Testing

Contents

[Testing strategy 2](#_Toc354607791)

[Testing plan 3](#_Toc354607792)

[frmstart 3](#_Toc354607793)

[frmavailability 4](#_Toc354607794)

[frmAdmin 7](#_Toc354607795)

[frmDaySettings 10](#_Toc354607796)

[Testing 13](#_Toc354607797)

[frmStart 13](#_Toc354607798)

[Frmavailability 20](#_Toc354607799)

[frmAdmin 36](#_Toc354607800)

[frmDaySettings 43](#_Toc354607801)

# Testing strategy

I will test my system using Black box testing, white box testing.

Black box testing

System testing where overall results of the actions in the system are checked. Eg checking that I can set the settings for a day or that I can as a member of staff set when im available

On top of this I will be doing function testing in which I will check that each function produces the correct results ie importing csv to dat files or changing the appointment length radio button and checking if it has changed the lengths for the appointments in cmbstart and cmbfinish.

White box testing

I will do Path testing for each of my functions by putting up breakpoints at all of the major subroutines to make sure they are being executed and in the right order by the program.

Function testing, I will check that each subroutine and function when executed return the correct results. Ie weather or not subroutines like militarytime, a subroutine that converts a number from 0 to 287 to a number in military form, generates the correct results.

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# Testing plan

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| --- | --- | --- | --- | --- |
| frmstart | | | | |
| Test No | event | Test data | Reason for test | Expected outcome |
| 1 | Form loads and the the username is retrived by the program | The users network area username in my case 112544 | If the correct username is not obtained then the system will not work | The variable user will contain my username |
| 2 | Form loads and the number or each kind of record is found | The dat files | A lot of the for loops in the program rely on an accurate value for the number of each type of record. If it works for staff it will work for the other files as they are in the same. | The number of staff files recorded to be 97 as the file size is 97 times the record size and there is 97 staff |
| 3 | Form loads and the number or each kind of record is found | The dat files exept that the staff dat file will be missing | If it does not properly handle the situation it could crash the code | The program will continue as if nothing out of the ordinary was happening with nstaff as 0 |
| 3.b | Form loads and the number or each kind of record is found | The dat files exept that the staff dat file will be missing | If it does not properly handle the situation it could crash the code | The program will continue as if nothing out of the ordinary was happening with nstaff as 0 |
| 4 | Form loading | Whether or not the user is an admin | If the user is an admin then the admin button must present itself or the admin will not be able to wield his or her power. | btnAdmin should be visible |
| 5 | A a user who is a student trys to log on | The variable “User” will be set to “112544” who is added to students.dat | If when a correct student user uses the program they need to be recognised or they cant do anything | The user type should be set to 1 and student.studID should be 112544 |
| 6 | A user who is a staff member trys to log on to the availability form | The variable “User” will be set to “RKI” who will be added to staff.dat | If when a correct staff member user uses the program they need to be recognised or they cant do anything | The user type should be set to 2 and staff.staffid should be RKI  And the frm availability should open |
| 7 | A user with the name of an admin tries to log on to the availability form | The variable “User” will be set to “SBE” and the record will be changed to admin | If when a correct staff member user uses the program they need to be recognised as admin or no one can edit the settings | The admin button should be visible. User type shoud be 2 and staff.staffid = SSB  and the availability form should open when the availability button is clicked |
| 8 | A user with the name of an admin tries to log on to the admin | The variable “User” will be set to “SBE” and the record will be changed to admin | If when a correct staff member user uses the program they need to be recognised as admin or no one can edit the settings | The admin button should be visible. User type shoud be 2 and staff.staffid = SSB and the admin form should open when the admin button is clicked |
| 9 | Some one with the format of a student but is not on the system | The variable “User” will be set to “999999” which is in the format of a students logon but is not in the students.dat file | I If when a user of an incorrect user name tries to use the system it should notify them and not crash so if they should be on the system the can see that that is the error and get someone to fix it | Usertype should be = 0  And an error message should come up telling them that their username is not valid and to contact admin if this is wrong  Also there will be no buttons visible except for exit |
| 10 | Someone who does not have the format of a student but is not on the system and there is a staff file loaded | The variable “user” will be set to “librarycomputer1” which is in the correct format to be checked to be a staff and is not in the staff.dat file | If when a user of an incorrect user name tries to use the system it should notify them and not crash so if they should be on the system the can see that that is the error and get someone to fix it | Usertype should be = 0  And an error message should come up telling them that their username is not valid and to contact admin if this is wrong |
| 11 | Btnexit clicked | Btnexit clicked | The windows are locked so they will not be able to be closed any other way. | The window will close |

