

7 – Developmental Testing

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7.1 Objective Summary

Objectives

Here is a list of all the objectives that are required they have been directly taken from the investigation to allow direct comparisons to be made and will allow us to tick off all the ones we have completed and the ones we need to do on the system's software.

Objective #	Objective Description
1	Input/select symptoms into expert system The patient/ user (to become patient) should have the ability to input/select all their symptoms they are experiencing onto the system.
2	Determine suggestion After the symptoms have been inputted the system should quickly determine the best course of action for the user either suggest off the shelf drug or urge them to book an appointment.
3	Generating new patients If a user who wants to create an appointment, but can't login, they should be forced to create an account on the system.
4	Generating a new admission This should create a new record in the patient file with some information currently filled in like initial early symptoms and a possible diagnosis if available.
5	Booking a new appointment Once a new admission has been made the patient will have the ability to create an appointment for themselves or get a preassigned one.
6	Login users If the expert system is not needed the only other option is to login in for the system for the following users: Consultant Patient Staff Admin
7	Display menu options The program will display the options available to the user.
8	Add employees The management staff should be able to create new employees and add them onto the system.
9	Archive employees The management staff should be able to set a staff's working status to no longer current.
10	Sort for employees Management should be able to sort through employees by key fields.
11	Search for employees Management should be able to search through employees by key fields.
12	View an employee's transaction log Management should be able to see every action the employee has done to any patient record.
13	Read transaction log from file When management staff wish to see actions performed by the employee the system will read from the specific time chosen and read over all the available information.

13	Write transaction log to file	When an employee amends/adds/creates to or on a patient's details information is wrote to their individual file
14	Staff can sort for patients	The entity should be able to search for patients by a key field.
15	Staff can search for a patient	The entity should be able to sort for patients by a key field and receive the person they are looking for.
16	View patient details	Staff should be able to view all basic information regarding the patient.
17	Add archived notes from old system	The staff should be able to add pdf files to this section of the patient's account and add subsequent tags relating the scan and allow for them to be searched and ordered.
18	Amend bookings	Staff should be able to add and edit patient bookings on behalf of the consultant's request if a change needs to occur for a booking it can be made.
19	View patient bookings	The staff entity should be able to view all upcoming and past bookings made, but the advanced information of the booking should be unknown.
20	View patient admissions	The staff entity is able to view most of the information of an admission besides doctors' notes.
21	Have patients view their Admissions and Demographic information	Once the patient has logged on, they should be able to view both their demographic and admission information for this to occur it needs to be saved in the patients file respectively.
22	Amend demographic information	The patient should be able to add (if missing data) or edit current demographic information about them.
23	Validate information	Once the patient has entered/updated any of their information they entered will be validated checking everything is acceptable.
24	View bookings in entirety	The patient should be able to view their upcoming appointments.
25	Add bookings	The patient should be able to add bookings.
26	Sort documents	The patient should be able to sort their documents.
26	Search documents	The patient should be able to search their documents.
2	Print documents	The patient should be able to print off any document they choose.
28	Search for patients	The consultant should be able to enter different types of search fields and be returned all the corresponding patients.
29	Consultant can view patient files	Once a patient has chosen, the consultant should be taken to the patient's complete file which shows every single piece of data held to them either on the page itself or contain links to other pages.

30	View patient Demographic information	If the consultant wants to go further into the patient demographic information they can and see all the basic non admission information held about the patient.
31	Sort admission	The user has the ability to sort the admissions with different fields.
32	Edit Prescriptions	If the consultant wants to edit prescription information, they can edit most information.
33	Add Admission information	The consultant is able to enter admission information about the patient.
34	Edit Admission information	The consultant should be able to edit admission information.
35	Add notes	The consultant should have the ability to add consultant documents correctly.
36	Encrypting data before being written to file	When a document is about to be wrote to file it will be encrypted before it is added.
37	Decrypting that has been read from file	When a document has been read from file it should be decrypted into readable text.
38	Using the Jargon library	Patients and administrative staff should be able to view the definition of jargon when entering a specific word.
39	Adding to the Jargon library	Consultants should be able to generate a new definition for a new word and should be saved to the system.
40	Search through Bookings	As the consultant will have many appointments on the system in order to retrieve the correct one, it will have to be searched for
41	Search through demographic information	The system will allow the demographic file to be searched through and return a patient's demographic information

New Objectives

Unlike the objectives from above this list contains all the newly added objectives introduced during the post prototype reflection of the system. To help maintain consistency, like before the description has also been copied the PPROD document, this should also allow me to ensure that each objective is fully met and that no accidental changes in the objective requirements are made.

Objective #	Objective Name	Objective Description
42	Add/Edit employee demographic information	The purpose of this objective is to allow the employees of the system all three included the ability to add and edit their personal information, to add to this it will also entail the 90 update period that the patient has to abide by. Once their information is inputted it is then written to their correct location so it can be accessed at a later point.
43	Logout Users	When the user is finished with the system and for examples sake are on a public computer they will want to log out of the system. In turn this will remove any information or variables that currently hold information about them and will prevent the user from re-entering the system without any credentials being entered. While the system saves automatically there is no penalty for logging out just after hitting save. However fields will be wiped if not saved correctly.
44	Remember Me	The purpose of this feature is to allow the user to help aid the constant user by allowing their username to be saved to as the remembered user. While this won't entail their password is remembered this will allow for some reduction time as their username will be already in the text field on launch of the system. This will be automatically changed if the remember me button is selected and someone else logs in.
45	Cancel bookings	The purpose of this feature is to allow the user to help aid the constant user by allowing their username to be saved to as the remembered user. While this won't entail their password is remembered this will allow for some reduction time as their username will be already in the text field on launch of the system. This will be automatically changed if the remember me button is selected and someone else logs in.

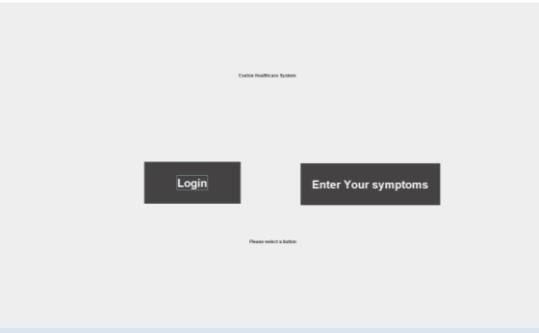
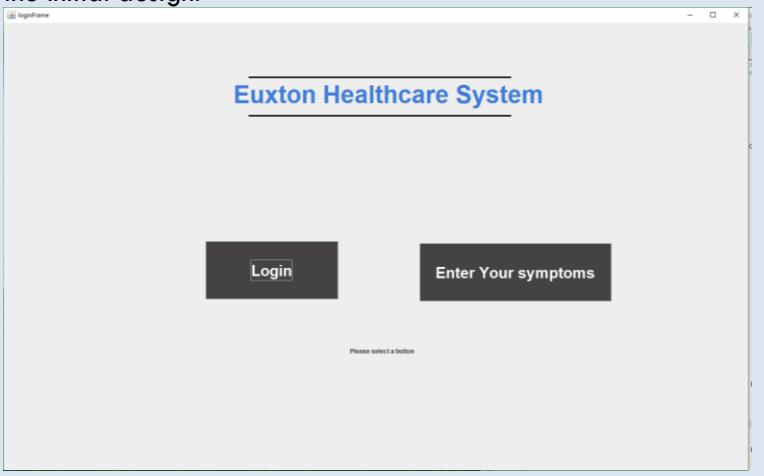
46	Determining a consultant for an admission	The purpose of this process is to allow the user to cancel a booking when the date is within the boundaries of the accepted window. While there isn't a current punishment for not attending an appointment it obviously is not the most appreciated action as the hospital's time is being wasted. This is the reason the system was included, however, to prevent frustratingly late cancellations a deadline has been included to prevent this from occurring.
47	Read Patient information	A new feature conceived in this document the process will be for the staff entity to determine the most suitable consultant for the patient's admission. While not the perfect idea it is to replace the old idea of having software reach the conclusion. However so the entity isn't completely dumbfounded the information about both the consultants and the admission will be on hand to make a judgment call, maybe even a recommendation from the system could be possible.
48	Read Staff information	For this process and subsequently 32 33 and 34 all these processes are for the retrieving of the information from their respective files. While a per entity process could have been utilised this will allow for all their information to be read from file and then assigned to the object allowing for the user to access their information effectively. For the patient their demographic, admissions along with bookings are all read from file to be assigned to individual objects respectively.
49	Read consultant Information	The purpose of this process like described in 31 will read from the respective file and will generate an object with the corresponding information for that entity, alongside this there will be other data such as the action log and other important information. For the staff entity the unique part about this would be that the patients associated with the employee. Once all the information is assigned to the object the system runs as normal.

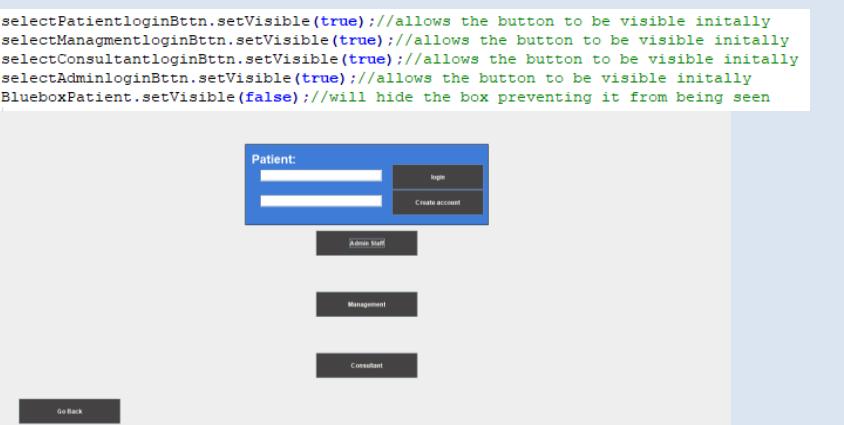
Objective #	Objective Name	Objective Description
50	Read management information	The purpose of this process like described in 31 will read from the respective file and will generate an object with the corresponding information for that entity, alongside this there will be other data such as the action log and other important information. For the consultant the unique part about this would be that the patients booking that they have with them. Once all the information is assigned to the object the system runs as normal.
51	Searching definition	The purpose of this process is to allow the user to search for the definition using a query. Unlike in previous searches where the new redesign was including more than one search field, this objective only has one due to the nature of the data related to it. However one thing that separates this from the old version in the prototype is the inclusion of multiple results
52	Sorting definitions	The purpose of the sort in this feature is to allow the user to sort the definitions into two distinct orders either the words are in ascending order from A to Z or descending order from Z to A. There will be no other sorting orders available.
53	Primary key generation	The purpose of this process is to produce unique fields that identify entities on the system. This is achieved by indicating initially what type of entity it is then followed by the user, which consist of their surname and a unique number. While all the keys are unique to some degree some are compound keys due to the fact that they need two unique keys.

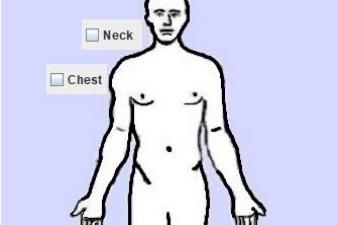
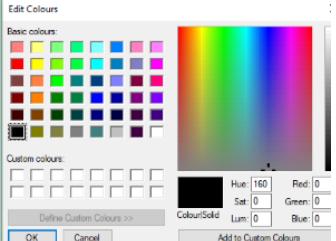
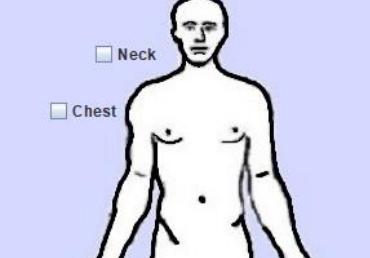
7.2 Developmental Tests

Prototype 2/07/219

Here I will attempt to document all the major stages of development for the system, while initially the processes may consist of initial creation of panels and frames as time moves on we will see a wide range of tasks being completed in order to complete the prototype and ultimately the final system.

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
2/07/219	<p>Start of prototype</p> <p>Test 1:</p> <p>After first day of starting the prototype I have managed to complete the initial start screen with all buttons working properly, I ran into no issues of development as of yet. The last thing I have done was create the buttons and attach action listeners to both and correctly added them to the action listener procedure. Testing this have shown no issues.</p>		<p>Test 1:</p> <p>I was not happy with the main title, as it was too basic and practically unreadable. Therefore, I researched into the JPanel API and found how to manipulate the font of the label and how to match that to my design using the same format from my Moqups design as a point of reference.</p>	<pre>// [Main title and the formatting required] Font headerFontFormat = new Font("Helvetica",Font.BOLD,48); /*This creates a new object of font containing the desired attributes of font type if I want it bold and finally the size, I will be able to inherit this attribute and use it throughout the design */ * mainHeaderlbl.setForeground(new Color(-12616489)); //matches the colour as closely as possible to the one in my design mainHeaderlbl.setFont(headerFontFormat); //Adds the new font created to the header label</pre> <p>From this I was really happy with the new header looking very similar to the initial design.</p>  <p>In addition to add some flair I have also included some empty labels with filled in colours to create lines that I can use as a way to show importance to the tile. While I could have used JPanel graphics after spending a while trying to combine shapes from the JPanel and components from the JFrame class, I thought it was best to use this.</p>

3/07/19	<p>Prototype</p> <p>Test 1:</p> <p>Following on from Yesterday I now moved on to start on the login window of the system, while I said in my prototype document I was to exclude this feature I want to at least flesh out the window instead of leaving it blank. However, when trying to create the panel which will hold all the components for this page I was struggling to add the new panel to the existing frame</p>		<p>Test 1:</p> <p>After using my initiative, I have realised that the frame layout is now become a 1 by 2 grid and adding the login page to the current frame resulting in half of the start one being cut off. Again, after consulting the java.awt.Container API I saw that I can use the remove method to remove current panels from a frame.</p>	<pre>this.setLayout(new GridLayout(1,1)); //Initialises the frame and the format this.setDefaultCloseOperation(JFrame.EXIT_ON_CLOSE); //Will stop the program when the window is closed this.add(startPanel); /* When the frame is initialised the panel is added to the frame */ this.setTitle("loginFrame"); //Sets the title of the frame this.setForeground(new Color(-16777216)); //Declares the colour of the foreground this.setBackground(new Color(-2696737)); //Declares the colour of the background this.setVisible(true); //sets the frame to be visible along with any panels attached to it this.setResizable(true); //Allows the frame to be resized createComponentsStartPanelGUI(); //runs the method which allow the components of the panel to be created</pre> <p>To get past this problem I have declared the frame along with the panel and then when the button is pressed the panel is removed and the new one is added.</p> <pre>else if(e.getSource()==loginBtn) //if the action comes from the logon button this code will execute { startPanel.setVisible(false); //the current panel will be hidden createLoginPanel(); //the method containing all the new components is ran }</pre> <p>From this the new panel is made visible.</p> <pre>this.remove(startPanel); //Removes the initial panel of the system this.add(loginPanel); //Adds the new desired panel loginPanel.setVisible(true); //Allows the panel to be seen by making it visible</pre>
3/07/19	<p>Prototype</p> <p>Test 1:</p> <p>After getting a bit into the design of the login page I came into the next issue faced in my development testing when seeing how it loads, when selecting the entity the user wishes to sign in as works as intended, however leaving the page and then re-entering the page causes this to occur</p>	 <p>What occurs is that the current button selected stays disappeared and the locations of the other buttons remain unchanged.</p>	<p>Test 1:</p> <p>To resolve this issue all I did was reset the location of the buttons to visible and then hide the blue box, every time this page loads to prevent the issue.</p>	<pre>selectPatientloginBttn.setVisible(true); //Allows the button to be visible initially selectManagementloginBttn.setVisible(true); //Allows the button to be visible initially selectConsultantloginBttn.setVisible(true); //Allows the button to be visible initially selectAdminloginBttn.setVisible(true); //Allows the button to be visible initially BlueboxPatient.setVisible(false); //Will hide the box preventing it from being seen</pre> 

22/07/19	<p>Prototype</p> <p>Test 1: After finishing the front end of the login screen I have moved onto the minor expert system which checks for symptoms, when testing for the layout of the check box I saw that the component was not transparent and had the same colour background as the frame, making it look poor</p>		<p>Test 1: To circumvent the issue, I did the following: Open up the image in Ms Paint and used the colour picker tool to find the desired colour, then went into further detail and found the RGB and saturation values. I also opened up JGUID to use the colour selection and entered in the RGB and saturation values. Finally, I extracted the value of code in java that would bring me the specific colour</p>	 <pre>cbNeck.setBackground(new Color(-2762241));</pre> <p>The new RGB value for the intended background colour</p> <p>After finding the value and setting the new background the check box looks seamless.</p> 
23/07/19	<p>Prototype</p> <p>Test 1: When testing the text fields to include initial help text I found out I had to delete if I needed to write text to it, this would be a detriment to include on the actual system, so therefore I will need to improve it to contain prompt text to help the user but vanish after when the user attempts to write on it</p>	<pre>symptom1TF.setLocation(527,350); symptom1TF.setVisible(true); symptom1TF.setSize(80,30); symptomPanel.add(symptom1TF); symptom1TF.setText("Symptom");</pre> <p>The only way to include prompt text to the user without having it be a hint is to actually include it on the text box, otherwise it will be hidden until the user hovers over it which is unideal</p>	<p>Test 1: After looking around and doing some research the best method to attempt to resolve this would be to implement focus listeners on the text fields individually and then use selection to remove the prompt text.</p>	<pre>symptom1TF.addFocusListener(new FocusListener()//create { public void focusGained(FocusEvent e)//when focus { if(symptom1TF.getText().equals("Symptom"))// { symptom1TF.setText("")//if the condition } } public void focusLost(FocusEvent e)//again a new { if(symptom1TF.getText().equals(""))//checks { symptom1TF.setText("Symptom")//if satis } } });</pre> <p>What is happening is that individually every desired component will have a focus listener attached to allow for them to check if they gain or lose focus, from this we can add or remove the prompt text with ease.</p>

03/08/19

Prototype

Test 1:
While making large progress with the GUI I have encountered a massive issue with rendering components of the system. after around three or 4 different panels loading the time to do so drastically slows down to the point of the system becoming unusable this needs to be fixed before any other additions are to be introduced.

Euxton Healthcare System

Login Enter Your symptoms

Please select a button

its hard to distinguish solely from an image but the button sticks until the new pannel has been rendered, however as this takes a long time, sometimes I have to kill the task as I am unable close the program.

Test 1:

To resolve the issue I have had to understand how the issue has come to rise in the first place. As no syntax or semantic errors are detected during compilation, this is clearly a logic error. After a look into it I have conclude that when loading new panels every time it is requested the system again has to format it to what the code says and as some panels have a large number of components this is demanding on the thread.

To resolve this I have split the code up for the new panels into two sections. Before when a button to load a page was pressed it would also include code that has its location and size, as that only needs to be used once it has been moved and isolated to an area that is only ran once.

```
createComponentsStartPanelGUI() // runs the method which allow the components of the panel to be created
createComponentsSymptomGUI() // as the correct panel is visible the components on the panel is fo
createComponentsLoginPanelGUI() // the components of the panel are created by running the method
createContactBarGeneral()
createTopbarGeneral()
```

Here at the start of the program all the components are declared along with any other requirements like size and location, the general for the last two methods is used because some require parameters and have to be declared inside another method instead.

```
public void createStartPanelGUI() // the method is declared as public with no parameters to pass through
{
    removeAllPanels()
    frame.add(startPanel) // adds the new desired panel
    startPanel.setVisible(true) // the current panel will be hidden
    entitylbl.setVisible(false) // when the panel initially loads the label is hidden
}
public void createComponentsStartPanelGUI() // the method is declared as public with no parameters to pass through
{
    mainHeaderlbl.setBackground( new Color(-12616489) ) // matches the colour as closely as possible to the one in my des
    mainHeaderlbl.setFont(headerFontFormat) // adds the new font created to the header label
    mainHeaderlbl.setLocation(10,112) // sets the location of the component
    mainHeaderlbl.setSize(100,15) // sets the size of the component directly declared
    mainHeaderlbl.setOpaque(true) // the component is set to opaque
    mainHeaderlbl.setText("Euxton Healthcare System") // the label is given text to add meaning to the label
    startPanel.add(mainHeaderlbl) // the component is added to the panel
}
loginBttn.setFont(buttonFontFormat) // the font that has been declared is attached to the component
loginBttn.setLocation(356,427) // sets the location of the component
loginBttn.setSize(355,113) // the components size is correctly declared
loginBttn.setBackground( new Color(-12616489) ) // the background colour of the component is given a white font
loginBttn.setForeground( new Color(-12616489) ) // the foreground colour of the component is declared to the desired
loginBttn.setText("Login") // the button is given text to add meaning to the label
loginBttn.setEnabled(true) // the component is then enabled to allow it to be used
loginBttn.addActionListener(chba) // an action listener is attached to the component to allow for actions to be perf
startPanel.add(loginBttn) // the component is added to the panel
}
symptomBttn.setFont(buttonFontFormat) // the font that has been declared is attached to the component
symptomBttn.setLocation(315,431) // sets the location of the component
```

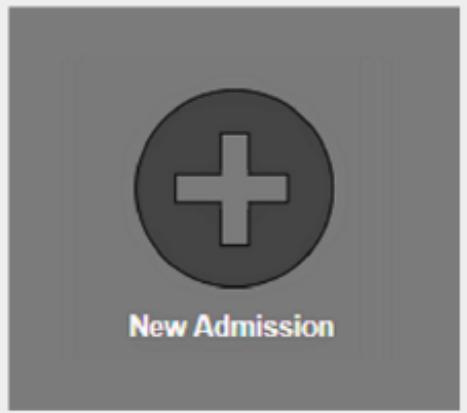
As you can see the create start panel method is only a few lines long this is because all the long declaring is already done and all is needed is to add it to the panel, the create components is an example of the other side this contains all the needed methods to size and shape the GUI aspects and is moved around so it is intially done once at the beginning, this should reduce the calling of unnecessary stamments on the thread.

05/08/20
19

Prototype

Test 1:

Again after making progress on the front end of the system I have encountered another issue, while creating a button for my new admission page I have used an image over the button, this works fine as the button is not opaque, however I get no system feedback from clicking the button as the usual response is covered by the image.



before the button would have no visual confirmation the button has been pressed

Test 1:

To resolve this I first added a focus listener to the button when the user presses the button a cover panel will be introduced and will hide the button when pressed. However when combined with the focus lost listener when pressing off the button the cover panel will still be there until a new component was selected.

```
MouseListener mouseListener = new MouseAdapter() // a new mouse listner is
{
    public void mouseReleased(MouseEvent mouseEvent) //the method mouse re.
    //the parameter for the mouse event is used to check for this to occu.
    {
        BlueboxBttm.setVisible(false); //the coloured box is setto invisib.
        newAdmissionLbl.setVisible(true); //the component is set so it can
    }
};
newAdmissionBttm.addMouseListener(mouseListener); //the newly declared mou.
newAdmissionBttm.addFocusListener(new FocusListener() //create a new focus
{
    public void focusGained(FocusEvent e) //when focus has been gained(the
    {
        BlueboxBttm.setVisible(true); //the blue box is set to visible to .
        newAdmissionLbl.setVisible(false); //the component is set so it can
    }
    public void focusLost(FocusEvent e) //again a new method is created th.
    {
    }
});
}
```



When the mouse is clicked and held this panel will cover the old button and will go after being released.

Because of this I then created a mouse listener that waits until the mouse lets go and releases the button on the mouse which will then remove the panel allowing the new page to be displayed

06/08/19

Prototype

Test 1:

The last thing I was doing yesterday was creating the custom button, after thinking about it I have encountered another issue and therefore I have made some alterations to try and fix the issue.



when the first time pressing the button no issues occur however after returning back to the homescreen trying to access the button causes the pressed in animation to occur until reformatting the window which updates the panel causing the component to unstick.

Test 1:

I have removed the focus listener and instead used another mouselistner MouseClicked, I have also moved the declaration of the listener to the top of the program, to try and reduce workload as much as possible.

```
) if(e.getSource ()==newAdmissionBttm)
{
    removeAllPanels(oldpanel); //the old panel is removed to make way for the new one
    oldpanel = newAdmissionPanel; //the current panel is declared as the old one for the ne
    createNewAdmissionPanel(newAdmissionPanel); //the new panel is created
    //this below fixes an issue where the screen would not appear when it should
    newAdmissionPanel.setVisible(false); //the panel is hidden from sight
    newAdmissionPanel.setVisible(true); //the panel is then made to reappear
}
```

While the inclusion of making the panel invisible and the visible again seems unconventional it completely rectifies the issue. It must force the program to re-render the panel causing it to be updated.

07/08/19

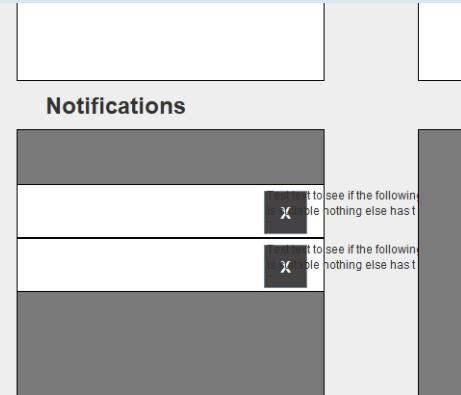
Prototype

Test 1:

Today I am implementing the notification system for the patient GUI when removing a notification it should hide the desired one and move the rest up by one, this is done by having the array in which they will be held in remove that entry and then move the rest down by an index respectively.

The GUI will then correctly update the test panes to include the new text. However as shown in the screen shot this is not occurring

Test 1:

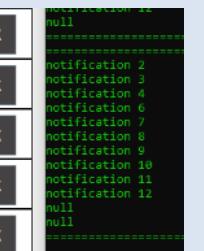
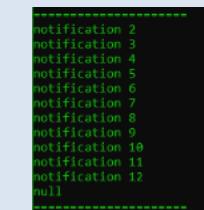
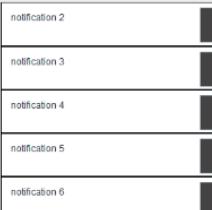
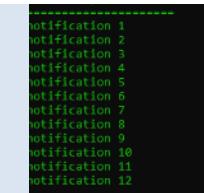


Test 1:

The issue causing the issue has been rectified, what was happening was that when the close button was pressed it would move the text to the location of the button . This idea was scrapped and I decide to adjust everything through the array so the components do not change location but instead move the data through the array. As for the moving of the data an error out of bounds exception was being thrown causing this issue to occur, by adding an if statement to the prevent the out of bounds exception this solved the issue.

```
public void deleteNotification(int position)//the parameter is the position in the array containing the no
{
    int iterations = numberOfNotifications - position - 1;//the number of iterations is calculated to
    if(iterations == 0)//if no more swaps can occur this is ran(there is only one item left in the a
    {
        notifications[position] = null;//the contents are emptied
        numberOfNotifications--;//the number of notifications is decremented
    }
    else
    {
        do//a do until loop is declared to iterate until the condition is satisfied
        {
            notifications[position] = notifications[position + 1];//the current notification is replace
            iterations--;//the number of iterations required decrements
            position++;//the position of the index increments as now two indexes will be the same,
        }while(iterations!=0);//termination condition looking until no more iterations can occur
        notifications[position] = null;//the last position of the array is cleared as this will cont
        numberOfNotifications--;//the number of iterations left decrements
    }
    updateNotifications()//the gui aspect of this task now occurs the data is now in the right orde
}
```

The initial pair shows how the notifications will appear initially when the user has at least 5 notifications. For examples sake I have decided to remove the first notification, as it shows every index has gone down an index and therefore we can see that notification 6 is now visible. As for the empty space it is now at the bottom of the array where over deleting notifications it will rise. This can be seen in the last pair where notification 5 has been removed and again the same process has occurred. Lastly I have manged to get the array to become dynamic allowing for a varying amount of notifications to be used, theoritically allowing for infinite notifications.



14/08/19

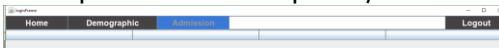
Prototype

Test 1:

Having continued on I have hardly encountered any issues that need to be tested and fixed during this period of development, however currently I have faced another issue that will need to be fixed, when creating the mini top bar for the admission panel it has come to my realisation that the number of admissions is dynamic and will change over time



This was the first test I did for the new top bar.(the y location is 10 too high, causing it to overlap with the other top bar.)



This was the second attempt after rectifying the mistakes



After setting the number of admissions to 0 I realised that the lower numbers of admissions will need a manual set number.



As the issue was figured out before the code was developed it has meant that large sections of code have not had to be rewritten, however as the screen shot shows the last button is missing which is the new admission button.

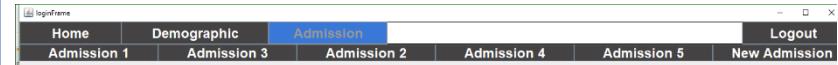
After inspecting the source code, I realised I had declared the correct size of all the admission buttons except the one for the new admission button, making the button appear invisible.

```
int frameWidth = frame.getWidth();
int buttonSize = frameWidth/(numberOfAdmissions+1);
System.out.println(buttonSize);
int buttonLocationXAxis = 0;
if(numberOfAdmissions>5)
{
    topBarAdmission1Btn.setSize(buttonSize,30);//the size of
    topBarAdmission2Btn.setSize(buttonSize,30);//the size of
    topBarAdmission3Btn.setSize(buttonSize,30);//the size of
    topBarAdmission4Btn.setSize(buttonSize,30);//the size of
    topBarAdmission5Btn.setSize(buttonSize,30);//the size of
    topBarNewAdmissionBtn.setSize(buttonSize,30);//the size o
    topBarAdmission1Btn.setLocation(buttonLocationXAxis,40)/
    buttonLocationXAxis=buttonLocationXAxis+buttonSize;//the
    topBarAdmission2Btn.setLocation(buttonLocationXAxis,40)/
    buttonLocationXAxis=buttonLocationXAxis+buttonSize;//the
    topBarAdmission3Btn.setLocation(buttonLocationXAxis,40)/
    buttonLocationXAxis=buttonLocationXAxis+buttonSize;//the
    topBarAdmission4Btn.setLocation(buttonLocationXAxis,40)/
    buttonLocationXAxis=buttonLocationXAxis+buttonSize;//the
    topBarAdmission5Btn.setLocation(buttonLocationXAxis,40)/
    buttonLocationXAxis=buttonLocationXAxis+buttonSize;//the
    topBarNewAdmissionBtn.setLocation(buttonLocationXAxis,40)

if(numberOfAdmissions<=3)//selection determi
{
    buttonSize = 360;//manually sets the si
}

}
```

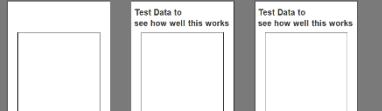
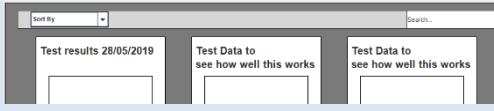
about the button scaling to the size of the frame.

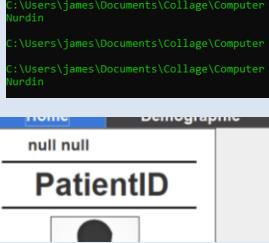


The finished topbar including all the admissions to show how it might look for a patient with 5 of them

this is the code used to locate and size the code. When the number of notifications is smaller the same code is used just one less admission button is used.

This is the code used to make the fourth test work by manually setting the size I don't have to worry

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
15/08/19	<p>Prototype</p> <p>Test 1: This is the initial testing of the first aspect of the backend of the system, while I want to try and separate the front and the back as much as possible during development I will need to use this in order to check a GUI feature is working as intended.</p> <p>The test is to see if an instance of Document can be used and then have a property set as text for a JLabel, by having the single object passed through by an array there will be no need to create a temporary object.</p>	<p>Test 1: I have only done this for the first component, the other two are preset by myself during development to get size and location correct however as the image shows the text has not updated.</p> <p>Test 2: Again the text field has been left blank, however I have now included an instance of Document in the array so it now has an object to use attributes of.</p> <p>Test 3: after fixing the logical error, a null pointer exception was now being thrown resulting in none of the components in the parent method from being created.</p> 	<p>Test1: On further inspection I have realised, while I have declared an array of object Document I have forgotten to include any in the first place, therefore when setting the text it is null therefore nothing shows.</p> <p>Test 2: I believe the issue has come from a logical error in one of my selection statements, in order for the field to be updates the procedure I declared was called from inside a statement I believe was not being ran.</p> <p>Test 3: The issue occurring was that the method updating the text field was being ran before the index was being updated with the object resulting in an empty index being called.</p>	<pre>Document doc = new Document(); documents[0] = doc; createMainPartAdmissionHomePage(admissionHomepagePanel);</pre> <p>The source code below shows how many document cards will be needed if the remainder is zero, there are a multiple of 6 documents it will load all 6 cards, as I am currently still developing I wanted to make sure objects could be passed through before adding the rest</p> <pre>public void outputDocumentCards() { int numofCompletePages = (numberOfDocuments % 6); if(numberOfDocuments>0) { if(numofCompletePages==0) { updateCard1(documents[0]); } } }</pre> <p>Test 4: Success, after running it one last time the object attribute title has been correctly added to the text field.</p> <p>Here is the CMD showing the instance of the object</p>  <p>To the left is the text field showing the intended data, the data itself is temporary just to indicate the source code works.</p> <pre>public void updateCard1(Document temp) { admissioncardTitlepanel1.setText(temp.title); System.out.println(temp); }</pre> <p>Here is the code that updates the JTextPane, it shows the parameters being that of an object of Document. The system printing was a check for myself to see if the contents where null or not. It wont be included on the final build.</p>

16/08/19	Prototype Test 1: <p>After starting on the backend of the source code yesterday, I have begun to realise that instead of segregating the two parts I should developing both simultaneously to help reduce the time taken when actually combining the two together. Because of that I have created all the cases for the system and correctly introduced inheritance to allow the correct classes to receive the correct data fields.</p>	Test 1: After extending classes using the hierarchy of parent and child classes I created in the design, I will attempt to call a variable from the initial parent class from the last child class <pre>C:\Users\james\Documents\Collage\Computer Science\C3\Coursework\Written work\5.Prototypes\Prototype>java Document James</pre> <p>As you can see when calling for the document class the attribute from the parent class at the top of hierarchy is used, indicating the classes correctly work.</p>	<pre>public class User //declares the class that inherits everything from Patient { String firstName = "James"; } public class Admission extends Patient { } public class Patient extends User</pre> <pre>public class Document extends Admission { public void start() { System.out.println(firstName); } }</pre>
16/08/19	Prototype Test 1: <p>After linking all the classes up I have started to try and bring over attributes from file to the correct class, in this case patient, which is then passed through to the GUI where it is displayed. So far it recognises that the attribute exists but the contents are null in the GUI where they have the data in the patient file</p>	Test 1: <p>I have decided to print the surname from the patient class to see if it is returned from the method correctly. As you can see this has occurred but on the GUI it comes through as null</p> 	Test 1: <p>On my second attempt I have managed to pass through attribute, what was happening was that I was calling the method to retrieve the account from the instance of patient on the GUI class but it was updating the attributes of an instance of a patient on the Patient class.</p> <p>To fix the issue I changed the procedure which retrieves the object and changed it to a method, this forces the object of patient calling it to have its attributes changed. This is in the patient class however when I create the global instance of the patient in the GUI class it can be called for.</p> <pre>public Patient retrievePatientInfo(Patient patient) { patient=null; return(patient); }</pre> <p>What is happening here (this occurs in the GUI class) is that the object of patient is the return value of the method called by that class. UPDATE: I have realised that I do not need to pass that object through as it no longer needs parameters, instead I have just declared a temporary instance of patient in the method and just have that returned to current patient.</p> 

16/08/19	<p>Prototype</p> <p>Test 1:</p> <p>Again I have made some more alterations to how the system deals with the bringing over external classes like patient and staff etc. After following my design document I realised that the read from file document was supposed to be initialised in the user class, this makes sense as it would reduce the amount of methods for reading files I have to develop so I have done that and copied it over.</p>	<p>Test 1:</p> <pre>james\Documents\College\Computer Science\C3\Coursework\Written work\va:43: error: variable splitArrayData might not have been initialized int length = splitArrayData.length; ^ </pre> <p>To do this I have created the read method to return the array containing all the isolated strings from the file, because of this I can directly return the array that holds all these strings to the method that needs it without having to pass them through a temporary object, this will allow for only one read method ever to be developed however I need to hold the actual file reading into a try and catch statement, this results in me being unable to pass through that array, as when I declare the array outside of the method it may not be initialised.</p>	<p>Test 1:</p> <p>To fix this issue I have created another array of a size that will never be reached 1000, hopefully it won't however it can be changed. The length of the desired one is found and then a temp one of that size is created and then the new array is set as the old array and then passed through as the return value.</p>	<pre>int length = splitArrayData.length; String[] array = new String[length]; array = splitArrayData; for(int count = 0; count < length; count++) { System.out.println(array[count]); } return(array);</pre> <p>As the code shows the new array holds all the read values from file and can then be passed through to the method that needs it</p> <pre>PMLR1234567 Nurdin James 167 Town Road Creston PR26 9RA 07484727992 English 0+ 0 1 5 28/05/2002 none Pencillin M (none) (0) (0)</pre>
17/08/19	<p>Prototype</p> <p>Test 1:</p> <p>I have started on reading other objects from file such as arrays and have created a method to pull out the list of expertise of a consultant as a string and then convert that into a list, and finally returning the array to the correct instance of consultant and updating their attributes.</p>	<p>Test 1: on the first attempt I have received an</p> <pre>.StringIndexOutOfBoundsException: String index out of range: 28 latin1.charAt(StringLatin1.java:47)</pre> <p>error out of bounds exception I believe this is to be caused by index errors when changing between string indexes</p> <pre>public String[] concatenateExpertises(String singleExpertiseString) { int arrayIndex = 0; int length = singleExpertiseString.length(); for(int count=0;count<length;) { String word=""; String tempChar = singleExpertiseString.charAt(count)+""; while(tempChar.equals(" ")==false) { word = word+ singleExpertiseString.charAt(count); count++; } expertises[arrayIndex] = word; arrayIndex++; } return(expertises); }</pre>	<p>Test 1:</p> <p>The issue was fixed by clearing the variable once inside the while loop and then redeclaring it, this allows for iterations inside the loop to correctly work without the initial indexes once entering the loop being cleared</p>	<p>This has resolved the issue and now the string received from file is now the array it should be, as I expect to use similar methods later on in development this will come in useful.</p> <pre>public String[] concatenateExpertises(String singleExpertiseString) { int arrayIndex = 0; int length = singleExpertiseString.length(); for(int count=0;count<length;) { String word=""; String tempChar = singleExpertiseString.charAt(count)+""; while(tempChar.equals(" ")==false) { tempChar = ""; tempChar = singleExpertiseString.charAt(count)+""; word = word+ singleExpertiseString.charAt(count); count++; } expertises[arrayIndex] = word; arrayIndex++; } return(expertises); }</pre> <p>To show proof of it working I had the method which updates the desired instance to print the expertise array at the first index</p> <p>Anaesthesiology</p>

17/08/19

Prototype

Test 1:

As I have created working entities of the users I have decided to bring over their attributes and display them to the GUI, this has mostly worked without any trouble however I have encountered one issue.

Attempt 1: In the methods that assign the array of strings to the object as I have a non standard data type of Date for the DOB, I have to pass it through a try and catchment statement, however because it is in there and no output was given to the catch area I hadn't realised it was not working and as no output was being produced it completely skipped it over.

Attempt 2: After successfully converrting the datatype into a Date I now saw that the date was including unnecessary things like time zone

DOB: Tue May 28...

Test 1:

To fix this I had to view the Api again, and saw that that all dates come in this format and have to be reformatted before being used, this meaning I would have to keep the full format for the object but for fields I could format it the way I desired it to be.

```
String dobString = ft.format(currentStaff.dob);  
dobField.setText(dobString); //the feild is given the da
```

I had this declared on the User class however this format of ft had to also be done on the GUI as it is not a part of the Hierarchical structure however this has sorted the issue and is now showing the dob as I intend.

