

Team 4

CMSC 495

February 24 2017

Phase 3

### Overview of the project

The overall goal of this project is to design a system that is able to take in data one time for patients that can then be shared around for whatever doctor needs it securely. This enables the patient to have less hassle throughout the process and allows doctors to have a clear picture on who they are treating.

### Milestones

We have created a table that shows what goals we have step up and what goals we have accomplished.

Some of the goals timelines have been modified as our implementation strategies have changed.

	Projected Date of Accomplished Goal	Name of the Goal	Was the Goal Accomplished
<b>Phase 1</b>	Jan 22	Design what the system does and how the different pieces fit together.	Yes
	Jan 25	Create database tables and fields.	Yes
	Jan 25	Create user guide and test plan.	Yes
	Jan 25	Create the login/logout web page.	Yes
	Jan 26	Review login/logout web page.	Yes
<b>Phase 2</b>	Jan 28	Create the new patient registration page.	Yes
	Jan 30	Review new patient registration page.	Yes
	Feb 2	Create employee records page.	Yes

	Feb 5	Review employee records page.	Yes
	Feb 13	Create patient medical file page.	Yes
	Feb 17	Review patient medical file page.	Yes
<b>Phase 3</b>	Feb 23	Create hospital search page.	Yes
	Feb 25	Review hospital search page.	Yes
	Feb 27	Connect all pieces with backend database.	Yes
	Feb 28	Verify all data is transferred to database.	N/A
<b>Phase 4</b>	Mar 1	Test valid and invalid data inputs.	N/A
	Mar 3	Final polish.	N/A
	Mar 5	Turn in project.	N/A

### **Current Status on Phases**

#### **Phase 1:**

We have currently completed phase 1 to include all of our design plan, database creation, and our login/logout web page. Our database tables are set up in a way where we have streamlined efficiency by optimizing our storage and searching algorithms as can be seen by figure 1.1. Additionally, our login/logout screen have been coded to only accept certain username and passwords, and it uses validation checks to ensure that no SQL injection attempts are made on the server. In figure 1.2 is a snapshot of what the login/logout screen looks like.

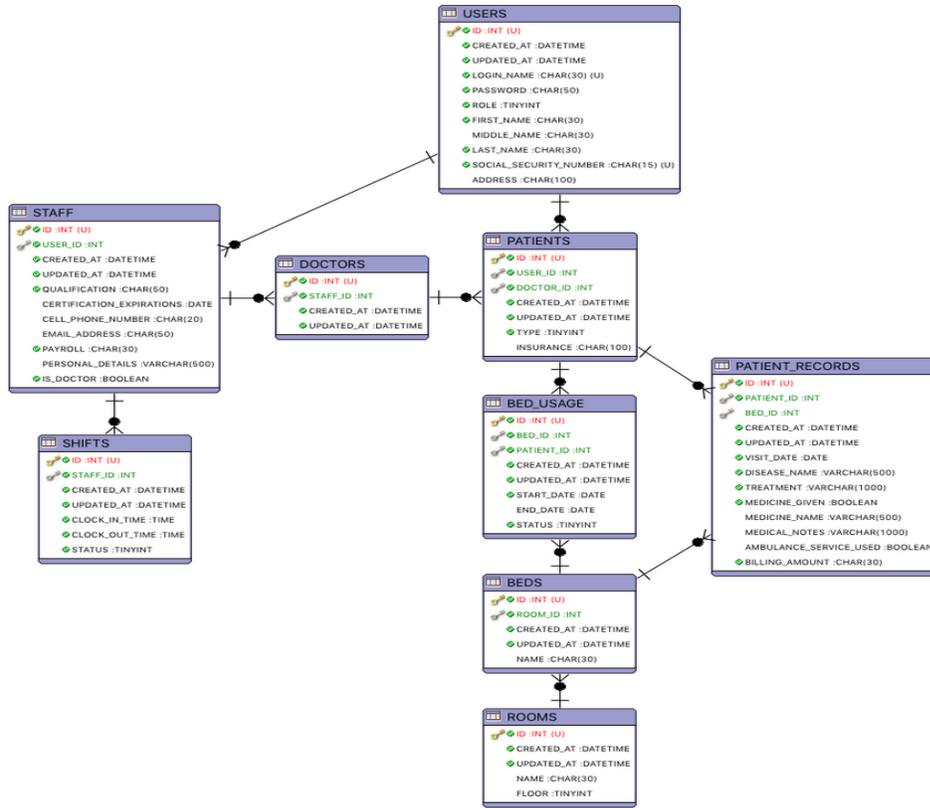


Figure 1.1



Figure 1.2

**Phase 2:**

Phase 2 is 100% complete with the *New Patient*, *New Staff* and *New Medical File* pages being completed. Each page has input validation associated with the appropriate fields to ensure that only proper data is inputted into each field. In addition all web pages check for SQL injection syntax and reject any field that has it. This allows our machine to add an additional layer of security. In the *New Patient*, and *New Staff* web page there is also a password field where employees and patients will be able to log into the system to see their medical records and other functions. In figure 1.3 the *New Patient* web page is shown, in figure 1.4 the *New Staff* web page is shown, and in figure 1.5 the *New Medical File* web page is show.