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| frmavailability | | | | |
| Test No | event | Test data | Reason for test | Expected outcome |
|  | Form loading and lblname displaying a welcome message when a student is using it | I student.forename to simon and student.surname to surname and usertype to 1 | If it though if it doesn’t work | Lblname will say “welcome simon bellows” |
|  | Form loading and lblname displaying a welcome message when a student is using it | I staff.forename to simon and staff.surname to surname and usertype to 2 | If it though if it doesn’t work | Lblname will say “welcome simon bellows” |
|  | Form loads populates the chklstavailability  Checked combo box | Appointmentlength = 5 Nday = 2 and day.start = 204 and day.finnish = 246 for day.dayno = 1 and day.dayno = 2 | If it doesn’t correctly display the appointment blocks then user will not be able to accurately set there availability. | A set of un checked items in the list starting with “day 1 1700 to 1800” to “day 2 1930 to 2030” |
|  | Form loads populates the chklstavailability  Checked combo box but for appointment length 10 | Appointmentlength = 10 Nday = 2 and day.start = 204 and day.finnish = 252 for day.dayno = 1 and day.dayno = 2 | If it doesn’t correctly display the appointment blocks then user will not be able to accurately set there availability. | A set of un checked items in the list starting with “day 1 1700 to 1800” to “day 2 1930 to 2030” |
|  | The check box on one of the items in chklstavailablility is checked with a staff member using at appointment length 5 | Appointment length = 5. Usertype = 2  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1800 | If a member of staff is unable to check that they will be available for any appointments then they will not be able to be seen by any students | checkedlistbox item day 1 1700 to 1800 will be checked and in the staffav.dat file there will be a record that says the staff member is available |
|  | The check box on one of the items in chklstavailablility is checked with a staff member using at appointment length 10 | Appointment length = 10. Usertype = 2  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1830 | If a member of staff is unable to check that they will be available for any appointments then they will not be able to be seen by any students | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the staffav.dat file there will be a record that says the staff member is available |
|  | The check box on one of the items in chklstavailablility is unchecked with a staff member using at appointment length 5 | Appointment length = 5. Usertype = 2  Staffav record. The checked checkedlistbox item day 1 1700 to 1800 | If a member of staff is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead students | checkedlistbox item day 1 1700 to 1800 will be checked and in the staffav.dat file there will be a record that says the staff member is unavailable |
|  | The check box on one of the items in chklstavailablility is unchecked with a staff member using at appointment length 10 | Appointment length = 10. Usertype = 2  Staffav record. The checked checkedlistbox item day 1 1700 to 1830 | If a member of staff is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead students | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the staffav.dat file there will be a record that says the staff member is unavailable |
|  | The check box on one of the items in chklstavailablility is checked by a student using at appointment length 5 | Appointment length = 5. Usertype =1  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1800 | If a student is unable to check that they will be available for any appointments then they will not be able to be seen by any members of staff | checkedlistbox item day 1 1700 to 1800 will be checked and in the studav.dat file there will be a record that says the staff member is available |
|  | The check box on one of the items in chklstavailablility is checked by a student using at appointment length 10 | Appointment length = 10. Usertype =1  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1830 | If a student is unable to check that they will be available for any appointments then they will not be able to be seen by any members of staff | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the studav.dat file there will be a record that says the staff member is available |
|  | The check box on one of the items in chklstavailablility is unchecked by a student using at appointment length 5 | Appointment length = 5. Usertype =1  Staffav record. The checked checkedlistbox item day 1 1700 to 1800 | If a student is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead members of staff | checkedlistbox item day 1 1700 to 1800 will be checked and in the studav.dat file there will be a record that says the staff member is unavailable |
|  | The check box on one of the items in chklstavailablility is unchecked by a student using at appointment length 10 | Appointment length = 10. Usertype = 1  Staffav record. The checked checkedlistbox item day 1 1700 to 1830 | If a student is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead members of staff. | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the studav.dat file there will be a record that says the staff member is unavailable |
|  | Btnexit clicked | btnExit being clicked | Because if button exit does not work then the user won’t be able to exit the program without forcequiting it. | Frmavailability will close and the start form will open. |

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| frmAdmin | | | | |
| Test No | event | Test data | Reason for test | Expected outcome |
|  | btnReset | Clicking button reset | Between parents evenings the admin may want to cleanse the system and start anew | The file lengths for the different dat files wil be changed back to 0 |
|  | Clicking Btnback | Clicking btnback | If the user is unable to use the back button then he would be unable to leave the form without forcequiting it. | The form will close and the start form will open |
|  | btnDaysettings | Clicking btndaysettings | If they are unable to get to the daysettings form then they can not generate the appointment records and availability records. | The day settings form will open |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With them all existing and none of the data in the wrong format | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a series of message boxes notifying me that different parts have imported and there will be populated dat files by the names of student staff and lesson. |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no student file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no staff file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no studentclass file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no classslotfile file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is errors in the student.csv | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the student.csv file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is errors in the studentclass.csv | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the studentclass.csv file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is errors in the staff.csv | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the staff.csv file |
|  | Import staff and student data button is clicked | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is errors in the classslots.csv | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the classslots.csv file |
|  | Btnalgorithm clicked | Btnalgorithm clicked | If the button does not start the algorithm then no appointments will be created and the program will be impetant | I it will hit a breakpoint I will stick inside the subroutine |
|  | The sorting algorithm I run | The student and staff availability files with 10 students and 4 staff as a small scale experitment. | If it works for small numbers it will work the same or large numbers, though there will be an increase in people with out appointments unless the number of appointments is increased. | When I look at the appointment form I will see a number of appointments depending on the effectiveness of the algorithm |
|  | Clicking btnemail | Clicking btnemail and for the purposes of this test I will be changing the email address to @ssfc.ac.uk instead because I don’t have access to the other domains email’s. and I will be just using the student simon bellows | If this does not work then there is no way for anyone to find out what their appointments are. | I will expect to recive an email at [112544@ssfc.ac.uk](mailto:112544@ssfc.ac.uk) detailing appointments of simon bellows |

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| frmDaySettings | | | | |
| Test No | event | Test data | Reason for test | Expected outcome |
|  | Form loads | The form loads | When the form loads the neither the number of days or the length of appointments are decided ergo one can not set the times for the days so they should be invisible | Cmbstart, cmbday and cmbend will be invisible |
|  | Form loads | The form loads | Cmbndays should be filled with the numbers 1 to 255 days for the user to select as the number of days | The combobox will contain the numbers from 1 to 255 |
|  | Ndays is changed  But appointment length is not set | The combo box ndays is changed to 3 days | When the ndays combo box changes its value the combo box need to display it and the variable ndays needs to register it | Ndays will be 3  The selected item in the combobox will be 3 |
|  | Rad5min is selected and ndays is not set yet | Rad5min is selected | When rad5min is selected the variable appoinmentlength needs to regeister it | Appoinmentlength will equal 5 |
|  | Rad10min is selected and ndays is not set yet | Rad10min is selected | When rad10min is selected the variable appoinmentlength needs to regeister it | Appoinmentlength will equal 10 |
|  | Rad5min is selected after ndays is set to 3 | Rad5min is selected after ndays is set to 3 | When rad5min is selected the variable appoinmentlength needs to regeister it and because there is an ndays set it has to make cmbend, cmbstart, and cmbday visible and populated | Appoinmentlength will equal 5 ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated |
|  | Rad10min is selected after ndays is set to 3 | Rad10min is selected after ndays is set to 3 | When rad10min is selected the variable appoinmentlength needs to regeister it and because there is an ndays set it has to make cmbend, cmbstart, and cmbday visible and populated | Appoinmentlength will equal 10 ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated |
|  | Rad5min is selected then ndays is set to 3 | Rad5min is selected then ndays is set to 3 | When rad5min is selected the variable appoinmentlength needs to regeister it and then ndays set to 3 so cmbend, cmbstart, and cmbday visible and populated | Appoinmentlength will equal 5 ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated |
|  | Rad10min is selected then ndays is set to 3 | Rad10min is selected then ndays is set to 3 | When rad10min is selected the variable appoinmentlength needs to regeister it and then ndays set to 3 so cmbend, cmbstart, and cmbday visible and populated | Appoinmentlength will equal 10 ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated |
|  | Rad5min is selected when ndays = 3, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Rad5min is selected when ndays = 3, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When appointment length is changed the values below may not be relelvent and theirfore are reset if not they might be values that are imposible | Rad5min will be set and ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |
|  | Rad10min is selected when ndays = 3, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Rad10min is selected when ndays = 3, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When appointment length is changed the values below may not be relelvent and theirfore are reset if not they might be values that are imposible | Rad10min will be set and ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |
|  | ndays is changed from 3 to 4, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | ndays changed from 3 to 4, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When the number of days is changed due to the fact that in some situations if the cmb boxes were left as is there could be issues it is easier to just change them all and the test is to check whether it does | ndays will be set to 4 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |
|  | ndays is changed from 3 to 4, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Ndays is changed from 3 to 4, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When the number of days is changed due to the fact that in some situations if the cmb boxes were left as is there could be issues it is easier to just change them all and the test is to check whether it does | ndays will be set to 4 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |
|  | Btnback clicked | Btnback clicked | The user must be able to leave the form or they will be stuck there until they use taskmanager to end the form which would likely be inpossible unless the admin of the consultation evening program is that of the school. | The day settings form will close and the admin form will open. |