DOB: 28-05-2002

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
18/08/19	<p>Prototype</p> <p>Test 1:</p> <p>Today I have started to work on reading the admission file and return the correct admission to the position in the array, as the patient object will store many instances of the same class it would be wrong to use the child class to store the attributes of its parent class as only one instance would hold the correct values of patient, instead I have had to create an array of admissions which will hold all these instances and have each instance hold null values of their parent attributes.</p> <p>To retrieve the instances I will create a method in my admission that reads the data from file which is then saved to a new instance of admission, from which it is passed through to the admission list where it is added to the array and then once all the objects are added the array is passed through to the GUI.</p>	<p>Test 1: when searching the file for the desired value the method will only find the latest line on the file resulting in the list of admissions all containing the same data, that being the last admission in the file.</p> <pre>Admission[] admissionList; Admission tempAdmission; int nextPosition; public Admission[] retrieveAdmissionList(Patient patient) { admissionList = new Admission[100]; int count = 0; String[] stringedAdmission = rff(patient.patientID+"_Admissions.txt",count); while(stringedAdmission[count] == "null") { tempAdmission = setRetrievedAdmission(stringedAdmission); admissionList[count] = tempAdmission; count++; } return(admissionList); }</pre> <p>Test2: The new issue is now finding the correct number of iterations as I am receiving null pointers exceptions as the code that calls the read method reads it more than the number of admissions that exist.</p> <pre>public String[] rff(String filename)//declares a method { String[] splitArrayData = new String[100]; try//the program will try and do this { FileReader fr = new FileReader(filename);//decalres a reader BufferedReader br = new BufferedReader(fr);//decalres a buffer String ClientReadLine = br.readLine(); //saves the first line while(ClientReadLine !=null)//a while loop that runs until the end of the file { splitArrayData = ClientReadLine.split(","); ClientReadLine = br.readLine(); //this then loops back to the start of the while loop } }catch(Exception exc)//if any errors are found they are caught { System.out.println("Read error");//informs that an error has occurred } int length = splitArrayData.length; String[] array = new String[length]; array = splitArrayData; return(array); }</pre>	<p>Test 1 to fix this issue I have overwritten the original method to search the file and instead have passed through as the second parameter a counter which iterates every time a new line is needed so the desired line can be found despite it may not being the last entry in the file, while this works well engough for small files this wont work for any larger files as it has to go through every line. Finally the method returns an array of every item on the line separated by a comma.</p> <p>Test 2: to fix that issue I actually used an attribute of patient I had completely forgot existed, the number of admissions they had, through this I could iterate the exact number of lines I need to, to retrieve all the admissions from the file.</p>	<pre>NUR0000001,Physiotherapy,Jones,20:35,22/05/2018,True,2,Azithromycin,P001,Arthritis,stiffness sharp pains slight swelling ,Tomkins</pre> <pre>public String[] rff(String filename, int line)//declares a method { String[] splitArrayData = new String[1000]; String admissionLine=""; try//the program will try and do this { FileReader fr = new FileReader(filename); //decalres a reader BufferedReader br = new BufferedReader(fr); //decalres a buffer int lineAt = 0; loop: while(admissionLine !=null)//a while loop that runs until the end of the file { admissionLine = br.readLine(); if(lineAt==line) { break loop; } else { lineAt++; } } }catch(Exception exc)//if any errors are found they are caught { System.out.println("Read error"); //informs that an error has occurred } splitArrayData = admissionLine.split(","); //concatenates the line int length = splitArrayData.length; String[] array = new String[length]; array = splitArrayData; return(array); }</pre> <p>other file, if a new admission is created the size will need to be updated in order for this to work.</p> <pre>Admission[] admissionList; Admission tempAdmission; int nextPosition; public Admission[] retrieveAdmissionList(Patient patient) { admissionList = new Admission(patient.numberOfAdmissions); int count = 0; while(count<patient.numberOfAdmissions) { String[] stringedAdmission = rff(patient.patientID+"_Admissions.txt",count); if(stringedAdmission[count]!="null") { tempAdmission = setRetrievedAdmission(stringedAdmission); admissionList[count] = tempAdmission; count++; } } return(admissionList); }</pre> <pre>NUR0000001,Physiotherapy,Jones,20:35,22/05/2018,True,2,Azithromycin,P001,Arthritis,stiffness sharp pains slight swelling ,Tomkins NUR0000002,Intensive care,Sutton,20:35,22/06/2008,False,0,Azithromycin,P001,Arthritis,stiffness sharp pains slight swelling ,Tomkins</pre>

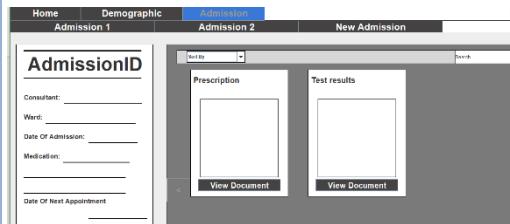
19/08/19

Prototype

Test 1:

After copying over the methods for retrieving the admission and converting them to perform the same function for the document I had managed to correctly retrieve and display the correct documents for the admission, however when performing the second test by including a second admission I encountered an out of bounds error

Test 1: no errors were encountered the admission was correctly loaded along with the two documents attached



Test 2: however when I have an extra admission present it correctly retrieves the data from file and creates a new instance however throws an error exception with this

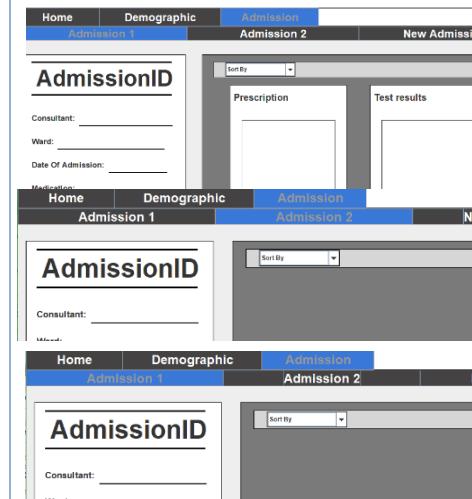
Index 0 out of bounds for length 0

what was happening was that the new admission was being retrieved correctly it was that the method which was still formatting the new document cards was still using the attributes of the global attribute number of documents which is declared to be the first instance on intial load, this is rectified by passing the correct instance of the admission through and then rerupdating the attributes, however before I add this I will create a method which correctly identifies which admission is in use.

Test 2: As you can see on the initial load the document cards are correctly displayed containing the information read from file, when we move over to the second admission(it has zero documents) you can see it too has correctly shown the amount. However on returning to the original panel we can see that there is no document cards like in the first image, so this needs to be fixed before continuing.

Test 3: after closer inspection I have seen what the issue was similar to test 1 the issue was that when the button to load the new admission had been pressed the new list of documents was not included resulting in that part being missed and admission 1 had admission 2's documents(even though admission 2 had no docuemnts).

Test 2:



Test 3:

```
if(e.getSource ()==topBarAdmission1Bttn)
{
    System.out.println("Admission 1");
    System.out.println("NUM OF DOCS "+numberOfDocuments);
    currentAdmission = admissionList[0];
    setActiveAdmissionTopPanelBttn(topBarAdmission1Bttn);
    listOfdocumentsGUI = currentAdmission.listOfDocuments;
    numberOfDocuments =currentAdmission.numberOfDocuments;
    outputDocumentCards(currentAdmission);
}
```

The highlited line was what was missing, now with it the cards reappear when admission 1 is reslected.

19/08/19

Prototype

Finally today I am going to create a method that detects what the soonest appointment is for the patient. If there is no date the field that holds the date will be left blank.

Test 1: I am going to pass through this method two dates One before today's date and one after.

Test 2 : now I am going to test how it deals with no dates in the future.

Final Test 3: As a final test I am going to see how the code reacts to there being no admissions at all.

22/10/2008 19:04, I n, 22/12/2019 19:04

scond one is after todays date and is admission 2: This shows the code is not working yet as there are no dates despite there being a correct date. As you can see from CMD the code actually at some point holds the closest date but does not update it to be the closest appointment.

Next Appointment:
Date: _____
Time: _____
Consultant: Dr null

Wed Oct 22 19:04:00 BST 2008
Sun Dec 22 19:04:00 GMT 2019
a
Wed Oct 22 19:04:00 BST 2008
Wed Oct 22 19:04:00 BST 2008

Test 2: Success the code has seen that no appointments could happen and has shown that no appointments are coming up.

Next Appointment:
Date: _____
Time: _____
Consultant: Dr null

22/10/2008 19:04, Tr n, 22/12/2009 19:04,
Wed Oct 22 19:04:00 BST 2008
Tue Dec 22 19:04:00 GMT 2009

Test 3: Success on this end of the system no appointments where created. As no appointments where read there where no dates to read so CMD has not outputted any dates.

Next Appointment:
Date: _____
Time: _____
Consultant: Dr null

C:\Users\james\|

Test 1: The first one is from the first admission and the

Test 1: The issue causing this problem was that I was using the methods before() and after() incorrectly. As I was manually declaring the first index as the next closest date, as that is in the past no date could actually go before that and so the variable that allows the GUI components to update is not enabled. To fix the issue I have declared the closest date to be in the far future, however this is only declared if there is at least one admission. Also if there are only appointments in the past the second if statement prevents that from being set as the closest, then finally the last if statement checks to see if it is before the closest date.

However as I try to access the admission section of the system, many exceptions are thrown and the display crashes so tomorrow I will address the issue.

Next Appointment:
Date: 22-12-2019
Time: 19:4
Consultant: Dr Sutton

Test 1: Finally as you can see the correct output has been achieved for this with the correct date and time being displayed along side the correct name of the consultant. As you can see in CMD even though the code sees all the dates it correctly picks

Wed Oct 22 19:04:00 BST 2008
Sun Dec 22 19:04:00 GMT 2019
Sun May 12 12:01:00 BST 2999
newerDateFound

out the date closest todays date in the future. While obviously having to create a date far into the future is not ideal as eventually it will need to be changed, I think the solution does its job and manages to be reasonably fast and simple.

```
if(numberOfAdmissions>0)
{
    for(int a = 0 ; a<numberOfAdmissions; a++)
    {
        closestAppointment = ftTimeInc.parse("12/05/2999 12:01");
        if(admissionList[a].dateOfNextAppointmentA.after(todaysDate))
        {
            System.out.println(closestAppointment);
            if(admissionList[a].dateOfNextAppointmentA.before(closestAppointment))
            {
                System.out.println("newerDateFound");
                closestAppointment = admissionList[a].dateOfNextAppointmentA;
                closestAppointmentConsultant = admissionList[a].consultantName;
                date = true;
            }
        }
        closestAppointmentDay = ft.format(closestAppointment);
        closestAppointmentTime = timeft.format(closestAppointment);
    }
}
```

20/08/19

Prototype

As I said yesterday when I access the admission panel of the UI it crashes and many exceptions are thrown.

Test 1: On the initial load of the system no errors are created or exceptions are loaded but when pressing the admission button an out of bounds error is thrown causing creation of the UI to stop.

However, one thing that works is the top bar for the admission, with it containing no admission buttons except a new admission one.

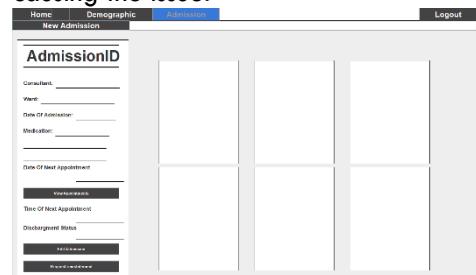
Test 2:

When trying to navigate the system when trying to access the homepage through the expert system I have received many out of bound exceptions.

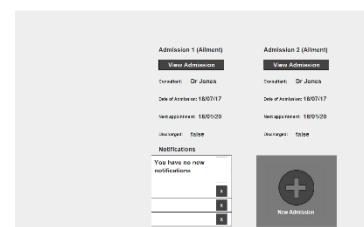
Test 1:

```
C:\Users\James\Documents\College\Computer Science\CS COURSEWORK\Written work\S.Prototypes\Prototype>java -test  
java.lang.ArrayIndexOutOfBoundsException: Index 0 out of bounds for length 0  
at test.createMainPartAdmissionHomepage(test.java:273)  
at test.createAdmissionHomepageLayout(test.java:267)  
at test.createAdmissionPage(test.java:261)
```

The three words above the exception where me trying to isolate the location that was causing the issue.



Test 2:



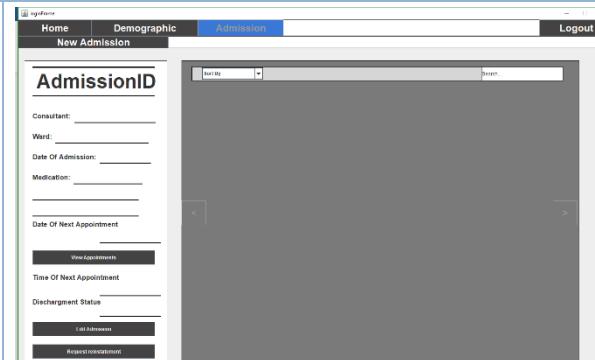
where the components need an attribute of an object but as it is null it is causing the exceptions to be thrown.

Test 1: To fix the issue similar to the closest appointment issue was the fact that the null pointer exception was being thrown due to the fact that the components that were needing to be created particularly the ones for documents utilised the admissions attributes, but as none exists they were having null written into them.

To fix the issue, while a slight tedious I have put selection statements before any part that uses the admission

Test 2:

After inspecting the code where the homepage is created from the new account side I have realised that no instance of patient is being created so by calling the method which creates our patient the issue should be resolved.



```
if(currentPatient.numberOfAdmissions>0)  
{
```

Test 2:

```
if(e.getSource() == newAccountCreateAccountBtn)  
{  
    setUpPatientObj();  
    createPatientHomepagePanelGUI(currentPatient);  
  
    currentPanel = patientHomepagePanel;//current pa  
}
```

While `setUpPatient` is a rudimentary Method which creates a predeclared

object of patient it will do as it allows for the components to be created. Later on I will rewrite this method to search for the correct patient and change the method to have parameters so this can be used everywhere but find the correct patient.

Test 1: as you can see it looks much more appealing than before all I have done is surround any section of code that uses the admission class with this:

21/08/19

Prototype

Test 1: so far I have developed a method which write new records to file or update existing ones, however I am experiencing an issue causing the files actual location not to be found when trying to read the file, this will have to be fixed before any progress can be made.

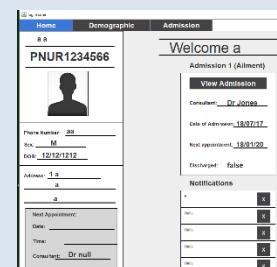
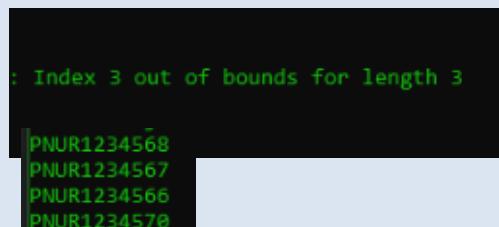
Test 2: After successfully reading the file and receiving an array with all the records the next test was to see if the new file could be assigned to the correct index however it seems to be one value of every time causing an out of bounds exception to be thrown.

Test 3: after creating the account, I tried logging into the system which worked bringing the user onto the home screen however seem to have another user's notifications

Pos index 0 2

of where the new user should go and 2 being the size of the file.

Test 2: as you can see the exception being thrown along with the list of 4 reocrds in the file



Test 1: with position index being the location

of where the new user should go and 2 being the size of the file.

Test 2: as you can see the exception being thrown along with the list of 4 reocrds in the file

Test 3: as you can see I am using the account I made in test 2 but I appear to have the notifications of account

PNU1234567

Test 1: To correctly find the location of the new record we will need to find the actua length of the file, this can be done by iterating the loop fully first and then declaring the arry to hold all the values and iterate agin then filling the array.

Test 2: on further inspcetion the mthod I used to retrieve the desired index of the new record was acutally foun from the length of the array rather using the index of it, this caused it to be one greater than it should be, however even though the array before having the new value was made to hold an extra value by using the .CopyOf() method from the java utilities package.

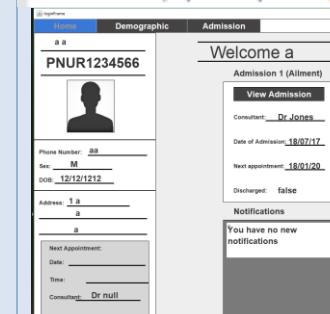
Test 3: to fix this issue all I have to do is correctly match up the locations of demographic accounts to the ones for the notification ones.

```
public String[] rffReturnFullFile(String filename){  
    int lengths = 1;  
    try{//the program will try and do this  
    FileReader fra = new FileReader(filename);  
    BufferedReader bra = new BufferedReader(fra);  
    String lineOfData = bra.readLine();  
    int line = 0;  
    while(lineOfData != null){  
        System.out.println(line);  
        line++;  
        lineOfData = bra.readLine();  
    }  
    lengths = line;  
}  
catch(Exception exc){  
    if any errors are found they  
    System.out.println("Read error A.1");  
}  
String[] arrayOfData = new String[lengths];
```

Test 2: as you can now see by reducing the value of the new position by -1 the new value can now be correctly indexed to the right

```
location and  
subsiquentially have  
the array re-written  
to file. For the time  
being the unique id  
has not been  
developed so is being  
manually entered.  
  
public void createNewPatient(Patient patient)  
{  
    String[] stringedPatientList = rffReturnFullFile("Patient_Demographic.txt");  
    String stringedPatientID = "PNUR1234566";  
    int patientPosition = findIndexofPatient(stringedPatientList, stringedPatientID);  
    System.out.println("pos index "+patientPosition);  
    String[] list2 = Arrays.copyOf(stringedPatientList, stringedPatientList.length+1);  
    stringedPatientList = list2;//updates the previous array to equal the newly declc  
    System.out.println(stringedPatientList.length);  
    for(int index = stringedPatientList.length-1;index>patientPosition;index--) {  
        System.out.println(stringedPatientList[index]);  
        stringedPatientList[index] = stringedPatientList[index-1];  
    }  
    String patientDemo = (stringPatientID+", "+patient.surname+", "+patient.firstName+");  
    stringedPatientList[patientPosition] = patientDemo;  
    rffNewPatient(stringedPatientList, "Patient_Demographic.txt");
```

Test 3: The top line is the patients demographic records and the bottom one is the notifications records by addigin in the new account as you can see there are no notifications.



22/08/19

Prototype

Test 1: today I am developing the unique id creation method for my system, on first test I managed to generate a unique id however the Letters of the surname is one index too short I believe this can be rectified by increasing the substring parameters by one

Test 2: the issue affecting the creation of the ids is that when the method is finding the number for the last part of the system it will not correctly increment causing numbers to be missed out

**PNUR0000001, nurdin, a, 12
PNUR1234567, Nurdin, Jar**

Test 1: However while you can see that the number of characters is one too short it is located in the correct location in the file itself.

Test 2:

**PTOM0000001, tomk, a, 12
PTOM0000003, tomk, a, 12**

As you can see the id PTOM00000002 has been missed out, while it still generates unique ids it just means there will be less to choose from.

Test 1: the issue causing the shorter concatenation issue has been fixed however the issue causing the number to be set to zero was caused by the

Test 2: on inspection the issue was that the value we were assinging to the id was used in the for loop, the system works by finding the surname with the same first three letters through a binary search and then perform a linear search until the final value with the same surname is found however the final value was set using the counter in the for loop instead of the int in the id.

**PNUR0000001, Nurdin, James
PNUR0000002, nurdin, l, 12,
PNUR0000003, nurdin, l, 12,
PNUR0000004, nurdin, l, 12,
PTOM0000001, tomkins, l, 12
PTOM0000006, tomkins, l, 12**

Test 1: as you can see the first few account creations went well the only account that was originally there was PNUR0000001.

Test 2: the issue has been fixed by setting a new int when the linear search starts we will iterate that until

```
String firstPart = type.charAt(0)+surname.substring(0,3);
firstPart = firstPart.toUpperCase();
String[] allIDs = rf.readFileFullFile(filename);
boolean existingID = false;
int position = -1;
int length = allIDs.length;
int startPoint = 0;
int endPoint = length;
int midPoint;
int location;
String currentID;
String stringNum;
boolean ignoreCase = false;
int counter = -1;
outerSearch:
do{
    midPoint = ((startPoint+endPoint)/2);
    //System.out.println("mid "+midPoint);
    currentID = allIDs[midPoint].substring(0,4);
    System.out.println(currentID);
    if(existingID==true){
        for(counter = midPoint; counter<allIDs.length;counter++){
            if(allIDs[counter].contains(firstPart)){
                System.out.println(allIDs[counter]);
                System.out.println("currentID "+currentID);
                currentID = allIDs[counter];
                midPoint = counter;
                existingID = true;
            }
        }
        break outerSearch;
    }
    else if(firstPart.compareToIgnoreCase(currentID)<0){
        // System.out.println("not above midpoint");
        endPoint = midPoint + 1;
    }
    else if(firstPart.compareToIgnoreCase(currentID)>0){
        // System.out.println("not below midpoint");
        startPoint = midPoint + 1;
    }
}while((!lastestIDFound == false)&&(endPoint> startPoint));
if(existingID == true){
    location = currentID + 1;
    stringNum= location+"";
    stringNum+= stringNum;
}
else{
    stringNum = "0000001";
}
```

the end of the surnames has been found (see highlighted variable). As you can see it now works.

**PNUR0000013, nurdin, z,
PNUR0000014, nurdin, a,
PNUR0000015, nurdin, a,
PSTE0000001, ste, a, 12,
PTOM0000001, tomk, a, 12**

23/08/20
19

Prototype

Test 1: today I am including the ability to add admissions to patient accounts. Unlike the demographic that will use data from input this will use dummy data as the ability to add documents will be included next, the feature contains most methods that are used in the creation of patients and because of this the only issue is that I am receiving an out of bounds exception when reading the latest line of the admission from file

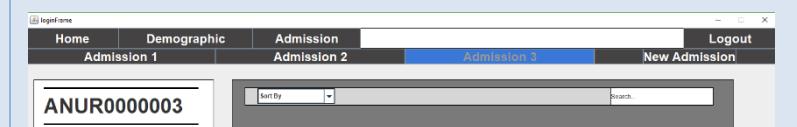
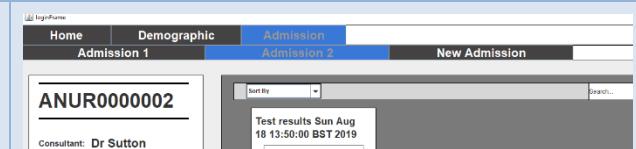
```
    <--EventsForFilter's(EventDispatchThread.java:124)
    <--EventsForHierarchy(EventDispatchThread.java:113)
    <--Events(EventDispatchThread.java:109)
    <--Events(EventDispatchThread.java:101)
    <--Events(EventDispatchThread.java:90)

-swork\Written work\5.Prototypes\Prototype>java test

IndexOutOfBoundsException: Index 8 out of bounds for length 8
  ...
  .java:14)
```

Test 1: On closer inspection the issue appeared to be when the file reader inspected the line and copied it over the last field of data did not have any data in it so when trying to convert the string into an object the empty field had nothing to be written to the object causing the exception to be thrown, this can be avoided by using selection and for each document type assign the correct attributes.

Test 1: Before creating the admission and after



```
ANUR0000002
Consultant: Dr Sutton
Sort By: Search...
Test results Sun Aug 18 13:50:00 BST 2019

ANUR0000003
Physiotherapy
Sam
null
Sat Dec 12 19:02:00 GMT 2099
true
0
null
P003
Depression
=====
```

As you can see above the admission homepage now shows an extra button for that particular admission showing it has worked, in addition to this the cmd shows the new admission's attributes.

23/08/19

Prototype:

Test 1: Also today I have started work on the consultant side of the system more importantly the ability to bring over admissions that only are his and no others, this will be done as shown in the design by having the id of the patient followed by their admissions with them.

Test 2:

To test full functionality, I have decided to remove an admission with an id that is before a desired one, in this case ANUR0000001

Test 1: after fixing all the syntax errors on my first real test I have encountered null pointer exception error when comparing the array of all a patients admissions against the array of desired admissions from that patient

```
C:\Users\james\Documents\Collage\Computer Science\C3\Coursework\Written work
est 1
est 2 PNUR0000001
est 3 PNUR0000001
est 4 ANUR0000001

est 5 ANUR0000001
est 6 ANUR0000001
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException
        at test.setUpConsultantObj(test.java:5415)
        at test.actionPerformed(test.java:5672)
        at java.desktop/javax.swing.AbstractButton.fireActionPerformed(AbstractButton.java:593)
        at java.desktop/javax.swing.ButtonModel.fireActionPerformed(ButtonModel.java:206)
        at java.desktop/javax.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:279)
        at java.awt.Component.processMouseEvent(Component.java:6535)
        at java.awt.Container.processMouseEvent(Container.java:2556)
        at java.awt.Component.dispatchEventImpl(Component.java:4851)
        at java.awt.Container.dispatchEventImpl(Container.java:2594)
        at java.awt.Component.dispatchEvent(Component.java:4679)
        at java.awt.LightweightDispatcher.retargetMouseEvent(Container.java:4882)
        at java.awt.LightweightDispatcher.processMouseEvent(Container.java:4593)
        at java.awt.LightweightDispatcher.dispatchEvent(Container.java:4572)
        at java.awt.Container.dispatchEventImpl(Container.java:2594)
        at java.awt.Window.dispatchEventImpl(Window.java:2765)
        at java.awt.Component.dispatchEvent(Component.java:4679)
        at java.awt.EventQueue.dispatchEventImpl(EventQueue.java:752)
        at java.awt.EventQueue.access$500(EventQueue.java:98)
        at java.awt.EventQueue$3.run(EventQueue.java:704)
        at java.awt.EventQueue$3.run(EventQueue.java:702)
        at java.security.AccessController.doPrivileged(Native Method)
        at java.awt.EventQueue.dispatchEvent(EventQueue.java:713)
        at java.awt.EventDispatchThread.pumpOneEventForFilters(EventDispatchThread.java:205)
        at java.awt.EventDispatchThread.pumpEventsForFilter(EventDispatchThread.java:159)
        at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:143)
        at java.awt.EventDispatchThread.pumpEvents(EventDispatchThread.java:137)
        at java.awt.EventQueue$4.run(EventQueue.java:700)
        at java.awt.EventQueue$4.run(EventQueue.java:697)
        at java.security.AccessController.doPrivileged(Native Method)
        at java.awt.EventQueue.dispatchEvent(EventQueue.java:698)
        at java.awt.Toolkit$1.run(Toolkit.java:302)
        at java.awt.Toolkit$1.run(Toolkit.java:300)
        at java.security.AccessController.doPrivileged(Native Method)
        at java.awt.Toolkit.getDefaultToolkit(Toolkit.java:301)

Test 5 ANUR0000001
Test 6 ANUR0000002
Test 5 ANUR0000002
Test 6 ANUR0000001
Test 5 ANUR0000002
Test 6 ANUR0000002
Test 7 ANUR0000002Test 2 PBAL0000001
Test 3 PBAL0000001
Test 4 ABAL0000002
0
1
Test 5 ABAL0000001
Test 6 ABAL0000001
Test 7 ABAL0000001Test 5 ABAL0000001
Test 6 ABAL0000002
Test 5 ABAL0000002
Test 6 ABAL0000001
Test 5 ABAL0000002
Test 6 ABAL0000002
Test 7 ABAL0000002Test 1
Test 2 PNUR0000001
Test 3 PNUR0000001
Test 4 ANUR0000002
0
1
Test 5 ANUR0000001
Test 6 ANUR0000002
Test 5 ANUR0000002
Test 6 ANUR0000002
Test 7 ANUR0000002Test 2 PBAL0000001
Test 3 PBAL0000001
Test 4 ABAL0000002
0
1
Test 5 ABAL0000001
Test 6 ABAL0000001
Test 7 ABAL0000001Test 5 ABAL0000001
Test 6 ABAL0000002
Test 5 ABAL0000002
Test 6 ABAL0000001
Test 5 ABAL0000002
Test 6 ABAL0000002
Test 7 ABAL0000002
```

Test 2: It was successful as you can see the admissions ANUR0000001, ABAL0000001

```
C:\Users\james\Documents\Collage\Computer Science
Test 1
Test 2 PNUR0000001
Test 3 PNUR0000001
Test 4 ANUR0000002
0
1
Test 5 ANUR0000001
Test 6 ANUR0000002
Test 5 ANUR0000002
Test 6 ANUR0000002
Test 7 ANUR0000002Test 2 PBAL0000001
Test 3 PBAL0000001
Test 4 ABAL0000002
0
1
Test 5 ABAL0000001
Test 6 ABAL0000001
Test 7 ABAL0000001Test 5 ABAL0000001
Test 6 ABAL0000002
Test 5 ABAL0000002
Test 6 ABAL0000001
Test 5 ABAL0000002
Test 6 ABAL0000002
Test 7 ABAL0000002
```

,PNUR0000001&ANUR0000002& PBAL0000001&ABAL0000001&ABAL0000002&

Test 1: After a couple of hours to get it to work I have managed to retrieve all the admissions along with the patients containing their admissions, the issues where fixed by creating a copy of the method that un concatenates everything and add a line that removes the last indexes of each line that specify when to start a new line. In addition to this the last two for loops where in the wrong direction so that the a null pointer exception was being thrown.

```
C:\Users\james\Documents\Collage\Computer Science
Test 1
Test 2 PNUR0000001
Test 3 PNUR0000001
Test 4 ANUR0000001
0
1
Test 5 ANUR0000001
Test 6 ANUR0000002
Test 5 ANUR0000002
Test 6 ANUR0000001
Test 5 ANUR0000002
Test 6 ANUR0000002
Test 7 ANUR0000002Test 2 PBAL0000001
Test 3 PBAL0000001
Test 4 ABAL0000002
0
1
Test 5 ABAL0000001
Test 6 ABAL0000001
Test 7 ABAL0000001Test 5 ABAL0000001
Test 6 ABAL0000002
Test 5 ABAL0000002
Test 6 ABAL0000001
Test 5 ABAL0000002
Test 6 ABAL0000002
Test 7 ABAL0000002
```

,PNUR0000001&ANUR0000001&ANUR0000002& PBAL0000001&ABAL0000001&ABAL0000002&

```
public String[] unConcatenateStringAdmission(String singleString, String gapType)
{
    String line = singleString;
    int counts = line.length() - line.replace(gapType, "").length();
    String[] array = new String[count];
    int arrayIndex = 0;
    int length = singleString.length();
    for(int count=0;count<length;)
    {
        int wordLength = 0;
        String word="";
        String tempChar = singleString.charAt(count)+"";
        while(tempChar.equals(gapType)==false)
        {
            tempChar = "";
            tempChar = singleString.charAt(count)+"";
            word = word+singleString.charAt(count);
            count++;
            wordLength++;
        }
        word = word.substring(0,wordLength-1);
        array[arrayIndex] = word;
        arrayIndex++;
    }
    return array;
}
```

Test 1: This is a unique version of the normal method in which this occurs as this removes the character used to separate the characters, the issue occurring was when comparing the desired admissions to the id attributes of the objects this unique character was also included in the statement causing no actual condition to be met. However as you can see the list of desired admissions are correctly pulled from the patient they need as you can see test 7 indicates the attribute is retrieved and the object in the multi dimensional array.

24/08/19

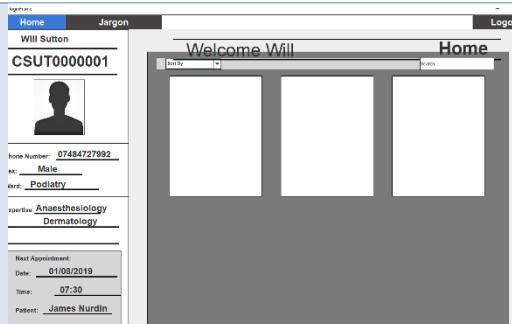
Prototype

Test 1: as I have successfully retrieved all the admissions from file I have started on the GUI for the Consultant and as the main part of this panel is very similar to the admission panel I will be using the components from that panel and so are initially testing the ability to load them

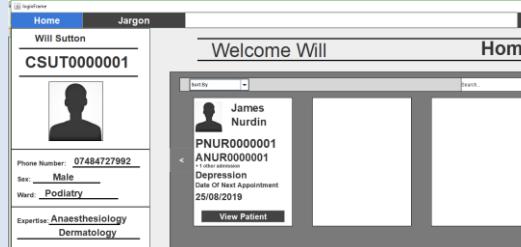
Test 2: now having the large components created I am now initialising all the minor ones like buttons or text fields etc.

Test 3: to test functionality I had copied over the code from my admission page to see it work in the same way it does with documents

Test 4: After the success of the last test I decided to test how it works swapping between panels on the system however on the initial load I received

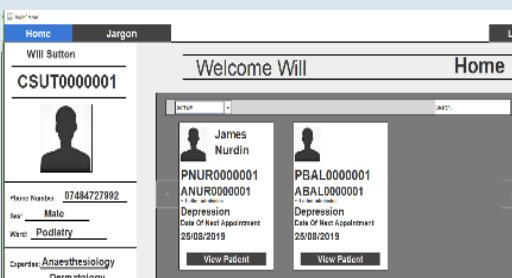


Test 2:



Test 3:

As you can see it worked first time this will be due to the fact that it was copied code from another part of my system.



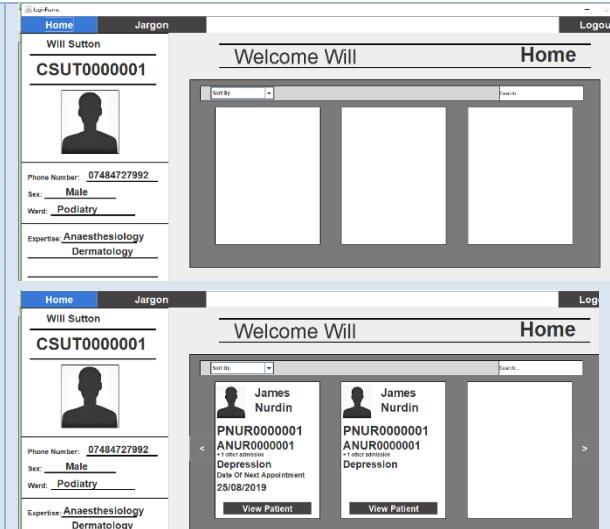
```
\5.Prototypes\Prototype>java test  
zion: Index 5 out of bounds for length 5
```

Test 1: as you can see the components have successfully loaded, the only action required is to format the size and location correctly.

Test 2: after correctly initialising all the smaller components for a single card I will now copy over the components for the other two cards it should just be a matter of copying the formatting changing the object names for the correct ones and repositioning them to line in correctly with the card.

Test 3: no action required

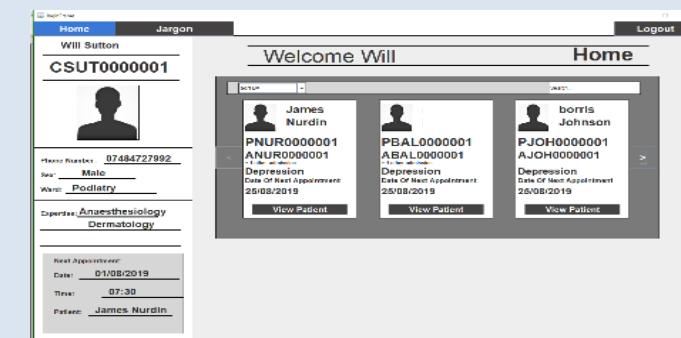
Test 4: on further inspection I was that the line to the left of me was causing the issue as it would iterate for count on how many patients there are however the array contains the admission ids for that patient but if there



Test 4:

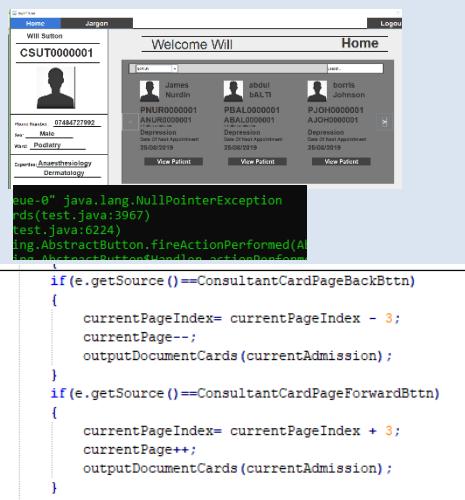
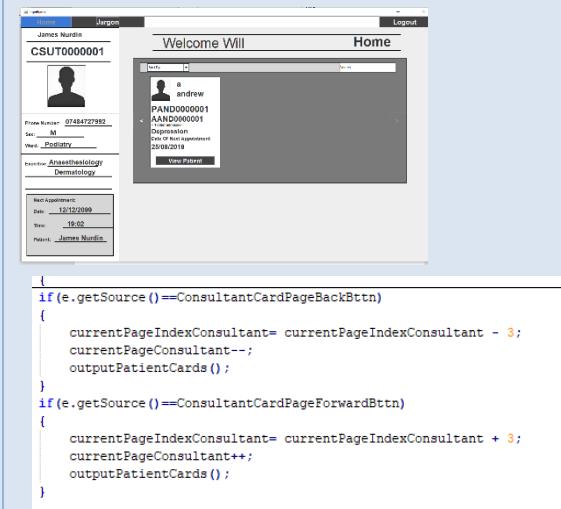
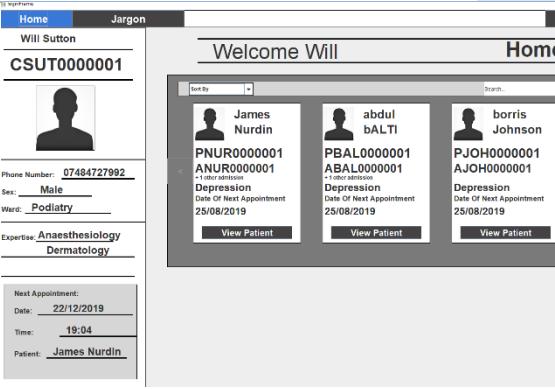
```
System.out.println("Test 4 " +admissionIDsConsultant[count]);
```

As you can see there are more patients now on the panel and we can therefore say the issue has been fixed.



Test 1: As you can see the new layout looks more appealing.

Test 2: As you can see some of the components have been copied over but I will have to add the rest over

	<p>an error out of bounds exception</p> <p>Test 5: After realising the method for the buttons weren't declared was due to the fact the action listener was not created and because of that I copied over the method</p>	<p>Test 5: When pressing the next page button I received the following display with the components still there</p>  <pre> if(e.getSource() == ConsultantCardPageBackBtn) { currentPageIndex= currentPageIndex - 3; currentPage--; outputDocumentCards(currentAdmission); } if(e.getSource() == ConsultantCardPageForwardBtn) { currentPageIndex= currentPageIndex + 3; currentPage++; outputDocumentCards(currentAdmission); } } } </pre>	<p>are more patients in general than there are admissions for that specific patient the error is thrown</p> <p>Test 5: When checking the code, I realised methods and attributes for the admission page where being called, to resolve the issue I changed out those ones and called the correct ones.</p>	<p>Test 5: as you can see the button now works with the next and last patient being outputted to the user.</p>  <pre> if(e.getSource() == ConsultantCardPageBackBtn) { currentPageIndexConsultant= currentPageIndexConsultant - 3; currentPageConsultant--; outputPatientCards(); } if(e.getSource() == ConsultantCardPageForwardBtn) { currentPageIndexConsultant= currentPageIndexConsultant + 3; currentPageConsultant++; outputPatientCards(); } for(int outerCounter = 0;outerCounter<listofAdmissions.length;outerCounter++) { for(int innerCount = 0;listofAdmissions[outerCounter][innerCount]!=null;innerCount++) { if(listofAdmissions[outerCounter][innerCount].dateOfNextAppointmentA.after(todaysDate)) { if(listofAdmissions[outerCounter][innerCount].dateOfNextAppointmentA.before(closestAppointment)) { closestAppointment = listofAdmissions[outerCounter][innerCount].dateOfNextAppointmentA; closestAppointmentPatient = listofCsPatients[outerCounter].firstName+" "+listofCsPatients[outerCounter].lastName; date = true; } } } } closestAppointmentDay = ft.format(closestAppointment); closestAppointmentTime = timeft.format(closestAppointment); </pre>
24/08/19	<p>Prototype</p> <p>Test 1: as well as starting development on the homepage I have also added the a custom version of the look for appointment method for the consultant, however instead of calling it I have embedded it into the method which formats the panel, it works on the same basis as the initial one except that it runs in a for loop comparing every outer index of the 2d array for admissions so that it compares this date(closest one for that patient) against other patients and then finally saving the closest one to the contact bar.</p>	 <p>do no have the text field assigned to the attribute yet and will be done at a later date.) As you can see the code shows how this works, similar to the standard method a date way into the future is set and then selection tries to find any dates that meet the following: Closest Date > Date being checked > todays date The object of todays date is initially found at the start of the program and theoretically can be updated to the current date at any time.</p>	<p>Test 1: As you can see the next appointment appears to be james nurdin(the patient cards</p>	

25/08/19

Prototype

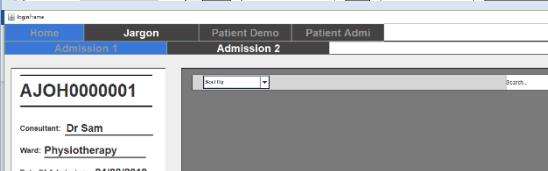
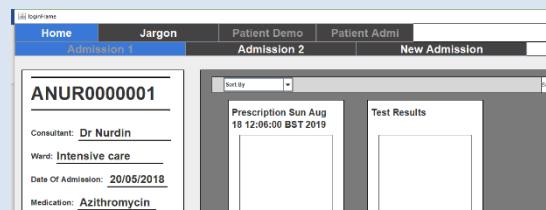
Test 1: today I have developed the method for viewing patient admissions from the consultant page, it works exactly like the one on the patient end due to the fact both panels call the same method. However I have ran into an issue on the first proper test

where the top admission bar shows more buttons than what is supposed to appear, this occurs when an patient with more admissions is accessed first then by one with fewer.

Test 2: For this test I am seeing if the admissions are correctly brought over and only ones for that consultant.

