

# SOFTWARE ENGINEERING

## ASSIGNMENT PART 2

### Software Test Specification Document

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## Table of Contents

SOFTWARE ENGINEERING .....	1
1. Introduction .....	3
1.1 Background .....	3
1.2 Purpose of the Document .....	3
1.3 Scope of the Document .....	3
1.4 Overview of the Document .....	4
2. A testing plan including testing strategies/methods .....	5
3. Functional and non – functional requirements to be tested .....	6
3.1 Functional Requirements .....	6
3.2 Non – Functional Requirements .....	6
4. Test cases and results .....	7
4.1 Test cases .....	7
4.2 Results/Outputs (success and Failure scenarios) .....	12
5. HW and SW requirements .....	33
5.1 Hardware Requirements .....	33
5.2 Software Requirements .....	34
6. Recording mechanism of tests .....	34

# 1. Introduction

## 1.1 Background

COVID-19 has had an enormous effect all over the world on health, the economy, and industries. The UK Government has introduced the NHS Test and Trace Program to help them trace the spread of the coronavirus and isolate new infections.

## 1.2 Purpose of the Document

This is a Software Test Specification Document for our company Successful Partners Software (SPSoft) which is tasked to create a Test and Trace software platform namely TTS.COVID-19 for the NHS. We aim to quickly reach potentially infected individuals to prevent the spread of the COVID 19 infection. The requirement is outlined in the project proposal section and extracted from <https://www.gov.uk/guidance/nhs-test-and-trace-how-it-works#contents>

## 1.3 Scope of the Document

This document aids in the development and comprehension of test case data for a specific test-case scenario.

This document would include a list of recommended test approaches/strategies for evaluating the proposed system, as well as the software and hardware methods that will be required for testing. Furthermore, functional, and non-functional requirements will be reviewed, test cases, and test recording mechanisms.

It aims to document and define what needs to be achieved to test a system. It shows us the steps we take in a system, the input data values we implement, and the predicted outcomes when we run a test case. Test cases

put the whole testing process together. If the test cases are prepared, they can be very useful in determining whether the customer's requirements were met.

Our group have used IntelliJ to create the prototype and will be conducting test cases to interpret what was initiated in our use case view and sequence diagrams that were identified in the requirement specification document.

## 1.4 Overview of the Document

This document will be organised as follows:

**Section 2:** Testing plan including testing strategies/methods

**Section 3:** Functional and non-functional requirements to be tested

3.1 Functional Requirements

3.2 Non – Functional Requirements

**Section 4:** Test cases and results

**Section 5:** HW & SW requirements

5.1 Hardware requirements

5.2 Software Requirements

**Section 6:** Recording mechanism of tests

## 2. A testing plan including testing strategies/methods

To avoid any problems in the TTS.COVID-19 System, we are going to perform different test methods:

### **Validation Testing:**

For the system to perform perfectly, we would need to perform a set of tests on the system based on its given requirements.

### **Defect Testing:**

To be able to discover defects inside the system. The test cases are implemented to show hidden defects. However, test cases do not automatically mean all defects will be identified.

### **Regression Testing:**

To be able to perform regression testing we would first need to debug the code for us to identify any defects or bugs. Once identified, changes will be made to the code to fix the identified defects, then regression testing will be done by selecting test-cases that is relevant to the modified code.

### **Test Samples that will be performed:**

- Inset inputs that will force the system to generate an error message.
- Repetition of inputs of symptoms
- Impose invalid outputs to the system such as wrong passwords
- Force large or small computational results
- Wrong inputs of dates
- Wrong input of a valid contact number

### 3. Functional and non – functional requirements to be tested

#### 3.1 Functional Requirements

- Client should communicate with the server when actions are taken
- The user is logged into the system when entering existing details
- User details are saved when a new user signs up
- The home page is opened when a user logs in
- Admin page is opened when an admin logs in
- User must be taken to the official NHS website when pressing the NHS Covid information button
- User must be shown the symptoms list when pressing the common Covid symptoms button
- User must be shown the test kit info list when pressing the common test kit information button
- User must be shown the contact sharing window when pressing the share contact details button
- User must be shown the update account window when pressing the update account information button
- User must be directed to the NHS website when following the relevant hyper-links

#### 3.2 Non – Functional Requirements

- Response time between client and server must be less than 1 second
- Users details must be registered to file within 1 second
- The user must be logged in within 1 second
- Admin must be logged in within 1 second
- User must be taken to the official NHS website within 1 second
- User must be shown the symptoms list within 1 second
- User must be shown the contact sharing window within 1 second
- User must be shown the updated account within 1 second
- Users account must be updated correctly within 1 second
- Hyperlinks must open the NHS website within 1 second
- The system must provide a user experience that is clear and easy to understand
- The system must provide some level of security and rigid design as to not allow significant instability with data input and storage.
- The system can only be used by the staff as well as other approved personnel, so users must be confirmed.
- The user's and proximity contact details and information provided should be held in strict confidence. It should only be used in line with the Data Protection Act 2018 which is the UK's implementation of the General Data Protection Regulation (GDPR)

- Contact tracers are responsible for contacting the lab and requesting the preparation of a test kit and providing them with correct information.