## New Patient

First Name:

Middle Name:

Last Name:

***\*\*If we include this in an online form we MUST make sure the site is secure. Otherwise remove it  
DO NOT USE REAL SSN FOR TESTING!***

SSN:

Admitted date:

Doctor First Name:

Doctor Last Name:

Patient Type:  Inpatient  
 Outpatient

Address:

Insurance:

New Password:

Retype Password:

Figure 1.3



## New Staff

First Name:

Middle Name:

Last Name:

***\*\*If we include this in an online form we MUST make sure the site is secure. Otherwise remove it  
DO NOT USE REAL SSN FOR TESTING!***

SSN:

Staff Type:  Staff  
 Doctor

Address:

Qualification:

Certification expiration:

Cell number:

Email address:

Payroll:

Personal details:

New Password:

Retype Password:

Clock in time:

Clock out time:

Status:  Normal  
 Emergency

Figure 1.4



## New Medical File

Patient ID:

Date of Visit:

Bed Name:

Start Bed Date:

End Bed Date:

Disease Name:

Treatment:

Medicine Given:  Medicine Given

Medicine Name:

Medical Notes:

Ambulance Service:  Ambulance Service

Billing Amount:

Figure 1.5

**Phase 3:**

Phase 3 is now 75% complete with the *Search* and *Home* web pages being completed. The *Search* page has an input validation which looks to verify that only appropriate inputs are accepted and transmitted to the backend database. Additionally, the input validation checks and defends against SQL injection attacks by not allowing “ ‘ ” or “ ; ” inputs. In the *Home* web page the user can verify their user name and what role they have in the system. This allows people to check and make sure they have the credentials they need to do their job. Below in figure 1.6 and 1.7 are some examples of the *Search* web page before and after finding a result, and in figure 1.8 is an example of what the *Home* web page looks like.

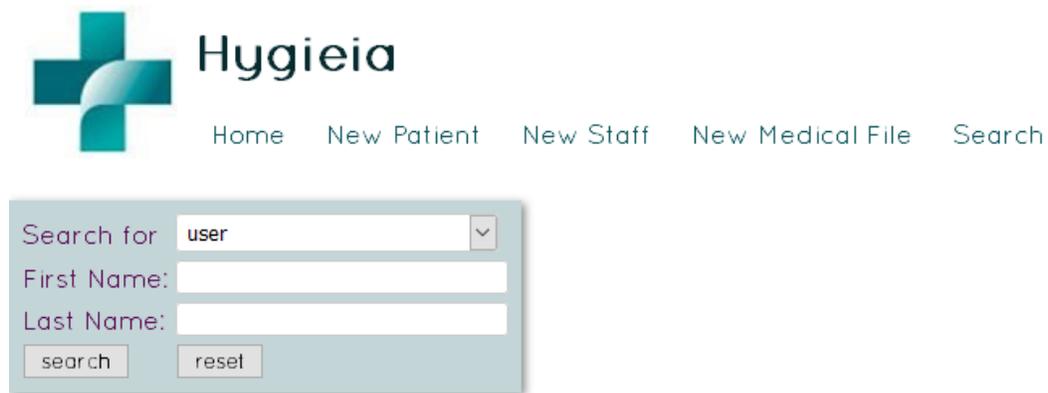


Figure 1.6



Figure 1.7



Figure 1.8

**Phase 4:**

We currently have not begun these stages as we are not currently in those dates of development.

**Special Problems:**

We currently have into problems with connected our web pages to the backend database, and ensure web page tabs redirect to the correct web pages. Additionally, we have had problems with input validation showing up correctly and we are currently troubleshooting that issue.

**Documentation:**

The documentation has changed slightly with adding the password fields, and how the web pages validate the inputs, but overall the documentation has stayed consistent.