In the test I am going to change the admissions for PNUR000001 From ANUR000001 and ANUR000002 To ANUR000001 and ANUR000003

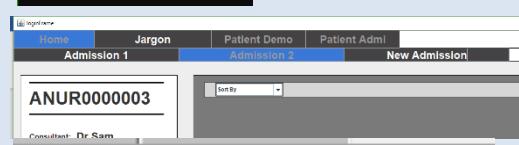
Test 1: As you can see in the second image



the new admission button is missing and is instead replaced by the admission 2 button, and as you can see this patient only has one admission with the consultant

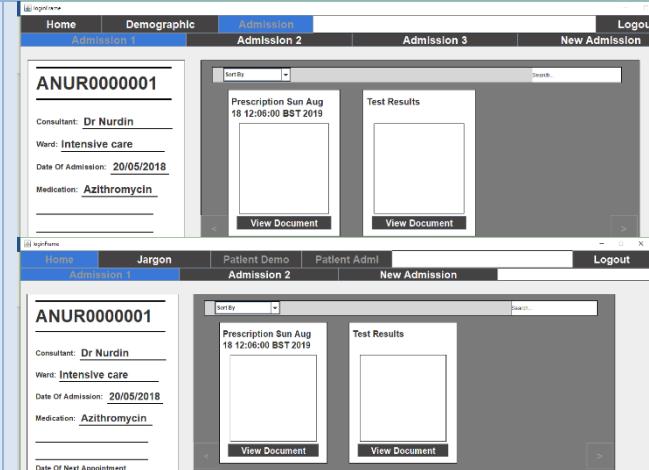
```
number of admissions 1
number of documents 0
=====
AJOH0000001
Physiotherapy
Sam
null
Sat Dec 12 19:02:00 GMT 2019
true
0
null
P003
Depression
```

Test 2:



As you can see the second admission for the consultant is the third one for the patient, because of this we can say that this test was a success.

Test 1: Similar to how some other graphical issues have been fixed I have created a solution. The issue was occurring because of the number of admissions when a larger number of admissions where used buttons 4 and 5 etc where being given a location however if we had a patient with 3 admission 5 would be gone but 4 would overlap the new admission button. The fix for this is to similar to the cards for the consultant homepage, is to hide all of them initially then format the sizes and finally make only the desired cards visible.



Test 1: As you can see the correct number of buttons for the bar are now appearing.

25/08/19

Prototype

Test 1: For this I have started on the method that writes new admissions to the correct location in the consultant file this time, it works by splitting the line into indexes by a per patient standard, then find the patient being written to and split the admissions into another array here the location of the new admission is found and everything is re-concatenated. However, on my first attempt I received an error out of bounds exception

Test 2: after reducing the size of the loops iterations by one I managed to write everything to file however the new admission id was not there.

Test 3: on this attempt I have received a weird error being that a value which should appear after the id is appearing before it.

Test 1: Here the issue is being thrown at a point in a for loop, therefore it must be iterating once too often.

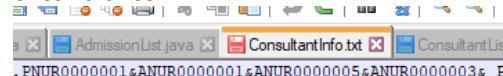
```
OutOfBoundsException: Index 4 out of bounds for length 4  
int.java:991
```

Test 2: as you would guess the last index should have been the last one where

```
PNUR0000001&ANUR0000001&ANUR0000003&ANUR0000003 & PI
```

ANUR0000005 would be instead however when loading the page the panel appears there as normal so this needs to be fixed before moving on.

Test 3: This bug is very confusing due to the fact the array is sorted in an order that is lexical so that NUR0000005 sould appear after NUR0000003 in a working circumstance.



```
PNUR0000001&ANUR0000001&ANUR0000005&ANUR0000003 & E
```

Test 1: The reason the issue was occurring in the first place was due to the fact that the when moving all the items in the array down an index the last position was trying to copy itself over to an index that does not exist to fix this we decrement the number of iterations that occur by 1.

Test 2: After looking into it the issue was that the while all the items in the array where moved down by one the first one was not being replaced by something, So to actually fix it we update the desired location with the id of the admission we want.

Test 3: In further inspection the issue was that the location of the desired spot was due to the method used to find the index which finds the position before it occurs instead of the point it should to fix this adding one to the point any time this position is called should work.

Test 1:

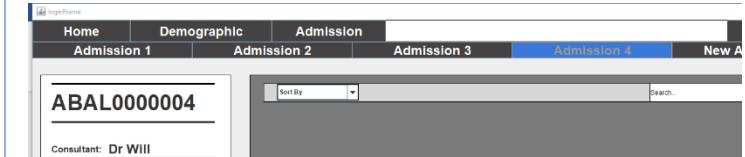
```
for(int loopCounter = indexOfAdmission+1; loopCounter<listOfIndividualAdmissions.length-1; loopCounter++
```

Test 2:

```
    listOfIndividualAdmissions[indexOfAdmission] = admissionID;  
    ...  
    ...
```

Test 3:

Finally the changes have resulted in the code finaly working and the admission made results in all correct files receiving the updates or new records they should have.



```
else if(patientFound == true)  
{  
    int indexOfAdmission;  
    listOfIndividualAdmissions = unconcatenateStringAdmission(desiredPatientString,"&");  
    indexOfAdmission =findIndexOfPatient(listOfIndividualAdmissions,patientID,1);  
    System.out.print("desired admission location is at "+indexOfAdmission);  
    String[] list6 = Arrays.copyOf(listOfIndividualAdmissions,(listOfIndividualAdmissions.length)+1); //sets  
    listOfIndividualAdmissions = list6;//updates the previous array to equal the newly declared one  
    for(int loopCounter = indexOfAdmission+1; loopCounter<listOfIndividualAdmissions.length-1; loopCounter++  
    {  
        listOfIndividualAdmissions[loopCounter+r+1] =listOfIndividualAdmissions[loopCounter];  
        System.out.println(listOfIndividualAdmissions[loopCounter]);  
    }  
    listOfIndividualAdmissions[indexOfAdmission+r] = admissionID;  
    String specificPatientAdmissions="";  
    for(int arrayCounter = r; arrayCounter<listOfIndividualAdmissions.length;arrayCounter++)  
    {  
        specificPatientAdmissions = specificPatientAdmissions+listOfIndividualAdmissions[arrayCounter]+"&";  
    }  
    newconsultant.listOfPatientsAdmissions[indexOfPatient] = specificPatientAdmissions;
```

26/08/19

Prototype

Test 1: today after finishing the other part of the admission creation end I have gone back to the front end of the system and started on the GUI part for the creation of new documents the initial test is to see how individual components for specific documents load.

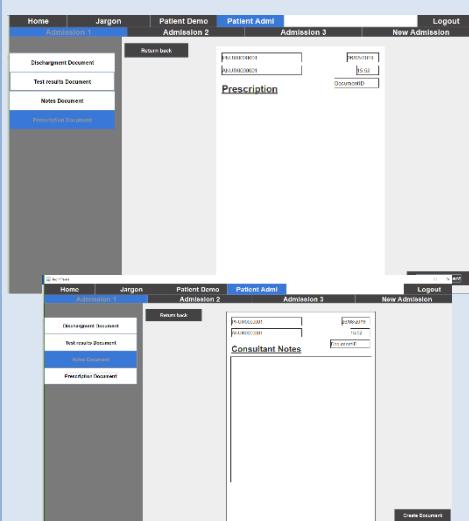
Test 2: while testing to see if the components of the patient end of these methods still work I again have encountered another issue this time the patient's admission panel was loading the prior contact bar despite the patient not having any admissions

Test 3:

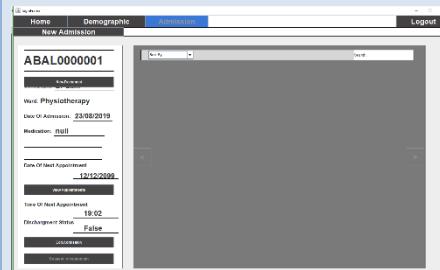
No after adding in all the correct fields I have to write the entered data to file, however before that

I need to create a primary key for the file however I am receiving reading errors when trying to create one.

Test 1:



Test 2:



Test 3: despite an id being produced the

```
NUMBER OF ADMISSIONS 3  
Read error A.1  
Read error A.2  
Doc id DNUR0000001
```

DNUR0000003

number is still wrong as it should be

Test 1: No action is needed as you can see the text pane is missing in the prescription document indicating that the system is working.

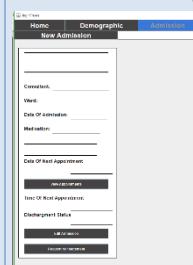
Test 2: to fix the issue I had to call the full method for creating the panel instead of the general one as before the general one just updated what the components location now it will update everything

Test 3: to fix the issue I will re-write my text file as I assume the issue is being caused due to the location of the existing ids already in file as they are at index 2 and will need to be moved to one

Test 4:

The bug causing the issue was created due to the file name being passed through was not the admission id but the while object

Test 2: As you can see the panel loads normally (this is what it should look like for a panel with no admissions)



```
if(e.getSource() == admissionbtn)  
{  
    removeAllPanels(oldpanel); //removes the old panel by passing the old panel  
    oldpanel = admissionHomepagePanel; //sets the old panel to the new one  
    setActiveTopPanelBtn(admissionbtn); //active top bar is the new one  
    if(numberOfAdmissions>0)  
    {  
        currentAdmission = admissionList[0];  
    }  
    createadmissionHomepagePanelGUI(); //correct homepage is  
    admissionHomepagePanel.setVisible(false); //the panel is  
    admissionHomepagePanel.setVisible(true); //the panel is shown  
    currentPanel = admissionHomepagePanel; //current panel is  
    createContactBarAdmission(admissionHomepagePanel);  
}
```

Test 3:

Prescription, 18/08/2019 12:06, DNUR0000001,
Test Results, 18/08/2019 13:50, DNUR0000002,

DNUR0000001, 18/08/2019 12:06, Prescription,
DNUR0000002, 18/08/2019 13:50, Test Results,

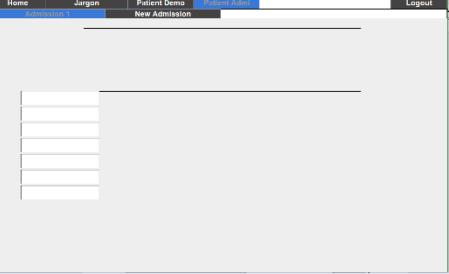
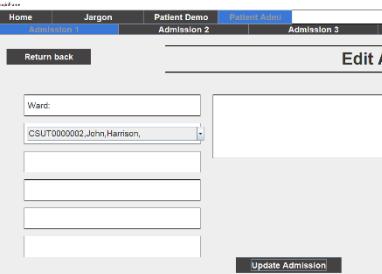
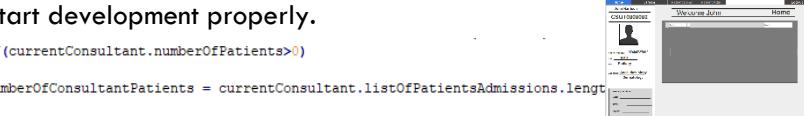
However this issue has not been resolved I will need to test further to resolve the issue

Test 4:

```
e.currentPatient.patientID+"_"+currentAdmission+"_Documentation.txt","D");  
  
number of patients 5  
3 patients  
number of admissions 3  
Doc id DNUR0000003
```

As you can see the issue has not been rectified. And now unique ids are being made for the user.

<p>Test 1: after implementing the GUI aspect of the system I now will attempt to test how the backend of it. However on the initial load all the prior documents are retrieved but then receive an error out of bounds exception</p> <p>Test 2: As I have said before when the document is created it appears to be concatenated however it is not written to file despite every thing else correctly doing so.</p>	<p>Test 1:</p> <pre>Index 3 out of bounds for length 3</pre> <p>This was thrown just before concatenating the new admission to file</p> <p>Test 2: here only the old ones have been</p> <pre>Number of admissions 3 Step 1 DNUR0000001,18/08/2019 12:06,Prescription,Azithromycin,50mg,09:00,100ml DNUR0000002,18/08/2019 13:50,Test Results,From the evidence provided, the results are normal. DNUR0000003,27/08/2019 24:21,Discharge,not good,Urgent</pre> <p>Step 2</p>	<p>Test 1:</p> <p>To fix the issue all I had to do was reduce the iterations of all the for loops by one, this was done down to the fact that the inorder to give space for the new document I had to to increase the size by one, however I enclosed a plus one on the for loop so instead of iterating for every position it occurs one more</p> <p>Test 2: the issue had been caused by the previous test as the action I did was decrement all the loops by one however this caused the last one to miss the last document object to be written, the easy fix is to add one to the number of iterations</p>	<p>Test 1:</p> <p>While no out of bounds or null pointer exceptions are being thrown I think there is still an issue due to the fact despite being updated there is no indication that the document is in the file. However we see that the admission has been updated and says that there are three documents present for the admission</p> <pre>DNUR0000001,18/08/2019 12:06,Prescription,Azithromycin,50mg,09:00,100ml DNUR0000002,18/08/2019 13:50,Test Results,From the evidence provided, the results are normal. DNUR0000003,27/08/2019 24:21,Discharge,not good,Urgent</pre> <p>The three indicating how many documents are present.</p> <p>Test 2: as you can see the issue has been resolved and the document has been added to file correctly.</p>
---	---	---	---

27/08/19	Prototype Test 1: Now I have moved onto editing the admission as of yet I have had an issue formatting the title bar use to it being called from other locations in other panels	Test 1: 	Test 1: The issue was easily fixed all I had to do was call the method to format it to the correct location before it was loaded and add the correct size and add it to the panel.	Test 1: As it is fixed tomorrow I will develop the code that allows admissions to change between consultants. 
28/08/19	Prototype Test 1: Before I can focus on developing the method that moves admissions between consultants I have to create a new instance of consultant to locate the admission, however when trying to load the page come across the issue of a null pointer exception	Test 1: <pre>e-0" java.lang.NullPointerException at PageMainPartGeneral(test.java:2680)</pre> I think the issue resonates from the ability to generate the objects for admissions patients and documents as this consultant will not have any of them a null pointer exception seems to be the only reason it is thrown.	Test 1: To fix the issue all I had to do was create selection statements checking every part that utilised the admission or patient objects as (currently) this consultant does not have any this will be needed	Test 1: As you can see the issue has been rectified and that an empty load screen has been created for the consultant. Now I can start development properly.  <pre>if(currentConsultant.numberOfPatients>0) { numberOfConsultantPatients = currentConsultant.listOfPatientsAdmissions.length(); } else { numberOfConsultantPatients = 0; }</pre>
28/08/19	Prototype Test 1: As all minor issues have been fixed I have started development on the main part of the admission editor which is that admissions can move between consultants, however when trying to run it I have come across an exception being thrown that I don't fully know what causes it to occur	Test 1: <pre>StringIndexOutOfBoundsException: String index out of range: 23 at StringLatin1.java:47 java:693 or.java:166</pre>	Test 1: After looking around trying to fix the issue I saw that when trying to read the line with the new consultants details that the method which splits them iterates once to little, this I assume to be to skip over the primary key for other uses however I will need all the attributes from this line and so have copied the method and made it so it iterated an extra time	Test 1  <pre>public String[] unConcatenateStringConsultanttxt(String singleString, String gaptype) { String line = singleString; int counta = line.length() - line.replace(gaptype, "").length(); System.out.println("length for string"+counta); String[] array = new String[counta]; int arrayIndex = 0; int length = singleString.length(); for(int count=0;count<length;) { int wordLength = 0; String word=""; String tempChar = singleString.charAt(count)+""; while(tempChar.equals(gaptype)==false) { tempChar = ""; tempChar = singleString.charAt(count)+""; word = word+ singleString.charAt(count); count++; wordLength++; } word = word.substring(0,wordLength-1); array[arrayIndex] = word; arrayIndex++; } return(array); }</pre> As you can see below the new line below shows the new updated line which contains the attributes of the new consultant, all I have to do is update the contents of the consultants files and now I will be done.

ANUR0000001,Intensive care,John,23/12/2019 19:4,true,3,Azithromycin,P001,Arthritis,stiffness|sharp pains|slight swelling|,Tomkins,20/05/2018,STOM1234567,CSUT0000002|

29/08/19

Prototype

Test 1: now that the consultant can change who is in charge of the admission I will now use the update admission method I developed earlier on to allow attributes to be changed and saved to file.

This screenshot shows the Patient Admin interface. The top navigation bar includes Home, Jargon, Patient Demo, Patient Admin, and several admission tabs (Admission 1 through Admission 5). The current tab is 'Patient Admin'. On the left, there's a sidebar with a 'New Document' button and fields for Ward (Physiotherapy), Date Of Admission (29/08/2019), Medication (null), Date Of Next Appointment (12/12/2099), Time Of Next Appointment (19:02), Discharge Status (False), and buttons for Edit Admission and Reinstate Patient. The main panel is mostly grayed out, indicating no data is present.

This screenshot shows the 'Edit Admission' panel. It has a 'Return back' button and a title 'Edit Admission'. It contains fields for Ward (Physiotherapy), Consultant (CSUT0000001, Will.Sutton), Staff (Sue), Discharge status (radio button), Current Diagnosis (Depression), and Room (P003). A large 'Update Admission' button is at the bottom right.

This screenshot shows the Patient Admin interface again. The 'Patient Admin' tab is selected. The sidebar shows the same admission details as before. The main panel now displays a 'Dischargment' document with the date 29/08/2019, and a 'View Document' button below it.

This screenshot shows the 'Edit Admission' panel after changes were made. The consultant has been updated to CSUT0000002, John.Harris. The discharge status is now checked as true. All other fields remain the same as in the previous edit screen.

Test 1: Fortunately after fixing the errors both syntax and logical, I have now managed to get the system working, while it is not bug free and occasionally I get thrown an exception the system works when trying to swap over patients. In the first image you can see an empty admission with no documents, I then go to the edit panel

and then decide to set the dischargement status as true.

Now with that set you can see on the third panel that the document for the discharge has appeared. After this I decide to move the admission from CSUT0000001 to CSUT0000002 and update the patient.

On logging out as CSUT0000001 and logging in as CSUT0000002 you will see on the next page that only one admission appears to be there, that being the one one we added from the the other consultant, for

sake of testing I decided to reinstate the admission and allow it to be active again. Since the document is discharged I can press the reinstate button which loads a unique document. Once this had loaded I then added the document to the admission causing the active attribute to update you can see this change in the contact bar changing from false to true and back to false.

Once I added this as you can see a new document called reinstatement was added to the admission and you can also see that the discharge status go back to the original false, indicating the admission is active. Finally after reinstating the admission on the newer consultant I decided to return the admission to the original consultant and so went back into the edit admission page one last time to move the admission to CSUT000001

Once I update the admission and log out as CSUT000001 and log back in as CSUT000002 you can see in the admission top bar that we have the admission with the original consultant.

However development has been really tedious and slow for this aspect due to the numerous amount of exceptions being thrown, because of this I was too focused on the development that some key tests have been missed and that the more complete parts of this aspect were included for this test.

However as this is a prototype the system is still not in perfect working condition and more testing will be done to ensure it works flawlessly.

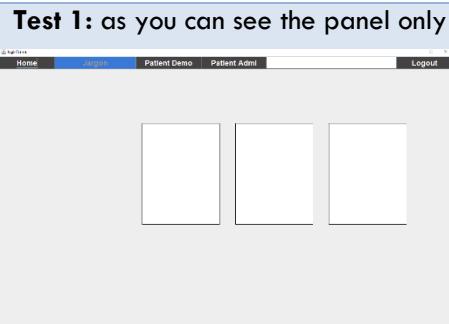
30/08/19

Prototype

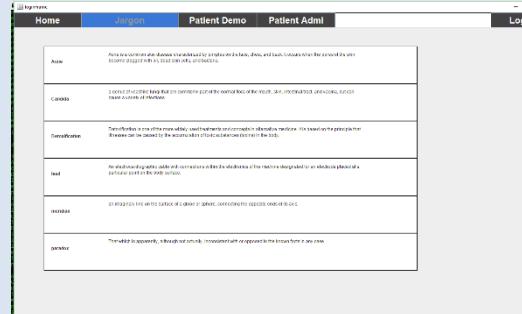
Test 1: Now I have started development on the jargon library however, development will not take as long due to the fact the methods used to display the definitions was copied from the section with the patient document cards. On the initial load of the panel only was the three white boxes from the prior panel as they use the same components

Test 2: after adding the white boxes I think it should be in working order I will have to do a quick test.

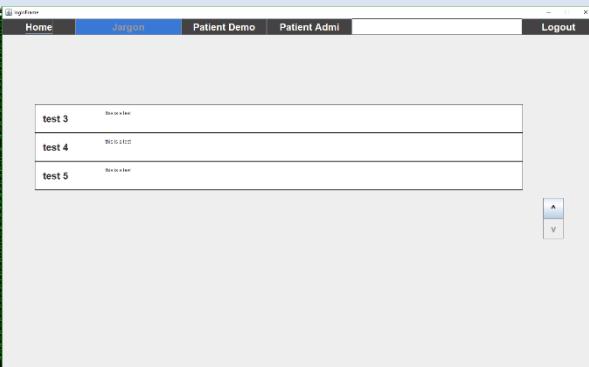
Test 3: After adding the boxe I have started on the buttons to allow navigtion beyond the first page, this just re-uses code from other areas of the system so I have no concerns for the result that will occur and any issues will be minor



Test 1: as you can see the panel only contains the components from the prior panel, this will be due to the fact the components have not been correctly declared and added to the panel.



Test 2: As you can see after adding the boxes to the panel the layout is perfect and fully complete all to do now is add buttons to move the list onto new pages of the array.



Test 1: On inspection the issue seemed to resonate from the adding of the components to the panel instead of adding string to the JComponent what was happening was that the

JComponent was being added to the string, this was not picked up till now due to no exceptions being thrown or any errors being found during compilation.

However, this is an easy fix so no issue should arise trying to fix it.

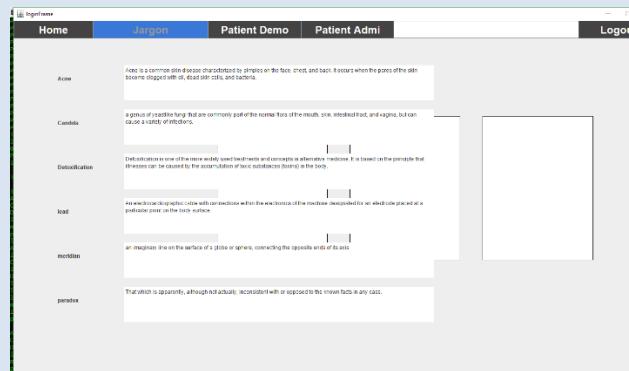
Test 3:

As you can see on moving to the new page all the correct definitions now appear to the user because of this no adjustments are required

```
word1.add(whiteWordBox12);
word2.add(whiteBox12);
word3.add(whiteBox12);
word4.add(whiteBox12);
word5.add(whiteBox12);
word6.add(whiteBox12);
word7.add(whiteBox12);
word8.add(whiteBox12);

word1Definition.add(whiteBox12);
word2Definition.add(whiteBox12);
word3Definition.add(whiteBox12);
word4Definition.add(whiteBox12);
word5Definition.add(whiteBox12);
word6Definition.add(whiteBox12);
word7Definition.add(whiteBox12);
word8Definition.add(whiteBox12);
```

Test 1: As you can see below the components all are here all I have to do is add the white boxes to the panel and correctly format them, after this I will have to work on the search and sort method for the panel, however as I thought things through the method which formats the definitions use parameters from any two dimensional array with there being at least a column with a length of two, because of this I will be able to simply pass through the list as a parameter



Acne@Acne is a common skin disease characterized by pimples on the face. It occurs when the pores of the skin become clogged with oil, dead skin cells, and bacteria. Candida@Yeastlike fungi that are commonly part of the normal flora of the mouth, nose, intestinal tract, and vagina, but can cause a variety of infections. Detoxification@Detoxification is one of the more widely used treatments for various diseases. It is based on the principle that illnesses can be caused by the accumulation of toxic substances (toxins) in the body. lead@An electrocardiographic cable with connections within the electrocardiogram. meridian@An imaginary line on the surface of a globe or sphere, connecting the opposite ends of a circle.

Test 4: This test is much later on and sees the testing of the search method to see how it manages to retrieve specific definitions

Luckily during development no errors were thrown during development this will be due to the fact this is reused code from another part of the system.

Test 5: In this test I go into further detail when testing and try throwing an invalid piece of data into the the search box However the system seems to freez when this occurs.

Test 6: the final test is to see if the sort bar works for the list and as you can see on the right the list has now ben flipped showing the array in reverse order which shows it to be working.

Search Term	Results
Acne	1 result: Acne
Acne	Many results (infinite loop)
Search:	test 5, test 4, test 3, test 2, test 1, paradox, meridian, lead

Test 4: As you can see the correct definition is retrieved however more testing will be needed to make sure it is fully operational.

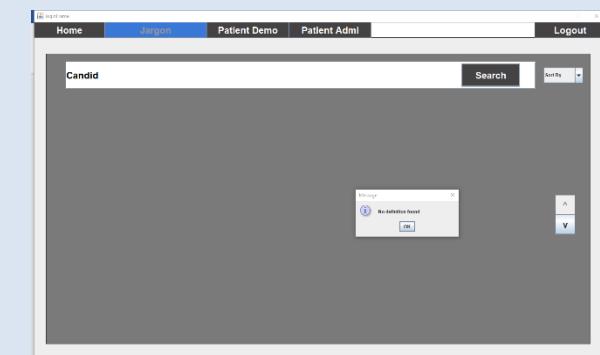
Test 5: What happened was that an infinit loop was produced causing the search algorithm to infinitely repeat until the word enterd was found. This was due to my teermination condition being that if only that the endpoint was less than zero which missed the fact that the start point could exceed the end point(which was occurring) The fix was implimented anyway.

```

if(e.getSource()==searchLibraryBtn)
{
    System.out.println("Hello");
    int indexOfDefinition = searchAlgorithm(searchBarJargon.getText(),listOfDefinitions);
    if(indexOfDefinition>=0)
    {
        String[] singleDefinition = listOfDefinitions[indexOfDefinition];
        formatJargonCards(singleDefinition);
        upButton.setEnabled(false);
        downButton.setEnabled(false);
    }
    else
    {
        jargonHideDef1();
        jargonHideDef2();
        jargonHideDef3();
        jargonHideDef4();
        jargonHideDef5();
        jargonHideDef6();
        jargonHideDef7();
        jargonHideDef8();
        upButton.setEnabled(false);
        downButton.setEnabled(false);
        JOptionPane.showMessageDialog(null, "No definition found");
    }
}

```

Test 5: as you can see below the search now outputs an error message when no definition is returned to the user.



31/08/19

Prototype

Test 1: now I have started work on the action log here I have managed to close the GUI by simply frame.dispose and then call the instance of management to create run its homepage however on the calling of it I receive a stacked overflow exception on one of the lines.

Test 2: on this test I have managed to retrieve the employee that is desired and get two date inputs from the user however on the selection statement comparing the end date to make sure it stays in bounds of today's date and the start point the user is desired I am receiving a null pointer exception.

Test 3: now that i have the ability to view the contents of an individual's actions I have developed the

Test 1:

```
\Users\james\Documents\Collage\Computer Science\C3\Coursework\Written work\5.Prototypes\Prototype>javac Test1.java
\Users\james\Documents\Collage\Computer Science\C3\Coursework\Written work\5.Prototypes\Prototype>java Test1
Exception in thread "main" java.lang.StackOverflowError
        at java.base/java.util.GregorianCalendar.computeTime(GregorianCalendar.java:2710)
        at java.base/java.util.Calendar.updateTime(Calendar.java:342)
        at java.base/java.util.Calendar.getTimeInMillis(Calendar.java:1812)
        at java.base/java.util.Calendar.getTime(Calendar.java:1785)
        at java.base/java.text.SimpleDateFormat.initializeDefaultCentury(SimpleDateFormat.java:901)
        at java.base/java.text.SimpleDateFormat.initialize(SimpleDateFormat.java:666)
        at java.base/java.text.SimpleDateFormat.<init>(SimpleDateFormat.java:24)
        at java.base/java.text.SimpleDateFormat.<init>(SimpleDateFormat.java:59)
at User.<init>(User.java:9)
at Employee.<init>(Employee.java:2)
at Management.<init>(Management.java:4)
at Management.<init>(Management.java:6)
```

Test 2:

```
08 05 2019
u want to see their actions or press R for todays date
option in thread "AWT-EventQueue-0" java.lang.NullPointerException
at Homepage.(Management.java:59)
at test.(Java:781)
at javax.swing.AbstractButton.fireActionPerformed(AbstractButton.java:1967)
at javax.swing.AbstractButton$Handler.actionPerformed(AbstractButton.java:2308)
at javax.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:405)
at javax.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:262)
at javax.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:279)
at javax.swing.plaf.ComponentUI.processMouseEvent(ComponentUI.java:663)
at javax.swing.JComponent.processMouseEvent(Component.java:3342)
at javax.swing.JComponent.dispatchEvent(Component.java:6397)
at javax.swing.Container.dispatchEvent(Container.java:2263)
at javax.swing.Component.dispatchEventImpl(Component.java:5008)
```

Test 3:

```
=====
Please enter the id of the employee you want to retrieve the actions from.
ENUR00000001
length for string3
Oldest date is|22/05/2018 19:58
Please enter the start date you want to see their actions: First instance of any activity is 22/05/2018 19:58
22/05/2019 19:58
chosen start date is 22/05/2019 19:58
Please enter the end date you want to see their actions or press R for todays date
R
Most recent date chosen
22/05/2019 19:51,New Document,PSUT17168499,ASUT0000001,n/a,TestResults,
null
```

Test 4:

```
08 05 2019
use enter the start date you want to see their actions: First instance of any activity is 22/05/2018 19:58
08/2019 16:58
sen start date is 31/08/2019 16:58
use enter the end date you want to see their actions or press R for todays date
t recent date chosen
option in thread "AWT-EventQueue-0" java.lang.ArrayIndexOutOfBoundsException: Index -1 out of bounds for length 3
        at Management.outputEmployeeActionLog(Management.java:127)
        at Management.createHomepage(Management.java:81)
        at test.actionPerformed(test.java:781)
        at javax.swing.JButton.fireActionPerformed(AbstractButton.java:1967)
        at javax.swing.JButton$Handler.actionPerformed(AbstractButton.java:2308)
        at javax.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:405)
        at javax.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:262)
        at javax.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:279)
        at javax.swing.plaf.ComponentUI.processMouseEvent(ComponentUI.java:663)
        at javax.swing.JComponent.processMouseEvent(Component.java:3342)
        at javax.swing.JComponent.dispatchEvent(Component.java:6397)
        at javax.swing.Container.dispatchEvent(Container.java:2263)
        at javax.swing.Component.dispatchEventImpl(Component.java:5008)
```

Test 1: The issue was that I was creating a new instance of management was a global variable causing the whole class to be reran which repeatedly kept occurring all I had to do was remove the declaration and instead of calling that instance for the firstName I just used the inherited attribute

Test 2: the issue was due to the fact that before if the user chose the current date it was being saved to endDate for the current date, while we do want this to occur it is not the variable date we have in the selection statement

Test 3: success no action is required.

Test 1:

```
i consultant CSUT0000001
length for string2
length for string2
i consultant CSUT0000002
=====
Hello null
```

```
Please enter the id of the employee you want to retrieve the actions from.
ENUR0000001
ENUR0000001 hello
ENUR0000001 hello
```

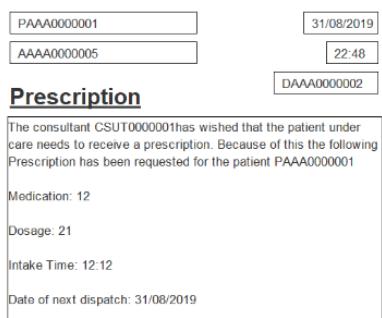
```
C:\Users\james>
boolean loggedIn;
Scanner inputScanner = new Scanner(System.in);
public static void main(String[] args) //declaring the main method
{
}
public void createHomepage()
{
    loggedIn = true;
    while(loggedIn=true)
    {
        System.out.println("=====Hello =====");
        System.out.println("u");
        System.out.println("Please enter the id of the employee you want to retrieve the actions from.");
        String desiredEmployee = inputScanner.nextLine();
        String stringedInfoForAction = findDesiredEmployee(desiredEmployee);
        System.out.println(stringedInfoForAction);
        loggedIn = false;
    }
}
public String findDesiredEmployee(String employeeID)
{
    String[] readInfo = rffReturnFullFile("Employee_ActionLog.txt");
    int indexEmployee = findIndexEmployee(readInfo,employeeID);
    String foundEmployee = readInfo[indexEmployee];
    return(foundEmployee);
}
```

Test 2: as you can see in cmd the code now works with the last few characters md being in the method output date

```
chosenDate = ftTimeInc.parse(StringedEndDate);
}
catch(Exception exc)
{
    chosenDate = new Date();
    System.out.print("Most recent date chosen");
}
Date todaysDate = new Date();
if((chosenDate.before(todaysDate))||(chosenDate.after(endDate)))
{
    endDate = chosenDate;
}
else
```

```
=====
Hello null
```

```
Please enter the id of the employee you want to retrieve the actions from.
ENUR0000001
length for string3
Oldest date is|22/05/2018 19:58
Please enter the start date you want to see their actions: First instance of any act
22/05/2018 19:58
chosen start date is 22/05/2018 19:58
Please enter the end date you want to see their actions or press R for todays date
R
Most recent date chosen
C:\Users\james\Documents\Collage\Computer Science\C3\Coursework\Written work\5.Proto
```

	<p>section that determines whether or not if the dates given are present in the list of actions on this test as you will see I try to input a date that only has one action instead of all of them, fortunately no errors were thrown.</p> <p>Test 4: Now I have managed to get all actions and actions within set parameters I need to test how it work when no actions occur, as you can see on this test an error out bounds exception was thrown when I tried this.</p>	<p>Test 4 to fix the issue all I had to do was put selection statements before calling the array as an index value of -1 is passed through as you can see below there only needs to be that single line that breaks the loop as no lines that meet the parameters occur</p>	<p>Test 3:</p> <pre>public void requestEmployeeActionLog(Date startDate, Date endDate, String[] arrayOfActions) { Date tempDate = new Date(); int startIndex = -1; long logLength; int count = 0; int counter = 0;counter=0;counter=arrayOfActions.length;counter++; { try { tempDate = ftTimeInc.parse(arrayOfActions[counter].substring(0,1)); } catch(Exception e) { } if(logDate.equals(startDate)) { startIndex = counter; System.out.println("start at index "+startIndex); break loop; } if(logDate.equals(endDate)) { startIndex = counter; System.out.println("start at index "+startIndex); break loop; } } int numActions = 0;</pre> <p>Test 4:</p> <pre>Please enter the id of the employee you want to retrieve the actions from. 1111111111111111 length for string3 lastest date is 22/05/2018 19:58 Please enter the start date you want to see their actions: First instance of any activity is 22/05/2018 19:58 08/2019 12:12 chosen start date is 30/08/2019 12:12 please enter the end date you want to see their actions or press R for todays date R Post recent date chosen NO ACTIONS WHERE FOUND BETWEEN THE DATES 30/08/2019 12:12 AND 31/08/2019 17:30</pre> <pre>if(counter== -1) { System.out.println("NO ACTIONS WHERE FOUND BETWEEN THE DATES 30/08/2019 12:12 AND 31/08/2019 17:30"); break loop2; } if(counter>0) {</pre>
01/09/19	<p>Prototype</p> <p>Test 1 Since yesterday went well I decided to finish off the action log with the ability to write actions to file. In this initial test I am going to write a prescription to file, luckily no issues had occurred</p>	 <p>The consultant CSUT0000001 has wished that the patient under care needs to receive a prescription. Because of this the following Prescription has been requested for the patient PAAA0000001</p> <p>Medication: 12 Dosage: 21 Intake Time: 12:12 Date of next dispatch: 31/08/2019</p>	<p>Test 1 As you can see here this is the prescription document created from the new document and below is the action recorded for the employee.</p> <p>Test 1: n/a</p> <pre>if(consultant.employeeID.equals(readInfo[locationOfEmployee].substring(0,1)) == false) { String[] list4 = Arrays.copyOf(readInfo, readInfo.length+1); //sets all the data the same but adds on an extra element readInfo = list4; //updates the previous array to equal the newly declared one for(int count = locationOfEmployee; count < readInfo.length; count++) { readInfo[count+1] = readInfo[count]; } readInfo[locationOfEmployee] = consultant.employeeID + "-" + ftTimeInc.format(document.dateOfDocumentCreation); System.out.println("NEW PATIENT ADDED"); }</pre> <p>Test 1: here is the main code for generic actions are written some do not use a loop due to the employee never having using the system, when this occurs they just get written to file along with the employee id.</p>

1 ESUT0000001~31/08/2019 22:48,Created Document Prescription, PAAA0000001,AAAAA0000005,n/a,12 12:12 31/08/2019 22:48 21,~

```

ESUT0000001~31/08/2019 22:48,Created Document Prescription,PAAA0000001,AAAA0000005,n/a,12 12:
ESUT0000001~31/08/2019 22:55,Created Document Prescription,PAAA0000001,AAAA0000005,n/a,12 12:
ENUR0000001~22/05/2018 19:58>Edit to Diagnosis,PNUR17168499,ANUR0000001,Arthritis,Carpel Tunn

```

	<p>Test 2: In this test I attempted to create another document from another consultant and see if a new line is created or if it would do what was intended and have it added to the correct line</p>	<p>Test 2: As you can see above there are three lines two of them are the same and one holds the data for the new action, this is a big logic issue that needs fixing before any progress can be made.</p>	<p>Test 2: The error cropped up in the loop that was writing objects to file what was happening was that index i was being set to i + 1 and then i would increment so that every index has the same contents and then the system would not find the correct index and then add the action to a new treating the action as a new employee.</p>	<p>Test 2:</p> <pre> ESUT0000001~31/08/2019 22:48,Created Document Prescription,PAAA0000001,AAAA0000005,n/a,12 12: ESUT0000002~31/08/2019 22:55,Created Document Prescription,PAAA0000001,AAAA0000005,n/a,12 12: ENUR0000001~22/05/2018 19:58>Edit to Diagnosis,PNUR17168499,ANUR0000001,Arthritis,Carpel Tunn </pre>
02/09/19	<p>Prototype Test 3: Since it was getting late I decided to stop since I managed to get it to work. For every other document creation, it was pretty easy to get it to write the actions to file(see evidence) however for the development of the updating of patient admission information the storing of a temporary admission has become problematic</p>	<p>Test 3:</p> <pre> 02/09/2019 13:10,Created Document Prescription,PAA 02/09/2019 13:16,Created Document Dischargment,PAA 02/09/2019 13:28,Created Document Test Results,PNU 02/09/2019 13:36,Created Reinstatement ,PNURE0000001, 02/09/2019 13:48,Created Document notes,PAAA0000000 </pre> <p>:2,true,4,null,P008,crippling Depression,Symptom 1,Symptom 2,bad thoughts,Sam,29/08/2019,STOM0000001,CSUT0000001,</p> <p>As you can see the updated demographic information was changed from sue(dummy data set on a new admissions creation) to sam however the original was not retained as on the first line did not hold sue.</p>	<p>Test 3: Due to how the java paradigm for objects work when an object of admission wants to be copied over this has to be done manually as when we use the line oldAdmission = currentAdmission what happens is that each variable holds the same instance.</p>	<p>Test 3: As you can see I have created a method which copies over all attributes and as a result we get the action correctly added to the action log.</p> <pre> public Admission copyAttributesAdmission(Admission oldAdmission) { Admission newAdmission = new Admission(); newAdmission.admissionID=oldAdmission.admissionID; newAdmission.ward = oldAdmission.ward; newAdmission.room = oldAdmission.room; newAdmission.consultantName = oldAdmission.consultantName; newAdmission.dateOfNextAppointmentA = oldAdmission.dateOfNextAppointmentA; newAdmission.timeOfNextAppointmentA = oldAdmission.timeOfNextAppointmentA; newAdmission.active = oldAdmission.active; newAdmission.numberofDocuments = oldAdmission.numberofDocuments; newAdmission.listOfSymptoms = oldAdmission.listOfSymptoms; newAdmission.currentDiagnosis = oldAdmission.currentDiagnosis; newAdmission.staffName = oldAdmission.staffName; newAdmission.dateAdmissionCreated = oldAdmission.dateAdmissionCreated; newAdmission.admissionsStaffID = oldAdmission.admissionsStaffID; newAdmission.admissionsConsultantID = oldAdmission.admissionsConsultantID; newAdmission.listOfDocuments = oldAdmission.listOfDocuments; return(newAdmission); } </pre>

```

,otherapy,Will,12/12/2009 19:2,true,9,null,P003,Depression,Symptom 1,Symptom 2,Symptom 9,Sue,
,Kari,29/08/2019,STOM0000001,CSUT0000001,

```

04/08/19

Prototype

Test 1:

After taking a break I have come back to finish off the final parts of the prototype these include a few search and sort features, this should have been an easy conversion from the other sort I got working in the jargon sort however it has reached a point where it needs mentioning when I try searching for the document it doesn't appear

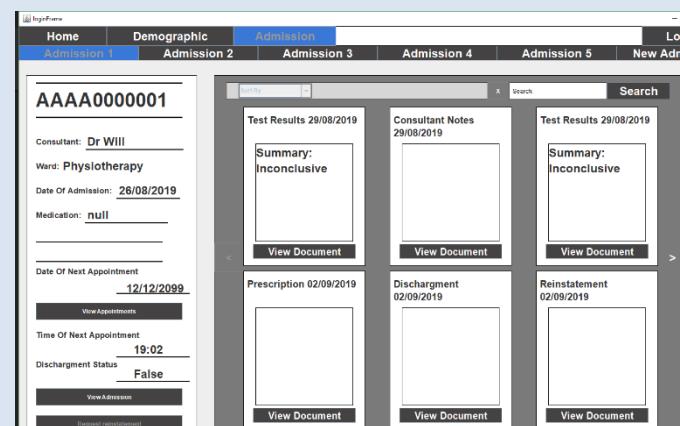
Test 2:

While the prior test fixed that issue, it was not a complete solve for the overarching problem when I went to inspect the document it was still the first one and when I left back to the screen it was there at the first card and third

Test 1:



Test 2:



Test 1:

To fix the issue, what was happening was the old array was not receiving the desired document, to fix that we just set the first index of the array to the document and then run the method, as you can see we now get the card

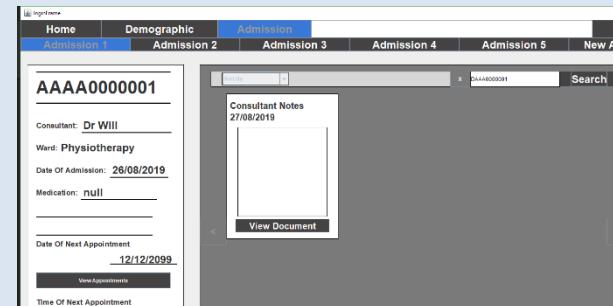
Test 2:

To fix it I had to create a miniature array with the size of 1 where the document could have the instance passed to: Document[] singleDefinition = new Document[1];

From this I created a version of the output document method which displayed the card correctly and hid the rest.