## 4. Test cases and results

### 4.1 Test cases

Test cases/Scenario	Test data	Expected Result
TEST 1: User enters a valid email and password to register.	Email: <a href="mailto:TedBundy@gmail.com">TedBundy@gmail.com</a>  Phone Number: 07111222333  Password: 1234  Address: 1 Test Avenue, Filton, Bristol, BS1 1AB  Full Name: Ted Bundy	The user should be registered to the app.
TEST 2: User enters an invalid email and password to register.	Email: TedBundy.com  Phone Number: 07111222333  Password 1234.  Address: 1 Test Avenue, Filton, Bristol, BS1 1AB  Full Name: Ted Bundy	A display/error message will pop up saying "Invalid e-mail address. Please enter a valid one."
Test 3: User enters to log in but have not registered.	Email: <a href="mailto:TedBundy@gmail.com">TedBundy@gmail.com</a>  Password: 1234	A display/ error message will pop up saying "No account with this email address exists. Try registering instead."
Test 4: User enters the same email to attempts to register	Email: <a href="mailto:TedBundy@gmail.com">TedBundy@gmail.com</a>	A display/error message will pop up saying "An account with this email

	Password: 1234	already exists. Try logging in."
Test 5: User enters invalid password with the right email.	Email: <a href="mailto:TedBundy@gmail.com">TedBundy@gmail.com</a> Password: 56789	A display/error message will pop saying "The password provided was incorrect."
Test 6: The admin logs in and takes to the admin tab.	Email: <a href="mailto:admin@nhstts.com">admin@nhstts.com</a> Password: AdminPassword123	Admin should be able to access the admin tab.
Test 7: Admin presses the get email button without entering anything	Admin presses get email button	A display/error message will pop up saying "Please enter a valid message id."
Test 8: Admin presses the get SMS button without entering anything	Admin presses the get SMS button	A display/error message will pop up saying "Please enter a valid message id."
Test 9: Admin enters a valid message ID and presses the get email button	Admin enters "0" and presses the get email button	A display message will pop up saying the registration confirmation to the user's email and details on what to do next.
Test 10: Admin enters an invalid message ID and presses the get email button	Message ID: 1234	A display/error message will pop up saying "Email with this id was not found."
Test 11: Admin enters a valid message ID and presses the get SMS button	Admin enters "0" and presses the get SMS button	A display message will pop up saying the registration confirmation to the user's SMS and details on what to do next.
Test 12: Admin enters an invalid message ID and presses the get SMS button	Message ID: 1234	A display/error message will pop up saying "SMS with this id was not found."
Test 13: Admin enters a valid account email to delete the account	Admin enters: <a href="mailto:TedBundy@gmail.com">TedBundy@gmail.com</a>	A display message will pop up saying "Account deleted successfully."
Test 14: Admin enters an invalid account email to delete the account	Account: bob ross	A display/error message will pop up saying "No account with that email exists."
Test 15: Admin updates his/her password and presses	Password: AdminPassword345	A display message will pop up saying "Account updated successfully."



the update password button		
Test 16: Admin updates his/her password with the same password that he/she just updated.	Password: AdminPassword345	A display message will pop saying "You have entered the same password, enter a new one"
Test 17: User presses the NHS covid information button	User presses the NHS covid information button	The user will be taken to the covid information website.
Test 18: User presses the common covid symptoms button	User presses the NHS covid symptoms button	A display message will pop up and list the following common covid symptoms
Test 19: User presses the Test kit information button	The user presses the Test kit information button	A display message will pop up and will give information about the test kit.
Test 20: User presses the share contact details button	The user presses the share contact details button	A pop up will display for the user to share contact details
Test 21: User presses the share contact details button and clicks the help button	The user presses the help button from the share contact details pop up.	Information will be provided to explain how to share details.
Test 22: User provides invalid information on the contact sharing details	The user enters: Sam	Invalid contact details were entered. Please check and try again.
Test 23: User provides valid information on the contact sharing details.	The user enters: SamOverton   Sam2.Ov erton@gmail.com   071 0943132	Information will be sent to the person that was inputted on the contact sharing details
Test 24: User presses the update account information button	The user presses the account information button	A pop up will display options for the user to enter and update their address and/or password.
Test 25: User presses the update account information button and presses the help button (?)	User presses the help button (?) from the share contact details pop up	A display/error message will pop up saying "Enter your new address and/or password and press 'Update Account Details'."
Test 26: User enters a new address and presses the updates account button	The user enters: 22 Lancelot Road and presses the update account button	The user enters the new address and presses the update button. Display message will pop saying "Account updated successfully."

Test 27: User enters a new password and presses the updates account button	The user enters a new password and presses the update account button	The user enters the new password and presses the update button. Display message will pop saying "Account updated successfully."
Test 28: User enters the same password and presses the updates account button	The user enters the same password and presses the update account information	The user enters the same password and presses the update button. Display message will pop up saying "You have entered the same password, update or use your current one"
Test 29: User enters a new phone number and presses the update account button	The user enters a new phone number and presses the update account button	The user enters the new password and presses the update button. Display message will pop saying "Account updated successfully"
Test 30: User presses the contact NHS link	User presses the contact NHS link <a href="http://111.nhs.uk/">http://111.nhs.uk/</a>	The contact NHS link will take the user to the internet.
Test 31: A new user registers and information has been sent to say lab member [name] has been sent to the user	Lab member has prepared a test kit for the user	The system will output saying the lab member has prepared a test kit for the user.
Test 32: The system output will inform that an NHS contact tracer has contacted a lab member	NHS Contact tracer [name] contacted lab member [name] to prep a test kit	The system will output saying the NHS contact tracer contacted the lab member.
Test 33: The account CSV file lists all the members that have been registered	Email, password, phone number, and full name will be shown	The account CSV file will list all the members of the user registered information.
Test 34: The admin account CSV file lists who is admin	Email, password, phone number, and full name will be shown	The admin CSV file will list who is the admin.
Test 35: The contact tracer CSV file lists who are contact tracers	ID and names of the contact tracer will be shown	The contact tracer CSV file list who are contact tracers.
Test 36: Email CSV file will list all the information that has	ID, Sender, Recipient email, Subject, content, and	Information will include for the registered user "Your NHS Track and Trace

been sent to the registered user	attachment will be shown.  Subject: Registration Confirmation	account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few days."
Test 37: Email CSV file will list all the information to the person that the user has been in contact with.	ID, Sender, Recipient email, Subject, content, and attachment will be shown.  Subject: Warning of Covid Contact	Information will include for the close contact person saying "Hello Mark Dizon. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your address. Thank you."
Test 38: SMS CSV file will list all the information that has been sent to the registered user	ID, sender, recipient phone no. and content	Information will include for the registered user "Your NHS Track and Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few days."
Test 39: SMS CSV file will list all the information to the person that the user has been in contact with.	ID, sender, recipient phone no. and content  Sender: Oliver@nhstts.com	Information will include for the close contact person saying "Hello Mark Dizon. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your address. Thank you."
Test 40: Laboratories CSV file will list all the lab members	Name and members	The laboratories CSV file will list who are lab members.

Test 41: User provides valid information on the contact sharing details (more than one contact people)	The user enters: Mark Dizon   MarkD2@gmail.com   07126139155 MikeHunt   MikeHunt@gmail.com   07446123955	Information will be sent to the person that was inputted on the contact sharing details and put each contact on a new line (press ENTER to create a new line).
Test 42: User enters the same address and presses the updates account button	The user enters the same address and presses the update account information	The user enters the same address and presses the update button. Display message will pop up saying "You have entered the same address, update or use your current one"
Test 43: A display message to say if these contact sharing details are correct.	The user enters the contact sharing details and press submits and a pop up will display to say if this correct and clicks ok.	A display message will pop up to say if this information is correct before sending.