# Testing

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| --- | --- | --- | --- | --- | --- | --- |
| frmStart | | | | | | |
| Test No | event | Test data | Reason for test | Expected outcome | outcome | screenshots |
| 1 | Form loads and the the username is retrived by the program | The users network area username in my case 112544 | If the correct username is not obtained then the system will not work | The variable user will contain my username | The variable user was set to 112544 which is my username. |  |
| 2 | Form loads and the number or each kind of record is found | The dat files | A lot of the for loops in the program rely on an accurate value for the number of each type of record. If it works for staff it will work for the other files as they are in the same. | The number of staff files recorded to be 97 as the file size is 97 times the record size and there is 97 staff | It says there is 97 staff thus it works |  |
| 3 | Form loads and the number or each kind of record is found | The dat files exept that the staff dat file will be missing | If it does not properly handle the situation it could crash the code | The program will continue as if nothing out of the ordinary was happening with nstaff as 0 | The program crashed when it got to the line of code that worked out the number of records |  |
| 3.b | Form loads and the number or each kind of record is found | The dat files exept that the staff dat file will be missing | If it does not properly handle the situation it could crash the code | The program will continue as if nothing out of the ordinary was happening with nstaff as 0 | The program set nstaff to 0 and did not crash |  |
| 4 | Form loading | Whether or not the user is an admin | If the user is an admin then the admin button must present itself or the admin will not be able to wield his or her power. | btnAdmin should be visible | Btnadmin is visible. |  |
| 5 | A a user who is a student trys to log on | The variable “User” will be set to “112544” who is added to students.dat | If when a correct student user uses the program they need to be recognised or they cant do anything | The user type should be set to 1 and student.studID should be 112544 | Frmavailability loaded |  |
| 6 | A user who is a staff member trys to log on to the availability form | The variable “User” will be set to “RKI” who will be added to staff.dat | If when a correct staff member user uses the program they need to be recognised or they cant do anything | The user type should be set to 2 and staff.staffid should be RKI  And the frm availability should open | Frm availability opened and usertype = 2 and staff.staff id was set to RKI |  |
| 7 | A user with the name of an admin tries to log on to the availability form | The variable “User” will be set to “SBE” and the record will be changed to admin | If when a correct staff member user uses the program they need to be recognised as admin or no one can edit the settings | The admin button should be visible. User type shoud be 2 and staff.staffid = SSB  and the availability form should open when the availability button is clicked | Frm availability opened and usertype = 2 and staff.staff id was set to SBE |  |
| 8 | A user with the name of an admin tries to log on to the admin | The variable “User” will be set to “SBE” and the record will be changed to admin | If when a correct staff member user uses the program they need to be recognised as admin or no one can edit the settings | The admin button should be visible. User type shoud be 2 and staff.staffid = SSB and the admin form should open when the admin button is clicked | Frmadmin opened and usertype = 2 and staff.staff id was set to SBE |  |
| 9 | Some one with the format of a student but is not on the system | The variable “User” will be set to “999999” which is in the format of a students logon but is not in the students.dat file | I If when a user of an incorrect user name tries to use the system it should notify them and not crash so if they should be on the system the can see that that is the error and get someone to fix it | Usertype should be = 0  And an error message should come up telling them that their username is not valid and to contact admin if this is wrong  Also there will be no buttons visible except for exit | Usertype was set to 0 and a error message was sent to the user |  |
| 10 | Someone who does not have the format of a student but is not on the system and there is a staff file loaded | The variable “user” will be set to “librarycomputer1” which is in the correct format to be checked to be a staff and is not in the staff.dat file | If when a user of an incorrect user name tries to use the system it should notify them and not crash so if they should be on the system the can see that that is the error and get someone to fix it | Usertype should be = 0  And an error message should come up telling them that their username is not valid and to contact admin if this is wrong | Usertype was set to 0 and a error message was sent to the user |  |
| 11 | Btnexit clicked | Btnexit clicked | The windows are locked so they will not be able to be closed any other way. | The window will close | The window closed closing the program |  |

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| Frmavailability | | | | | | | |
| Test No | event | | Test data | Reason for test | Expected outcome | outcome | screenshots |
| 1 | Form loading and lblname displaying a welcome message when a student is using it | | I student.forename to simon and student.surname to surname and usertype to 1 | If it though if it doesn’t work | Lblname will say “welcome simon bellows” | Lblname said “welcome simon bellows” |  |
| 2 | Form loading and lblname displaying a welcome message when a staff member is using it | | I staff.forename to simon and staff.surname to surname and usertype to 2 | If it though if it doesn’t work | Lblname will say “welcome simon bellows” | Lblname said “welcome simon bellows |  |
| 3 | Form loads populates the chklstavailability  Checked combo box | | Appointmentlength = 5 Nday = 2 and day.start = 204 and day.finnish = 246 for day.dayno = 1 and day.dayno = 2 | If it doesn’t correctly display the appointment blocks then user will not be able to accurately set there availability. | A set of un checked items in the list starting with “day 1 1700 to 1800” to “day 2 1930 to 2030” | Checked opens loaded as descrive in expected results |  |
| 4 | Form loads populates the chklstavailability  Checked combo box but for appointment length 10 | | Appointmentlength = 10 Nday = 2 and day.start = 204 and day.finnish = 252 for day.dayno = 1 and day.dayno = 2 | If it doesn’t correctly display the appointment blocks then user will not be able to accurately set there availability. | A set of un checked items in the list starting with “day 1 1700 to 1800” to “day 2 1930 to 2030” | Checked opens loaded as descrive in expected results |  |
| 5 | The check box on one of the items in chklstavailablility is checked with a staff member using at appointment length 5 | | Appointment length = 5. Usertype = 2  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1800 | If a member of staff is unable to check that they will be available for any appointments then they will not be able to be seen by any students | checkedlistbox item day 1 1700 to 1800 will be checked and in the staffav.dat file there will be a record that says the staff member is available | The item was checked and the staffav record was updated |  |
|  | The check box on one of the items in chklstavailablility is checked with a staff member using at appointment length 10 | | Appointment length = 10. Usertype = 2  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1830 | If a member of staff is unable to check that they will be available for any appointments then they will not be able to be seen by any students | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the staffav.dat file there will be a record that says the staff member is available | The item was checked and the staffav record was updated |  |
|  | The check box on one of the items in chklstavailablility is unchecked with a staff member using at appointment length 5 | | Appointment length = 5. Usertype = 2  Staffav record. The checked checkedlistbox item day 1 1700 to 1800 | If a member of staff is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead students | checkedlistbox item day 1 1700 to 1800 will be checked and in the staffav.dat file there will be a record that says the staff member is unavailable | The item was unchecked and the staffav record was updated |  |
|  | The check box on one of the items in chklstavailablility is unchecked with a staff member using at appointment length 10 | | Appointment length = 10. Usertype = 2  Staffav record. The checked checkedlistbox item day 1 1700 to 1830 | If a member of staff is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead students | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the staffav.dat file there will be a record that says the staff member is unavailable | The item was unchecked and the staffav record was updated |  |
|  | The check box on one of the items in chklstavailablility is checked by a student using at appointment length 5 | | Appointment length = 5. Usertype =1  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1800 | If a student is unable to check that they will be available for any appointments then they will not be able to be seen by any members of staff | checkedlistbox item day 1 1700 to 1800 will be checked and in the studav.dat file there will be a record that says the staff member is available | The item was checked and the studav record was updated |  |
|  | The check box on one of the items in chklstavailablility is checked by a student using at appointment length 10 | | Appointment length = 10. Usertype =1  Staffav record. The unchecked checkedlistbox item day 1 1700 to 1830 | If a student is unable to check that they will be available for any appointments then they will not be able to be seen by any members of staff | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the studav.dat file there will be a record that says the staff member is available | The item was checked and the studav record was updated |  |
|  | The check box on one of the items in chklstavailablility is unchecked by a student using at appointment length 5 | | Appointment length = 5. Usertype =1  Staffav record. The checked checkedlistbox item day 1 1700 to 1800 | If a student is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead members of staff | checkedlistbox item day 1 1700 to 1800 will be checked and in the studav.dat file there will be a record that says the staff member is unavailable | The item was unchecked and the studav record was updated |  |
|  | The check box on one of the items in chklstavailablility is unchecked by a student using at appointment length 10 | | Appointment length = 10. Usertype = 1  Staffav record. The checked checkedlistbox item day 1 1700 to 1830 | If a student is unable to uncheck that they will be available for any appointments then they will be assigned appointments they won’t be available for and will mislead members of staff. | checkedlistbox item day 1 1700 to 1830 will be unchecked and in the studav.dat file there will be a record that says the staff member is unavailable | The item was unchecked and the studav record was updated |  |
|  | Btnexit clicked | | btnExit being clicked | Because if button exit does not work then the user wont be able to exit the program with out forcequiting it. | Frmavailability will close and the start form will open. | Frmavailability closed and frmstart opend again |  |
| frmAdmin | | | | | | | |
| Test No | event | | Test data | Reason for test | Expected outcome | outcome | screenshots |
|  | btnReset | | Clicking button reset | Between parents evenings the admin may want to cleanse the system and start anew | The file lengths for the different dat files wil be changed back to 0 | The files had there size changed to 0 meaning they were reset |  |
|  | Clicking Btnback | | Clicking btnback | If the user is unable to use the back button then he would be unable to leave the form without forcequiting it. | The form will close and the start form will open | Btn back was pressed and the form closed and |  |
|  | btnDaysettings | | Clicking btndaysettings | If they are unable to get to the daysettings form then they can not generate the appointment records and availability records. | The day settings form will open | The day settings form opened |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. With them all existing and none of the data in the wrong format | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a series of message boxes notifying me that different parts have imported and there will be populated dat files by the names of student staff and lesson. | I recived message boxes after each import was complete and the dat files wer all populated at the end |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no student file, or the name changed to simulate such an event | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file | Window opened showing that it had registerd the error and what it was |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no staff file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file | Window opened showing that it had registerd the error and what it was |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no studentclass file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file | Window opened showing that it had registerd the error and what it was |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. With the only problem being that there is no classslotfile file | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error and the system could not find the file | Window opened showing that it had registerd the error and what it was |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. This is a meta test, it will first be that there is a non numeric characters in the studNO (“five”) field in the csv, next forename surname or studid are longer than the field(a 30 character string of 30 lots of “a”). And lastly that year is a non numeric value(“two”) and then that year then studno are too large or too small(1000000000000 and -1000000000000). | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | For all erros picked up I will get a message telling me that there was an error with the student.csv file. I expect the program to find errors with values that are too large and letters put into numeric varialbes and I reckon that it will truncate strigns that are too long | The use of non numeric data for studno and year caused an error which was pickedup. Using too long a string caused trunkation using too large or too small a number for studno or year again caused an error that was picked up. |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. This is a meta test, it will first be that there is a non numeric characters (“one”) in the staffNO field in the csv, next forename surname or staffid are longer than the field(30 a’s). And lastly that staffno is a value too large or too small(too large will be 1000000000000 and too small will be -1000000000000 | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | For all erros picked up I will get a message telling me that there was an error with the tutors.csv file. I expect the program to find errors with values that are too large and letters put into numeric varialbes and I reckon that it will truncate strigns that are too long | The use of non numeric data for staffno caused an error which was picked up. Using too long a string caused trunkation, using too large or too small a number for staffno again caused an error that was picked up. |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. This is a meta test, it will first | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the staff.csv file |  |  |