Test 1:

```
if(e.getSource() == searchLibraryBtnAdmission)
{
    sortBoxAdmissionPagePanel.setEnabled(false); //the component is disabled
    int indexOfDocument = searchAlgorithmAdmissionPage(searchBoxAdmissionPagePanel.getText(), currentAdmission.listOfDocuments);
    if(indexOfDocument >= 0) //selection determining if there at least one
    {
        DocumentU singleDefinition = new Document[1];
        singleDefinition[0] = currentAdmission.listOfDocuments[indexOfDocument]; //assigns the list of definition as
        outputDocumentCards(singleDefinition); //formats cards
        admissionCardPageForwardBtn.setEnabled(false); //the component is disabled
        admissionCardPageBackBtn.setEnabled(false); //the component is disabled
    }
}
```



Test 2:

```
sortBoxAdmissionHpagePanel.setEnabled(false); //the component is disabled
int indexOfDocument = searchAlgorithmAdmissionPage(searchBoxAdmissionHpagePanel.getText(), currentAdmission.listOfDocuments);
if(indexOfDocument >= 0) //selection determining if there at least one
{
    DocumentU singleDefinition[] = currentAdmission.listOfDocuments[indexOfDocument]; //assigns the list of definition as
    outputDocumentCards(singleDefinition); //formats cards
    admissionCardPageForwardBtn.setEnabled(false); //the component is disabled
    admissionCardPageBackBtn.setEnabled(false); //the component is disabled
    listOfdocumentsGUI = currentAdmission.listOfDocuments;
}
else
{
```

As you can see here is the code as it works flawlessly.

05/09/19

Prototype

Test 1:

This is the last objective for the prototype which is the searching algorithm for the consultant homepage which returns a single card being the desired patient, this is no issue as it uses code from the prior search algorithm. On this test I searched for an invalid data entry and had an out of bounds thrown, despite having selection to prevent this issue.

Test 2:

While I have managed to retrieve the card and correctly bring the correct card up, when testing if it retrieves the patient up I received an out of bounds exception

Test 1:

```
0000001  
0000004  
ption in thread "AWT-EventQueue-0" java.lang.ArrayIndexOutOfBoundsException: Index -1 out of bounds for length 4  
at test.actionPerformed(test.java:9364)  
at java.desktop/java.awt.AbstractButton.fireActionPerformed(AbstractButton.java:1967)  
at java.desktop/java.awt.AbstractButtonHandler.actionPerformed(AbstractButton.java:2308)  
at java.desktop/java.awt.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:405)  
at java.desktop/java.awt.DefaultButtonModel.setPressed(DefaultButtonModel.java:202)
```

Test 2:

```
ng.ArrayIndexOutOfBoundsException: Index 2 out of bounds for length 1  
ent.java:7)  
documentList.java:15)  
on.java:60)  
)  
ton.fireActionPerformed(AbstractButton.java:1967)
```

Test 1:

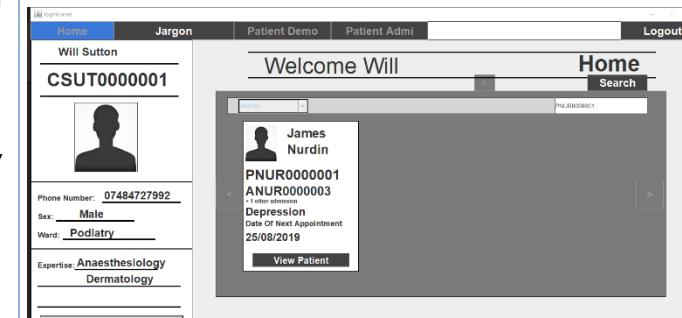
The issue came about due to one line of code, which was
searchedPatient = listOfCsPatients[indexOfPatient]; all I had to do was move it inside the selection statement and as you can see it now works

Test 2:

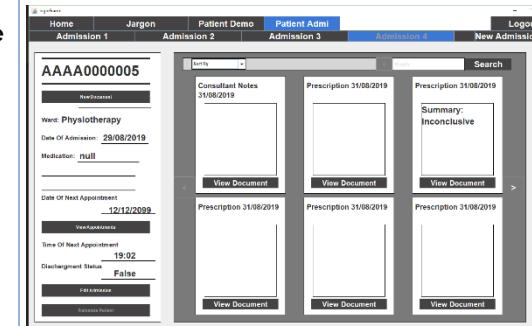
To fix this issue I had to go a bit beyond what I was expecting, I had to replace the array point from 0+ currentPageIndex Consultant to the pointer I found from the search method, now it works as that shows in the image to the left

Test 1:

```
sortBoxConsultantHpagePanel.setEnabled(false); //the component is disabled  
indexOfPatient = searchAlgorithmConsultantPage(searchBoxConsultantHpa  
searchedPatient = listOfCsPatients[indexOfPatient];  
if(indexOfPatient>0)//selection determining if there at least one  
{  
  
patientCard1FirstName.setText(searchedPatient.firstName); //formatting  
patientCard1SurName.setText(searchedPatient.surName); //formatting  
patientCard1PatientID.setText(searchedPatient.patientID); //formatting  
patientCard1AdmissionID.setText(listofAdmissions[indexOfPatient]);
```



Test 2:



```
if(e.getSource()==viewPatientAdmissionSpecificBtn)  
{  
consultantPatient = searchedPatient;  
currentPatient = consultantPatient;  
currentPatientConsultantIndex = currentPageIndexConsultant;  
admissionList=listOfAdmissions[IndexOfPatient];  
currentAdmission = listOfAdmissions[IndexOfPatient][0];  
int lengthAdmission = 0;  
for(int i=0;admissionList[i]!=null;i++)  
{  
lengthAdmission++;
```

09/09/19

Prototype

Test 1:

Since the end of main development of the prototype I have come back to test and iron out any issues with the system, the first one to come into light was the ability to add admissions from the consultant that already had another admission by another consultant that goes ahead, e.g c1 has A1,2 and c2 has A3 if we create a new admission through either we get errored.

Test 2:

After running that it worked visually that the new admission page had loaded but the new admission was written to the location of the 2nd admission and no more where written after that, because of this it means it will need to be fixed.

```
line null
Found on line 2 contents null
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException
    at User$1ff(User.java:236)
    at AdmissionList.retrieveAdmissionList(AdmissionList.java:16)
    at test.setUpConsultantObj(test.java:102)
    at test.actionPerformed(test.java:8417)
    at java.desktop/java.awt.swing.AbstractButton.fireActionPerformed(AbstractButton.java:1
    at java.desktop/java.awt.swing.AbstractButton$Handler.actionPerformed(AbstractButton.java:2380)
    at java.desktop/java.awt.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:406)
    at java.desktop/java.awt.DefaultButtonModel.mouseReleased(DefaultButtonModel.java:262)
    at java.desktop/java.awt.Component.processMouseEvent(Component.java:661)
```

Test 1:

As you can see the issue is really annoying and it wil need to be fixed, along with this it prevents access to the account and the consultants account

Test 2:

```
line *
line * AAND00000001,Physiotherapy,Will,12/12/2099 19:02,true,0,null,P003,Depression,Symptom 1,5
Found on line 2 contents AAND00000003,Physiotherapy,Will,12/12/2099 19:02,true,0,null,P003,Dep
number of admissions is 14
size of array is 3
AAND00000001
AAND00000002
=====
AAND00000001,Physiotherapy,Sam,12/12/2099 19:02,true,0,null,P003,Depression,Symptom 1,5
=====
AAND00000002,Physiotherapy,Will,12/12/2099 19:02,true,1,null,P003,Depression,Symptom 1,5
=====
AAND00000004,Physiotherapy,Will,12/12/2099 19:02,true,0,null,P003,Depression,Symptom 1,5
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException
    at test.outputDocumentCards(test.java:5978)
    at test.createMainPartAdmissionHomePage(test.java:4933)
    at test.createAdmissionHomepagePanelGUI(test.java:4850)
    at test.actionPerformed(test.java:8358)
```

Test 1:

The issue is caused due to the array that holds the admissions if it does not hold all of them then it overwrites any missing ones causing gaps to be left in the admission file, which results in a

null pointer exception the fix is to create a copy for the consultant and then use this to write it to file

Test 2:

The issue is caused due to the length of the array not meeting the correct size of the number of admissions, the fix is to correctly adjust the number of spaces to the user type,

```
if(loginChoice==3)
{
```

```
    admissionListCopy=tempAdmissionList = al.retrieveAdmissionList(currentPatient)
```



Test 1:

Despite not working through the backend we do receive the new admission page

```
Admission[] list4 = Arrays.copyOf(admissionList, admissionList.length+1); ////
admissionList = list4;//update the previous array to equal the newly declared
```



```
admissionList[numberOfAdmissions-1] = tempAdmission;//an array of a smaller
currentAdmission = tempAdmission;//current admission size is reduced
```

```
line *
line * AAND00000001,Physiotherapy,Will,12/12/2099 19:02,true,0,null,P003,Depression,Symptom 1,5
Found on line 2 contents AAND00000003,Physiotherapy,Will,12/12/2099 19:02,true,0,null,P003,Dep
number of admissions is 14
AAND00000001
AAND00000002
AAND00000003
=====
Exception in thread "AWT-EventQueue-0" java.lang.ArrayIndexOutOfBoundsException: Index 3 out of bounds for length 3
    at User$1ff(User.java:236)
    at AdmissionList.retrieveAdmissionList(AdmissionList.java:16)
    at test.setUpConsultantObj(test.java:102)
    at test.actionPerformed(test.java:8417)
    at java.desktop/java.awt.swing.AbstractButton.fireActionPerformed(AbstractButton.java:1
    at java.desktop/java.awt.swing.AbstractButton$Handler.actionPerformed(AbstractButton.java:2380)
    at java.desktop/java.awt.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:406)
    at java.desktop/java.awt.DefaultButtonModel.mouseReleased(DefaultButtonModel.java:262)
    at java.desktop/java.awt.Component.processMouseEvent(Component.java:661)
```

```
if(loginChoice==3)
{
    admissionListCopy(numberOfAdmissions-1) = tempAdmission;//an array of a smaller length is declared
```



```
if(loginChoice==3)
{
    admissionListCopy(numberOfAdmissions) = tempAdmission;//an array of a smaller length is declared
```

12/09/19

Prototype

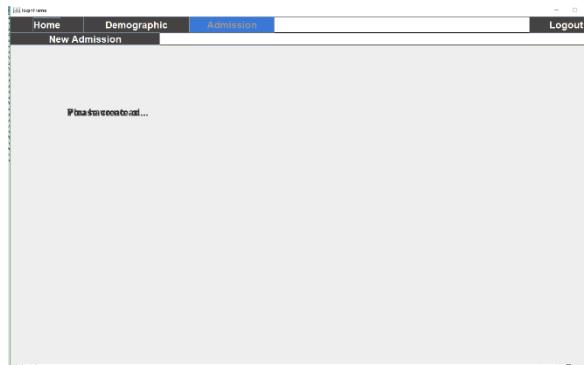
Test 1:

After looking through the system trying to find any glaring flaws before the prototype stage finishes I encountered an issue with the admission page for users with no admissions, to fix this I will add a new panel just for this user. On first test I will try to load the admission panel with no admissions.

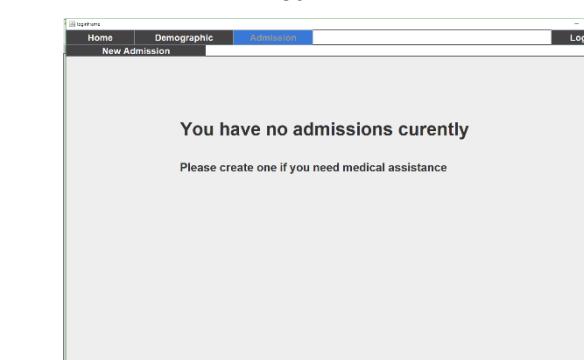
Test 2:

This should be the last test I do for this as everything is working all I am going to do is test if the jlabels have been correctly located.

Test 1:



Test 2:



Test 1:

As you can see the panel correctly loads onto the new panel showing the text informing the user they need an admission, with it also containing the text informing them of this, after this I decided to create an admission and as there was now 1 admissions it loaded the correct panel.

Test 1:

The code works as when the tab for admissions is pressed the following selection statements are used when they have at least one it is ran as normal if not the new panel is ran.

```
if(numberOfAdmissions>0)//selection determining
{
    currentAdmission = admissionList[0];//sets
    createadmissionHomepagePanelGUI();//correct
}
if(numberOfAdmissions<=0)//selection determining
{
    createBlankAdmissionHomePage();//as there is
}

public void createBlankAdmissionHomePage()
{
    emptyArray(emptyAdmissionHomepagePanel);
    createTopbar(emptyAdmissionHomepagePanel);//the top multiuse bar is then created, this is
    createTopbarAdmission(emptyAdmissionHomepagePanel);//the top multiuse bar is then created
    if(numberOfAdmissions<=0)//selection determining if the patient has at least one admission
    {
        if(loaded[6]== false)//selection determines whether the panel is yet to be loaded
        {
            noAdmissionLbl.setBorder(javax.swing.BorderFactory.createEmptyBorder());//a border
            noAdmissionLbl.setFont(headerFontFormatBlack);//a font is applied to the text of
            noAdmissionLbl.setLocation(140,210);//sets the location of the component
            noAdmissionLbl.setSize(100,50);//the components size is correctly declared
            noAdmissionLbl.setOpaque(false);//the component is set to opaque
            noAdmissionLbl.setText("You have no admissions currently");
            emptyAdmissionHomepagePanel.add(noAdmissionLbl);
            noAdmissionFootNoteLbl.setBorder(javax.swing.BorderFactory.createEmptyBorder());
            noAdmissionFootNoteLbl.setFont(headerFontFormatBlack);
            noAdmissionFootNoteLbl.setLocation(140,210);
            noAdmissionFootNoteLbl.setSize(200,50);
            noAdmissionFootNoteLbl.setOpaque(false);
            noAdmissionFootNoteLbl.setText("Please create one if you need medical assistance");
            loaded[6]= true;//loaded is to true that the panel can be reloaded
            emptyAdmissionHomepagePanel.add(noAdmissionFootNoteLbl);
        }
    }
}
```

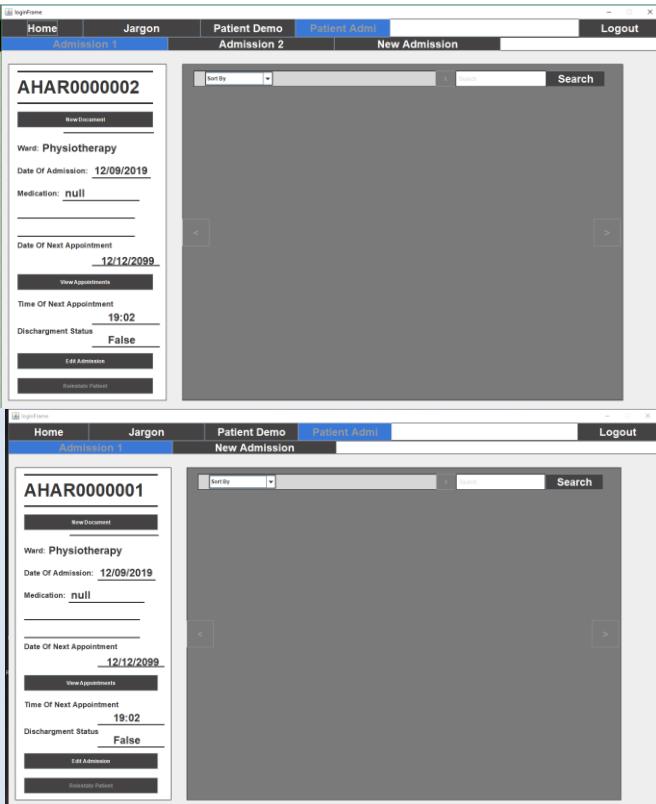
Here is the code running creating the panel, it creates the same admission topbar and main tab bar as the main panel but has to generate some text informing the patient that they have no admissions.

12/09/19

Prototype

Test 1:

For this when testing the ability to add and remove admissions between the consultants an issue that kept occurring was that the top bar if the admission had more than 1 admission would not update, this was caused due to the fact the top bar used the array admission list and as it does not change when the files are updated nothing happens, on this test after developing code this should fix this.



Test 1:
As you can see the method was a success the top bar no longer contains admission AHAR0000001 and subsequently the hot bar only now has two buttons on the system, because of this the development and fixing was a success.

```
for(int index = 0;index<numberOfAdmissions;index++)
{
    System.out.println(listofAdmissions[currentPatientConsultantIndex][index]);
}
for(int index = numberofAdmissions/index;index>0)
{
    listofAdmissions[currentPatientConsultantIndex][index-1] =listofAdmissions[currentPatientConsultantIndex][index];
    numberofAdmissions--;
}
for(int index = numberofAdmissions/index>indexofAdmission;index--)
{
    listofAdmissions[currentPatientConsultantIndex][index-1] =listofAdmissions[currentPatientConsultantIndex][index];
}
admissionList =listofAdmissions[currentPatientsConsultantsIndex];
```

Test 1:

It works because the method which updates the top bar anyway was always called but the array holding the admissions didn't get updated, what happens is that using other global variables like the position of the admission in the array we iterate through and move every admission Infront down an index up to the admission Infront of the desired one causing the admission to be removed from the list.

As we decrement the pointer so that there are enough spaces, the pointer will show how many buttons but if we don't reduce the array the last index will not be shown and the admission that no longer exists will still be present.

30/09/19

Prototype

Test 1:

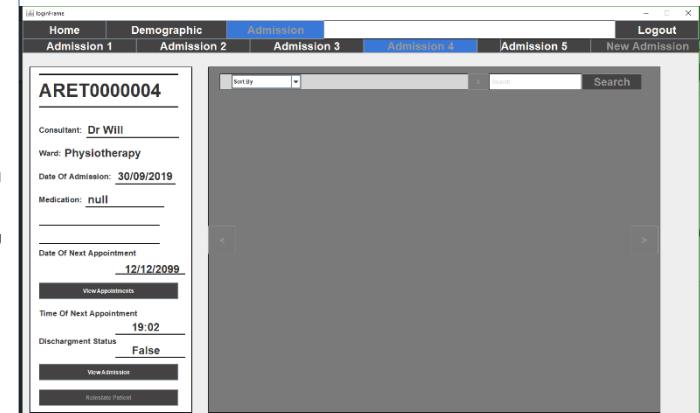
After leaving the development for some time to focus on documentation I have encountered a nasty bug that needed to be fixed before any larger group testing occurred. When the user tries to create a new admission above 3 or 4 the system enters an infinite loop. Obviously the aim is to generate a new admission but this does not occur

```
3
ACAR000003
Found
4 new ID
1 MID2
ACAR000002,Physiotherapy,Will,12/12/2009 19:02,true,0,null,P003,Depression,Symptom 1|Symptom
9,STOM000001,CSUT000001
2
ACAR000002
Found
3 new ID
ACAR000003,Physiotherapy,Will,12/12/2009 19:02,true,0,null,P003,Depression,Symptom 1|Symptom
9,STOM000001,CSUT000001
3
ACAR000003
Found
4 new ID
1 MID2
ACAR000002,Physiotherapy,Will,12/12/2009 19:02,true,0,null,P003,Depression,Symptom 1|Symptom
9,STOM000001,CSUT000001
2
ACAR000002
Found
3 new ID
ACAR000003,Physiotherapy,Will,12/12/2009 19:02,true,0,null,P003,Depression,Symptom 1|Symptom
9,STOM000001,CSUT000001
3
ACAR000003
Found
```

Test 1:

From the cmd I saw the process looping was the generation of a new primary key for said admission as this would be the fourth one you can see that the fourth one appears and indicates that this is the id yet the system loops. To address the issue, I added a termination condition that was specific to the admission creation in which if the end was reached the outer loop would exit and create the id.

Test 1:



As you can see the issue has now been resolved, I also did some extra minor testing checking to see if I could create a fifth and final admission and I could.

```
if(allIDs.length-1==counter)
{
    .....
    .....
    existingIDs = true;//informs the system
    break outerSearch;//breaks from loop
}
```

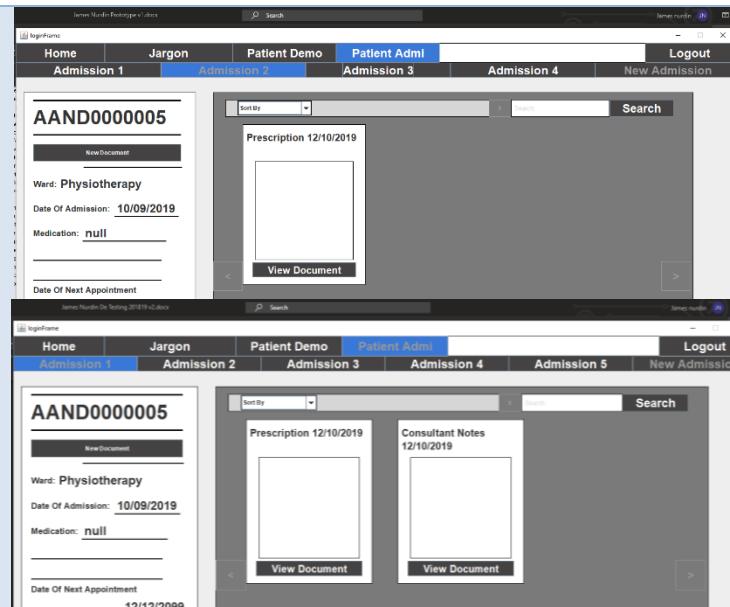
12/10/19

Prototype

Test 1:

After giving it some time to work on my documentation I have come back to resolve an issue when creating documents for the consultant, the issue seems to be that when the new document is created the admission top bar changes size to the number of admissions the patient has regardless whether if it is with another consultant

Test 2: As you can see on the far right the screenshots show that when the documents are created the correct number of tabs stays the same



Test 1 On closer inspection of the code the issue seemed to resonate from the fact that the attribute that determines the array of values a fix for this would

be to use the correct array and use the correct pointer to the end of the array, as you can see on the right the for loop correctly iterates through and finds the right value

```
int lengthAdmission = 0;
for(int i= 0;admissionList[i] != null;i++)
{
    lengthAdmission++;
}

numberOfAdmissions = lengthAdmission;
```

At this point the prototyping of the system ends, after this point we will initially move onto the prototyping document and make sure everything on that has been finished whilst here we will discuss the current development of the prototype in a little more depth. After this I will revive a little more feedback and will ultimately start work on any ideas for the system before main development commences.

PPROD 12/10/19

At this stage the system has been evaluated and reviewed by others, at this moment in time while I had a little free time I went to explore the possibilities for the document reader for legacy documents on the system. As you can see from this, not a lot is documented here, that's because essentially we are transitioning between late prototyping into early development. I'm doing some looking into things now while I have the chance so I can explore it with some pre-existing information much later into development.

Date	Current progress PPROD	Evidence	Adjustments or actions to resolve issue	Proof of action
12/10/19	<p>Test 1: Post prototype After fixing the last bug I thought it was resolved however just going through the code I came across another issue where when a new admission was being generated, it would remove others from the file. Obviously this can't be ignored so I will go on and fix it. Test 2 RESOLVED</p>	<p>AERL0000001, Physiotherapy, Will, 12/12/2099 AERL0000002, Physiotherapy, John, 12/12/2099 AERL0000004, Physiotherapy, Will, 12/12/2099</p> <p>AS you can see here there is a discrepancy between the order of admissions with AERL0000003 missing from the list.</p>	<p>Test 1: The issue resonates from the fact that the field used was for both the consultant and patient. In specific the value played different roles for each entity but would be used for a process that required the patient's version, even though the consultant's version was being used. To circumvent the issue the actual entities field value is used instead of a global variable</p>	<pre>int = 0; count < currentPatient.numberOfAdmissions: AERL0000001, Physiotherapy, Will, 12/12/2099 AERL0000002, Physiotherapy, John, 12/12/2099 AERL0000003, Physiotherapy, Will, 12/12/2099 AERL0000004, Physiotherapy, Will, 12/12/2099 AERL0000005, Physiotherapy, Will, 12/12/2099</pre> <p>To go into further detail the issue arose when the patient had different admissions with different consultants as the value for the patient was their total admissions in general, while the value for the consultant was their total for the admissions the patient had with that specific consultant. As you can see here the issue has now been resolved with there being a new admission of AERL0000005 despite there being an admission for CSUT0000002</p>

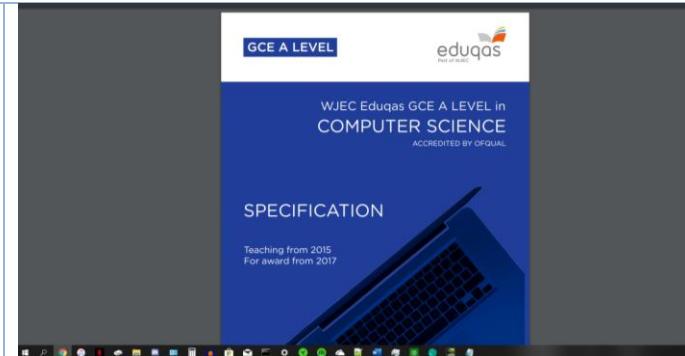
31/10/19

Test 1: Post prototype

After considering what to keep on the system I contemplated whether to include the ability to add pdfs, before making judgment I tested the idea and here are the experiments

```
String filename ="imageFile.txt";
try
{
    FileReader fra = new FileReader(filename); //declares
    BufferedReader bra = new BufferedReader(fra); //declares
    String lineOfDataa = bra.readLine(); //saves the line
    if(Desktop.isDesktopSupported())
    {
        File myFile = new File(lineOfDataa);
        Desktop.getDesktop().open(myFile);
    }
} catch (IOException ex)
{
}
C:\Users\james\Documents\Collage\Computer Science\2015 A-Level Computer Science Specification (4).pdf
```

Test 1
What is happening here is that the program reads the absolute path to the pdf and creates a file for it on the program, after that it is then ran on the desktop's native pdf viewer. If one doesn't exist then it is then caught in the catch statement



Despite not working on the system over the past month, its time I returned back to the system. As mentioned in my post prototype documentation, the system as it currently stands is lacking in the backend with file amending needing major overhauls, because of this I have made the ultimate decision to commence working from scratch. While this will overall increase work I need to get done, it will ensure that no major issues I had with the program continue into the new system. I will use most of the working methods as a base from what I aim to achieve however I expect to see the system back to its current state within the next month without fail, after this I will need to start on new features that where omitted during the prototype.

Software Development 22/11/19

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
22/11/19	<p>Software Development</p> <p>Have left the development for some time came back to polish up system while generating a class diagram and seen that the system was calling up a skeleton class and creating instances of it.</p>	<pre>import java.util.*;//imports the java utilities module public class Management extends Employee { char managmentID; public static void main(String[] args)//declaring the ma { Management management = new Management(); } }</pre> <p>As you can see from the class diagram a second small class with little attributes and very few methods are present. As you can also see next to the boxes the name of the instances are also shown current manager is the correct one with manager being the false one.</p>	<p>The best fix to this was just to rename all the attributes that relied on the inactive instance and replace it with the desired one.</p> <p>As you can see after recompiling the system it again still works. Little was needed due to how restricted this entity was on the prototype.</p>	<pre>96 97 98 99 100</pre> <pre>AdmissionList ar;///initialises the admission list ins Management currentManager = new Management();//initialises Admission oldAdmissionInfo = new Admission();//initialises</pre>

07/12/19

Software Development

Now that PPROD is finished I can now start work on the main build of the system, one feature that I will immediately overhaul was the screen swapping of the system. How it used to work was that it relied on a 2D array to locate the panel and then use the panel methods of add and remove to add the correct panel to the frame. Instead I will utilise a stack data structure to allow returning of the old panel. While it will still use the same add and remove methods it should be much smarter.

```
public void removePanel()
{
    frame.remove(panelOrder[endPanelPointer]); //Removes the current panel
    panelOrder[endPanelPointer].setVisible(false);
    endPanelPointer--;
    frame.add(panelOrder[endPanelPointer]);
    showLatestPanel();
    System.out.println("Pointer is at "+endPanelPointer);
}
public void addPanel(JPanel panel)
{
    endPanelPointer++;
    panelOrder[endPanelPointer]=panel;
    frame.add(panelOrder[endPanelPointer]); //Removes the current panel
    showLatestPanel();
    System.out.println("Pointer is at "+endPanelPointer);
}

//removes the old panel from the frame
public void setUpArray()
{
    panelOrder[0]=startPanel;
    showLatestPanel();
}
public void showLatestPanel()
{
    if(endPanelPointer>=1)
    {
        panelOrder[endPanelPointer-1].setVisible(false);
        frame.remove(panelOrder[endPanelPointer-1]); //Removes the current panel
    }
    panelOrder[endPanelPointer].setVisible(true);
}
public void emptyArray(JPanel panel)
{
    frame.remove(panelOrder[endPanelPointer]); //Removes the current panel
    panelOrder[0]=panel;
    endPanelPointer=0;
    frame.add(panelOrder[endPanelPointer]); //Removes the current panel
    showLatestPanel();
    System.out.println("Pointer is at "+endPanelPointer);
}
public void outputPanelList()
{
}
public void removeAllPanels(JPanel panel)
{
    frame.remove(panel); //Removes the current panel of the system
}
```

While it was a simple inclusion there where not much to test showing the screens swapping however the development of the panels was another story. The first attempt resulted in many errors that where similar to the initial start of the prototype however after a few hours it was working. Unfortunately little documentation of the development was recorded.

Remove panel: This function will be used to remove the current top of the stack, it removes it from the frame sets it to invisible and then decrements the top pointer and shows the next panel underneath

Add panel: this will add a new panel to the frame allowing it to be seen, it adds the new desired frame to the top of the stack and subsequently hides the one underneath.

Set up array: This will be used at the intial loading of the program and will allow the user to see the start screen.

Show latest panel: The most important function this will show to the user the latest panel of the system, every time a new panel needs to be seen this will be called, however this cant be called directly but instead through any of the other methods.

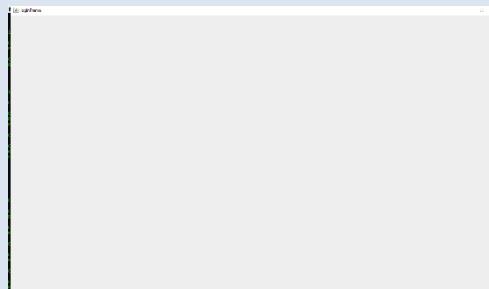
Empty array: This will be used when the user wants to go to a page with no return buttons, the parameter will indicate which one this is, for instance the

16/12/19

Test 1

After starting to rework the initial panel and basic panel navigating software have been implementing

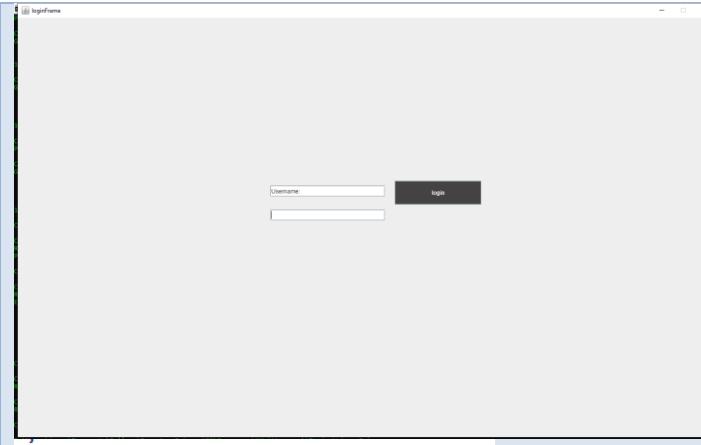
The first new issue is that to implement the login page instead of the start screen however I am having issues with pulling the objects of the panel through



What should appear is the two text fields and a button however nothing appears, after some light checking the method runs and adds the objects to the panel but nothing visually is displayed to the user

Result 1

After looking around the error came down to the fact the inevitable issue workaround I put in place to protect double adding of the same panel was using the wrong statement and resulted in the same panel being added to the top of the stack again, while this is correct we want this to occur not when the system starts but when a user logs out. As you can see after the fix the components load.



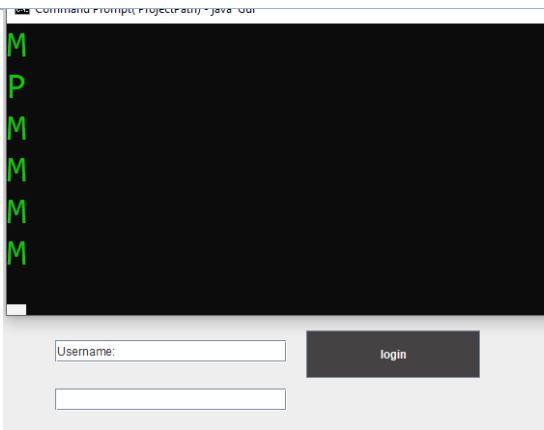
```
//===== LOGIN PANEL ==
public void createLoginPanel() //this will
{
    if (loaded[2][0] == false) //selection
    {
        createComponentsLoginPanelGUI();
        loaded[2][0] = true; //the variable
    }
    if (initialLoad == 1)
    {
        addPanel(loginPanel);
        loginPanel.setVisible(true); //allow
        loginPanel.setVisible(true); //allow
        initialLoad = 0;
    }
}

if (initialLoad != 1)
```

17/12/19

Test 1

After some rudimentary testing to leave the login system to a later point in time the workaround is to just load the user without loading any data with entity attributes until the file handling is in place. However when testing if it loads the correct entity an error came up, where the management entity would be loaded when no user was selected

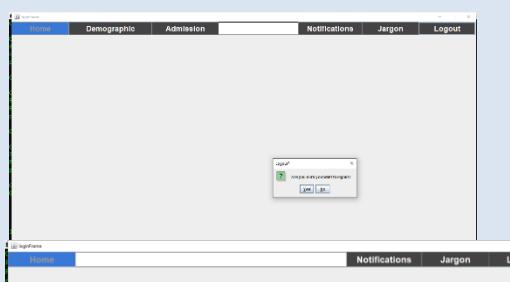


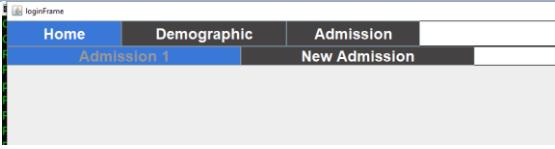
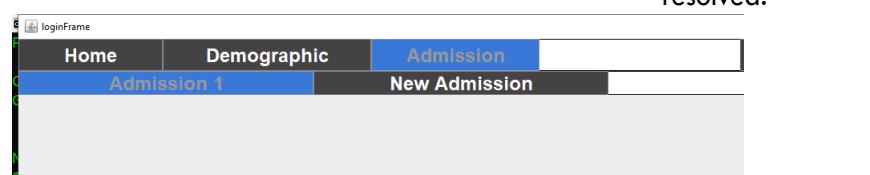
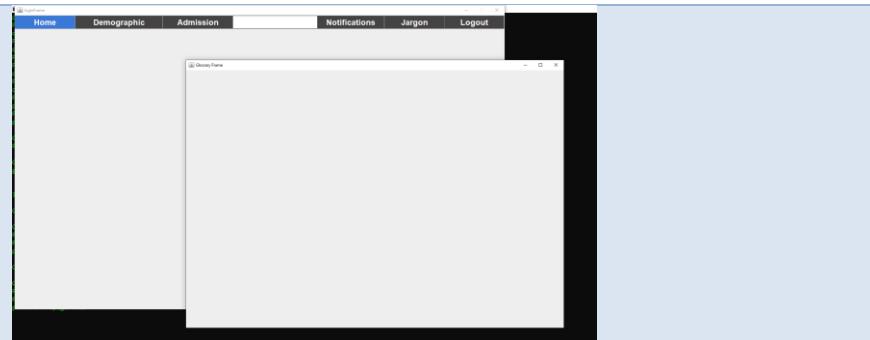
Resolution

The issue stemmed from the fact the checking of the field actually also used the temporary text of username and would output that field also. However as you could see the pit does work besides this. The fix involves the use of checking to see if the word username appears exactly in the field and then rejecting any that do.

```
        }
        else if ((username.contains("s")==true)&&(username.equalsIgnoreCase("Username:")==false))
        {
            System.out.println("S");
        }
        else if ((username.contains("m")==true)&&(username.equalsIgnoreCase("Username:")==false))
        {
```

As anticipated the fix has resolved the issue on the matter.

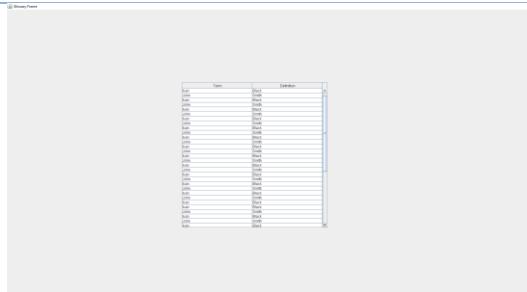
Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
17/12/19	<p>Test 2 After linking the patient home panel I have re-introduced the top bar tab for access to other tabs with that said I have also included the button for the jargon library to be included along with the notifications button.</p> <p>Test 3 Now that the patient homepage has been set up I will now set up the logout, as this method was standardised it will bring up now issues on the end of reusing code</p> <p>Test 4 After testing the logout another bug has appeared, after failing to login as patient and then try as for instance a consultant when loading as a patient a few buttons will not appear.</p>	  	<p>Result 2 As you can see the bar appears perfectly and included the correct layout and format of the planned design in PPROD.</p> <p>Result 3 Looking at the second screenshot you can see the system works in the correct function all I have to do now is make sure the fields are cleared when the user logs in.</p> <p>Resolving 4 I believe the issue now comes from the fact that the buttons in particular are entity based and utilise the type of user. When a different type of user logs in as nothing happens it sets the type to a different value, this is then used when the patient logs in causing the issue to arise.</p>	<p>Test 3</p> <pre>//initialises each statement on invocation username =usernameTF.getText(); //initialises if(username.contains("p")==true) { setUpPatientObj(); //initialises loginChoice = 0; usernameTF.setText(""); //built } else if ((username.contains("s")==true) { setUpStaffObj(); //initialises loginChoice = 1; usernameTF.setText(""); //built } else if ((username.contains("m")==true) { setUpManagementObj(); //initialises loginChoice = 2; usernameTF.setText(""); //built } else if (username.contains("c")==true) { loginChoice = 3; setUpConsultantObj(); //initialises usernameTF.setText(""); //built } loginPasswordF.setText(""); //built</pre>  <p>Test 4</p> <p>The remedy was a success the issue was resolved, while this issue would only exist as long as the login system wasn't finished I feel that it is imperative that I try and stay ontop of these things while developing the actual system to prevent testing from becoming a nightmare. As the screen shots below show before any of the system is graphically loaded the first thing that occurs is the declaration of the user value.</p> <pre>if(username.contains("p")==true) { loginChoice = 0; setUpPatientObj(); //initialises patient obj usernameTF.setText("Username:"); //built } else if ((username.contains("s")==true) && (username.contains("s") == true)) { loginChoice = 1; setUpStaffObj(); //initialises patient obj usernameTF.setText("Username:"); //built } else if ((username.contains("m")==true) && (username.contains("m") == true)) { loginChoice = 2; setUpManagementObj(); //initialises patient obj usernameTF.setText("Username:"); //built } else if (username.contains("c")==true) { loginChoice = 3; setUpConsultantObj(); //initialises patient obj usernameTF.setText("Username:"); //built }</pre> 

18/12/19	<p>Test 1</p> <p>Now that the admission panel has been introduced I will now work on the minor admission tab, when trying to load it, it seems to appear but the button doesn't seem to change to the active colour and unable to be selected</p>	 <p>As you should be able to make out the admission button should appear blue and unenabled as the admission tab has appeared indicating the user is on the admission tab, however this isn't the case.</p>	<p>Resolved 1</p> <p>The issue stemmed from the method <code>setActiveTopPanelBtn</code> and the fact while I did copy it over from the prototype I forgot to actually call it with the admission button, when I call it under the admission panel creation I will attach it underneath</p>	<pre>if(e.getSource() == admissionbtn) { createadmissionHomepagePanelGUI(); setActiveTopPanelBtn(admissionbtn); }</pre>  <p>Test 1</p> <p>As you can see the issue has now been resolved.</p>
18/12/19	<p>Test 1</p> <p>In this test I will first start off with the beginning of the actual new features, here I am testing how the new window for the jargon library is loaded when the user presses the glossary of terms button.</p> <p>On loading of the window all I saw happen was the main window get replaced by an empty one. However on inspection as the code from the frame was just a copy of the main frame it would load the frame to the same location and aspect ratio</p>		<p>Resolution 1</p> <p>The fix for this is simple, why I do want the main system to retain a strict aspect ratio for the components I feel that utilising a scalable window could help show the system the differing ways I have utilised the system, as there is only one basic panel that is utilised for the frame I think it is more than perfect to incorporate the feature onto the system.</p>	

18/12/19

Test 1

After working on implementing the table for the definitions I think I am just going to use what was already put in place in the prototype, while the table works fine and the scrolling functionality works flawlessly I will use what I already feel comfortable with.