**Testing Plan:**

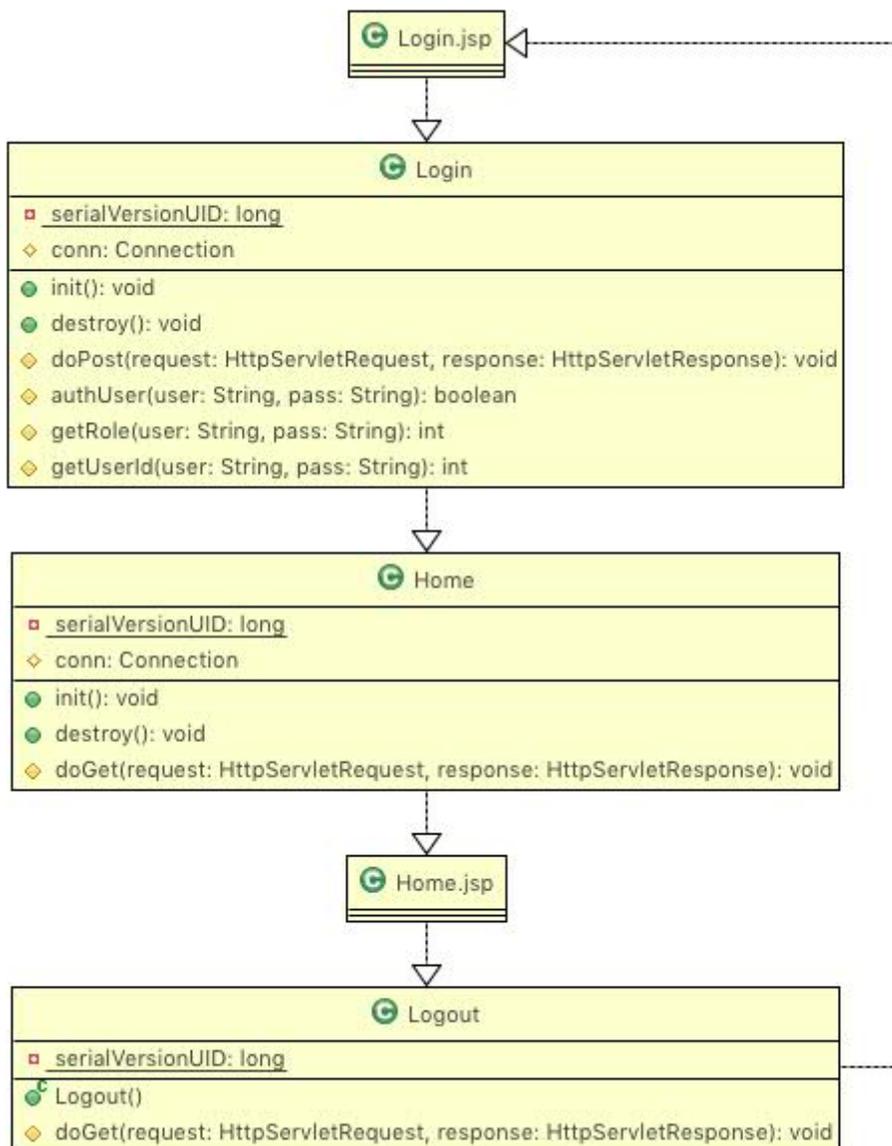
Our current testing plan is to input valid data into each web page and verify it is sending that data to the back end database. Then we will try to send random data back to the data base and look for our system

to block this input. Finally we will try to input common SQL injection attacks to see if we can exploit the system and gain unauthorized access.

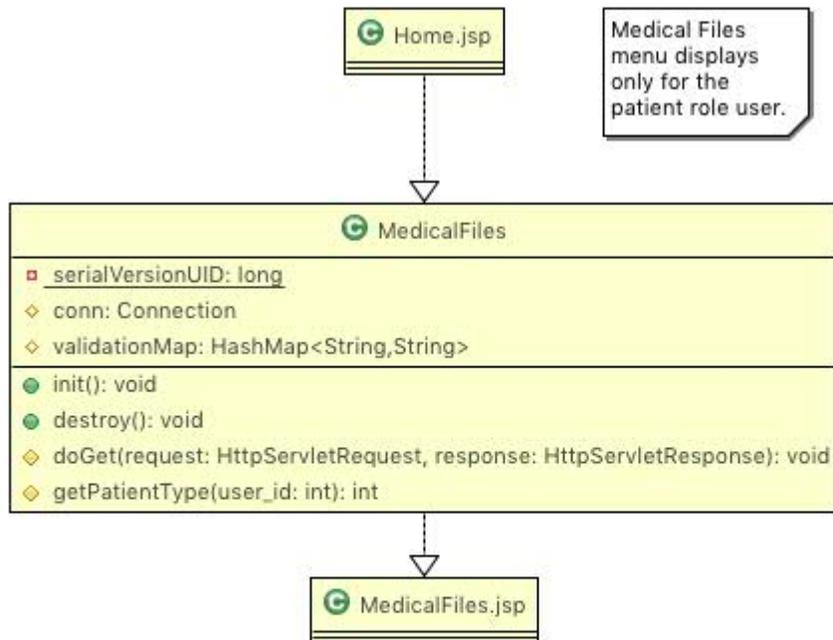
### Source Code:

Below is our source code for our program that is run by Java, and then is displayed using JSP. Additionally, we have a live test environment <http://ec2-52-91-115-171.compute-1.amazonaws.com/Login.jsp> that we use to go and verify our test data is working. If you would like to login to the site to view around use the username Mel.Bernard and the password of melpwd.

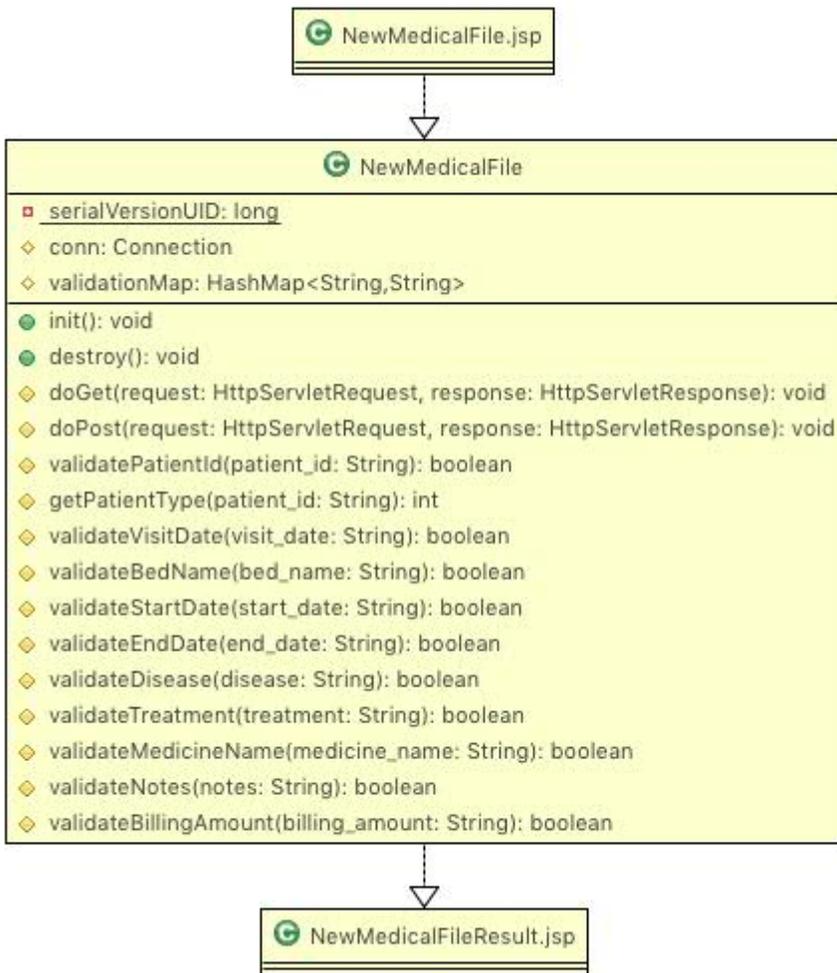
### Login/Logout:



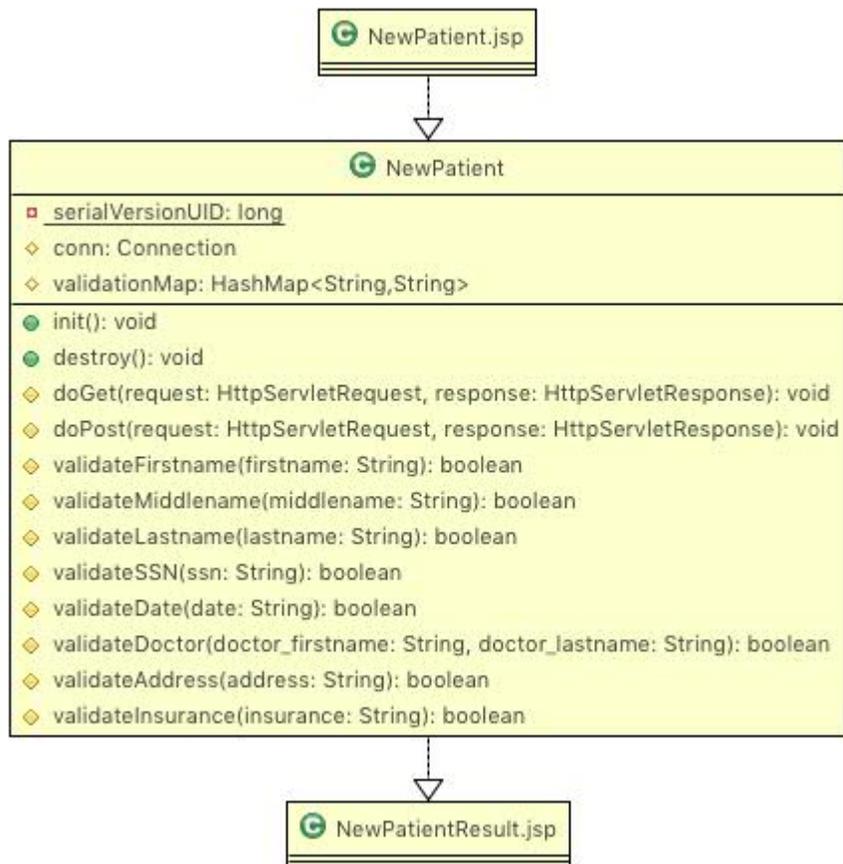
## Existing Medical Files:



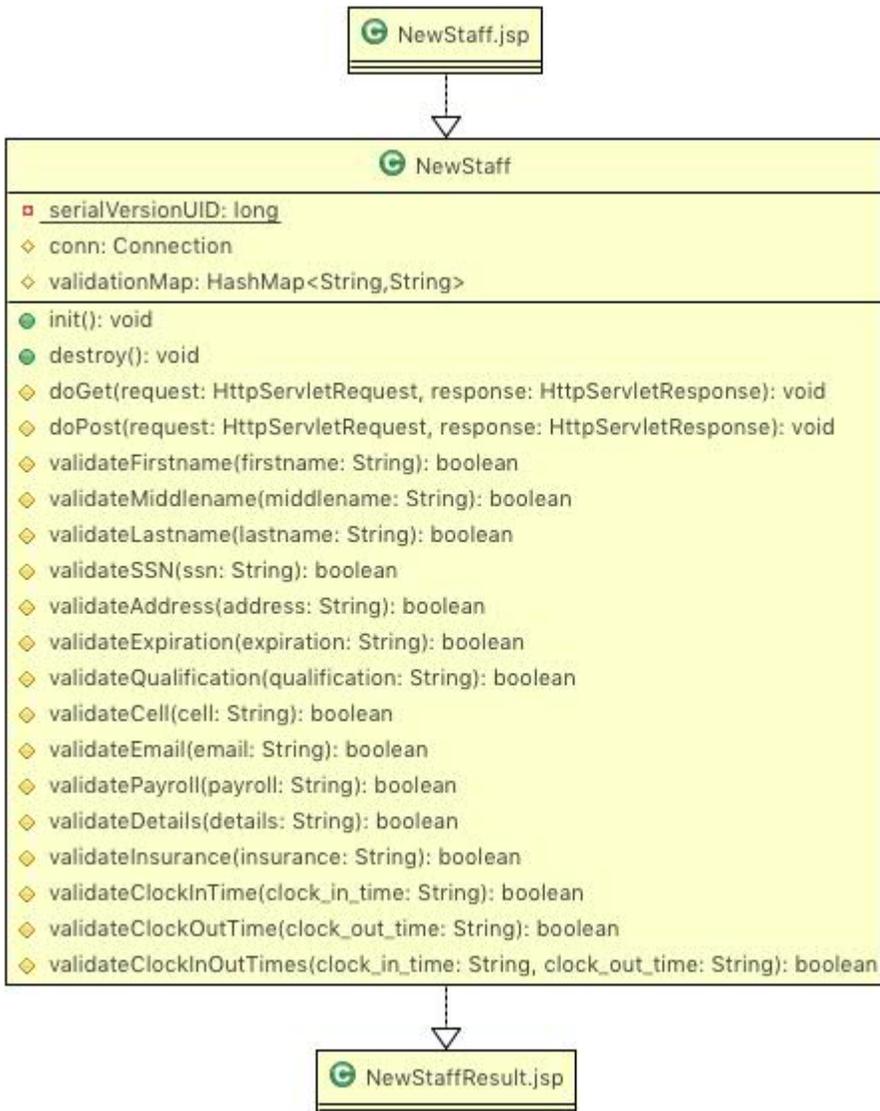
## New Medical Files:



## New Patient:



## New Staff:



## Search:

