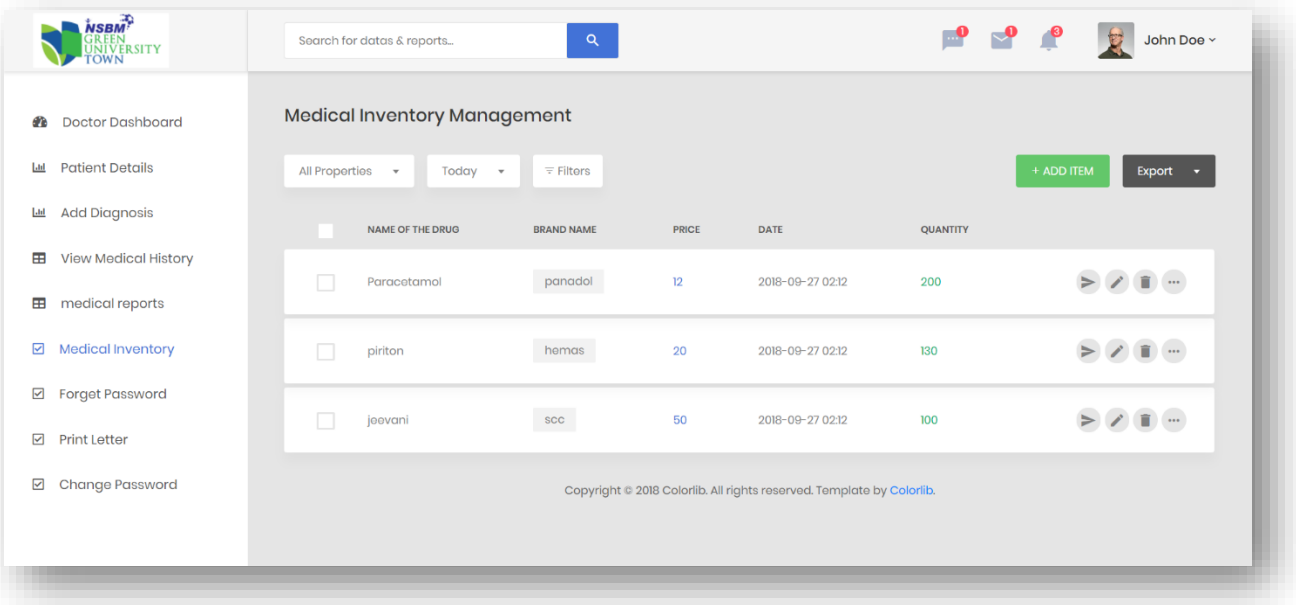
View medical history



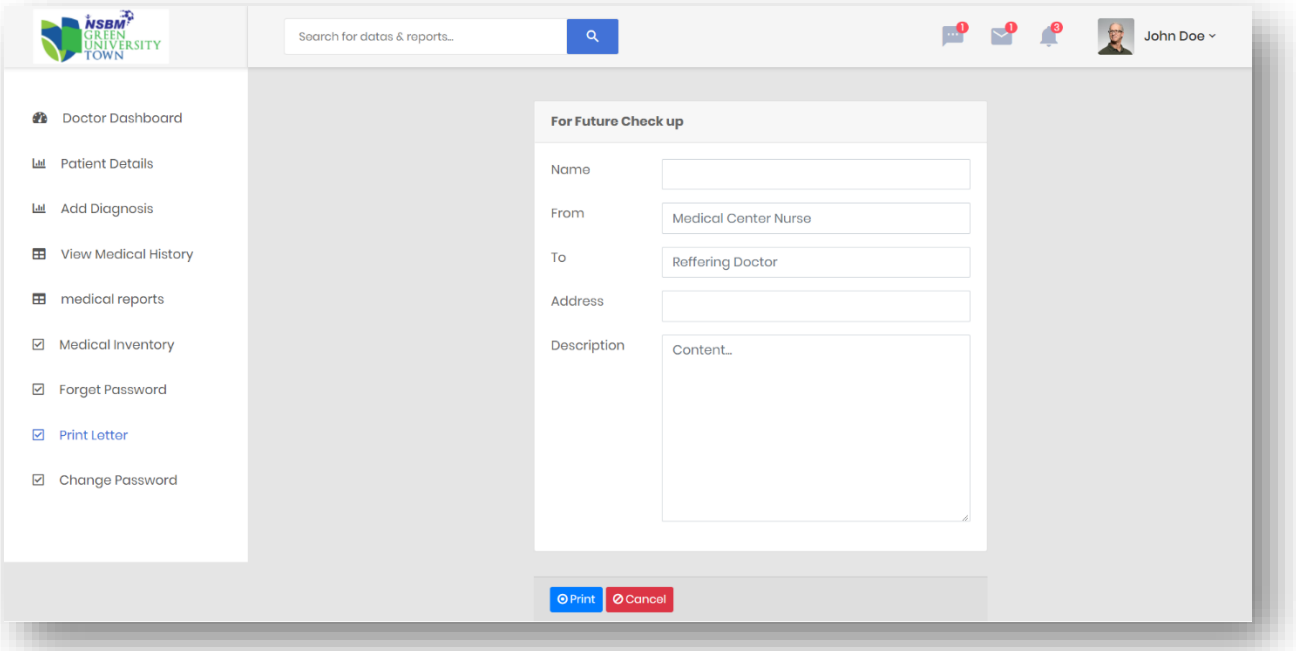
Received medical reports



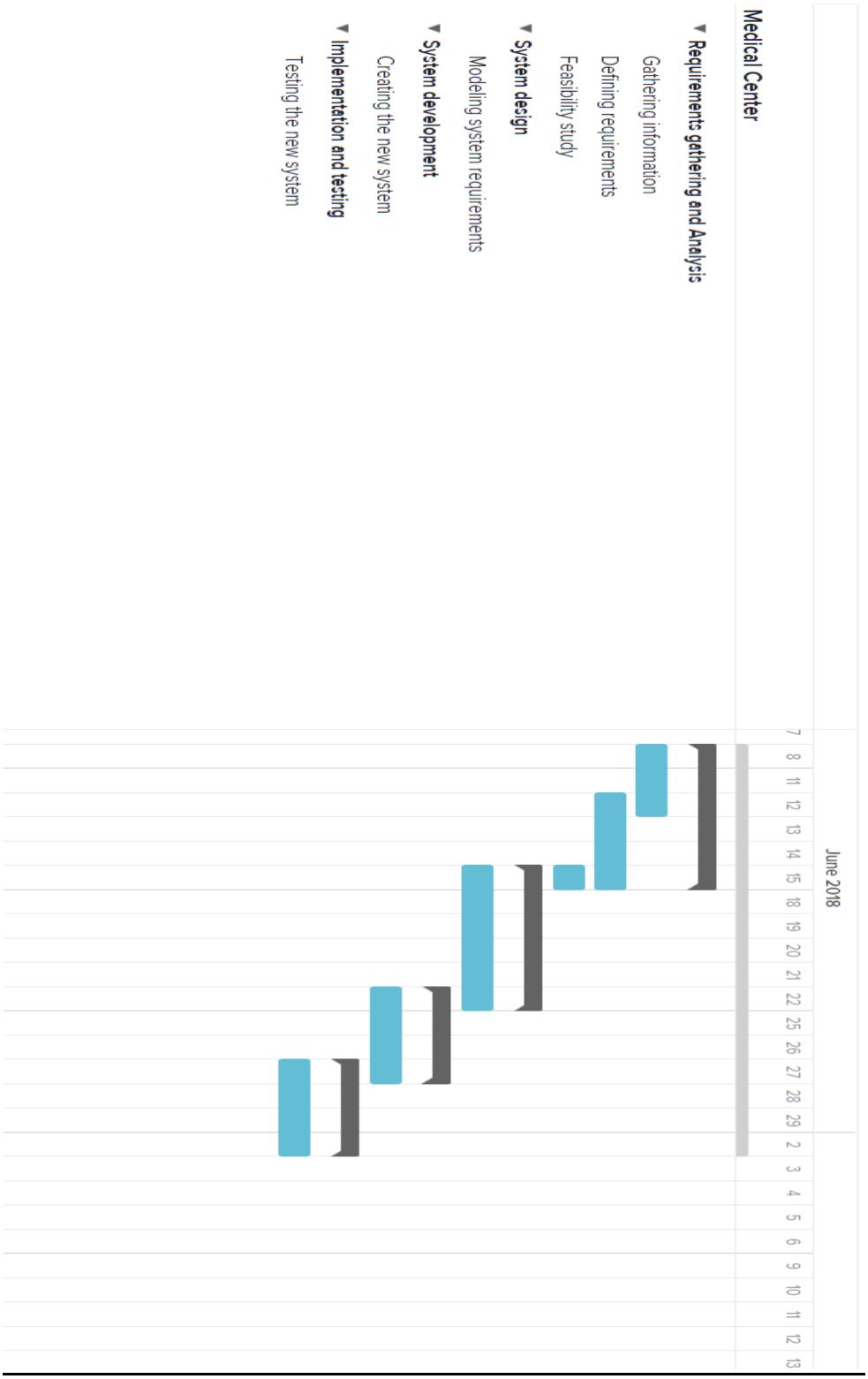
Medical inventory



Print letter



DEVELOPMENT PATH OF THE SYSTEM



TESTING

Test Plan

All the functions, buttons, forms including all the interfaces have been checked through a specific test plan separately. The doctor account has already been created. The testing is a white box testing. A thoroughly check on the internal working of the code has been done on this web page.

Test	User Requirement Addressed	Expected Result	Actual Result	Pass/Fail	Date	Corrective Action
Logo displayed	The website uses NSBM Green University logo	The logo of NBSM	As expected	Pass	07/10/18	None
Navigation bar appears	Website is easy to navigate	Navigation bar appears	As expected	Pass	07/10/18	None
Navigation bar highlight effect works	Website is easy to navigate, Easy to recognize selected fields from the navigation bar	When you click a navigation bar hyperlink it gets highlighted	As expected	Pass	07/10/18	None