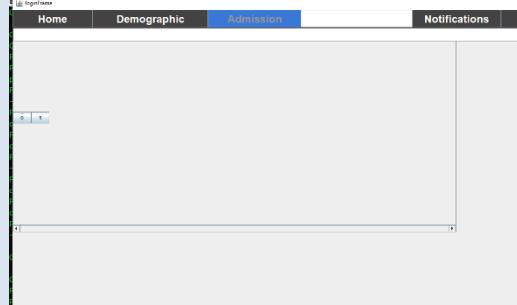
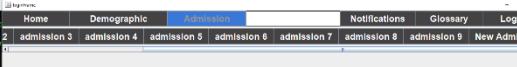
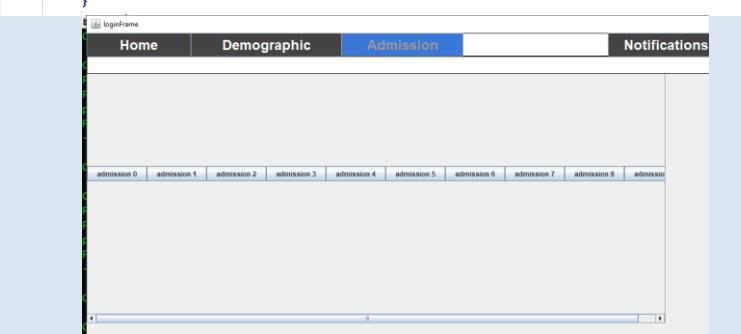
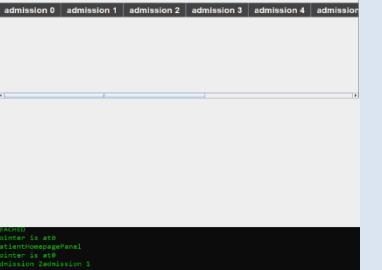
Reason. 1

This is because the presentation of the table is very important to me and as I am currently aware there is very little basic formatting of cells available without having to put lots of time into it. That being said I will now actually include the scrollable box in the admissions tab utilise the admissions buttons for this.



As you can see here the initial screen shot depicts a single box with a button in it, after spending over an hour I was unable to actually resize the issue, regardless I managed to still get the formatting method to work with the colour scheme of the button.

However when the box was added to the admission panel the formatting seemed to work and the size issue was resolved, I am still unaware of why the issue occurred I am just happy to see it working.

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
19/12/19	<p>Test 1 Now that the button sizing issue has somehow been fixed I can start on implementing the correct inclusion of buttons, formatting and subsequent action listing</p> <p>Test 2 Now that the buttons have been correctly implemented the action listeners now need to be included to make sure that every button is unique to its action despite the fact that the method calling it will be the same on the system. If it doesn't work out the idea will get scrapped pretty quickly</p> <p>Result With the button being done all I have to do is use the formatting correctly and copy the activate button method from the old system, to add to this an extra space will be utilised to make way for the new admission button.</p>	<p>Test 1</p>  <p>As you can see above the buttons now appear to show the data and are not small to the point they are unrecognisable. The current issue is now trying to dynamically produce buttons for a specific amount of admissions. The aim is to not be forced into limiting the number of admissions to 20 and manually initialise every one of them.</p> <p>Test 2 (no screenshot needed)</p> <p>Test 3</p> 	<p>Solution 1 After some testing the main process is to utilise a loop and the repeated action of creating copies of the same object, this will allow the system to create any number of desired admissions on the system without the compromise of individually initialising them and formatting them</p> <p>Solution 2 What code below does is attach a unique id to each component so when pressed we know which button was exactly pressed. This occurs through using the client property method on the system, this method will allow attributes to be attached to the objects, by utilising an incremental counter this will allow for the value to change after every iteration, the aim is to cross reference this with the actual list of admissions and load the correct one.</p>	<p>Test 1</p> <pre>public void createButtonTopBarAdmission() { for (int i = 0; i < numberOfAdmissions+1; ++i) { JButton b = new JButton(String.valueOf(i)); b.addActionListener(new java.awt.event.ActionListener() { public void actionPerformed(java.awt.event.ActionEvent e) { //... } }); buttonBar.add(b); } }</pre>  <p>Here we have removed lengthy old code that would individual create a button and attach action listener, instead creates new instances of a button, issue is that we have no discernible way of determining which button called what as every ActionListener would be the same, can't use index of for loop as this is not permanent</p> <p>Test 2</p> <pre>public void createButtonTopBarAdmission() { for (int i = 0; i < numberOfAdmissions; ++i) { JButton b = new JButton("admission "+String.valueOf(i)); b.putClientProperty("id", "admission "+String.valueOf(i)); formatTopBarAdmissionButton(b); //calls method which formats the button b.addActionListener(new java.awt.event.ActionListener() { public void actionPerformed(java.awt.event.ActionEvent e) { JButton source = (JButton)e.getSource(); String id = (String)source.getClientProperty("id"); System.out.print(id); } }); buttonBar.add(b); buttonList[i] = b; } } public void createTopbarAdmissionGeneral() { //... }</pre> 

19/12/19

Test 1

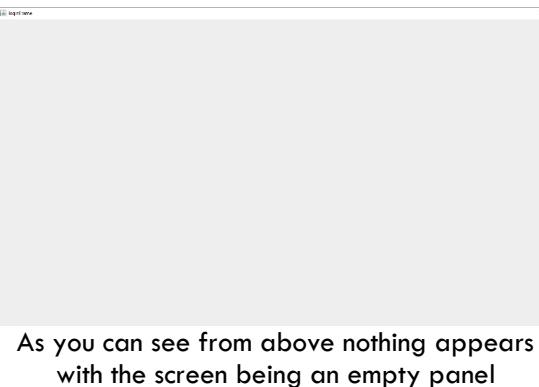
A strange issue has shown itself, when trying to add the new admission panel to the system, nothing appears. At first I thought the method calling the top bar wasn't loading correctly however I will now have to go further into the issue.

Test 2

This issue must run deeper than I thought as looking through the screenshot you can identify where I have just outputted the instances of the panels however as this should only show 4 sets of 2 you can see that a set of 4 appear with now three panels in the stack

Result The issue has been fixed, to add to this I have added an attribute to allow the user to retain the current admission they were on by saving the index location as an int

Test 1



Test 2

```
public void formatTopBarAdmission()
{
    java.awt.Container Pointer = null;
    Pointer = this.getContentPane();
    Pointer.setLayout(null);
    Pointer.add(new javax.swing.JPanel());
    Pointer.add(new javax.swing.JPanel());
    Pointer.add(new javax.swing.JPanel());
    Pointer.add(new javax.swing.JPanel());
    Pointer.revalidate();
}
```

Result



Resolution 1
To try and isolate the issue I will call upon on some stack debugging tools I developed on the old system I have strategically placed them so after any major features they will show themselves.

Resolution 2
On inspection the issue was down to the fact that an extra panel was being added to the stack causing the desired one to be made invisible, now what makes this interesting is that the only way for this to occur is to recall the same method, The only way to explain this is that there are 2 action listeners attached to the button.

Test 1

```
//Allows the
public void createNewAdmissionPanel()
{
    outputPanelList();
    System.out.print("H");
    if(loaded[3][1] == false)//selection determine
    {
        //createNewAdmissionPanelGeneral(); //the
        loaded[3][1] = true;//the variable is set
    }
    addPanel(newAdmissionPanel);
    outputPanelList();
    System.out.print("e");
    createTopbar(newAdmissionPanel); //the top mul
    outputPanelList();
    System.out.print("l");
    setNonActiveTopPanel(); //sets the top bar to
    demographicCBtn.setLocation(180,0); //sets the
    outputPanelList();
    System.out.print("o");
    newAdmissionPanel.setVisible(true);
    newAdmissionPanel.add(demographicCBtn); //the
```

Test 2 in order to find the second action listener I have used some debugging tools to locate the line where it happened.

However as you can see there is none. The actual reason was due to the small formatting method used to standardise colour schemes without realising there was an action listener statement as well so when I called the formatting method along with attaching an action listener as well two have been attached now.

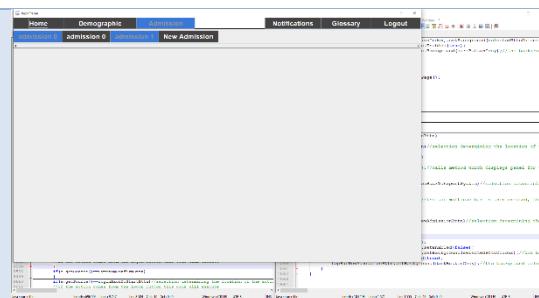
```
Listener" (12 hits in 1 file)
Documents\College\Computer Science\C3\Coursework\Written work\Project\Gui.java (1):
realLoginBttn.addActionListener(this); //an action listener is attached to the
deleteAccountBttn.addActionListener(this); //an action listener is attached to the
saveDemographicChanges.addActionListener(this); //an action listener is attached to the
homeBttn.addActionListener(this); //an action listener is attached to the component
demographicCBtn.addActionListener(this); //an action listener is attached to the
notificationBttn.addActionListener(this); //an action listener is attached to the
logOutBttn.addActionListener(this); //an action listener is attached to the component
topBarNewAdmissionBttn.addActionListener(this); //an action listener is attached to the
admissionButton.addActionListener(this); //an action listener is attached to the component
button.addActionListener(this); //an action listener is attached to the component
Listener" (12 hits in 1 file)
AdmissionBttn" (15 hits in 1 file)

1151     jScrollPane.setVisible(true);
1152     jScrollPane.getHorizontalScrollBar().setUnitIncrement(1);
1153     jScrollPane.setBackground(new Color(-1)); //the foreground of the
1154     topBarNewAdmissionBttn.setBackground(darkButtonGrey); //the background colour of the
1155     topBarNewAdmissionBttn.setFont(whiteLoginFont); //the font that has been declared
1156     topBarNewAdmissionBttn.setText("New Admission"); //the label is given text to a
1157     formatTopBarAdmissionButton(topBarNewAdmissionBttn);
1158
1159
1160     topBarNewAdmissionBttn.addActionListener(this); //an action listener is attached
1161     to the button
1162     descScroll.setVisible(true);
1163     descScroll.getHorizontalScrollBar().setUnitIncrement(1);
1164     descScroll.setBackground(darkButtonGrey); //the foreground of the component is given
1165     descScroll.setBackground(darkButtonGrey); //the background colour of the component is given
1166     descScroll.setFont(whiteLoginFont); //the font that has been declared is attached to
1167     the component
1168
1169     topBarNewAdmissionBttn.addActionListener(this); //an action listener is attached to the
1170     component
1171     panel.add(descScroll);
1172
1173     //method which loads and creates every individual button for the admission
1174     public void createButtonTopBarAdmission()
1175     {
1176         //a basic method to just format the button correctly using standardised colour
1177
1178         button.addActionListener(this); //an action listener is attached to the component
1179
1180         button.setForeground(new Color(-1)); //the foreground of the component is given
1181         button.setBackground(darkButtonGrey); //the background colour of the component is given
1182         button.setFont(whiteLoginFont); //the font that has been declared is attached to the component
```

21/12/19

Test 1

After adding the expert system and the symptom recommendation panels to the system what has happened is that when trying to add a new admission to the box is that it adds the old ones also so I will need a method to clear the box, the result looks like the image to the left.

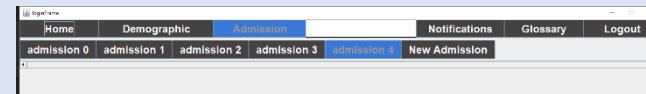


The issue in particular appears to be that the box not only readds the new admissions but the ones currently in the box aswell again resulting in the pattern as such
112123123412345123456 and so on

Resolution 1

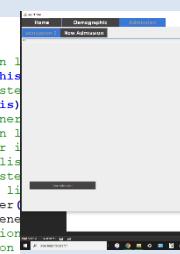
To fix the problem I believe it is due to the fact the list has to loop through again to reformat the buttons to correctly reflect the changes to the admission order. To fix this I will call upon the `removeAll()` method all standard java containers poses this should clear all the old buttons allowing the new ones to be included, this may come in handy when removing admissions on the system.

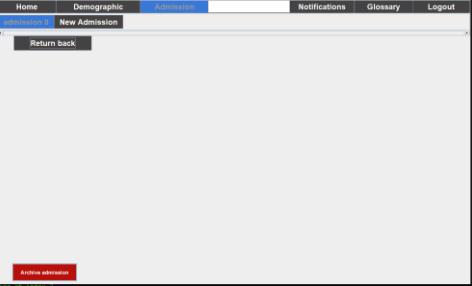
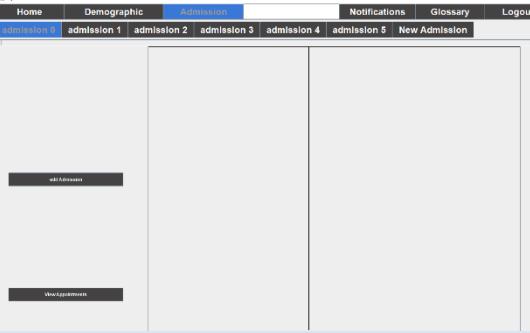
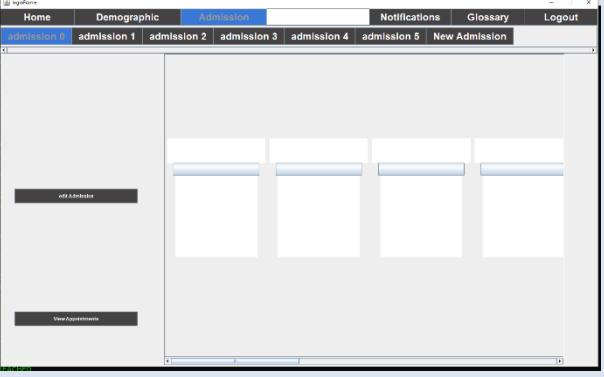
Result 1



As you can see the first image is of an account hypothetically with 5 addmissions when including the new admission there will now be 6 with none of the repeating errors appearing. As this process is now dynamic I can now confidently say there can be infinite amounts of addmissions on the system (Assuming the dimensions of the array aren't f)



Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
22/12/19	<p>Test 1 After trying to add the appointment panel to the system I have reached another issue this one revolving around returning to the homepage, when the user enters the appointment panel they can see everything it's when they try and use the return button which causes an empty panel to be shown to the user.</p> <p>Test 2 While I thought the issue seemed to be fully fixed this is clearly isn't the case with the same problem seeming to crop up again. I will have to inspect the issue once more.</p> <p>Resolved 3 The issue has been fixed, all that was needed to change was that the admission tab bar was uniquely addressed to the that panel</p>	 <p>Test 1, while not the hardest thing to solve the issue wont necessarily boil down to the navigation methods as these have been thoroughly test during prototyping and can therefore be discounted as being incorrect. The issue seems to stem from the fact that the initialising of the panel is looped more than once which causes the remove function to be called twice in which the frame now has no panels attached to it</p> <p>Test 2 As you can see the component from the appointment panel is still appearing on the home page.</p>  <p>Test 3 The issue was resolved through while only adding the top panel to every panel, as the admission tab is unique to the admission panel we can always add it to that panel</p> <pre>if(e.getSource() == appointmentGoBackBtn) //selection detected { removePanel(); createTopbar(panelOrder[endPanelPointer]); createTopbarAdmission(panelOrder[endPanelPointer]); buttonBar.setVisible(true); }</pre>	<p>Resolve 1 While slightly rudimentary the plan will be to just call all action listeners at the very start of the system, while not ideal as the system may be initialising unused action listeners the payoff is that methods that generalise components and initialise them can have the ability to be recalled if absolutely necessary.</p> <p>Test 2 I believe the issue stems from the issue that the components are being to the wrong panel</p>	<p>Test 1 While not the most creative it gets the job done with the panel now correctly working on the frame.</p>  <pre>public void createActionListeners() { editAdmissionBtn.addActionListener(this); //an action listener viewNextAppointmentAdmissionBtn.addActionListener(this); viewNextAppointmentHomePageBtn.addActionListener(this); logoutBtn.addActionListener(this); //an action listener jargonLibraryBtn.addActionListener(this); //an action listener homeBtn.addActionListener(this); //an action listener demographicBtn.addActionListener(this); //an action listener admissionBtn.addActionListener(this); //an action listener notificationBtn.addActionListener(this); //an action listener symptomRecommendationNewAdmissionBtn.addActionListener(this); symptomRecommendationBackToExpertSystem.addActionListener(this); backToAdmissionBtn.addActionListener(this); //an action listener SymptomConfirmBtn.addActionListener(this); //an action listener } if(e.getSource() == appointmentGoBackBtn) //selection detected { removePanel(); createTopbar(panelOrder[endPanelPointer]); createTopbarAdmission(panelOrder[endPanelPointer]); }</pre> <p>Test 2 The idea was to remove the panel and then add the correct components to the the prior panel, however as the appointment button is also on the parent homepage wee cant use this fully</p>

22/12/19	<p>Test 1</p> <p>What was strange was how well this worked on the first attempt, what was included was the ability to remove admissions from the system, what happens is that the list removes one button and then utilises the methods used to add buttons and recreates all the admissions, this will be useful in order to just remove a specific admission and then just update the buttons effortlessly</p>		<p>Test 1</p> <p>How it works is that if the number of admissions is now 0, it will call the empty admission panel, else the normal panel but will decrement the number of admissions then recreate all the buttons.</p> <p>Surprisingly enough it has worked without any issues</p>	<pre> if(e.getSource() == archiveAdmissionBtn){ //selection determining the location of //HERE WE WANT TO REMOVE THE ADMISSION FROM THE LIST numberofAdmissions--;/increment num of admissions if(numberOfAdmissions == -1) { createBlankAdmissionHomePage(); } if(numberOfAdmissions > 0) { createAdmissionOnHomepagePanelLGT(); //loads admission gui } buttonBar.removeAll(); createButtonTopBarAdmission(); buttonBar.getButton(currentAdmissionIndex).setEnabled(false); buttonBar.getButton(currentAdmissionIndex).setBackground(selectedBttcColour); //the topBarNewAdmissionBtn.setEnabled(true); topBarNewAdmissionBtn.setBackground(darkButtonGrey); //the background col } </pre>
23/12/19	<p>Test 1</p> <p>After half an hour of planning I believe I have a sufficient way of incorporating the new document container onto the system. It should work like this:</p> <p>The scroll pane will consist of one major box, this will hold each page(indicated by the vertical line) each box will hold 6 buttons, however the first task is to get the correct number created</p>	<p>Test 1</p> <p>As you can see there seems to be the loading of the major boxes, the scroll bar is just cropped out after this now is the process of creating minor boxes for the individual documents</p> 	<p>Test 1</p> <p>While it seems simple enough to just add 6 boxes a little more work will need to be put in, as seen as the picture on the right the cards have while been correctly created, they have been added in a way that is obviously wrong. The plan is to now include an intermediary vertical box inside the big one so that we can have two rows of three inside a major panel one</p>	<p>Test 1</p> <p>While this box is horizontal the plan is to have a vertical one between the set of 6 boxes and the actual creation of them</p> 

	<p>Test 2</p> <p>To get a better idea of how it will work you can look at the basic diagram I constructed First the grey box will be made then followed by the first blue box followed by the first purple box and then the three green boxes this will repeat until all the rest of the boxes have been made. Finally the yellow indicates what will be visible to the user the rest can be scrolled through.</p>	<p>Test 2</p> <p>In this picture you can see that they now load correctly, now all is left is to correctly position them and then add the action listeners to them</p>	<p>Test 2</p> <p>Nothing in particular was included the action listeners use the attribute property like before and will output the particular document they are for the time being, this will be used to cross reference later on.</p>
24/12/19	<p>Test 1</p> <p>Now that the document box has been put into place what can now be worked on is the button functionality for navigation what I need to get working is the ability for the patient to move between each document on the admission while still looking at documents(preventing the need to exit the document and then re-entering it), I have pulled what I can from the prototype but now the functionality needs to be developed</p>	<p>Test 1</p>	<p>Result 1</p> <p>To get this to work like in the prototype a pointer has been included to indicate the desired location of the user and what document they are currently on, this can then be used to find when the next and prior buttons need to be disabled. The top image is of the document on the first panel, the second is source code and the selection statements determining if they need to be disabled and finally the action listeners for the original document buttons</p> <p>Test 1</p> <pre> public void createSpecifiedDocument() { priorDocumentBtn.setEnabled(true); nextDocumentBtn.setEnabled(true); if(currentDocumentIndex == 0) { priorDocumentBtn.setEnabled(false); } if(currentDocumentIndex == numberOfDocuments - 1) { nextDocumentBtn.setEnabled(false); } } viewDocumentAdmissionBtn.addActionListener(new java.awt.event.ActionListener() { public void actionPerformed(java.awt.event.ActionEvent e) { JButton source = (JButton)e.getSource(); String buttonID = (String) source.getClientProperty("button order"); currentDocumentIndex = Integer.parseInt(buttonID); System.out.print(buttonID); createDocumentPanel(); } }); </pre>

24/12/19

Test 1

Since development of the consultant some testing has been done for the creation of the panels has been limited however a big issue has cropped up when logging out. Where a null pointer exception is being thrown from the obviously the logging out method of the system

Test 2

Issue has now been rectified and the logging out no longer throws the exception to the user

```
Exception in thread "main" java.lang.NullPointerException
at $1.addActionListener(Unknown Source)
at javax.swing.JButton.addActionListener(Unknown Source)
at javax.swing.JButton.fireActionPerformed(AbstractButton.java:234)
at javax.swing.JButton$AbstractActionHandler.actionPerformed(AbstractButton.java:289)
at javax.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:401)
at javax.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:260)
at javax.swing.AbstractButton.doFireActionPerformed(AbstractButton.java:234)
at javax.swing.JButton$AbstractActionHandler.mouseReleased(AbstractButton.java:289)
at javax.swing.JButton$AbstractActionHandler.mouseButtonReleased(AbstractButton.java:289)
at javax.swing.JButton.processMouseEvent(Component.java:342)
at javax.swing.JComponent.processMouseEvent(Component.java:339)
at javax.swing.JComponent.setComponentPopupMenu(Component.java:339)
at javax.swing.JComponent.setComponentPopupMenu(Component.java:339)
at javax.swing.JButton.setComponentPopupMenu(Component.java:339)
at javax.swing.JButton.dispatchEvent(EventObject.java:446)
at javax.swing.JButton$AbstractActionHandler.eventDispatched(EventObject.java:447)
at javax.swing.JComponent.dispatchEvent(EventObject.java:447)
at javax.swing.JComponent.dispatchEvent(EventObject.java:447)
at javax.swing.JButton$AbstractActionHandler.dispatchEvent(EventObject.java:448)
at javax.swing.JButton$Container.dispatchEvent(EventObject.java:297)
at javax.swing.JButton$MouseDispatcher.dispatchEvent(EventObject.java:2773)
at javax.swing.JButton$MouseDispatcher.access$300(EventObject.java:2773)
at javax.swing.JButton$MouseDispatcher$MouseWheelEvent.dispatchEvent(EventObject.java:2773)
```

Fix 1

Like before I knew the issue came from the logging out method but what actually caused it was down to the fact a patient specific feature, setting the current active admission was being called this was for future patients so that when the logged in the first one they saw would be number 1. Anyway as you can see on the left it has now been put inside an appropriate selection statement, it wasn't being thrown before due to the fact the only condition was down to the rendering of the panel, however as now the consultant uses the panel the error is thrown.

```
}  
if(e.getSource ()==logoutbtn)  
{  
    String logoutConfirmation = "Are you sure you want  
    String popUpWindowLogout = "Logout?"/>text for fram  
    int logoutConfirmationanswer = logoutConfirm.showCon  
    if (logoutConfirmationanswer == 0)//user wishes to l  
    {  
        emptyArray(loginPanel);  
        setActiveTopPanelBtn(homebtn); //active top bar  
        currentPanel = loginPanel; //current panel is cor  
        loaded[6][0]= false; //the variable is set as tru  
        loaded[6][2]= false; //the variable is set as tru  
        loginChoice=-1;  
        if ((numberOfAdmissions> 0)&&(loaded[6][2]== true))//  
        {  
            setActiveAdmissionPanelBtn(buttonList[0]);  
        }  
    }  
}  
else//wish to stay
```

Below you can see the consultants homescreen after the issue was fixed the home bar was tweaked to fit all the new buttons.



24/12/19

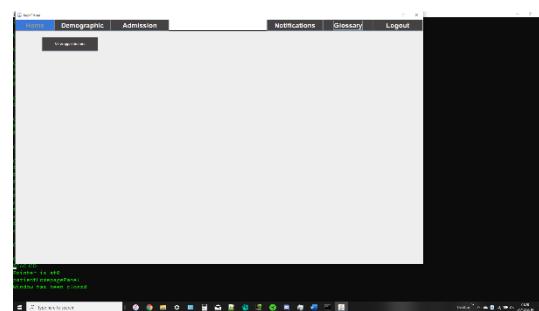
Test 1

A quick test on the glossary made me realise the button to open it was never selected while it was open, I will need to have it so it is not selectable while open and re-enable it afterwards. The aim is to enable the button while the frame is closed and disable it while open

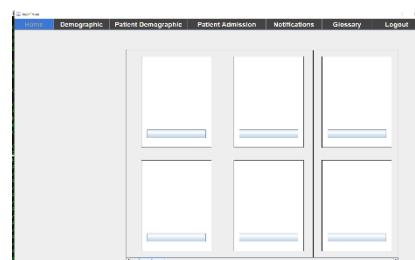
Test 2

Additionally while following the Post prototype designs the consultants home screen doesn't follow the 2X3 card layout but rather 1X3, to fix this I will have to go into the method and remove some unnecessary loops creating them, in particular the creation of the second middle sized box

Test 1



Test 2



As you can see this will need to remove the lower middle box so that only three appear on one large box

Test 1

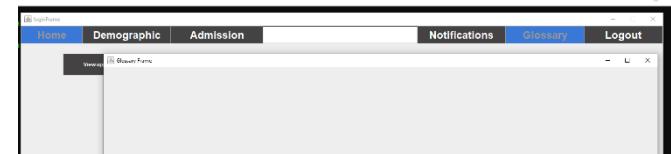
To include this fix I have gone to the api and used the from listener, like the buttons event listener this looks for the action for the window closing, What I can do is disable it when the call button is pressed in the same method and just re-enable it when closed.

Test 2

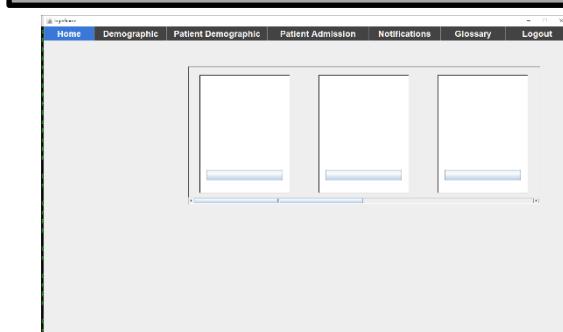
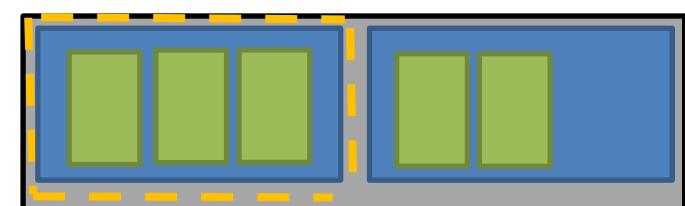
While slightly tedious at the start the process is just the exact same besides the fact the counters now go up to three and the middle box is declared once per large box, therefore no longer needing a large one afterwards as you can see the new diagram helps explain what has happened

Test 1

```
public void createGlossaryOfTerms()
{
    glossaryFrame.add(definitionPanel); //no need to add the panel
    glossaryFrame.addWindowListener(new WindowAdapter()
    {
        public void windowClosing(WindowEvent e)
        {
            jargonLibrarybtn.setEnabled(true);
            jargonLibrarybtn.setBackground(darkButtonGrey);
        }
    });
}
```



Test 2

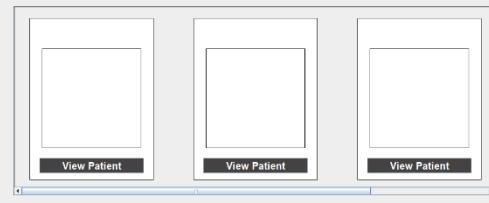


29/12/19

Test 1

While somewhat just feature improvement the main focus here was getting the ability to reduce the size of the patient select working where the last medium box could be reduced so that empty space was being included

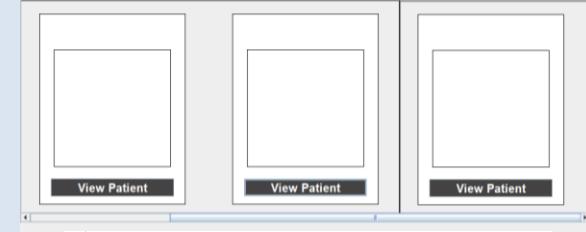
Test 1



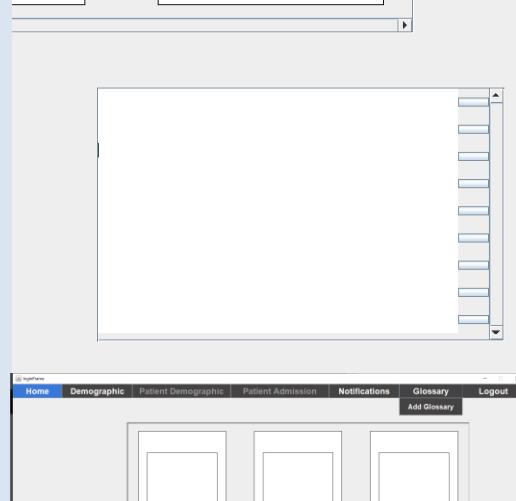
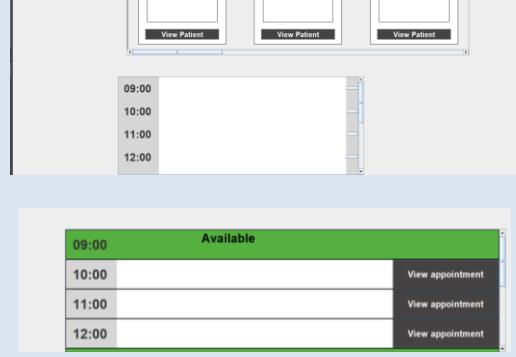
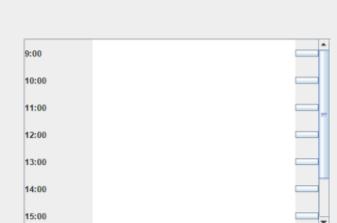
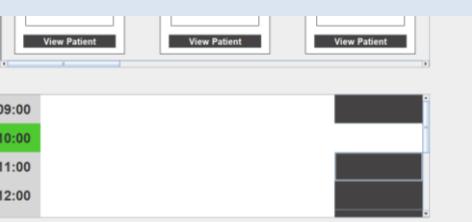
Here is just a picture of the box, the aim is to get the medium box to only be the size of one of these cards to the user isn't scrolling empty space

Test 1

While out of the question for the documents scroll pane I think the best way to do this is set the preferred size and have selection at the beginning, however the condition will also have to make sure that the current large box is also the last one, on the left you can see the final box along with the source code for the selection of the statements.



```
for (int i = 0; i < numPanels; ++i)
{
    Box largeBox = new Box(BoxLayout.Y_AXIS);
    largeBox.putClientProperty("box order",String.valueOf(i));
    if((i==numPanels-1)&&(numOfLeftOverpatients==0))
    {
        largeBox.setMinimumSize(new Dimension(975,350));
        largeBox.setPreferredSize(new Dimension(975,350));
        largeBox.setMaximumSize(new Dimension(975,350));
    }
    if((i==numPanels-1)&&(numOfLeftOverpatients==1))
    {
        largeBox.setMinimumSize(new Dimension(325,370));
        largeBox.setPreferredsize(new Dimension(325,370));
        largeBox.setMaximumSize(new Dimension(325,370));
    }
    if((i==numPanels-1)&&(numOfLeftOverpatients==2))
    {
        largeBox.setMinimumSize(new Dimension(650,370));
        largeBox.setPreferredSize(new Dimension(650,370));
        largeBox.setMaximumSize(new Dimension(650,370));
    }
    largeBox.setBorder(BorderFactory.createLineBorder(Color.bl
```

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
28/12/19	<p>Test 1 Here I am adding the appointment scroll pane went against what I originally planned in PPROD and made the entire lower section the scrollable pane as they would see their latest appointment anyway</p> <p>Test 2 Now that the aspects of each box are included I will now attempt to correctly format them so they work correctly in the system, like the date selection available dates will be green</p> <p>Test 3 I have also added (temporary) a random generator to see if an appointment is available or not, as I already have the button on the system it is just the matter of copying the code, the action listeners are already in place, the feature is now done.</p>	 	<p>Test 1 As you can see on the right I have now added the correct objects to the box, the process has now become simple due to the fact this process has been done multiple times</p> <p>Test 2 To correctly format the features I will have to make all the object opaque and then colour the background green however this shouldn't be an issue at all</p>	 <pre>dateBox.add(box.createLigidArea(new Dimension(10, 10))); if(dateBox.getClientProperty("Available").equals("")){ dateBox.setBackground(availableGreen); moreInfo.setEnabled(true); } dateBox.addTime(); dateBox.addDescription(); dateBox.addMoreInfo();</pre> 

28/12/19

Test 1

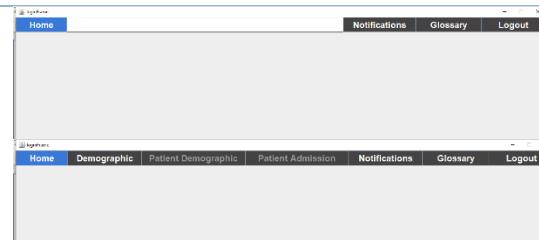
Now the consultants have been finished I will work on the Staff entity, as you can see the tabbed buttons where missing So the first priority is to get them filled with in the desired buttons.

Test 2

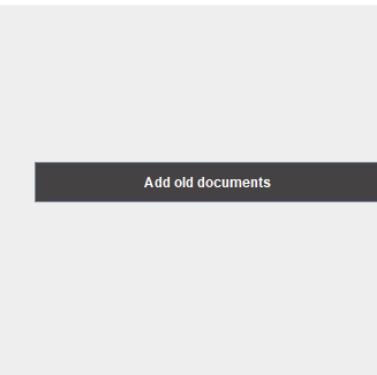
Here I am finishing of the staff panel but as the entity shares a lot with the consultant there is very little to do. As I have done this before no issues are cropping up

Test 3

Surprisingly a button for a new panel was almost forgotten momentarily however it will now be included and assigned to the correct action listener.



Test 3



Test 1

The fix was just that I was unsure what tabs where initially needed so just left them out early on, since they were the same as consultant just moved the staff statement with consultant, this should hopefully solve the issue.

Test 2

Little to test now the buttons have the same action listener as the consultant so this panel should be virtually done, I'll check against the PPROD redesigns before stopping though.

Test 3

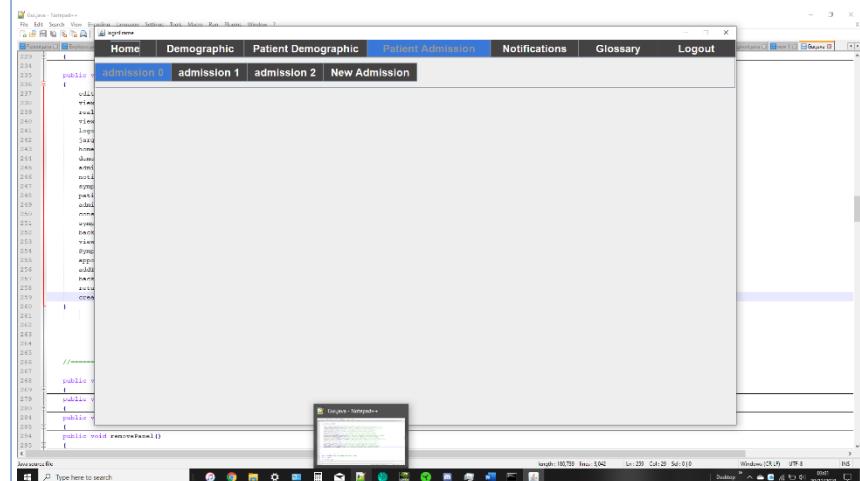
As you can see the new panel has been attached to the listener, we are done for the patient GUI, for the moment.