|  | Import staff and student data button is clicked | | Clicking on the import classSlots, studetnclass, staff and student file. This is a meta test, it will first test | If the import does not work then there will be none of the basic data that the whole system feeds off so none of it will work. | I will get a message telling me that there was an error with the classslots.csv file |  |  |
|  | Btnalgorithm clicked | | Btnalgorithm clicked | If the button does not start the algorithm then no appointments will be created and the program will be impetant | I it will hit a breakpoint I will stick inside the subroutine |  |  |
|  | The sorting algorithm I run | | The student and staff availability files with 10 students and 4 staff as a small scale experitment. | If it works for small numbers it will work the same or large numbers, though there will be an increase in people with out appointments unless the number of appointments is increased. | When I look at the appointment form I will see a number of appointments depending on the effectiveness of the algorithm |  |  |
|  | Clicking btnemail | | Clicking btnemail and for the purposes of this test I will be changing the email address to @ssfc.ac.uk instead because I don’t have access to the other domains email’s. and I will be just using the student simon bellows | If this does not work then there is no way for anyone to find out what their appointments are. | I will expect to recive an email at [112544@ssfc.ac.uk](mailto:112544@ssfc.ac.uk) detailing appointments of simon bellows |  |  |
| frmDaySettings | | | | | | | |
| Test No | | event | Test data | Reason for test | Expected outcome | outcome | screenshots |
| 1 | | Form loads | The form loads | When the form loads the neither the number of days or the length of appointments are decided ergo one can not set the times for the days so they should be invisible | Cmbstart, cmbday and cmbend will be invisible |  |  |
| 2 | | Form loads | The form loads | Cmbndays should be filled with the numbers 1 to 255 days for the user to select as the number of days | The combobox will contain the numbers from 1 to 255 |  |  |
| 3 | | Ndays is changed  But appointment length is not set | The combo box ndays is changed to 3 days | When the ndays combo box changes its value the combo box need to display it and the variable ndays needs to register it | Ndays will be 3  The selected item in the combobox will be 3 | Cmbndays was 3 and the variable was ndays |  |
| 4 | | Rad5min is selected and ndays is not set yet | Rad5min is selected | When rad5min is selected the variable appoinmentlength needs to regeister it | Appoinmentlength will equal 5 | Appointment length was set to 5 and 5 min radio button was sellected |  |
| 5 | | Rad10min is selected and ndays is not set yet | Rad10min is selected | When rad10min is selected the variable appoinmentlength needs to regeister it | Appoinmentlength will equal 10 | Appointment length was set to 10 and 10 min radio button was sellected |  |
| 6 | | Rad5min is selected after ndays is set to 3 | Rad5min is selected after ndays is set to 3 | When rad5min is selected the variable appoinmentlength needs to regeister it and because there is an ndays set it has to make cmbend, cmbstart, and cmbday visible and populated | Appoinmentlength will equal 5 ndays will be 3 and cmbend, cmbstart, and cmbday visible and cmbday is populated | Appointment length was set to 5 and Ndays was set to 3 which caused second half to be called. And caused cmbend, cmbstart, and cmbday visible and cmbday to be populated |  |
| 7 | | Rad10min is selected after ndays is set to 3 | Rad10min is selected after ndays is set to 3 | When rad10min is selected the variable appoinmentlength needs to regeister it and because there is an ndays set it has to make cmbend, cmbstart, and cmbday visible and cmbday is populated | Appoinmentlength will equal 10 ndays will be 3 and cmbend, cmbstart, and cmbday visible and cmbday is populated | Appointment length was set to 10 and Ndays was set to 3 which caused second half to be called. And caused cmbend, cmbstart, and cmbday visible and cmbday to be populated |  |
| 8 | | Rad5min is selected then ndays is set to 3 | Rad5min is selected then ndays is set to 3 | When rad5min is selected the variable appoinmentlength needs to regeister it and then ndays set to 3 so cmbend, cmbstart, and cmbday visible and cmbday is populated | Appoinmentlength will equal 5 ndays will be 3 and cmbend, cmbstart, and cmbday visible and cmbday is populated | Appointment length was set to 5 then Ndays was set to 3 which caused second half to be called. And caused cmbend, cmbstart, and cmbday visible and cmbday to be populated |  |
| 9 | | Rad10min is selected then ndays is set to 3 | Rad10min is selected then ndays is set to 3 | When rad10min is selected the variable appoinmentlength needs to regeister it and then ndays set to 3 so cmbend, cmbstart, and cmbday visible and cmbday is populated | Appoinmentlength will equal 10 ndays will be 3 and cmbend, cmbstart, and cmbday visible and cmbday is populated | Appointment length was set to 10 then Ndays was set to 3 which caused second half to be called. And caused cmbend, cmbstart, and cmbday visible and cmbday to be populated |  |