Navigation bar hyperlinks work	Website is easy to navigate	When mouse goes over labels it gets highlighted and can click on it to take you to correct page	As expected	Pass	07/10/18	None
Student Dashboard works	Students can see special appointments and messages	Students can look up for special messages and for special appointments	As expected	Pass	07/10/18	None

Student account works perfectly	All menu hyperlinks and forms in student account work	The student can edit their profile ,change their passwords and upload necessary medical records	As expected	Pass	07/10/18	None
Doctor dashboard works	Doctor gets a count of his patients , reports to be checked and letters that need to be proceeding	Doctor can take necessary actions according to the data displayed on the dashboard	As expected	Pass	07/10/18	None
Doctor account works perfectly	All menu hyperlinks and forms in Doctor account works	Doctor can view patient details, add diagnosis, view patient's medical history, view medical reports, check the medical inventory, print letters to specialists and the doctor can change his password for his account	As expected	Pass	07/10/18	None
Registration form works	Students can register	Students can register to get the service of the NSBM Medical center	As expected	Pass	07/10/18	None

Test-Design Specification

Accuracy to Original Design – The last coded version of this website is superior to the original sketched design. All font styles and font sizes are right. All effects and all functions working perfectly.

Content – We checked all the pages in this website and checked that all have proper grammar and spellings.

Menus and Links – We have check all of the menu items and links to make sure they all go where they should and there are no pages with content missing. Links may also include all the content and open within the site window without any errors.

Forms – We filled out our own email forms to make sure all of the fields are correct and working well and we checked that actually we get the submission that the form is supposed to send. We used many functioning forms in our site.

Browser Check – We tested this website on multiple browsers. Ex: - Google chrome, Firefox, Internet Explorer.

Mobile testing - We tested our website using most popular devices such as IPhones, Android phones and tablets.