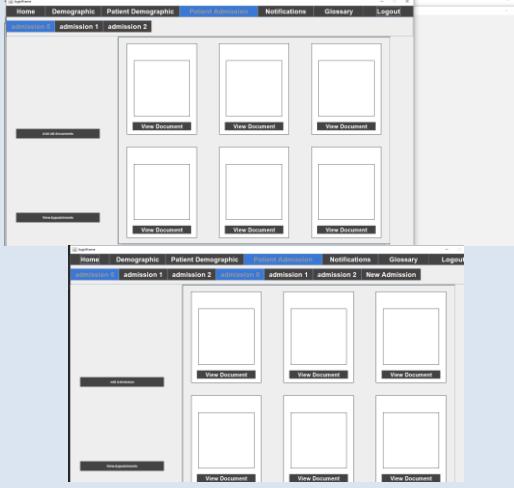
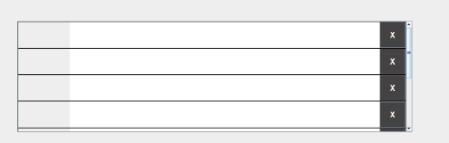
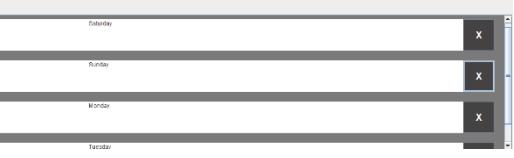
```
else if (loginChoice ==1)//selection determining the
{
    newPatientbtn.setVisible(true); //will initially
    admissionbtn.setVisible(false); //will initially
    demographicbtn.setVisible(false); //will initial
    homebtn.setVisible(true); //will initially hide
    patientDemographicbtn.setVisible(false); //will
    admissionPatientbtn.setVisible(false); //will i
    admissionPatientbtn.setVisible(false); //will i
    patientDemographicbtn.setVisible(false); //will
}

else if ((loginChoice ==3) || (loginChoice ==1))
{
    newPatientbtn.setVisible(false); //will initially
    admissionbtn.setVisible(false); //will initially
    demographicbtn.setVisible(true); //will initial
    homebtn.setVisible(true); //will initially
    patientDemographicbtn.setVisible(true); //will
    admissionPatientbtn.setVisible(true); //will
    admissionPatientbtn.setVisible(true); //will
    patientDemographicbtn.setVisible(true); //will
}

admissionPatientbtn.setVisible(true); //will in
patientDemographicbtn.setVisible(true); //will .
```

Test3



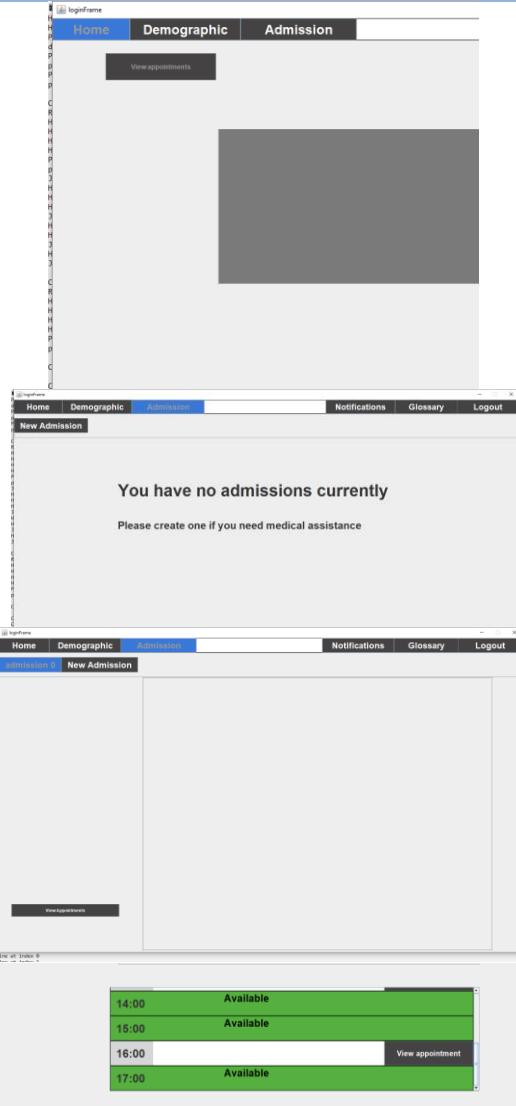
29/12/19	<p>Test 1</p> <p>After realising the ability for staff to create admissions is undesired the next major problem is to remove this feature hopefully it should be an easy fix. As the task was simple it was done pretty quick, as you can see the final results for admissions are shown, the upper is the staff and the lower is the consultant.</p>		<p>Test 1</p> <p>this is in the admission create tab bar used to actually dynamically create the buttons this is at the end where the new admission button is manually added to the end if not a staff user</p>	<pre>if(loginChoice!=1) { buttonBar.add(topBarNewAdmissionBttn); buttonList[numberOfAdmissions+1] = topBarNewAdmissionBttn; }</pre>
29/12/19	<p>Test 1</p> <p>Now to work on the notification system, all I am currently doing is just copying the code I currently have and using that as a basis for this, but here I will include the dynamic removing of values as this will come in handy for the admissions later on</p> <p>Test 2</p> <p>Now they have been correctly formatted the task of removing them specifically has come up</p>	<p>test 1</p>  <p>Test 2</p> 	<p>Test 1</p> <p>After initially being pleased with the layout some final formatting is made to follow how it was planned from the PPROD redesign</p> <p>Test 2</p> <p>To get this to work to cut down on development time I have re-purposed some old code from the prototype as you can see while it</p>	<p>Test 1</p>  <p>Test 2</p> 

	<p>Test 3 I have added a maximum, minimum and preferred size to the description box so it should no longer mess with formatting</p>	<p>Test 3</p>	does work the formatting needs work	<p>Test 3 Here you can see the repurposed code. What it does is it nulls the old notification and then pulls all the others down. It then will just recall the initial method which creates them, and produces the desired result</p> <pre>public void deleteNotification(int intPosition)//the parameter is t { int iterations = numberOFNotifications - intPosition-1;//the number of notifications required decr if(iterations == 0)//if no more swaps can occur this is ran then { notifications[intPosition] = null;//the contents are empty numberOFNotifications--;//the number of notifications is decr } else { do//a do until loop is declared to iterate until the condition is met { notifications[intPosition] = notifications[intPosition - iterations];//the number of iterations required decr intPosition++;//the position of the index increments as each iteration occurs }while(iterations!=0);//termination condition looking until notifications[intPosition] = null;//the last position of the numberOFNotifications--;//the number of iterations left decr } }</pre>
30/12/19	<p>Test 1 After adding in the notification box I tried some basic testing on the GUI (in order to check everything is up to scratch no visual issues coming up) However I managed to spot one where after changing to a new user the new admission button would load an empty panel, from past experiences it seems the button had two action listeners added to it so I will now have to prevent the second iteration</p> <p>Test 2 As I assumed it caused another issue this time the actual admission tab bar didn't load on the second user I will have to revert the change and think of another way</p> <p>(You can ignore the missing borders for the description boxes this is a byproduct of the screenshot process)</p>		<p>Test 1 After checking the source code there is only one line that assigns the action listener so it must be looped, on inspection I found that the loaded[7][2] line was being reset allowing for iteration after logging out, however as the line is being called from the logout method it must be there for a reason I'll try it anyway</p> <p>Test 2 Like for the panels to prevent double running's a Boolean attribute has been declared to prevent this it will be ran once and only once. As you can see the issue has been resolved</p>	<pre>{</pre> <pre>String logoutConfirmation = "Are you sure"; String popUpWindowLogout = "Logout?"; //text int logoutConfirmationAnswer = logoutConfirmation.showConfirmDialog(null, logoutConfirmation); if (logoutConfirmationAnswer == 0) //user wants to log out { emptyArray(loginPanel); setActiveTopPanelBtn(homeBtn); //activates the home button currentPanel = loginPanel; //current panel is now the login panel loaded[6][0] = false; //the variable is set to false loaded[6][2] = false; //the variable is set to false loaded[7][2] = false; //the variable is set to false } loginChoice=-1; if ((numberOfAdmissions > 0) && (loaded[6][0] == true)) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { if (loaded[6][2] == true) { if (loaded[7][2] == true) { if (loaded[6][0] == true) { </pre> <pre>if(hasNewAdmissionLoaded == false) { formatTopBarAdmissionButton(topBarNewAdmissionBttn); hasNewAdmissionLoaded = true; }</pre>

01/01/20

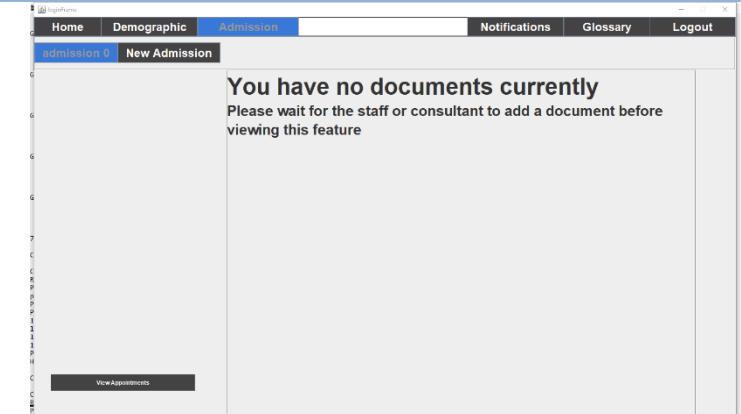
Test 1

Now that most major GUI features that aren't a crossover job from the prototype are in place I have gone on to do some empty values testing, here I will see how the system responds to no documents admissions notifications, initially impressed even the appointment button is disabled, however while not necessarily the time I was slightly disappointed by the lacklustre no documents box, I will quickly add a notice to it



Test 1

As you can see it was an easy job to add nothing special just for the time being copied the code for the empty admission and tweaked it, this screen will only be seen once by the patient with a new admission so its look isn't the priority at the moment



```
mainBox.add(largeBox);  
}  
if(numberOfDocuments==0)  
{  
    JLabel noAdmissionLbl = new JLabel(); //declares a label for a box which  
    JLabel noAdmissionFootNoteLbl = new JLabel(); //declares a label for a  
    JLabel noAdmissionFootNoteLbl2 = new JLabel(); //declares a label for a  
    Box largeBox = new Box(BoxLayout.Y_AXIS);  
    largeBox.setMinimumSize(new Dimension(975,740));  
    largeBox.setPreferredSize(new Dimension(975,740));  
    largeBox.setMaximumSize(new Dimension(975,740));  
    noAdmissionLbl.setBorder(javax.swing.BorderFactory.createEmptyBorder());  
    noAdmissionLbl.setFont(headerFontFormat); //a font is applied to the text  
    noAdmissionLbl.setLocation(300,210); //sets the location of the component  
    noAdmissionLbl.setSize(2000,100); //the components size is correctly defined  
    noAdmissionLbl.setOpaque(false); //the component is set to opaque  
    noAdmissionLbl.setText("You have no documents currently");
```

02/01/19

Test 1

Initial test –
Trying to create contact bar but this time local seems to work for the admission so trying to work on doing this for the contact bar initial attempt a success, however only way to do it like this is to have it only updated manually when new changes to demographic and logging in, more testing will need to occur

Test 2

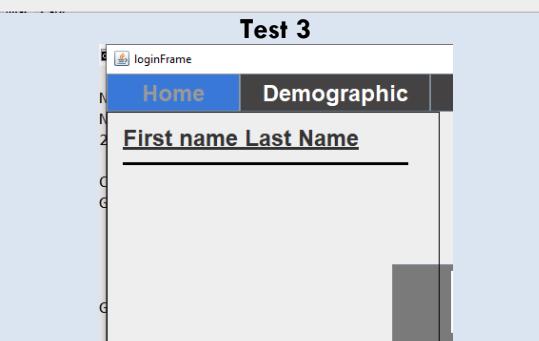
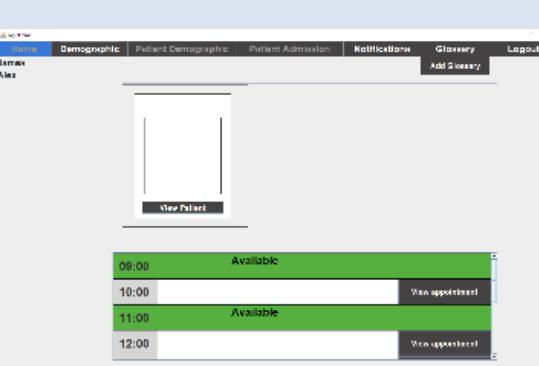
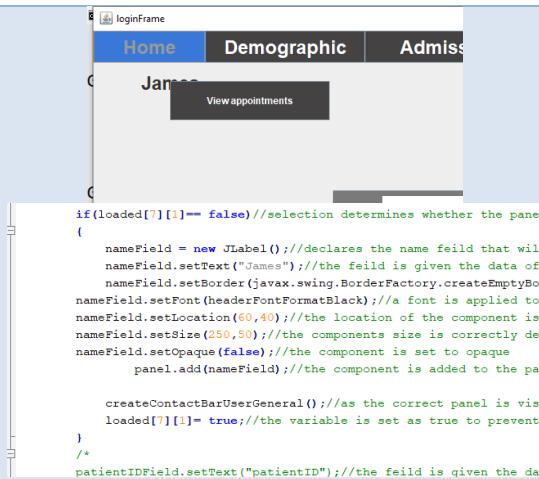
Utilise a box to hold all the components have that be global however while aim is to minimise global variables I will have to partially bit the bullet

Test 3

Managed to create under lined labels should reduce amount needed

Test 4

Scrapped partial idea wasn't getting correct layout so like the cards on the system I have split the components



Test 1

Won't work when trying to view the patients from the consultants will be unable to update, idea was to reset it but hasn't worked

Test 2

Attempt 2 works I can now amend the field without redeclaring the value and adding it back just had to go out of my way to consult the api for the first line and stacked overflow for the second line, as I believe the second line sets the component datatype as just the jLabel so while nothing newly spectacular it is something I was unaware of.

test 2 as you can see the jLabel is local but yet I am able to amend the

```
public void createBoxContactBox()
{
    contactBox.setLocation(0,40); //sets the location of the component
    contactBox.setSize(350,873); //the components size is correctly declared
    contactBox.setBorder(BorderFactory.createLineBorder(Color.black));
    JLabel blackLine14 = new JLabel(); //declares a labbel for a black line
    JLabel nameField = new JLabel(); //declares the name feild that will contain the patients name
    blackLine14.setMinimumSize(new Dimension(300,3));
    blackLine14.setPreferredSize(new Dimension(300,3));
    blackLine14.setMaximumSize(new Dimension(300,3));
    nameField.setBorder(javax.swing.BorderFactory.createEmptyBorder());
    nameField.setFont(headerFontFormatBlack); //a font is applied to the label
    nameField.setLocation(60,40); //the location of the component is also declared
    nameField.setSize(250,50); //the components size is correctly declared
    nameField.setOpaque(false); //the component is set to opaque
    contactBox.add(nameField); //the component is added to the panel
    blackLine14.setBorder(BorderFactory.createLineBorder(Color.black));
    blackLine14.setForeground( new Color(1) ); //the foreground of the line
    blackLine14.setBackground( new Color(1) ); //the background colour of the line
    blackLine14.setOpaque(true); //the component is set to opaque
    contactBox.add(blackLine14); //the component is added to the panel

}

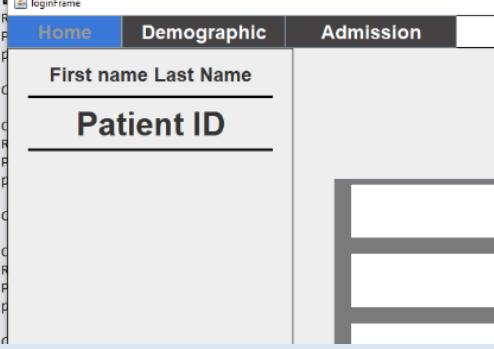
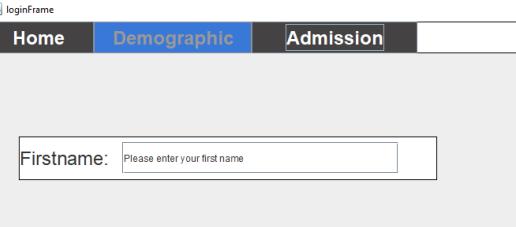
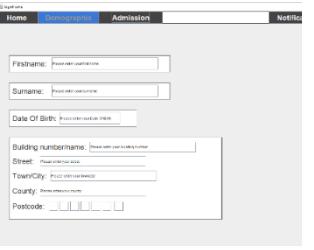
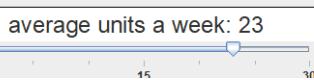
public void createContactBarUser(JPanel panel,Box box)
{
    panel.add(contactBox);

    if(loginChoice==0)
    {
        Component contactPanel=contactBox.getComponent(0);
        ((JLabel) contactPanel).setText("James");
    }
}
```

component through the line of ((JLabel) contactPanel).setText("James");
(no need for test 2 3 they worked fine)

Test 4

```
if(loginChoice==0)
{
    Component nameTemp=contactBox.getComponent(0);
    Component nameTmp=((Box) nameTemp).getComponent(0);
    ((JLabel) nameTmp).setText("First name Last Name");
```

	<p>into smaller boxes, hopefully the inclusion of another statement should make it work</p> <p>Test 5 Done!</p>	<p>Test 4</p> <p>All I have included is the name label and it</p>  <p>has seemed to have worked, somehow.</p>	<p>Test 3</p> <p>Added the middle box to it somehow it works fine ill just use this instead much simple for layout for the sake of a few lines of code</p> <p>Struggled a lot but once started it is now much easier</p> 
7/01/20	<p>Test 1</p> <p>Just started the demographic section going to use the same idea as the contact and use the box as an intermediary to access components outside their local window I should also be able to change the components to a label or text box depending on the user as well if I get chance</p> <p>Test 2</p> <p>Now adding jSpinners After looking on API looks like I will need to add a state listener which looks out for whether the values has changed this can be called in the same method</p> <p>Test 3</p> <p>Added boxes to the DOB box struggled to follow formatting may come back during testing but can't waste more time now.</p>	<p>Test 1</p>  <p>Test 2</p>  <p>Test 3</p> 	<p>Test 2</p> <p>No issues really accidentally called a deprecated version, but after finding the newest version issues where immediately resolved. Added a change listener like I mentioned to it which uses real time updates to change the label</p>  <p>Test 1</p>  <p>Test 2</p> <pre>JSlider drinkerSpinnerer = new JSlider(JSlider.HORIZONTAL,0, 30, 15); drinkerSpinnerer.addChangeListener(new ChangeListener()//create a new focus listener to the text field, { public void stateChanged(ChangeEvent e) { demographicDrinkerPromptLbl.setText("Average units a week: "+drinkerSpinnerer.getValue());//force update } }...)</pre> <p>Test 3</p> 

13/01/20

Test 1

Removed the old linear search in place for a custom binary search had to amend some but it should work, common issue is the infinite loop I have occurring, it's obviously down to faulty termination conditions or the fact the selection fluctuating the midpoint isn't occurring.

Test 2

Focus now is to get every outcome correct As of now the following work:

Test 3:

All the data now works with the data entry, regardless of the surname a location will be given

Test 1

```
Armitagesurname
1Midpoint
Armitagesurname
```

Test 2

index	new	existing
0	No	Yes
1<index<end-1	Yes	yes
end	No	Yes

Had a few issues with infinite loops but the first priority is that the correct position is located. First we have made sure despite the order of else ifs the last two which cause the loop to execute can actually happen, the issue seemed to stem from the fact an early else if statement was being met prohibiting the loop from continuing hence causing the loop

Test 2

Finally managed to get all data to get correctly indexed to the right location For the value if at the first index that was less than the original 1st value all I did was check to see if it was less than for the first index manually. However for the last value a common issue was the repeating of out of bounds errors to compensate for this an if statement was set up at the beginning of the loop so before any out of bounds errors are thrown the value could be determined or not

Test 1

```
'else if(desiredPatient.compareToIgnoreCase(array[midPoint])<0)
{
    position = midPoint;//assigns the correct index the item should be
    System.out.println("Option 2");
    items[1]=1;
}

if(desiredPatient.compareToIgnoreCase(array[1][1])<0)//selection
{
    position = 0;//assigns position to first index
    System.out.println("Option 3");
    items[1]=1;
}

else if(midPoint==endPoint-1)//selection determining if the value is
{
    if(desiredPatient.compareToIgnoreCase(array[1][1])>0)//selection
    {
        position = endPoint;//assigns position to first index
        System.out.println("Option 4");
        items[1]=1;
    }
}

if(desiredPatient.compareToIgnoreCase(surname)<0)//selection determines
{
    System.out.println("not above midpoint");
    endPoint = midPoint -1;//moves the endpoint to better locate the
    if(desiredPatient.compareToIgnoreCase(surname)>0)//selection determines
    {
        System.out.println("not below midpoint");
        startPoint = midPoint +1;//moves the startpoint to better locate
    }
}

}while((endPoint> startPoint));//termination condition when satisfied
}
catch(Exception exc)
{
    System.out.println("Error");
}
return(items);//returns index
```

As you can see it follows the basic binary search however has else if statements for the values that conditions which may not always be true

Test 2

```
'else if(midPoint== 0)//selection determining if the value is at
{
    if(desiredPatient.compareToIgnoreCase(array[0][0])<0)//selection
    {
        position = 0;//assigns position to first index
        System.out.println("Option 3");
        items[1]=1;
    }
}

midPoint = ((startPoint+endPoint)/2);//updates
if(midPoint>= length)//selection determining if
{
    position = endPoint;//assigns position
    System.out.println("Option 4");
    items[1]=1;
    break outerSearch();
}
```

The first one will check to see if the new value needs to be at index 0, the second if it is at the last value(however as array is dynamic no values are assigned only indexes are). The best way to get the system to realise the location the surname should be at along with wether it needs to be added will be down to passing a binary value aswell, in the form of an int, if it needs adding then a 1 is set else if found a 0 is set)

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action																
15/01/20	<p>Test 1 Now that I have the index where the surname is I will now either update the pointer to it or add it to the array. The current main issue is the fact after increasing the size of the array the new values are still replacing two values when it should be replacing one.</p> <p>Test 2 Now the source of the problem has been fixed some basic testing will be put in place to see that the correct values and outputs are produced</p>	<p>Test 1</p> <p>The method works by creating a copy of the array (increasing the size by 1) then starting from the bottom add every value to a index of itself + 1(so moving it up one index), this works fine but when adding the new value it adds it two subsequent indexes</p> <pre>if(locationOfSurname[1]==-1) { String[] copyOfSurnameList = Arrays.copyOf(listOfSurnames, listOfSurnames.length+1); //// listOfSurnames = copyOfSurnameList; //updates the previous array to equal the newly declared for(int indexCounter = listOfSurnames.length-1;indexCounter>(indexOfSurname);indexCounter--) { listOfSurnames[indexCounter]=listOfSurnames[indexCounter-1]; } listOfSurnames[3][0]=surname; listOfSurnames[3][1]+="zz" }</pre> <p>Test 2</p> <table border="1"> <tr><td>Abbot</td></tr> <tr><td>1</td></tr> <tr><td>Armitage</td></tr> <tr><td>3</td></tr> <tr><td>Azztol</td></tr> <tr><td>3</td></tr> <tr><td>Azzz</td></tr> <tr><td>1</td></tr> </table>	Abbot	1	Armitage	3	Azztol	3	Azzz	1	<p>Test 1</p> <p>The issue stemmed from the actual method of “copyOf” after doing some research it actually instead copies the references also when I try to amend an instance it also changes the old one(which is an index lower) causing the changing of two attributes, I'll just do it the standard way of two loops now.</p>	<p>Test 1</p> <table border="1"> <tr><td>Abbot</td></tr> <tr><td>1</td></tr> <tr><td>Armitage</td></tr> <tr><td>3</td></tr> <tr><td>Azztol</td></tr> <tr><td>3</td></tr> <tr><td>Azztol</td></tr> <tr><td>3</td></tr> </table> <p>Test 2</p> <pre>//the solution of code successfully just copies the last of surnames and adds String[] copyOfSurnameList = new String[listOfSurnames.length+1][2]; for(int firstpart = 0;firstpart<indexOfSurname;firstpart++) { copyOfSurnameList[firstpart]= listOfSurnames[firstpart]; } //now adds the rest of the surnames purposefully leaving a space for the for(int secondPart = indexOfSurname+1;secondPart<listOfSurnames.length+1; { copyOfSurnameList[secondPart]= listOfSurnames[secondPart-1]; } //adds the new surname and that now there is 1 on the system copyOfSurnameList[indexOfSurname][0]=surname; copyOfSurnameList[indexOfSurname][1]=(1+""); //updates the old array with the old surname listOfSurnames=copyOfSurnameList;</pre>	Abbot	1	Armitage	3	Azztol	3	Azztol	3
Abbot																				
1																				
Armitage																				
3																				
Azztol																				
3																				
Azzz																				
1																				
Abbot																				
1																				
Armitage																				
3																				
Azztol																				
3																				
Azztol																				
3																				

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
18/01/20	<p>Test 1</p> <p>Had an attempt at generating a random password from a random set of characters, its done by generating a random number between the range of 48 and 122 and then converting them into characters from their ASCII values however I want to remove values from the ranges 58-62 and 91-96 however in the screenshot the values are wrong(The ones we want to get rid of)</p>	<p>PABB0000002 =][= _</p> <pre>public String generatePassword() { Random r = new Random(); //imports and creates a random modual int randomnumber; String password=""; for(int countCondition = 0;countCondition<6;countCondition++) { //58 59 60 61 62 91 92 93 94 95 96 do { randomnumber= r.nextInt((122 - 48) + 1) + 48; }while(((58<=randomnumber)&&(randomnumber<=62)==false)&&(((password+=password+ (char) randomnumber); } System.out.println(password); return(password); }</pre>	<p>Test 1</p> <p>All I had to do was change the boolean attributes to true, as the loop will keep iterating until these values are not produced after realising the mistake this should work</p>	<p>Test 1</p> <p>As you can see the error has been rectified</p> <p>PNUR0000002 or[Hj@5</p>
18/01/20	<p>Test 1</p> <p>New test is now working on adding the details to the patient's account and generating a new file. The first set of issues is that a null value is being set against the patient's id for the file but not for the rest of the system. In addition to this the forward slashes in the text area text for new lines have caused the data to jump to a new line</p>	 <p>PNUR0000004,`oSqS>X,Nurdin,James,55,Town Road,Croston,PR269 Test2,M,Test1 Test2,true,true,M,Lancashire,18/01/2020</p>	<p>Test 1</p> <p>To fix the null name the error came from the fact that the variable assigning the attribute was just PatientID (rather than the attribute PatientID of the patient and so as the local variable was empty it assigned a null value, to fix it I just attached the correct reference)</p> <p>To fix the new line issue all I had to do was call a replace method which will search the entirety of the attribute and change the locations where \n occurs with another character,</p> <pre>wtfNewPatient(patientDemo,patient.patientID+_file.txt"); /* an,Test1#Test2,M,Test1#Test2,tr</pre> <p>when reading from file it will be changed back</p> <pre>patient.allergies = patient.allergies.replace("\n", "#"); patient.disability = patient.disability.replace("\n", "#"); String patientDemo=patient.patientID+"."+patient.password+"."</pre>	

19/01/20

Test 1

Found a bug where an account with the surname is above ten it resets the surname value back to 1, because of this the feature will need to be fixed.

Test 2

Fixed the issue, a few things have to been done though:
The issue stemmed from the from the splitting of the inside string containing the surname and number of times it occurred, which pulled a character instead of the entire int to fix it I called .split instead this resolved the issue.

A2;Abbot,2@Abbot,,0@
no..

Test 1

```
wordCount++;  
word = word.substring(0,wordLength-1); //rem  
System.out.println("concat word "+word);  
String[] arrayTemp = word.split(",");  
System.out.println("Name "+arrayTemp[0]);  
System.out.println("num "+arrayTemp[1]);
```

The section of code orginally causing the issue

```
array[arrayIndex][1] =((word.length()-1)+""); //adds word to ar  
array[arrayIndex][0] = word.substring(0,word.length()-2); //rem
```

Test 1

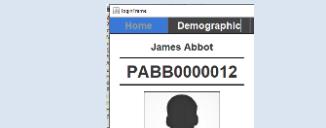
To try and find the issue I have tried seeing if it was anything to do with the iterative addition to the number but turns out it occurs much earlier so I'll have to go further

Test 1

int position for the surname before2
int position for the surname after3

```
public String createUniqueId(String surname, String type)  
{  
    String[] stringedListOfSurnames = readFileReturnFullFile("General.txt");//returns entire file in the form  
    int asciiValueOfSurname = (int) surname.charAt();  
    //System.out.println("int value "+(asciiValueOfSurname-65));  
    //System.out.println(surname);  
    String[] listOfSurnames = unConcatenateString(stringedListOfSurnames[asciiValueOfSurname-65], "");  
  
    //with the list of surnames it will then locate the surname that the user wants  
    int[] items = new int[3];  
    int[] locationOfSurname = findIndexOfSurname(listOfSurnames, surname, items);  
    //pulls the array with the location of the surname and wether or not it exists already  
    int indexOfSurname = locationOfSurname[0];//sets index as a variable  
    //if statement checking the new surname needs to be added  
    if(locationOfSurname[1]==1)  
    {  
        if(locationOfSurname[2]==0)//if the surname is already present on the system  
        {  
            System.out.println("int position for the surname before"+ listOfSurnames[indexOfSurname][1]);  
            listOfSurnames[indexOfSurname][1]=(Integer.parseInt(listOfSurnames[indexOfSurname][1])+1)+"";  
            System.out.println("int position for the surname after"+ listOfSurnames[indexOfSurname][1]);  
            //basically retrieves the current value converts it to an int adds 1 and then converts back to a string  
        }  
    }
```

test 2



A1;Abbot,12@
no..

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
20/01/20	<p>Test 1 Initial testing of the admission creation the first step is assigning the correct values to fill out, due to thorough programming of the GUI the only aspect is to actually just assign them to the file, the top bar adds buttons dynamically to how many are assigned to the account. To avoid confusion the aim is to produce admission number 2, one is hardcoded to the account already for testing purposes.</p> <p>Test 2 Now that all the correct writing methods have been called the actual testing of the system will be tested fully</p> <p>Test 3 While it does not throw any errors it isn't fully working for instance one thing I forgot was to increment the number of admissions in the patient's demographic. The line position can be ignored as the system has not yet had the notifications implemented yet</p> <p>Test 4 After fixing the last remaining issue(The symptoms text boxes were set locally so for some reason no error was thrown and the values would always be set null)</p>	<p>Test 1</p> <p>Test 2</p> <pre>IndexOutOfBoundsException: Index 1 out of bounds for length 1 :java:40)</pre> <p>Test 3</p> <p>A quick test to see how it handles repeated new admissions seems to work fine</p> <p>Test 4</p>	<p>Test 1 As you can see instead of the desired two three appear, I believe the issue is that in the method which creates the extra button it also increments the patient's number of admissions attribute. After believing to fix the issue I have reset the accounts number of admissions to 0 as if like a new account and as expected the issue has been resolved</p> <p>Test 2 The issue was in the method which extends the size of the array by one the array was iterating (to copy over the values) by the length of the new array(Which was 1 index too large)</p> <p>Test 3, when looking through the file it appeared that the areas affected where in the symptom area, when inspecting the method which pulls it from the GUI it was assigning the areas to the symptoms attribute straight after.</p>	<p>Test 1</p> <pre>//Creates New Admission if(e.getSource() == symptomRecommendationNewAdmissionBtn) //selection { createAdmission(); } //GUI Aspects currentAdmissionIndex = userPatient.numberOfAdmissions-1;//sets createAdmissionHomePagePanelGUI(); buttonBar.removeAll(); createButtonTopBarAdmission(); buttonList[currentAdmissionIndex].setEnabled(false); buttonList[currentAdmissionIndex].setBackground(selectedBttoColor); topBarNewAdmissionBtn.setEnabled(true); topBarNewAdmissionBtn.setBackground(darkButtonGrey); //the background color of the button }</pre> <p>before a iteration of the number of admissions was also called</p> <p>Test 2</p> <p>Test 3</p> <pre>if(chronicPains) { topAdmission.listSymptom[0] = symptomList.get(0).//sets attribute for object from component topAdmission.listSymptom[1] = symptomList.get(1).//sets attribute for object from component topAdmission.listSymptom[2] = symptomList.get(2).//sets attribute for object from component topAdmission.listSymptom[3] = symptomList.get(3).//sets attribute for object from component } int alreadyCount = 0; if(chronicPains==true){//selects determining if the checkbox had been selected topAdmission.listSymptom[alreadyCount]="Head"; } alreadyCount++; if(acutePains==true){//selects determining if the checkbox had been selected topAdmission.listSymptom[alreadyCount]="Neck"; } alreadyCount++; if(stiffnessInMuscle==true){//selects determining if the checkbox had been selected topAdmission.listSymptom[alreadyCount]="Shoulder"; } alreadyCount++; if(frequentRecurringPains==true){//selects determining if the checkbox had been selected topAdmission.listSymptom[alreadyCount]="Forearm"; } alreadyCount++;</pre> <p>The highlighted areas indicate which attribute is being assigned the ones not bunched together as you could imagine are for the areas</p>

21/01/20

Test 1

Now that the general admission instance has been created, the next logical step is to create the basic entities of the employees. To improve efficiency I will declare all the entry of the user parent class in one method and assign them to the respective subclass, however an issue I am running into is that I can't assign an object of user to employee.

Test 2

After copying over the patient's demographic file writing to the system I have now the chance to test the creation capabilities of the entity, if it goes well it should also be a swift process for staff entities

Test 1

```
public void createconsultant()
{
    Consultant tempConsultant = new Consultant(); //new in
    tempConsultant = createNewEmployee(); //assigns basic

    //ConsultantID
    //tempConsultant.consultantID = tmpSname;

    Management.java:57: error: incompatible types: User cannot be converted to Consultant
        tempConsultant = createNewEmployee(); //assigns basic attribute to employe
        ^
1 error
```

Test 2

```
[temp,Em,W]panF,nurdin,james,55,,crostom,PR269RA,09876543,English,null,12,12,12/12
@,0,
```

Test 1

After looking into the issue is down to the fact it can't be done, so instead I will have to do it on a per entity basis for both staff and consultant.

Anyway here I am testing the ID generation and as you can see it works perfectly.

Test 2

As you can see while it's good that no errors are thrown a few issues are still occurring

Test 1

```
12 LO;
13 MO;
14 N1;Nurdin,1@;
15 OO;
```

Surname
Nurdin

Test 2

N1;Nurdin,1@
username CNUR0000001

22/01/20

Test 1

Now that the demographic is working I will attempt to pull admissions onto the system, the process of adding them was copied and pasted from the prototype and held no issues here, I am getting a null pointer exception despite the fact the variable is clearly not null

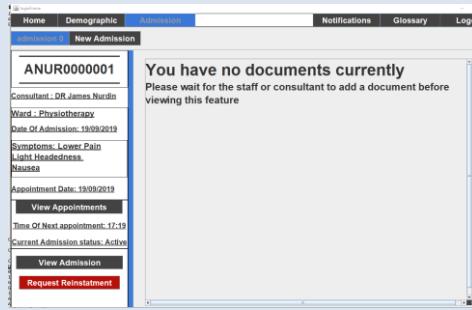
Test 2

As predicted the issue was fixed now all I need to do currently is attach the number of admissions (and documents to the system) As I made them global all it is a matter of replacing the old with the new

Test 1

```
idAABB000001  
Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException  
at Admissionlist.retrieveAdmission(Admissionlist.java:53)  
at Patient.retrievePatient(Patient.java:89)  
at Gui.setUpPatientObj(Gui.java:664)  
at Gui.actionPerformed(Gui.java:6164)  
at java.desktop/javax.swing.AbstractButton.fireActionPerformed(AbstractButton.java:593)  
at java.desktop/javax.swing.AbstractButton$Handler.mouseReleased(AbstractButton.java:562)  
at java.awt.Component.processMouseEvent(Component.java:6343)  
at javax.swing.JComponent.processMouseEvent(JComponent.java:3342)  
at java.awt.Component.processEvent(Component.java:6101)  
at java.awt.Container.processEvent(Container.java:2263)  
at java.awt.Component.dispatchEventImpl(Component.java:4900)  
at java.awt.Container.dispatchEventImpl(Container.java:2291)  
at java.awt.Component.dispatchEvent(Component.java:4732)  
at java.awt.LightweightDispatcher.retargetMouseEvent(Container.java:4882)  
at java.awt.LightweightDispatcher.processMouseEvent(Container.java:4595)  
at java.awt.LightweightDispatcher.dispatchEvent(Container.java:4527)  
at java.awt.Container.dispatchEventImpl(Container.java:2291)  
at java.awt.Window.dispatchEventImpl(Window.java:2765)  
at java.awt.Component.dispatchEvent(Component.java:4732)  
at java.awt.EventQueue.dispatchEvent(EventQueue.java:632)  
at java.awt.EventQueue.access$400(EventQueue.java:102)  
at java.awt.EventQueue$3.run(EventQueue.java:851)  
at java.awt.EventQueue$3.run(EventQueue.java:844)  
at java.security.AccessController.doPrivileged(AccessController.java:881)  
at java.awt.EventQueue.dispatchEvent(EventQueue.java:843)
```

Test 2



Test 1

The issue stemmed from the fact that while in the patient instance had been declared it wasn't initialised so had no predefined size for the array which was causing the error, this should fix the issue by initialising it

Test 2

As expected the plan worked and the transition was seamless however a small issue did crop up where like before a null pointer exception was being thrown this time it was due to the fact a global variable of the same name was being called instead of the desired instance's

Test 1

```
//before new account is created admissions are also pulled to the account  
Admission tempAdmission = new Admission(); //temp instance created  
int indexesOfAdmissions[] = tempAdmission.retrieveIndexesAdmissionsOccur(fileContents,tempPatient.listOfAdmissions);  
tempPatient.listOfAdmissions = new Admission[numberOfAdmissions];  
AdmissionList al = new AdmissionList();  
for(int counter = 0;counter<numberOfAdmissions;counter++)  
{  
    tempAdmission = al.retrieveAdmission(fileContents[indexesOfAdmissions[counter]]);  
    System.out.println(tempAdmission.admissionID+" IDDD");  
    tempPatient.listOfAdmissions[counter] = tempAdmission;
```

22/01/20

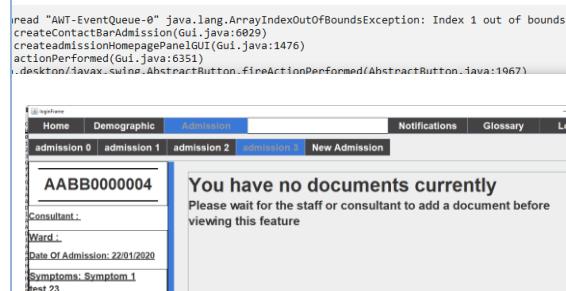
Test 1

Now that loading admissions is no issue I will sort out the creation of new ones, while from a back end perspective no issues occur it now needs to successfully incorporate any new ones the user adds, currently after adding a new admission an out of bounds error is thrown I believe that the issue is that the new admission isn't added to the system yet and will iterate for the number of admissions on the system which would have updated

Test 2

Unbelievably that fixed the issue, not only that but without realising,(due to my effective programming) the loading of admission tabs also work with the details changing between admissions

Test 1



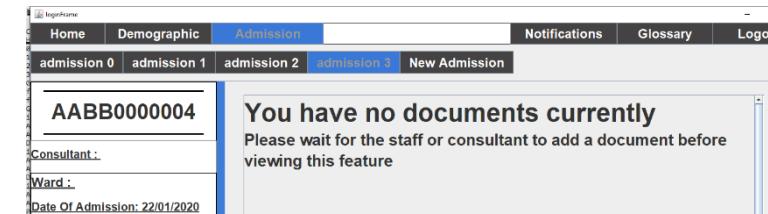
Test 1

While I do believe this has fixed an issue the same error has occurred at a different location where the new admission is added to the system, however I believe the issue now stems from the fact the list is actually dynamic and so I will need to extend the list to account for the new instance.

Test 2

To fix the issue as the original extend by one method was for string datatypes I overloaded the method to accept the different datatype of admission, now for whatever reason the list size will alter this can be called to amend it

Test 1

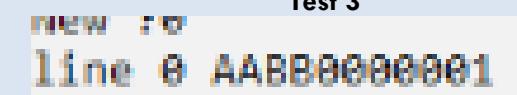


Test 2

```
AdmissionList Al = new AdmissionList();
tmpAdmission = Al.createNewAdmission(tmpAdmission,userPatient,areaArrayCounter);
userPatient.listOfAdmissions = userPatient.extendArrayList(userPatient.listOfAdmissions);
userPatient.listOfAdmissions[userPatient.numberOfAdmissions-1]=tmpAdmission;

if(loginChoice!=0)
```

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
23/01/20	<p>Test 1</p> <p>While testing on the system I have found a new error, when creating an account with zero admissions and trying to create one a null pointer is thrown at the user preventing the creation of the admission, despite this the admission is still written to file</p>	<p>Test 1</p> <pre>Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException at User.extendArrayByOne(User.java:202) at Gui.createAdmission(Gui.java:1462) at Gui.actionPerformed(Gui.java:6660) at java.desktop/javax.swing.AbstractButton.fireActionPerformed(AbstractButton.java:1992) at java.desktop/javax.swing.AbstractButton\$Handler.actionPerformed(AbstractButton.java:2305) at java.desktop/javax.swing.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:405) at java.desktop/javax.swing.DefaultButtonModel.setPressed(DefaultButtonModel.java:260) at java.desktop/javax.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:264)</pre>	<p>Test 1</p> <p>The issue stemmed from surprisingly the patient initialisation way at the beginning of the program, in the initial call statement a selection construct which initialises this array for the admissions is set inside here so if there are no admissions for the user no array is created hence when an admission is wanted to be added it can't as the array hasn't been declared</p>	<p>Test 1</p> <pre>if(tempPatient.numberOfAdmissions!=0) { System.out.print("Got here"); //before new account is created admissions are also pulled to the account Admission tempAdmission = new Admission(); //temp instance created //Here an array of indexes are pulled from the patients account here all the lines which posses a int indexesOfAdmissions[] = tempAdmission.retrieveIndexesAdmissionsOccur(fileContents,tempPatient); System.out.print("Got here 2"); tempPatient.listOfAdmissions = new Admission[tempPatient.numberOfAdmissions]; AdmissionList al = new AdmissionList(); for(int counter = 0;counter<tempPatient.numberOfAdmissions;counter++) al.add(admission);</pre> <p>The fix is pretty easy all I need to do is attach an else statement setting the size of the array as 0</p>

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
26/01/20	<p>Test 1 Now started on the moving over of consultants this will probably be one of the more advanced file handling process on the system, so to compensate I have tried to plan ahead and comment my plan of action the initial test is to certify that the method will work</p> <p>Test 2 Now that I have the ability to find the index where the admission should reside an issue where the admission is appearing at the first line instead of the third</p> <p>Test 3 Now the ability to add new admissions has been included the ability to add new admissions is next up similarly it uses the same code but instead of searching for the new patient location it finds the new admission position, however I am getting this issue thrown after looking into it by printing every line it appears that every</p>	<p>Test 1</p>  <pre>public void moveAdmissionBetweenAdmission(Admission toBeUpdatedAdmission,Str{ ... //check to see if the admission still has the consultant as pending System.out.println("old id "+toBeUpdatedAdmission.consultantID); ... //pull consultant //check if the patient is with the consultant //check to see if the admission is the only one on the system //if yes remove the patient entirely //if no just the admission //if yes skip deleting process //pull new consultant //find check to see if consultant already has the patient for new admission ... //if yes just add admission //if no add new location for patient //add new admission } test 2</pre> <p>line1 PABB000001AABB0000001 line 2 CTOM000001,ETOM000000,u^c0_\V,Tomkin: Admission added Test 23,0,temp</p> <p>Test 3</p> <pre>position0 w ?0 for java.lang.StringIndexOutOfBoundsException: begin 0, end 11, length 1 at java.base/java.lang.String.checkBoundsBeginEnd(String.java:3 at java.base/java.lang.String.substring(String.java:1874) at User.searchPrimaryKeys(User.java:488) at Admission.moveAdmissionBetweenAdmission(Admission.java:91) at Gui.updateAdmission(Gui.java:1502)</pre>	<p>Test 1 While not the most unique method before the old consultant exists any old values from the initial developing of the consultant i.e (pending) can be checked to remove time of processes like removing the old consultant as they wouldn't time is not wasted. As you can see the correct value is passed so we can continue with the plan.</p> <p>Test 2 The issue stemmed from the fact that the search method dealt with the array starting after the demographic information as I passed the array after index two it thinks the start of the array is actually at index 2 so I will need to add on 2</p> <p>Test 3 After testing the split function it seems that the value of causes the system to</p>	<p>Test 2</p> <p>line1 CTOM000001,ETOM000000,u^c0_\V,Tomkins,James,55,Town Roa line 2 Test 23,0,temp Admission added PABB000001AABB0000001</p> <p>As you can now see the admission as been amended to the correct line</p> <p>Test 3</p>  <p>As you can see this has resolved the issue and no errors are being thrown</p> <p>Test 4</p> <p>000001,CNUR000000,IZGISTR,NURUIN,James,22,TOWN R t#wetwet,0,wersdf 000001,AABB0000001#AABB0000002#AABB0000003#</p> <p>Test 6 The fix simple all I had to do was call the writing of the new admissions before the demographic attributes get updated</p> <p>Test 23,1,temp</p> <p>PABB0000001,AABB000</p>

character is being split into separate indexes

Test 4

Now that the ability to add patients is done I need to make sure that the function of updating them works too

Test 5

Now to work on the removing of old admissions, initially the majority of the code is the same as the process of retrieving it is similar however a couple of issues have cropped up.