| 10 | | Rad5min is selected then ndays is set to 3  Then cmbday is set to 1 | Rad5min is selected then ndays is set to 3  Then cmbday is set to 1 | When a day is selected then the options for the start and finnish tiems must populate so they may be set | Cmbstart will be populated with times in the military fassion 5 mins apart from 0000 to 2300  Cmbend will be populated the same way from 0100 to 2400 | Cmbstart was populated with times from 0000 to 2300 and  Cmbend was populated from 0100 to 2400 in 5 min intervals |  |
| 11 | | Rad10min is selected then ndays is set to 3  Then cmbday is set to 1 | Rad10min is selected then ndays is set to 3  Then cmbday is set to 1 | When a day is selected then the options for the start and finnish tiems must populate so they may be set | Cmbstart will be populated with times in the military fassion 10 mins apart from 0000 to 2230  Cmbend will be populated the same way from 0130 to 2400 | Cmbstart was populated with times from 0000 to 2230 and  Cmbend was populated from 0130 to 2400 in 10 min intervals |  |
| 12 | | Appointment length selected is 5 ndays is 3 and the day is set to 1 and start time is changed to 6:30pm | Appointment length selected is 5 ndays is 3 and the day is set to 1 and start time is changed to 6:30pm | For 5 min appointment the there must be at least an hour of them and the finish time may not be before the start time | Day 1’s start time will be set and stored as 222 and cmbfinnish will now be populated at 1930 to 2400 | The start time was stored as described and the cmbfinnish was populated as described |  |
| 13 | | Appointment length selected is 10 ndays is 3 and the day is set to 1 and start time is changed to 6:30pm | Appointment length selected is 10 ndays is 3 and the day is set to 1 and start time is changed to 6:30pm | For 10 min appointment the there must be at least an hour and a half of them and the finish time may not be before the start time | Day 1’s start time will be set and stored as 222 and cmbfinnish will now be populated at 2000 to 2400 | The start time was stored as described and the cmbfinnish was populated as described |  |
| 14 | | Appointment length selected is 5 ndays is 3 and the day is set to 1 and finnnish time is changed to 10:30pm | Appointment length selected is 5 ndays is 3 and the day is set to 1 and finish time is changed to 10:30pm | For 5 min appointment the there must be at least an hour of them and the finish time may not be before the start time | Day 1’s finish time will be set and stored as 270 and cmbstart will now be populated at 0000 to 2130 | The finish time was stored as described and the cmbstart was populated as described |  |
| 15 | | Appointment length selected is 10 ndays is 3 and the day is set to 1 and finnnish time is changed to 10:30pm | Appointment length selected is 10 ndays is 3 and the day is set to 1 and finish time is changed to 10:30pm | For 10 min appointment the there must be at least an hour and a half of them and the finish time may not be before the start time | Day 1’s finish time will be set and stored as 270 and cmbstart will now be populated at 0000 to 2100 | The finish time was stored as described and the cmbstart was populated as described |  |
| 16 | | Rad5min is selected when ndays = 3, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Rad5min is selected when ndays = 3, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When appointment length is changed the values below may not be relelvent and theirfore are reset if not they might be values that are imposible | Rad5min will be set and ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |  |  |
| 17 | | Rad10min is selected when ndays = 3, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Rad10min is selected when ndays = 3, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When appointment length is changed the values below may not be relelvent and theirfore are reset if not they might be values that are imposible | Rad10min will be set and ndays will be 3 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |  |  |
| 18 | | ndays is changed from 3 to 4, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | ndays changed from 3 to 4, rad5min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When the number of days is changed due to the fact that in some situations if the cmb boxes were left as is there could be issues it is easier to just change them all and the test is to check whether it does | ndays will be set to 4 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |  |  |
| 19 | | ndays is changed from 3 to 4, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | Ndays is changed from 3 to 4, rad10min is set and cmbend is set to 2400 and cmbstart is set to 0000 and cmb day is set to 1 | When the number of days is changed due to the fact that in some situations if the cmb boxes were left as is there could be issues it is easier to just change them all and the test is to check whether it does | ndays will be set to 4 and cmbend, cmbstart, and cmbday visible and populated but no values will be selected |  |  |
| 20 | | Btnback clicked | Btnback clicked | The user must be able to leave the form or they will be stuck there until they use taskmanager to end the form which would likely be inpossible unless the admin of the consultation evening program is that of the school. | The day settings form will close and the admin form will open. |  |  |