Mainly it has somehow copied the entirety of the consultant of 1 to another

Test 6 One slight tweak needed on the system the inclusion of the number of patients needs to change to reflect the new number, this value can call upon the update advanced demographic update method, however despite this the method fails to decrement but manages to update it.

```
Line 0 P  
Line 1 A  
Line 2 B  
Line 3 B  
Line 4 B  
Line 5 B  
Line 6 B  
Line 7 B  
Line 8 B  
Line 9 B  
Line 10 B  
Line 11 ,  
Line 12 A  
Line 13 A  
Line 14 B  
Line 15 B  
Line 16 B  
Line 17 B  
Line 18 B  
Line 19 B  
Line 20 B  
Line 21 B
```

As you can see it is printing every line of the array which contains the split version of the contents

Test 4

```
line 0 AABB0000001  
line 1 AABB0000002
```

As you can see the array of admissions now contain the correct admission

Test 5

This is the updated file of CNUR0000001

Test 6

```
Test 23,2,temp  
PABB0000001,AABB0000007#AABB0000001
```

As you can see only 1 patient exists but the value 2 indicates that two will be read

split every character, to avoid these issues again I will use the character #

Test 4

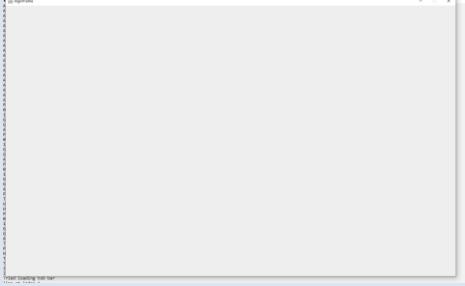
All to do now is write it to file, then we are done

Test 5

The issue stemmed from the fact the file address was using the consultant id of the new desired consultant and not the old one, so while in ram the array would be correct the new array would not be correct and the old one would be unaffected

Test 6

The issue stemmed from the fact that the write method to update the file for the admission was called after, however as the change method was called earlier it meant that while at some point the file would have had the correct value it was overwritten by the old one.

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
27/01/20	<p>Test 1 With a simple day the process of pulling over the consultants' admissions have gone on well with all the admissions relative to the consultant being able to be seen by the consultant, however when trying to view the admission an error is being thrown</p> <p>Test 2 Now that the screen can be viewed for the patient, when trying to view the consultants after produces an empty panel</p>	<p>Test 1</p> <pre>line at index 0 Exception in thread "AWT-EventQueue-0" java.lang.NullPointerException at Gui.updateditAdmissionComponents(Gui.java:2627) at Gui.createDemographicComponentsGUI(Gui.java:2313) at Gui\$3.actionPerformed(Gui.java:3778) at java.desktop/java.awt.AbstractButton.fireActionPerformed(AbstractButton.java:3192) at java.desktop/java.awt.AbstractButtonHandler.actionPerformed(AbstractButton.java:100) at java.desktop/java.awt.DefaultButtonModel.fireActionPerformed(DefaultButtonModel.java:385) at java.desktop/java.awt.DefaultButtonModel.setPressed(DefaultButtonModel.java:288) at java.desktop/java.swing.plaf.basic.BasicButtonListener.mouseReleased(BasicButtonListener.java:187) at java.desktop/java.awt.Component.processMouseEvent(Component.java:6632) at java.desktop/java.awt.Component.processEvent(Component.java:3342) at java.desktop/java.awt.Container.processEvent(Container.java:2263) at java.desktop/java.awt.Window.dispatchEventImpl(Window.java:2807) at java.desktop/java.awt.Component.dispatchEvent(Component.java:4700) at java.desktop/java.awt.EventQueue.dispatchEvent(EventQueue.java:624) at java.base/java.util.concurrent.ThreadPoolExecutor\$Worker.run(ThreadPoolExecutor.java:1138) at java.base/java.lang.Thread.run(Thread.java:834)</pre> <p>Test 2</p> 	<p>Test 1 To fix the issue all I did was overwrite the original demographic code to accept the userPatient, while passing the data itself was not the issue, it was having the ability to use the patient as the type of user but not have them being logged in</p> <p>Test 2 The reason an empty panel was being created was due to the fact I believe it was trying to add the same instance to the array panel causing an issue, the fix while simple is rather clever, what has happened is that for the normal demographic method an if statement is called checking that the current panel is not the one it will add(if yes the panel is removed before being added back) what is clever despite it being in the normal method it will only be called when the patients demographic is viewed first</p>	<p>Test 1</p> <pre>//As the attributes are assigned to a specific object a selection statement is ran to //respectively once determined all the instances attributes are then assigned to //Finally the components are then attached to the GUI public void createDemographicComponentsGUIGeneral() {</pre> <p>Test 1</p> <pre>//AN OVERWRITTEN VERSION TO MAKE SURE THAT THE ADMISSION VERSION ON THE STAFF SIDE public void createDemographicComponentsGUIGeneral(Patient userPatientLocal) {</pre> <p>Test 2</p> <pre>===== graphical aspect ===== public void createdemographicHomepagePanelGUI() {</pre> <p>Test 2</p> <pre>public void createdemographicHomepagePanelGUI() { createTopbar(demographicHomepagePanel);//the top multiuse bar is then if(panelOrder[endPanelPointer]==demographicHomepagePanel) { removePanel(); } createDemographicComponentsGUIGeneral();//the components of the panel addPanel(demographicHomepagePanel); }</pre>

28/01/20

Test 1

Now the task will be to create documents on the system(Reading them can come later once I have data work from) The old GUI has been utilised and can be changed later currently the task of file writing is being dealt with. Currently the actual data is ready to be written it is just the data needs to be written to the correct location. The current issue is updating the current admissions number of documents, the aim is to use the current updating method from the GUI however it requires the object of patient

Test 2

Now that the incrementing of the line works the current challenge is to make sure that the correct location can be recovered by the system

Test 1

```
//Method used to update the patients admission on the system  
public void updateAdmission(Patient patient, Admission admission, int numOfAreas)  
{
```

This is the method which will update the admission and write to file however the available attributes:

```
public Admission createNewDocument(Document newDocument, Admission parentAdmission, String patientID)  
{  
    parentAdmission.numberOfDocuments++;  
    //now update the patients file with the new document size  
    Darlene Rambaran -> www.DarleneV1.
```

Test 2

As you can see here it worked on the initial test so nothing is left to do but concatenate the document and write it to file

```
file line info 14 ABBB000001  
PABB0000001, Jpks4Na, Abbot, James, 55, Town Road, Croston, PR269RA, 07484727992, English  
AABB0000001, CTOM0000001, 0, PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, false  
AABB0000002, CNUR0000001, 1, PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, false  
AABB0000003, CNUR0000001, 1, Urology, Infection@, false, 24/01/2020, Prostitus, Hips@  
AABB0000004, CNUR0000001, 0, PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, false  
AABB0000005, CNUR0000001, 0, PENDING, Cold@Symptom 2@Symptom 3@Symptom 4@, false, 24  
AABB0000006, PENDING, 0, PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, false, 24
```

Test 1

While unideal the work around is to just use the patientID passed through and pull the instance of patient and then use that to pass through as a parameter.

Test 2

Now that the index is found and that the array has made space for the document all that is left is to concatenate the document and then add it to the array and write it to file.

```
public Admission createNewDocument(Document newDocument, Admission parentAdmission, String patientID)  
{  
    parentAdmission.numberOfDocuments++;  
    //now update the patients file with the new document size  
    Patient tempPatient = new Patient();  
    tempPatient = tempPatient.retrievePatient(patientID);  
    AdmissionList al = new AdmissionList();  
    al.updateAdmission(tempPatient, parentAdmission, 12);  
    return(parentAdmission);  
}
```

As you can see the method will update the instances number of patients then will write them to file

Test 2

As you can see the document has been successfully added to the file:

```
File Edit Format View Help  
PTOM0000001, ^te`dj3, Tomlinson, James, 55, Town Road, Croston, PR269RA, 0748472799  
ATOM0000001, CNUR0000001, 3, PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@,  
DTOM0000001@28/01/2020 17:47@Discharge Document@Due to sufficient evidence  
DTOM0000002@28/01/2020 17:47@Consultant Notes@##Yours sincerely#Written and  
DTOM0000003@28/01/2020 18:28@Discharge Document@Due to sufficient evidence
```

30/01/20

Test 1

An unforeseen issue has risen with the creation of documents with the id being the wrong value as seen on the screenshot

Test 1

```
AABB0000004,CNUR0000001,1,PENDI  
DABB0000005@30/01/2020 24:38@Pr
```

Despite there being one document (value after consultant) the document ID is 0000005, this will pose a major issue later on and will need to be addressed before I can move into the bookings

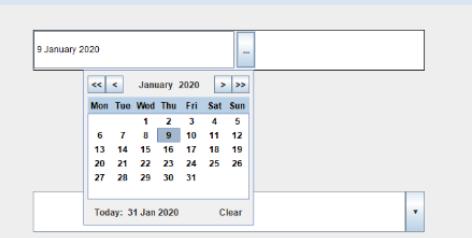
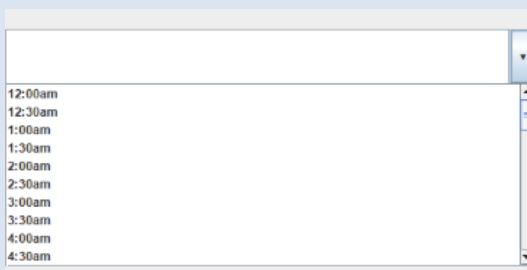
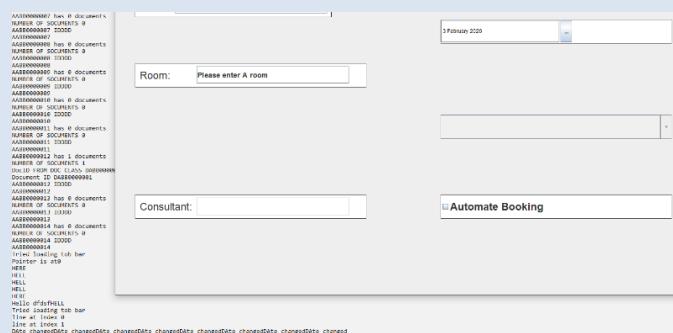
Test 1

The issue was found by trying to print out how many documents were present on the system on realising that I had forgot to change the array that holds the Document id from the patients ID to the universal GUI on, as a result despite being at admission index 4 for the consultant it could be 4 onwards to the max.

```
buttonList[currentAdmissionIndex].setBackground(selectedBttcColour);//the background colour of the component is declared to the desire  
System.out.println("NUMBER OF DOCUMENTS ++++++++" +userPatient.listOfAdmissions[currentAdmissionIndex].numberOfDocument:  
buttonList[currentAdmissionIndex].setBackground(selectedBttcColour)//the background colour of the component is declared to the  
System.out.println("NUMBER OF DOCUMENTS ++++++++" +systemAdmissionList[currentAdmissionIndex].numberOfDocuments);
```

```
String s  
AABB0000004,CNUR0000001,2,PENDI  
//ID  
String : DABB0000001@30/01/2020 24:38@E  
DABB0000002@30/01/2020 22:41@C  
numberofDocuments+1+"
```

After rectifying any existing errors (when trying to create the second document) the error has seemed to be fixed, the process will be tested thoroughly later so now I can focus on the booking page

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
31/01/20	<p>Test 1</p> <p>After importing a package containing a custom date picker and time picker I struggled to import the class due to errors in the import statement matching the subsidiary class paths, when that was fixed I managed to get a basic date picker and timer picker running(See image 1). However with the time picker the list of dates where not fully relevant (ridiculous to have an appointment at 12 am).</p> <p>Test 2</p> <p>The next major issue is the creation of an action listener for the date picker, as the time picker is reliant on the date we will need to select the date before finding the time however an issue happens as Date picker does not get affected by ActionListener.</p>	<p>Test 1</p>  <p>As you can see it works as normal, below you can see the time</p> 	<p>Test 1</p> <p>Due to strong documentation (from the external file) I have managed to examine the source code and use its built in functionality to enter custom time periods. I've been able to create a customer Time picker with a custom time set, I should be able to use a custom time set for the consultant for each day.</p> <p>Test 2</p> <p>To fix the problem I had to consult the demo example in which the original author created their own lisnter, so all I had to do was call an instance of it</p> <p>Test 3</p> <p>The Workaround for this was complex. As the static class is inside the general class we can call the variable of TimePicker (but this is generalised not entity specific), next instead of creating a new instance of changedDateListner every new button we will call the same instance so we had to declare it at the start</p>	<p>Test 1</p>  <p>4:30am</p> <p>Test</p> <pre>ArrayList<LocalTime> localTimeArray = new ArrayList<LocalTime>(); //Decl localTimeArray.add(LocalTime.of(4, 30)); //Adds new instance to array TimePickerSettings timeSettings = new TimePickerSettings(); //Creates a timeSettings.generatePotentialMenuTimes(localTimeArray); //Sets the avai TimePicker timePicker1 = new TimePicker(timeSettings); //Creates new ins timePicker1.setLocation(745, 463); //sets the location of the component timePicker1.setSize(530, 55); //size of component is set viewAppointmentPanel.add(timePicker1);</pre> <pre>private static class SampleDateChangeListener implements DateChangeListener { @Override public void dateChanged(DateChangeEvent event) { System.out.print("DAte changed"); } }</pre> 

01/02/20

Test 1

Now that the Datepicker and TimePicker at a state I think that can be left alone for a while, I need to get the actual bookings generated from the components. The initial test here is to see that the Data types of Local Date and Local Time get correctly converted to Java utilities date

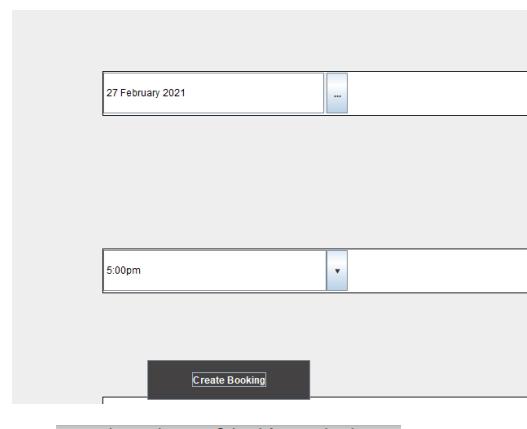
Test 2

Now that I have everything I need to create the booking all I need to do is: concatenate it, add it to the patient/consultants file and write them to file. Currently I am about to test the writing of the booking to the array.

Test 3

Since finishing the file writing for the patient, I have been unable to even load the system when the consultant tries to enter the system, with a unique error being thrown, I believe it stems from the admission list class in which it tries to read the booking as a document

Test 1



Date changedDATE of booking 27/02/2021
Time of booking 17:00

Test2

```
25
24
25
Admission ID BOOKING AAB80000001
Admission ID BOOKING AAB80000002
Found the admission at index 3
AAB80000001, jnks4Na, Abbot, James, 55, Town Road, Croston, PR269RA, 07484727992, English,
AAB80000003, CNUR00000003, 0, PhisoTherapy, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, f
AAB80000002, CNUR00000001, 4, thiseotherapy, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, f
DAB800000003@03/01/2020 24:38@Discharge Document@Due to sufficient evidence provided
Nurdin has discharged this patient as of typing#of this document.#If a recurrence
ltant General Surgeon@0
DAB800000002@03/01/2020 22:70@Test Results Document@currentDocument,testResults#@You
DAB800000004@03/01/2020 22:9@Discharge Document@Due to sufficient evidence provided
Nurdin has discharged this patient as of typing#of this document.#If a recurrence
ltant General Surgeon@0
AAB80000003, CNUR00000001, 2, Urology, Infection@, false, 24/01/2020, Prostititus,Hips@Shou
DAB80000001@28/01/2020 21:59@Discharge Document@Due to sufficient evidence provided
Nurdin has discharged this patient as of typing#of this document.#If a recurrence
ltant General Surgeon@0
DAB80000002@28/01/2020 21:59@Discharge Document@Due to sufficient evidence provided
Dr Nurdin has discharged this patient as of typing#of this document.#If a recurrence
nsultant General Surgeon@0
AAB80000004, CNUR00000001, 2,PENDING, Symptom 1@Symptom 2@Symptom 3@Symptom 4@, false,
```

Test 3

```
java.lang.NumberFormatException: For input string: "Shoulder"
    at java.base/java.lang.NumberFormatException.forInputString(NumberFormatException.java:65)
    at java.base/java.lang.Integer.parseInt(Integer.java:62)
    at java.base/java.lang.Integer.parseInt(Integer.java:770)
    at java.base/java.lang.Document.(Document.java:29)
    at java.base/java.util.ArrayList.(ArrayList.java:88)
```

Test 1

As you can see the dates got correctly converted from their old values into their new ones, while not the most simple of techniques im glad it works

Test 2

As the booking was for the 2nd admission and appears before the documents I am happy to say it is a success all to do is add the data and write it to file and repeat for the consultant

Test 3 As I was able to predict the error before it had occurred I was ready to fix it immediately and as predicted the issue was resolved, all I had to do was have a selection system for a two state Scenario, either a booking exists or it doesn't so if we check it exists we can just move the starting pointer an index down or not

Test 1

```
public void createBookingInstance()
{
    Booking newbooking = new Booking();

    //CONVERTS LOCAL DATE TO DATE
    //before assigned needs to check that it is validated (Not in the past)
    Component dateBookingBox=dateBookingBoxBooking.getComponent(); //inner
    Localdate localDateData = ((DatePicker) dateBookingBox).getDate();
    Date date = Date.from(localDateData.atStartOfDay(ZoneId.systemDefault()).toInstant());

    //CONVERTS LOCAL TIME TO DATE (ACTUAL DAY DOESN'T MATTER)
    Component timeBookingBox=timeBookingBoxBooking.getComponent(); //declares local copy of the time picker
    Localtime localtimeData = ((TimePicker) timeBookingBox).getTime(); //gets the local time of the timepicker
    //attempts to convert localtime into date
    Instant instant = localtimeData.atDate(LocalDate.of(2002, 05, 28)).atZone(ZoneId.systemDefault()).toInstant();
    Date time = Date.from(instant);

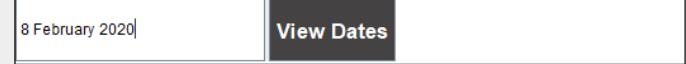
    //Both attributes are stored as Date
    newbooking.timeOfNextApp = time;
    newbooking.dateOfNextApp = date;

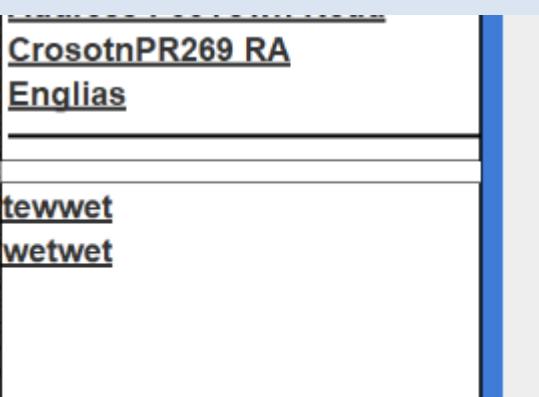
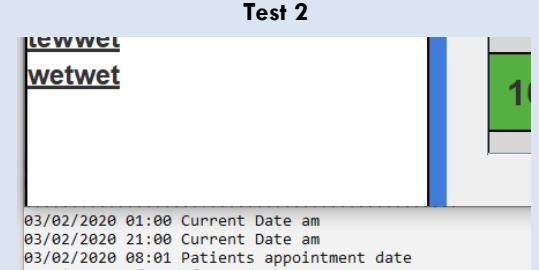
    System.out.println("Date of booking "+ft.format(newbooking.dateOfNextApp));
    System.out.println("Time of booking "+timeft.format(newbooking.timeOfNextApp));
}
```

Test 2

```
public Booking createBooking(Patient currentPatient, Admission currentAdmission, Booking newBooking)
{
    String concatenatedBooking="";
    int desiredIndex = -1;
    String[] fileContents = rffReturnFullFile(currentPatient.patientID+"_file.txt"); //returns the patients full
    //Returns an array of all the indexes every admission is located in the system
    int[] indexesAdmissionOcursAt = currentAdmission.retrieveIndexesAdmissionsOcurr(fileContents,currentPatient);
    Forloop: //search for the index the current admission is at on the file of the system
    for(int counter = 0;counter<indexesAdmissionOcursAt.length;counter++)
    {
        if(currentAdmission.admissionID.equals(fileContents[indexesAdmissionOcursAt[counter]].substring(0,11)))
        {
            desiredIndex = indexesAdmissionOcursAt[counter]+1; //sets the index of the booking to be the immediate
            break Forloop; //since the item has been found the loop jumps out
        }
    }
    //creates a copy of the contents read from file
    String[] copyOfList = new String[fileContents.length+1];
    //copies everything before the desired index
    for(int index = 0;index<desiredIndex;index++)
    {
        copyOfList[index]= fileContents[index];
    }
    copyOfList[desiredIndex] = concatenatedBooking; //adds booking to file
    //adds the rest of the data to the contents file
    for(int index = desiredIndex+1;index<fileContents.length;index++)
    {
        copyOfList[index]= fileContents[index];
    }
    fileContents = copyOfList;
}
```

Test 3

02/01/20	<p>Test 1</p> <p>Today I have been looking at the constructor and available methods from the Datepicker java file and found the getComponentToggleCalendarButton method which returns the instance of the button, hopefully I'll be able to customise the button a little</p>	<p>Test 1</p> 	<p>Test 1</p> <p>Now that I know how it works I should be able to format it to look like the normal buttons on the system.</p>	<p>Test 1</p>  <p>Whilst I am at it I will amend the text field to fit the look of the panel.</p>
----------	--	---	---	---

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
03/02/20	<p>Test 1 Now that the method which reads the bookings has been finished, all that I need to do is transform the string multidimensional jagged array into a datatype of booking.</p> <p>Test 2 Now that it can read all the bookings I want to select all the bookings that occur on todays date, I have placed the selection statement inside the section which used to output all the appointments, it should work by concatenating both the appointments time and date and compare the value against the todays date between two extreme time periods.</p>	<p>Test 1</p>  <pre>BABBB0000006 BOOKINGID Thu Jan 01 07:01:00 GMT 1970 TIME Fri Feb 14 00:00:00 GMT 2020 DATE false AUTOMATE 234587654 ROOM</pre> <p>Test 2</p>  <p>The first two lines are the boundaries the lines with appointment date are bookings, What you can see is that it accepts the first booking as it is todays date but not for the other indicating working functionality.</p> <p>If not already expressed any expired appointments are kept on the system but are just overlooked and are kept until overwritten</p>	<p>Test 1</p> <p>As you can see the booking entities get correctly initialised and outputted. It works by reading the line under where the patient occurs, if it sees that a B exists it knows that a booking occurs the number of lines below the patient indicates the number of bookings there are</p> <p>Test 2</p> <p>As you can see the test worked and the correct list of appointments got returned</p>	<p>Test 1</p> <pre>int innerCounter = counter+1;//index bookings would start int numberOfBookings= 0;//numberofbookings on the system //For ever line a booking exists will iterate until we reach a document or admissions //Here we are just counting the bookings each patient has on the system WhileLoop: while(fileContents[innerCounter].substring(0,1).equals("B")==true) { //System.out.println("Condition met");//indicates a booking has been found numberOfBookings++; innerCounter++;//iterates index if(innerCounter==fileContents.length)//either the next value is a new patient { break WhileLoop;//escapes loop } } if(numberOfBookings==0)//avoids null pointers if no bookings for a patient//will { System.out.println("Empty booking created"); Booking[] bookingList = new Booking[1]; Booking tempBooking=new Booking(); tempBooking.room = "null";//inserts value indicating that the patient has no bookingList [0]=tempBooking; consultant.listOfBookings[positionOfPatient]=bookingList; } else if(numberOfBookings>0)//avoids null pointers if no bookings { //creates a list of admissions with the correct length Booking[] bookingList = new Booking[numberOfBookings]; innerCounter = counter+1;//sets the start point in which the bookings will be for(int innerCount = 0;innerCount<bookingList.length;innerCount++)//Will iterate { Booking newBooking = new Booking();//new instance of booking created bookingList[innerCount] = newBooking.retrieveBooking(fileContents[innerCount]); innerCounter++; } consultant.listOfBookings[positionOfPatient]=bookingList;//Adds the list of //Each iteration checks each patient } positionOfPatient++; Test 2</pre> <pre>if((patientsBookingDate.compareTo(todaysDateLate)<0) &&(patientsBookingDate.compareTo(todaysDateEarly)>0))//Will output a booking is found { System.out.println("Appointment found for today");//Will output a booking is found todaysAppointments[startingBookingIndex] = consultant.listOfBookings[counterBookingsOuter][counterBookingIndex]; startingBookingIndex++; }</pre>

04/02/20

Test 1

Now I am working on the hashing algorithm which will sort the times into the correct locations, a sort is not used as some values will be null, and the start and end points will not fluctuate if for instance booking x has a time of 10:00 they will go index 4, this test is going to work out the double value of time i.e 10:30 => 10.5

Test 1

```
*****  
Appointment found for today at time Thu Jan 01 14:31:00 GMT 1970  
Appointment found for today at time Thu Jan 01 10:31:00 GMT 1970  
Appointment found for today at time Thu Jan 01 09:31:00 GMT 1970  
Thu Jan 01 14:31:00 GMT 1970 has a decimal equivlent of 14.5  
Thu Jan 01 10:31:00 GMT 1970 has a decimal equivlent of 10.5  
Thu Jan 01 09:31:00 GMT 1970 has a decimal equivlent of 9.5
```

The first block has already been tested but the second shows the conversion of a Date datatype to double from this we can use the custom equation to derive the index

$$\text{index} = (\text{decimalEquivlent} - 8) \text{DIV} 0.5$$

Test 1

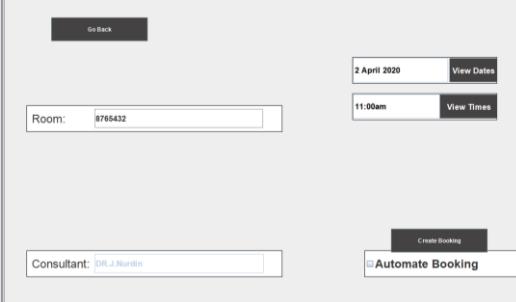
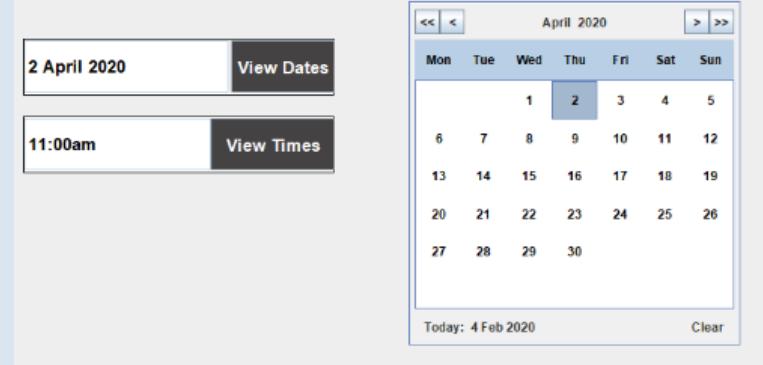
Now that the formula has been included which returns the index I have finished the list of bookings for the consultant, this will get returned back to the consultant which can then be used for the upcoming appointments graphical interface, as they are

Test 1

```
Appointment found for today at time Thu Jan 01 14:31:00  
Appointment found for today at time Thu Jan 01 10:31:00  
Appointment found for today at time Thu Jan 01 09:31:00  
line 0 is null  
line 1 is null  
line 2 is null  
line 3 is booking BABB0000015  
line 4 is null  
line 5 is booking BABB0000003  
line 6 is null  
line 7 is null  
line 8 is null  
line 9 is null  
line 10 is null  
line 11 is null  
line 12 is null  
line 13 is booking BABB0000001  
line 14 is null  
line 15 is null  
line 16 is null  
line 17 is null  
line 18 is null  
line 19 is null
```

Here is the hashing algorithm

```
{  
    //converts bookings date into a string  
    String currentBookingStrTime = timeft.format(todaysAppointmentsUnOrdered[counterBookingIndex]);  
    //attempts to convert the date into a double i.e 08=>0.8,  
    tempIndexComparisonValue = Double.parseDouble(currentBookingStrTime.substring(0,2));  
  
    //this accounts for the 30 mins  
    //System.out.println(currentBookingStrTime.substring(3,5)+" CONTENTS");  
    int halfPastTimeCheck = Integer.parseInt(currentBookingStrTime.substring(3,5));  
    if(halfPastTimeCheck==31)//The appointment is for half past blank  
    {  
        tempIndexComparisonValue = tempIndexComparisonValue+0.5;//will correctly adjust for t  
    }  
    //System.out.println(todaysAppointmentsUnOrdered[counterBookingIndex].timeOfNextApp+" has  
    double doubleindex = ((tempIndexComparisonValue-8.00)/0.5); //converts the decimal into th  
    //System.out.println("Double value of "+doubleindex);  
    String indexForBookingSTR = (doubleindex+"").substring(0,(doubleindex+"").length()-2); //co  
    int indexForBooking = Integer.parseInt(indexForBookingSTR); //converts it to int  
    //System.out.println("index "+indexForBooking);  
    consultant.todaysAppointments[indexForBooking]=todaysAppointmentsUnOrdered[counterBookingIndex]
```

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
04/02/20	<p>Test 1 Now that the user has the bookings sorted all we have to do is attach it to the method, As the method does not rely on arrays I will have to think carefully about how I will approach this</p> <p>Test 2 Now that the link to the appointment has been established now would be the best time to insert the data into each field</p>	<p>Test 1 As the times weren't regulated to my time scale I had to rework them, all I did was</p>  <p>patchEvent(EventDuration.java:742) rearrange the formula from the hashing algorithm and we are nearly done we just need to format it correctly</p> <p>Test 2</p> 	<p>Test 1 To attach the patient's id to the description box a new basic attribute has been attached to the booking entity, however this will only be used for this feature and is only assigned for this section so doesn't need to alter current file structures to compensate for it.</p> <p>Test 2 Here you can see a few changes have occurred for instance the box sizes have been adjusted and the font has been altered by looking into the settings classes respectively</p>	<p>Test 1 Test 2</p> 

04/02/20

Test 1

Now to focus on more important issues, first we will need to get the search that finds every booking for a particular day working. This will be needed to eliminate any bookings at certain times to prevent double bookings from occurring

Test 2

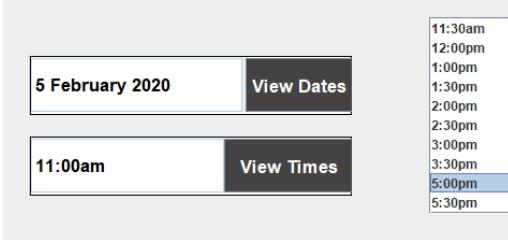
AS expected the method works beautifully, had an issue before where the box was not updating but that was due the actual array not being reassigned to the Time picker after that it now works

Test 1



Existing date found
Existing date found
Existing date found

Test 2



```
1 tewwet#wetwet,1,wersdf
2 PABB0000001,AABB0000001#AABB0000003#AABB0000013#AABB0000015#
3 BABB0000001,11:01,05/02/2020,false,100
4 BABB0000003,16:01,05/02/2020,false,876543
5 BABB0000013,16:31,05/02/2020,false,23456709
```

As you can see the times of 4 and half 4 are missing

Test 1

As you can see the search works perfectly it managed to pull the three bookings with the date of 05/02/20 the next step will be to then convert the time into local time and remove it from the array list.

I think readding it every subsequent one will work well

Test 2 As you can see the actual removing of data from the array is all handled by the function remove(time), this will directly remove the time(as they are exactly the same). At the end the new list is added to the time picker regardless if it has removed any times or not

Test 1

```
1 tewwet#wetwet,1,wersdf
2 PABB0000001,AABB0000001#AABB0000003#AABB0000013#AABB0000015#
3 BABB0000001,11:01,05/02/2020,false,100
4 BABB0000003,16:01,05/02/2020,false,876543
5 BABB0000013,16:31,05/02/2020,false,23456709
6
7
}
}
```

Test 2

```
FOR CHECKING IF THE CORRECT DATE IS THERE
check
outerBookingArrayIndex = 0;outerBookingArrayIndex<userConsultant.listOfBookings.length;
int innerBookingArrayIndex = 0;innerBookingArrayIndex<userConsultant.listOfBookings[outerBookingArrayIndex].length;
System.out.println("current booking"+userConsultant.listOfBookings[outerBookingArrayIndex]);
if(userConsultant.listOfBookings[outerBookingArrayIndex][innerBookingArrayIndex].getTime() == time)
{
    System.out.println("Existing date found");
    try{
        timeRetrieved = LocalTime.parse(timefmt.format(userConsultant.listOfBookings[outerBookingArrayIndex][innerBookingArrayIndex].getTime()));
        System.out.println(timeRetrieved+"");
        localTimeArray.remove(timeRetrieved);
    }
    catch(Exception exc){}
}
```

What happens in the new part is that the Date datatype gets converted into string where it is then converted into local time, it can then directly remove it from the array list

04/02/20

Test 1

Now that the ability to add bookings is fully finished I can now get to work on getting them deleted, this will make way for the updating, as that will technically work as the booking being deleted and then being added back. As I already have a delete method for the admission changeover in place I will just copy its main processes and make it fit what I need

Test 1

```
c void deleteAdmission(Admission toBeUpdatedAdmission,Patient patient)

//this will locate and find the index the patient with the admission is located
Consultant oldConsultant = new Consultant();
oldConsultant = oldConsultant.retrieveConsultant(toBeUpdatedAdmission.consultantID);//uses id and existing method
String[] consultantFileOld = rffReturnFullFile(toBeUpdatedAdmission.consultantID+"_file.txt");
//admission search, using an overwritten method for the surname adding the system will search for the patient
int[] itemList = new int[2];
//find check to see if consultant already has the patient for new admissions
//System.out.println("old consultant search");
itemList = searchPrimaryKeyLinearConsultantSpecific(Arrays.copyOfRange(consultantFileOld,1,consultantFileOld.length));
//System.out.println("Position of patient old "+itemList[0]);
//System.out.println("New position of patient old ?"+itemList[1]);//this value should not occur we have selected
int indexOfPatientToRemoveAdmission = itemList[0]+2;//sets index as a variable
//now we need to find the admission
int[] itemListAdmissionOld = new int[2];
String[] listOfAdmissionsOnConsultantOld = consultantFileOld[indexOfPatientToRemoveAdmission].substring(1,consultantFileOld.length);
//now we need to delete the booking from the patient
deleteBookingPatientSide(patient,toBeUpdatedAdmission);
deleteBookingConsultantSide(oldConsultant,toBeUpdatedAdmission,listOfAdmissionsOnConsultantOld.indexOfPatientToRemoveAdmission)
```

```
AABB0000013,CNUR0000001,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,27/01/2020,PENDING,Head@  
BABB0000013,16:31,06/02/2020,false,23456789  
AABB0000014,PENDING,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,27/01/2020,PENDING,Neck@Head@  
AABB0000015,CNUR0000001,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,02/02/2020,PENDING,Head@
```

As you can see above this is the patients admission file, where the booking of BNUR00000013 is present, as you can see below the booking is no longer there, this is also the case for its instance in the consultatns file. However this only updates the file the admission will also need to be updaed

```
26  AABB0000012,CNUR0000003,1,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,27/01/2020,PENDING,Forearm@  
27  DABB0000001@30/01/2020 22:17@Consultant Notes@tseset ##Yours sincerely#Written and typed by#Mr. J Nurdin#Consultant  
28  AABB0000013,CNUR0000001,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,27/01/2020,PENDING,Head@  
29  AABB0000014,PENDING,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,27/01/2020,PENDING,Neck@Head@  
30  AABB0000015,CNUR0000001,0,PENDING,Symptom 1@Symptom 2@Symptom 3@Symptom 4@,false,02/02/2020,PENDING,Head@  
31  |
```

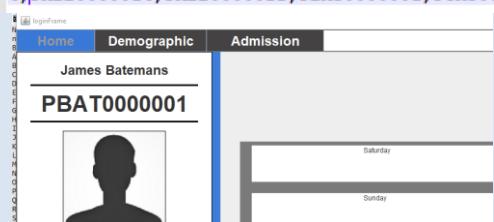
As you can see what happens is that the majority of the code works on estalibishing an instnace of the admissions consultatant after the consultant is intialised and then then the index of the patient is found. From this the method calls the delete statements which remove the booking text from that line.

6 February 2020

[View Dates](#)

4:30pm

[View Times](#)

Date	Current progress	Evidence	
06/02/20	<p>Test 1 Now that the main features of the consultant and patient are out of the way it is time to fill in the backbone of the staff, whilst most will run on the same methods the first real method will be assigning patients on the account, it will work by reading the staffs id and number of patients and will decide which entity has the least currently and assigns them the patient. (unless the staff leaves) they will always remain the same on the system</p> <p>Test 2 As you can see the patient has been added, however this was expected as it was manually added to the account</p> <p>Test 3 As you can see in the screen shot with the new fix it correctly adds patients to the file, as you can see also the binary search works as the correct index for PBAT000001, now I can work on pulling them from file when loading the entity</p>	<p>Test 1 06/02/2020,SHIL0000001,EHIL0000001,Uc4g2De,Hill,Tom,55,1,PABB0000014</p> <p>Test 2 1 SHIL0000001,EHIL0000001,Uc4g2De,Hill,Tom,55,1,PABB0000014 2 3</p> <p>Test 3 SHIL0000001,EHIL0000001,Uc4g2De,Hill,Tom,55,Tow 4,PABB0000014,PABB0000022,PBAT000001,PCAT00000 </p>	<p>Test 1 As of now the initial run has returned a string for the patient however the first thing to realise is that the staffid was not substringed and so contains the entirety of the staff's demographic, also current patients will need to have their accounts attached also</p> <p>Test 2 Now we need to get it to add new accounts when more than one exist to test the binary search correctly works</p> <p>Test 1 Queue-0" java.lang.ArrayIndexOutOfBoundsException: Index 0 out of bounds for length 0 eysLinear(User.java:551) When trying to add the first patient I received an out of bounds error, this will be because no patients exist of course to prevent the issue I have added an if statement to prevent this from occurring and else to manually enter the new patient.</p> <p>Test 2 SHIL0000001,EHIL0000001,Uc4g2De,Hill,Tom,55,Tow 21,PABB0000014,PABB0000022,</p> <p>Without realising I had left the write method in, while yes the method did write the new patient to the correct location the old number of patients gets concatenated with the new one. I believe the issue would be when concatenating all the patients together I start at index 1 and then add the new number to the front at the end</p>

07/02/20

Test 1

As the main point of the entity is to make sure that the patients details and are mostly correct, to help achieve this I have decided to help aid the staff in distinguishing whether admissions are missing information on their account. While not a major feature this will help aid usability

Test 2

While I am currently fixing functionality on the staff account, I will also need to include the ability to load the panel to amend the admission. The fix was to just change the selection construct to accept either the consultant or staff entity, however this just throws an illegal position error

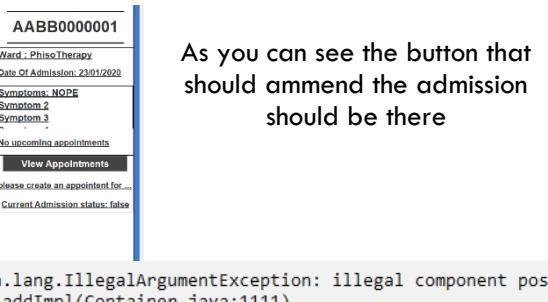
Test 1



As you can see the admission buttons highlight red, when there is important information missing on the account

Test 2

As you can see the button that should amend the admission should be there

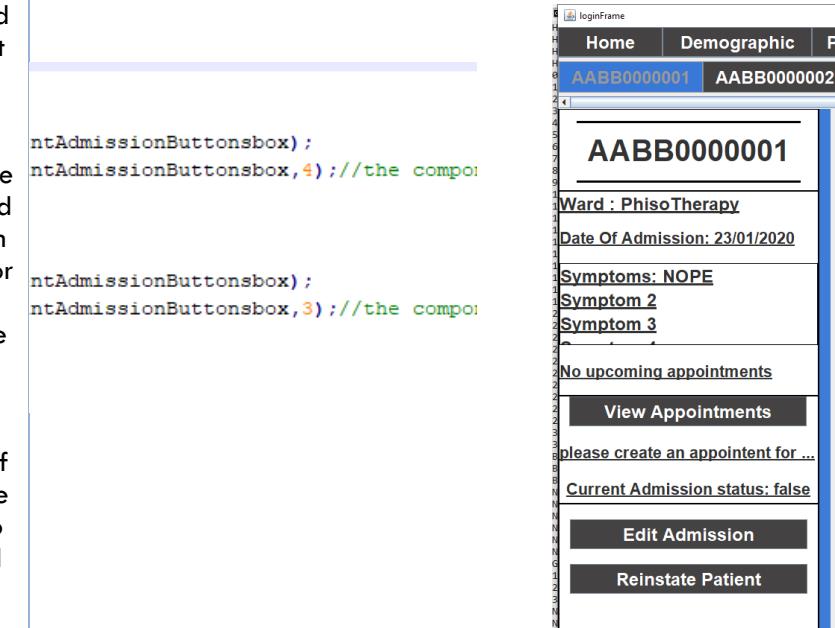


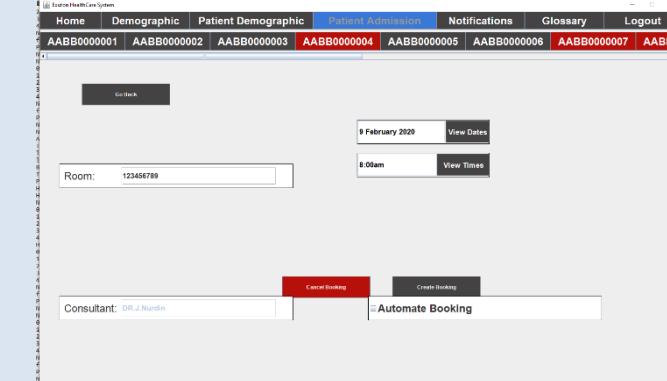
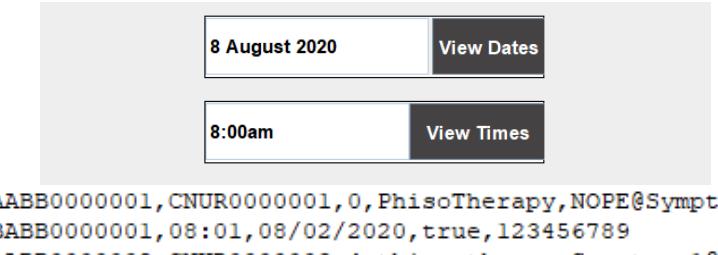
a.lang.IllegalArgumentException: illegal component position
.addTmn1(Container.java:1111)

Test 2

The issue stemmed from the fact that for the contact box the index is important to set the location for the entity, if an invalid index is called an error is thrown. For the consultant as they contain more objects attached to the panel, however as we are an instance of staff we have one less index and so cant be assigned directly. The fix will just to copy the method and change the index respectfully

Test 2



08/02/20	<p>Test 1</p> <p>With the staff entity when I tried loading a current appointment I kept receiving a null instance error and as a result was causing the panel to crash. As of now I have no idea what the exact issue is besides the fact it comes from updating the list of times</p>	<p>Test 1</p>  <p>9 February 2020 View Dates</p> <p>View Times</p> <pre>ui queue-> java.lang.NullPointerException at Gui.<init>(Gui.java:3635) at Gui\$1.<init>(Gui\$1.java:8533) at Listener.<init>(Listener.java:8533) at picker.components.DatePicker.<init>(DatePicker.java:896) at picker.components.DatePicker.<init>(DatePicker.java:831) at picker.components.DatePicker.<init>(DatePicker.java:561) at userConsultant.<init>(userConsultant.java:3482) at Gui.<init>(Gui.java:3193) at Gui.<init>(Gui.java:754) at wing.AbstractButton.<init>(AbstractButton.java:1967) at wing.ActionListener.<init>(AbstractButton.java:2308) at wing.DefaultButtonModel.<init>(DefaultButtonModel.java:495)</pre> <p>As you can see here the times fail to load despite it having the time</p>	<p>Test 1</p> <p>The issue was down to the fact at this moment of time the staff would not have loaded the instance of the consultant and so when it is compared the instance is null hence the error is thrown. The fix would be when the initial admission is selected the instance of consultant is initialised along with it</p>	 <p>As you can see as the instance of staff I am now able to read the appointments</p> <pre>setActiveAdmissionPanelBttn(buttonList[0]); if(loginChoice!=3) { userConsultant = userConsultant.retrieveConsultant(systemAdmissionList[0].consultantID); }</pre>
09/02/20	<p>Test 1</p> <p>A big test will be to check for the automatic bookings feature now I will need to check for a date that needs updating, if it does it will move the date back 6 months and will also update the bookings date (visually) if it works I will work on updating it from file</p>	<p>Test 1</p> <p>old booking found needs to be NEW DATE 08/08/2020</p>	<p>Test 1</p> <p>It was a success it works by converting the current Date into Local date and then comparing it with the current date, by having it in local date means we can later move it 6 months ahead much easier so we will keep it like this</p>	 <p>8 August 2020 View Dates</p> <p>8:00am View Times</p> <p>AABB000001, CNUR000001, 0, PhisoTherapy, NOPE@Symptom 2@S BABB000001, 08:01, 08/02/2020, true, 123456789</p> <p>It is called inside the assign values method as it will always update the values here, we don't need to worry for the scroll pane in the consultants panel due to the fact that the booking would not be visible at that point(only updates after the current date e.g. on the 9th bookings earlier than the 8 exclusive would get updated)</p>

09/02/20

Test 1

Now that the automatic button is working as intended I will now work on the pulling of legacy documents again the initial test will be pulling The absolute file path from the system

Test 2

Now we have the file We want to write we will need to create an image of it so it can be correctly written to file to Test whether or not it has correctly been initialised I will convert the create button into the image by setting the icon

Test 3

While I need to have the image loaded an important aspect to remember is that the image unless copied to a location in a designated part of the system would result in an eventual invalid absolute path to combat this I will also copy the image over to

Test 1



Test 2



Test 3

```
if(e.getSource() == createLegacyDocumentButton)
{
    //File newfile = new File(actualFilePathTF.getText());
    try {
        File inputFile = new File(actualFilePathTF.getText()); //gets the tempfile where
        BufferedInputStream bis = new BufferedInputStream(new FileInputStream(inputFile));
        //converts it to an image
        createLegacyDocumentButton.setIcon(new ImageIcon(bis));
        bis.close();
        System.out.println("New image written");
    } catch (IOException exc) {
    }
}
```

Test 4

As a test the human image will be used again

```
st[currentAdmissionIndex].numberOfDocuments+1)+".jpg";
```

Test 1

As you can see when the file is selected the file path is returned as we want all we have to do is constrict the user to only selecting files from a certain folder and of the type Jpgs.

Test 2

As you can see the image is correctly loaded so all we have to do now is copy the image into the desired file

Test 3 As you can see what should happen is a new file of the patient's should be generated to store the image, where an appropriate filename can be assigned, along with this it should save it as a Jpg into the legacy document folder in the main system

Test 5

Test 1

The filter works by only considering the files that consist of image extensions eg. Png JPEG etc.

```
public void createOldDocumentPanelGeneral()
{
    legacyFileChooser.setLocation(96,220);
    createOldDocumentPanel.add(legacyFileChooser);
    //System.out.println(System.getProperty("user.dir")+"filepath");
    legacyFileChooser.addChoosableFileFilter( new ImageFilter());
    legacyFileChooser.setAcceptAllFileFilterUsed(false);
}
```

Test 2

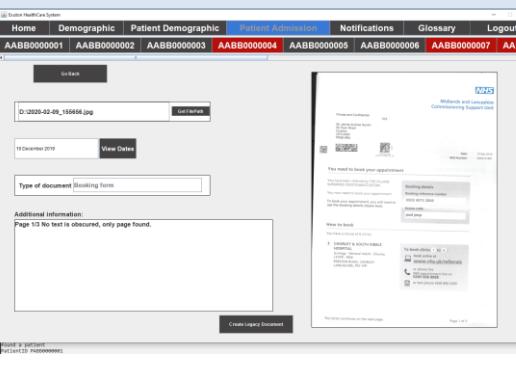
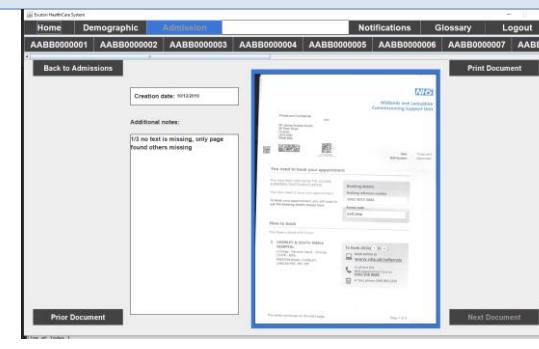
```
File newfile = new File(actualFilePathTF.getText());
try {

    File inputFile = new File(actualFilePathTF.getText()); //gets the tempfile w
    BufferedImage bi = ImageIO.read(inputFile); //converts it to an image
    createLegacyDocumentButton.setIcon(new ImageIcon(bi)); //Test that the image
```

Test 3

```
$!x!l!x!d!v!r!A!B!C!Y!
!d!B!c!g!t!e!h!s!c!e!d!k!f!q!p!r!s!t!l!y!o!n!s!z!w!x!m!b!v!h!r!t!j!y!l!
!x!b!f!d!a!j!t!i!p!-!s!-!e!-!r!q!v!-!b!p!d!
```

However as you can see while the text file is created the contents are obviously the image as text

	<p>a location I can always access.</p> <p>Test 4 The issue from test 3 was due to the extension being missing so when the system tried opening it, the only possible way would be as text the fix would be to attach jpg at the end of the filename.</p> <p>Test 5 Now that everything is in place we can now work on getting the system looking and working correctly</p>	<p>As you can see the image has correctly been copied over I will be able to work on creating the new document because of it</p>  <p>Test 5</p> 	<p>As you can see here a sample of my nhs document I got scanned onto the system as you can see when loaded it creates a visual copy to allow the staff to inspect before creating the document</p> <p>However for security purposes I am going to test it on other data, this test was to see how detailed I could get the document scanned in as.</p>	 <p>Test 5</p> 
09/02/20	<p>Test 1 Now we can test the initial creation of the document. Here we will use a document we have already scanned in and will assign the information to it, as the create method is the same as the one for normal documents I expect to see no issues crop up.</p>		<p>Test 1, as you can see on the left the creation of the document returned no issues what so ever. However just because it can work when the user only does this feature is fine, it will be thoroughly tested later on.</p>	

11/02/20

Test 1

Currently the testing for the management entity will begin. For the time being I am working on archiving old staff from the system, and bringing them back to make things easier I will work on the process of bringing them back

Test 2

After some time working on the method I am again going to test core functionality here we are testing how the system will deal with distributing the old staff members staff on the account here we have a list of patients whose destination is the file of the staff, this will repeat for every staff on the system, however we are getting an issue before writing it to file the list is being concatenated more than needed

Test 1

```
=====
2
=====Change active status of staff=====
```

All staff accounts:

SHIL000001
SNUR000002

Please enter the staff accounts ID

(B) Go back

SHIL000001

Staff account found

0

1 Staff is currently archived on the system

Are You sure you want to proceed

(Y) Yes

(N) No

Y

Staff added to system

Test 2

```
0000024,PBAT000001,PNUR000004,PABB000001,PAB
BAT000001,PNUR000004,PABB000001,PABB000014,
line 10 PCAT000001
current contents PABB000001,PABB000014,PABB00
000024,PBAT000001,PNUR000004,PABB000001,PAB
BAT000001,PNUR000004,PABB000001,PABB000014,
line 11 PNUR000004
current contents PABB000001,PABB000014,PABB00
000024,PBAT000001,PNUR000004,PABB000001,PAB
BAT000001,PNUR000004,PABB000001,PABB000014,
NEW LINE:12,PABB000001,PABB000014,PABB000019
24,PBAT000001,PNUR000004,PABB000001,PABB0000
0001,PNUR000004,PABB000001,PABB000014,PABB00
```

Test 1 as the method is simple I was almost certain it would have worked, all I am doing for this process is just updating the staff entities contents using a standardised method implemented to update the normal demographic

Test 2

The issue stemmed from the fact the location that was adding all the patients together was inside the loop which iterated for the number of patients being moved to that staff, the fix was to just move it to the end of the staff section once all the patients had been added to the loop.

Test 1

```
if(lastChanceWarning.equals("Y"))//checks to see if user wants to leave
{
    if(staffToAmmend.archived==true)
    {
        //rearchive staff
        staffToAmmend.archived=false;
        staffToAmmend.updateDemographicDetails(staffToAmmend);
        System.out.println("Staff added to system");
        EscapeLoop: //Label to escape the process if management wants to
    }
}
```

SHIL000001_file.txt - Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?



```
1 SHIL000001,EHIL000001,Uc4g2De,Hill,Tom,55,Town Road,Croston,PR269RA,0748472
2 6,PABB0000014,PABB000022,PABB000023,PABB000025,PBATO000001,PCAT000001,
```

While basic looking enough most of the complexity is from calling the update demographic details for the staff account, a method previously mentioned in an earlier entry.

Test 2

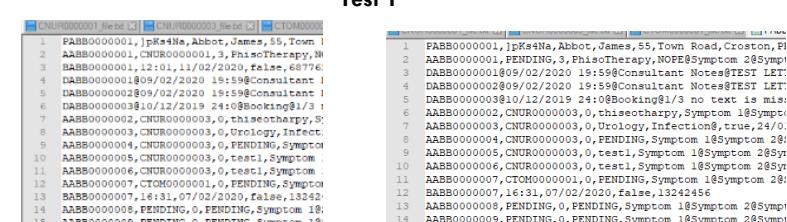
SNUR000002_file.txt - Notepad++

File Edit Search View Encoding Language Settings Tools Macro Run Plugins Window ?



```
1 SNUR000002,ENUR000002,:b:HQqo,Nurdin,Tom,56789,Town Road,Croston,PR
2 5,PABB000001,PABB000019,PABB000024,PBATO000001,PNUR000004,
```

As you can see they are now properly concatenated

	<p>Test 3</p> <p>On further testing a few more issues came up, when testing it on a new staff member a couple of issues being thrown initially the first issue was that it was incorrectly distributing the staff, however that was easily fixed, the issue was that only 1 less of the new staff member was being added</p>	<p>Test 3</p> <p>Despite mentioning that 2 would be added only 1 appears</p> <pre>staff SHAR0000001 will gain 2 patients. 0 1 line 1 PABB0000001 current contents PABB0000001, SHAR0000001 NEW LINE:2,PABB0000001,</pre>	<p>Test 3</p> <p>All my issues came from the copy array method I was using, what was happening was that the indexes I used to have float and update the locations the selected patients was not increasing on the upper bound, hence throwing the error</p>	<pre>current contents PABB0000001,PABB0000002,PABB0000003,PABB0000004,PABB0000005,PABB0000006,PABB0000007,PABB0000008,PABB0000009,PABB0000010,PABB0000011,PABB0000012,PABB0000013,PABB0000014,PABB0000015,PABB0000016,PABB0000017,PABB0000018,PABB0000019,PABB0000020,PABB0000021,PABB0000022,PABB0000023,PABB0000024,PABB0000025,PBAT0000001,PCAT0000001,PNUR0000004,</pre> <p>Test 3</p> <pre>copyOfRange(listOfPatients,startingIndexForPatientArray,numberOfPatientsToMove-1) // -1 This was the old code ngIndexForPatientArray,startingIndexForPatientArray+numberOfPatientsToMove) // -1 While before underneath these statements the lower bound would increment by adding the current index and the new one together the upper bound would stay at the original index length.</pre>
11/02/20	<p>Test 1</p> <p>Like with the staff, I am now attempting to work on the discharging of the consultant for archiving it is the same method but different for the other, it should work by initialising the desired patient and then finding every admission from the attribute AdmissionList once there it can update the Consultant and then save afterwards.</p>	<p>Test 1</p> <p>Checking it can find the admissions correctly</p> <pre>Patient PABB000001 Has 16 Admissions The consultnat has 6 admissions with the patient Looking for AAB0000002 Found admission AAB0000002 Looking for AAB0000003 Found admission AAB0000003 Looking for AAB0000004 Found admission AAB0000004 Looking for AAB0000005 Found admission AAB0000005 Looking for AAB0000006 Found admission AAB0000006 Looking for AAB0000012 Found admission AAB0000012</pre> <p>As you can see a success it finds all 6</p>	<p>Test 1</p> <p>Before I was struggling to determine whether to manually find them in the file or do this method in the end this will produce the best results as I only need to amend the file once for a patient and I far less to compare.</p>	<p>Test 1</p>  <p>Now to test the actual writing of the method</p> <p>As you can from the before(left) and after(right) images it works prior the consultant had three admissions from this patient 1 13 and 15 and as you can see all instances where successfully removed along with the bookings(just called the delete method before updating admission)</p>

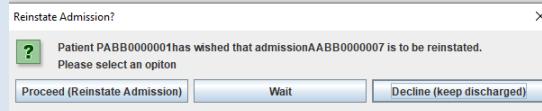
11/02/20

Test 1

Now that I can distribute staff the focus will be polishing up the patient discharge, this entails getting the request reinstatement up and working, to do this I will include a new data type and will make sure every time a new admission is looked at it checks that if it is true to show it (if patient wants to reinstate an admission)

Test 1

After checking that PABB0000001's admission ABB0000007 is with CTOM000001 and was discharged i checked if the popup was created



Test 1

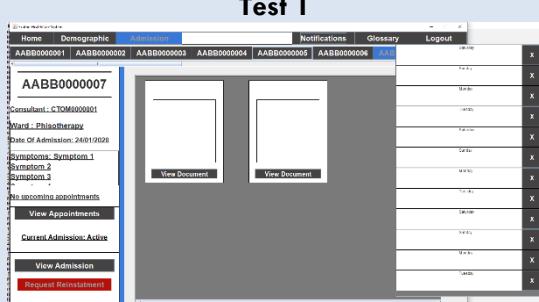
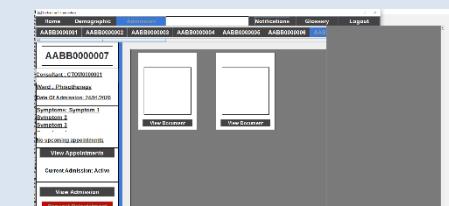
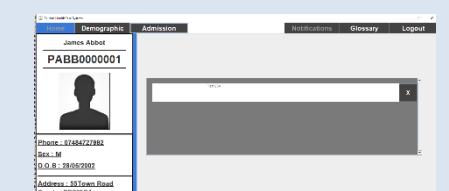
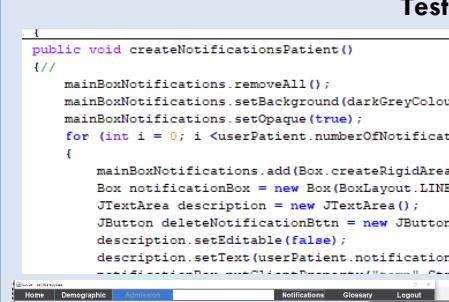
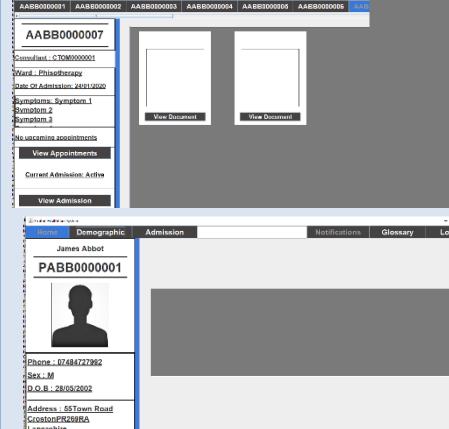
Now that the pop up works we can check that the assigned functionality works.
A. First we need to see if the request section works.

Test 1

A. was a success as you can see before and after the request went through

B. Now we can see on the consultant side the request came through

Finally after accepting yes the admission and pressing create document the admission is reinstated

Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
13/02/20	<p>Test 1</p> <p>Now that all major core functionality is in place I have the task of adding in the notification system. Before it was a major source of grief in the prototype due to the fact I couldn't get the panel to appear at the front, the fix was to actually use a JWindow alongside a frame listener to track the location of the frame and move the window accordingly, here we are testing if it tracks well.</p> <p>Test 2</p> <p>While it seems idealistic to think it will just work on the first time, as I have done this now for nearly the 4th time I believe that no issues should arise, all I have to do now is just change the current temp notifications array with the one read from file as the current deleting methods should work.</p>	<p>Test 1</p>  <p>Test 2</p> <p>Here I delete the notification from the admission panel, then load the homepage</p>  	<p>Test 1 N/A</p> <p>Test 2</p> <p>While from a backend point of view the old deleting method works well and removes the current instance, I am experiencing with updating the patient's home page panel. The issue causing the patients not to update was due to the fact on loading the homepage it was not clearing the old part and instead would just add the new array(which is empty) making it appear nothing happened</p>	<p>Test 2</p> <pre>public void createNotificationsPatient() { mainBoxNotifications.removeAll(); mainBoxNotifications.setBackground(darkGreyColour); mainBoxNotifications.setOpaque(true); for (int i = 0; i < userPatient.numberOfNotifications; { mainBoxNotifications.add(Box.createRigidArea(new Box notificationBox = new Box(BoxLayout.LINE_AXIS); JTextArea description = new JTextArea(); JButton deleteNotificationBtn = new JButton(); description.setEditable(false); description.setText(userPatient.notifications[i]); description.setLineWrap(true); notificationBox.add(deleteNotificationBtn); notificationBox.add(description); mainBoxNotifications.add(notificationBox); } }</pre>   <p>Here we attempted the process again and as you can see the process worked</p>

14/02/20

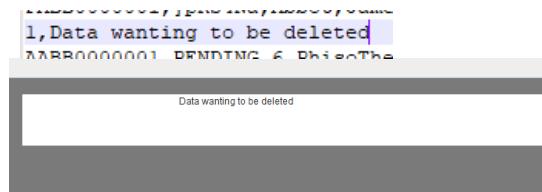
Test 1

Now that I can get them read I can now implement the file deleting and writing, which shouldn't be an issue. I will first attempt the file deleting as I already have the Gui aspect in place:

Tests 2

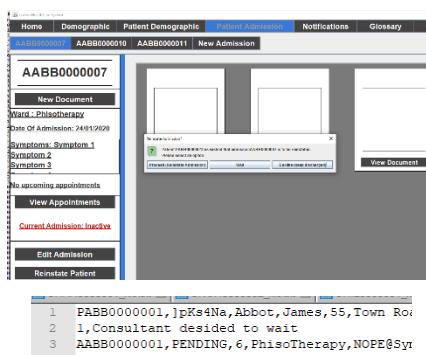
Since the deleting of notifications went down so well here I will move straight onto updating, while updating will be a little harder to attach to the Gui (As will need to be unique for each action) for the time being basic processes should be fine

Test 1:



HAR000001_file.txt SNUR000002
PABB000001, JpKs4Na, Abbo
0
AABB000001, PENDING, 6, Ph
DABB000001@09/02/2020 :
DABB000002@09/02/2020 :
DABB000003@10/12/2019 :
DABB000004@08/02/2019 :
DABB000005@13/02/2020 :

Test 2:



Test 1

As you can see the original data has been removed and correctly replaced by a zero, how it works is by just decrementing the number of notifications and using the original Gui's moving method which would just reduce the size of the array. Finally the writing of the data calls upon the update demographic method with the line changed

Test 2, like for test 1 adding is very similar in terms of file handling except instead of decrementing the array by 1 we increment it instead, it calls upon the same writing method.

Test 1

```
public void updateNotifications(Patient patient)
{
    //Concatenation of the notifications together
    String updatedNotifications= patient.numberOfNotifications+"";
    for(int counter =0;counter<patient.numberOfNotifications;counter++)
    {
        updatedNotifications=updatedNotifications+", "+patient.notifications[counter];
    }
    PatientList pl = new PatientList(); //creates a new instance of the class
    pl.updateDemographicfile(patient.patientID+"_file.txt",updatedNotifications); //writes entire array to file
}
```

Test 2

```
public Patient createNewNotification(Patient patient, String newNotification)
{
    patient.numberOfNotifications++;
    patient.notifications=extendArrayByOne(patient.notifications);
    //here we move the array all down by an index to make way for the new notification
    for(int countermove =1;countermove<patient.numberOfNotifications;countermove++)
    {
        patient.notifications[countermove]=patient.notifications[countermove-1];
    }
    //add new notification in
    patient.notifications[0]=newNotification;

    //Concatenation of the notifications together
    String updatedNotifications= patient.numberOfNotifications+"";
    for(int counter =0;counter<patient.numberOfNotifications;counter++)
    {
        updatedNotifications=updatedNotifications+", "+patient.notifications[counter];
    }
    PatientList pl = new PatientList(); //creates a new instance of the class
    pl.updateDemographicfile(patient.patientID+"_file.txt",updatedNotifications); //writes entire array to file
    //returns the instance as the patient wont have it in real time otherwise
    return patient;
}
```

Searches and Sorting 15/02/20

Now here we have to discuss the search and sorting algorithms.

This task proves to be a challenging one simply because a purpose of the system is to limit processing more information than it needs to, because of this an issue has come up where I will have to search all patients or documents in a non-standardised method where I don't have the instances initially and don't intend to for some cases, while I would usually attempt to document my continued progress before deriving a solution to the task, in practise recording these trails would have taken far too long, so I have skipped these and arrived one now. As these lists for patients and admissions differ slightly I will approach them individually

For admissions all the instances of documents are in memory already so we have no issue here, this is because we have less objects in memory as this entity is at the bottom level of the inheritance hierarchy which meant that very little had to be loaded from file in comparison to the patient which would have loaded every patient, all their admissions and then all their documents, which would be a demanding process for a task that may need to be used often. The issue was with the loading of searched documents as prior to the actual development on the prototype only the patient id would have been viewable however a new solution was figured. Instead of using many binary searches with one field time a compromise has been used where all fields of the object were concatenated and then a .Contain() method would be used to see if it is present at all.

Once we could return all the items the new issue of getting them displayed was at hand, originally the method that displayed them just iterated through the current system admission document list, now instead I had to create an empty list in which it was used as a parameter for the normal loading of the list, after this it would determine if the original list was used or if a list of the new indexes was passed through by comparing lengths. Finally I managed to get to load. Now I have the task of repeating the process for the consultant and staff.

The search itself works by finding how many items meet the search criteria after this an array of that size is produced, finally it iterates through the native list one last time using the same selection method, if it meets the conditions the index that it occurred at is placed in the array, finally the array is returned where it can be used. This process does work well as it allows for various fields to be searched, however it does allow for very broad searches to be used like the year 2020 could be used and any admission with that date would be added. Nevertheless the process works. The search has been designed so that any array can be passed through and the indexes at which the values meet the criteria are returned.

As for the patient search for the consultant if we wanted to approach this in any similar manner it would involve a lot of file reading as it currently stands. However the idea that seemed most logical was to read the patient file however only read the initial line and keep the line concatenated allowing the entire demographic to be searched. Besides this the processes work very similar the search returns the indexes that meet the search query and the results are then displayed, where the same method which retrieves the first line does the same but also initialises a temporary instance to assign the dates.

For the sorts the method was the easiest part, how it works is that the two available sort orders are ascending and descending, we attach action listeners to the objects when a new item is selected this will force the listener to sort the code, if it is already ascending then it will sort into descending and vice versa. It works by just iterating through every index and incrementing/decrementing the value on it. The three images depict how it looks like, on the left is the normal state, the middle one is a search for 19 (in which the results come from different fields) and finally the right one shows a sort in descending order. Now that all of the issues have been explained and rectified I can carry on normal testing.

This screenshot shows a list of patients in ascending order. The columns include a thumbnail, name, ID, date of birth, gender, address, and number of admissions. A 'View Patient' button is at the bottom of each row.

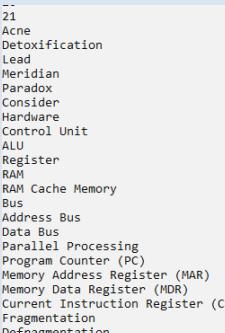
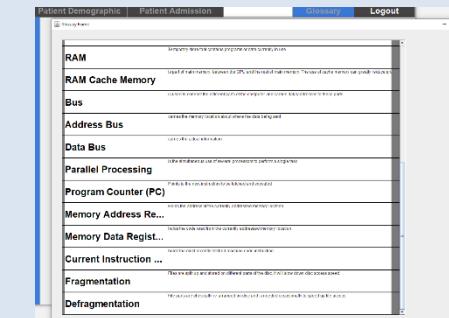
Abbot James	PABB000001	28/05/2002	Male	PR2 9RA	Number of Admissions: 19
Abbot James	PABB0000019	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000023	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000024	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000025	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000027	28/05/2002	Male	PR2 9RA	Number of Admissions: 0

This screenshot shows a search result for patient ID 19. The results are displayed in a grid format. The columns include a thumbnail, name, ID, date of birth, gender, address, and number of admissions. A 'View Patient' button is at the bottom of each row.

Abbot James	PABB000001	28/05/2002	Male	PR2 9RA	Number of Admissions: 19
Abbot James	PABB0000019	28/05/2002	Male	PR2 9RA	Number of Admissions: 0

This screenshot shows a list of patients in descending order. The columns include a thumbnail, name, ID, date of birth, gender, address, and number of admissions. A 'View Patient' button is at the bottom of each row.

Nurdin James	SNUR000002	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Nurdin James	PNUR000004	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000028	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Abbot James	PABB0000027	28/05/2002	Male	PR2 9RA	Number of Admissions: 0
Batemans James	PBAT000001	28/05/2002	Male	PR2 9RA	Number of Admissions: 0

Date	Current progress Back end development	Evidence	Adjustments or actions to resolve issue	Proof of action
15/02/20	<p>Test 1 Now that the searches and sorting are fully in I want to finish the last major feature before wrapping up with the action log system, the glossary of terms for the most part(i.e basic reading) it will be a straight copy and paste job from the prototype with the inclusion of a new scrolpane, the real task will be writing new definitions.</p> <p>Test 2 After a quick creation of a scrolpane I have manged to load all the definitions correctly, all I have to do now is insert the search and sort features.</p>	<p>Test 1</p>  <p>Test 2</p> 	<p>Test 1 as you can see the original reading method works wonderfully, with the added benefit of .split the code has now been made more efficient.</p> <p>Test 2 From a code point of view little needs to change except room for the search bar and sort combo box</p> <p>Test 3 As you can see the serch was a success with the only item being returned regardless of it being capital or not.</p>	<p>Test 1</p> <pre>//temp instance to call read method User tempUser = new User(); //pulls entire file String[] listOfDefinitionsStringed = tempUser.rffReturnFullFile("GlossaryOfTerms"); String[][] listOfDefinitions=new String[listOfDefinitionsStringed.length][2]; String[] splitDefenition;//declares the stringed array for(int count = 0;count<listOfDefinitionsStringed.length;count++)//runs a for loop { //splits the arrayy splitDefenition = listOfDefinitionsStringed[count].split("@"); //adds the split array to the main array listOfDefinitions[count]=splitDefenition; System.out.println(listOfDefinitions[count][0]); } //finds size int numberOfDefenitions = listOfDefinitions.length;//finds the number of definitions</pre> <p>Test 3</p> <pre>public void actionPerformed(java.awt.event.ActionEvent e) { //search here String searchValue = searchQueryTextGlossaryFeild.getText(); int numberOfDefinitionsSearch = 0; for(int counter = 0;counter<listOfDefinitions.length;counter++)//runs a for loop for the number of definitions { if(listOfDefinitions[counter][0].toLowerCase().contains(searchValue.toLowerCase())) { numberOfDefinitionsSearch++; } } String[][]listOfDefinitionsCopy = new String[numberOfDefinitionsSearch][2]; numberOfDefinitionsSearch=0; for(int count = 0;count<listOfDefinitions.length;count++)//runs a for loop for the number of definitions { if(listOfDefinitions[count][0].toLowerCase().contains(searchValue.toLowerCase())) { listOfDefinitionsCopy[numberOfDefinitionsSearch][0]=listOfDefinitions[count][0]; listOfDefinitionsCopy[numberOofDefinitionsSearch][1]=listOfDefinitions[count][1]; numberOofDefinitionsSearch++; } } }</pre> <p>As you can see the first loop will find the length for the number which meet the search while the second actually adds them to the list</p> <p>Test 4</p> <pre>else if(comboText.equals("Descending")) { mainBoxDefinitionwindow.removeAll(); for (int i = (numberOofDefinitions-1); i >-1; i--) {</pre> <p>The ascending loop is the exact same as the original while this one as you can see starts from n and decrements to 0</p>

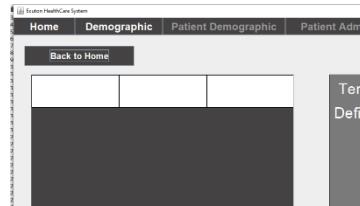
	<p>Test 3</p> <p>With the search now ready to test I will briefly explain how it works, like for the other user interactable searches it uses a linear for loop comparing every item checking if it contains an item and then adding to the list once done it just repeats the action of displaying it</p> <p>Test 4</p> <p>As for the sort it is even easier all it does is display the items but instead of going from 0 to n it goes from n to 0 and decrements, with ascending also available to reverse the process</p>	<p>Test 3</p> <p>Test 4</p>	<p>Test 4</p> <p>Whilst initially thinking the order was wrong due to the fact that ALU was in the middle of the list the error was due to the fact that the list in file was not yet in sequential order, when terms are added they will be in the correct order so we do not need worry.</p>	
16/02/20	<p>Test 1</p> <p>Now that the actual use of the library works and that the terms can be requested we can work on the panel for generating them, the current task is generating a box that holds all the terms requested by users We currently checking the correct number of panels load.</p>	<p>Test 1</p> <p>(By using the Glossary itself we can enter test data), we should expect to see that 1 panel is needed</p> <p>3, Test 1, Test 2, Test 3</p>	<p>Test 1</p> <p>As you can see from the screenshot the correct number of terms have been produced, all we need to do now is generate three individual sections which hold a delete button and the term itself</p>	<p>Test 1</p> <pre>int currentNoOfTerms = 0;//counter int numberOfRows = -1;//needs to be calculated int noOfTermsOutPutted = 3; int numOfLeftOverTerms=numberofTerms%3;//finds the remainder //checks to see if the number is divisible by 3 or not if(numOfLeftOverTerms!=0)//if no { numberOfRows = (noOfTerms/3)+1; } else//if it is a multiple of 3 { numberOfRows = (noOfTerms/3); } System.out.println("There needs to be "+numberOfRows);</pre> <p>This should produce all the integer values we should need.</p>

Test 2
Now with the correct number of boxes being generated for each term we just now need to add the items

Test 3
here we are testing the initial features of the delete feature and as you can see we can get the middle term test 2 removed from the value, all we have to do here is just correctly remove them from the list and we can move onto adding them to the list.

Test 2
(For the sake of showing it works the row is
3 terms need to be added
There needs to be 1

white and a border is around each terms spot



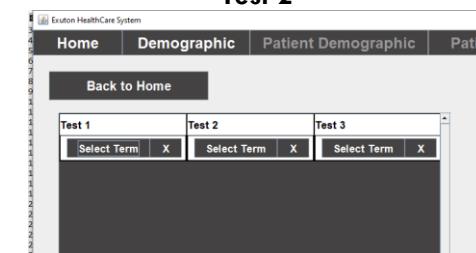
these wont be present in the final version)

Test 3
Dfragmentation@file par
2, Test 1, Test 3

Test 1
Test 3

Test 2
After spending a little time adding the buttons im pleased to leave them like this

Test 3
Like most deleting from arrays it works by copying the array with a smaller length and just escluding the data we want gone as you can see after deleting the items the feature is complete.



Test 3

```
//if there are more than 1 terms left
if(numberOfTerms>1)
{//creates a copy of itself and then removes the index the desired data is located at
String[] copyOfList = new String[newTermsToAdd.length-1];
for(int counter = 0;counter<currentIndexTermLocation;counter++)
{
    copyOfList[counter]=newTermsToAdd[counter];
}
for(int counter2 = currentIndexTermLocation;counter2<newTermsToAdd.length-1;counter2++)
{
    copyOfList[counter2]=newTermsToAdd[counter2+1];
}
newTermsToAdd = copyOfList;
//decrements the number of terms
newTermsToAdd[0] = ((Integer.parseInt(newTermsToAdd[0])-1)+"");
String requestedTermsConcatenated = newTermsToAdd[0]+ "";
for(int counter3 = 1;counter3<newTermsToAdd.length;counter3++)
{
    requestedTermsConcatenated = requestedTermsConcatenated+" "+newTermsToAdd[counter3];
}
System.out.println(requestedTermsConcatenated);
listOfDefinitionsStringed[listOfDefinitionsStringed.length-1]=requestedTermsConcatenated;
}

//else if only one value is left we need to just remove that part
else
{//all it does is copy itself over to a smaller array leaving out the last item
String[] copyOfListFull = new String[listOfDefinitionsStringed.length-1];
for(int counter4 = 0;counter4<copyOfListFull.length;counter4++)
{
    copyOfListFull[counter4]=listOfDefinitionsStringed[counter4];
}
listOfDefinitionsStringed = copyOfListFull;
}

tempUser.writeNewDataToFile(listOfDefinitionsStringed,"GlossaryOfTerms.txt");
```

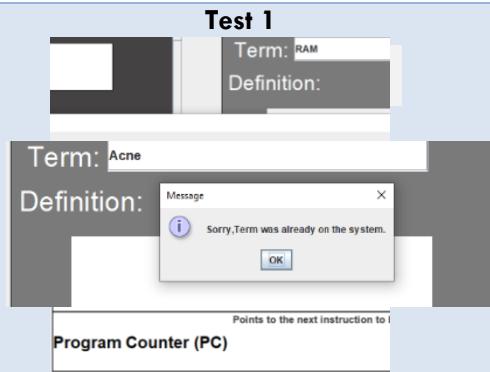
16/02/20

Test 1

Now that deleting is in I want to get writing in before drawing attentions to the action log system, currently I am testing to see if the system can recognise existing terms. In the screen shots you can see the normal library and in the background the creating of the new term. As provided in the second screenshot the system can correctly tell if a term is present or not

Test 2

After using a modified version of the primary key search I have gotten the search working by incorporating it into the main method which the definitions are pulled from as you can see it works well.



Test 2

Further testing can be done in testing

Test 1

This occurs as during the reading of the file we can copy over just the terms and at each stage compare them to the value entered by the user. From this we can prevent the value being written to file

Test 2

As you can see the values have been correctly added to the array.

Test 1

```
String newTerm = termToDefineTF.getText();
boolean existingTerm = false;
User tempUser = new User();
//pulls entire file
String[] listOfDefinitionsStringed = tempUser.readFile("GlossaryOfTerms.txt");
int numberOfDefinitions = Integer.parseInt(listOfDefinitionsStringed[0]);
//System.out.println("There are "+numberOfDefinitions+" definitions");
String[] termOnly = new String[numberOfDefinitions]; //declares the stringed array
for(int count = 0; count < numberOfDefinitions; count++) //runs a for loop for the number
{
    //splits the array
    termOnly[count] = (listOfDefinitionsStringed[count+1].split("@")[0]);
    if(termOnly[count].toLowerCase().equals(newTerm.toLowerCase()))
    {
        System.out.println("Term Already on system");
        existingTerm = true;
    }
}
```

Test 2



Date	Current progress	Evidence	Adjustments or actions to resolve issue	Proof of action
16/02/20	<p>Test 1 Now that the jargon library has been completed fully we can now draw our attention back to the Action log, this being the last major feature of the system. currently I have adjusted the old staff/consultant retrieving method and have created one for employees in general</p> <p>Test 2 Now we have the list we will need to search for the correct answer, Luckily we can use the binary search to output the results we want,</p>	<p>Test 1</p> <p>CNUR0000001 CNUR0000003 CTOM0000001 SHAR0000001 SHIL0000001 SNUR0000002</p> <p>Test 2</p> <pre> 1 ----- All employees on the system ----- EHAR0000001,SHAR0000001 EHIL0000001,SHIL0000001 ENUR0000001,CNUR0000001 ENUR0000002,SNUR0000002 ENUR0000003,CNUR0000003 ETOM0000001,CTOM0000001 Please enter an employee ID (B) Go back ----- ENUR0000002 Index of employee found at 3 </pre> <p>Now that we have the index we will be able to pull the instance and all the actions that come with that</p>	<p>Test 1</p> <p>As you can see we have a list of all the staff all we have to do is change the intial letters to E and order them</p> <p>Test 2</p> <p>As you can see we have the index we will be able to pull the instance and all the actions that come with that</p> <p>Now that we have the index we will be able to pull the instance and all the actions that come with that</p> <p>Test 1</p> <p>As it will also be important to keep track of which employee is staff and consultant the method will also assign the actual id also. So what is returned is a 2D array with the inner array being a length of 2 index 0 being EmployeeID and index 1 being staff/consultantID.</p> <p>Finally with the chance to actually sort something on the system, I thought I could use a quick sort to get some experience with recuresive algorithms, as you can see it worked well.</p> <p>Test 2, as you can see the index is correctly returned</p>	<p>Test 1</p> <p>EHAR0000001 EHIL0000001 ENUR0000001 ENUR0000002 ENUR0000003 ETOM0000001</p> <p>As you can see the standardised algorithm has been slightly adjusted and altered to suport the array I am using, despite this it works flawlessly.</p> <pre> String[] pivotArray; //array that holds both the employeeID and EntityID value that needs to be sorted String[] tempBuffer; //array that holds both the employeeID and EntityID for swapping int tempHigh; int tempLow; tempHigh = indexHigh; tempLow = indexLow; pivotArray = ArrayToSort((indexLow+indexHigh)/2); while(tempLow<=tempHigh) { while(ArrayToSort[tempLow].compareToIgnoreCase(pivotArray[0])<0) &&(tempLow<tempHigh) { tempLow++; } while(ArrayToSort[tempHigh].compareToIgnoreCase(pivotArray[0])>0) &&(tempHigh>tempLow) { tempHigh--; } //finds the next indexes to swap over if(tempLow<tempHigh) { tempBuffer = ArrayToSort[tempLow]; ArrayToSort[tempLow] = ArrayToSort[tempHigh]; ArrayToSort[tempHigh] = tempBuffer; tempLow++; tempHigh--; } } if(indexLow<tempHigh) { quickSort(tempHigh,indexLow,ArrayToSort); } //sorts all the parts to the left before moving onto the right if(indexHigh>tempLow) { quickSort(indexHigh,tempLow,ArrayToSort); } //at this point the array would be in an order otherwise the recursive nature would return ArrayToSort; </pre>

At this point the system is now looking closer to finishing all of the objectives mentioned in the lists at the beginning, because of this the document will be concluded as we have completed this stage of development and are now moving onto the testing of major feature applications. As I will obviously need to make this clear, the system at this current point **is not finished**, and is nowhere near perfect as there appears to be large amounts of bugs and kinks in the software. During testing I aim to rid the system of these issues before submitting the code.