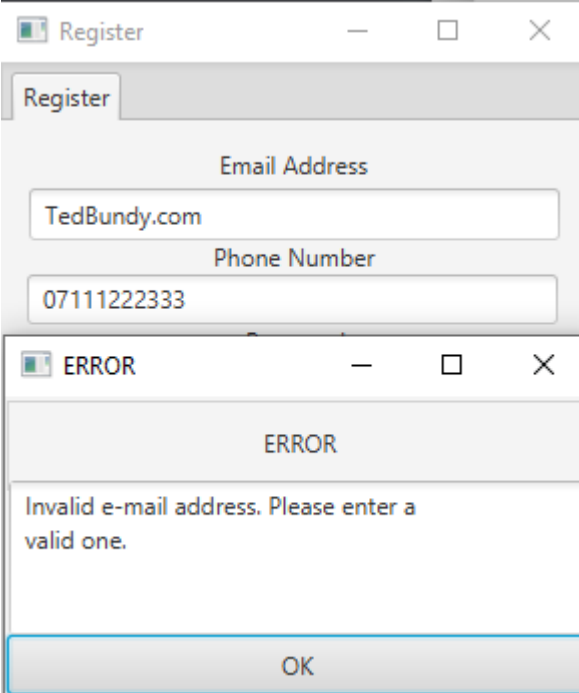
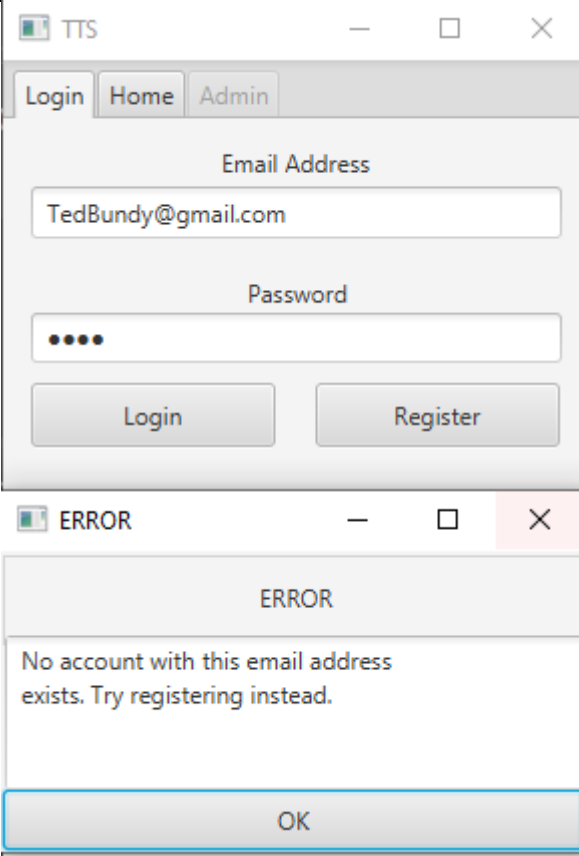
## 4.2 Results/Outputs (success and Failure scenarios)

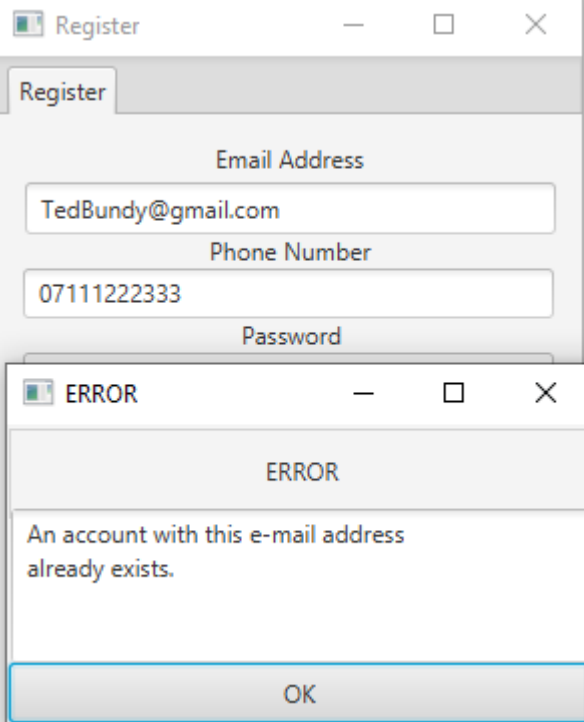
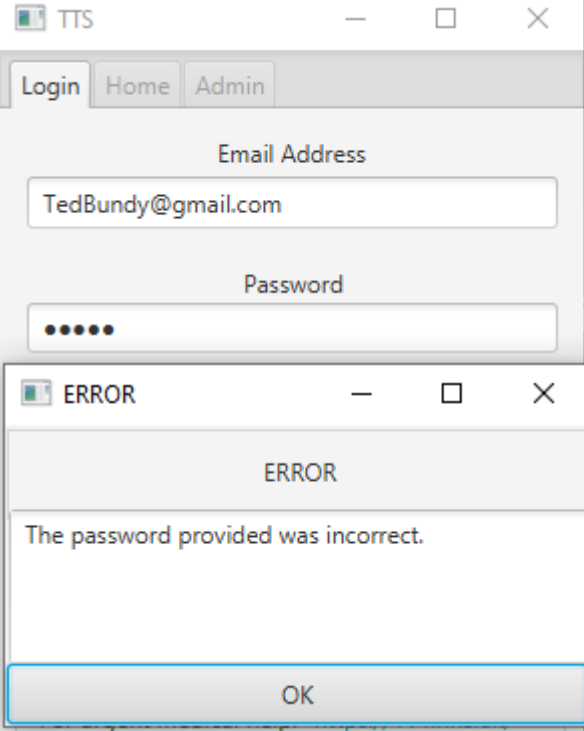
Test cases/Scenario	Actual Output	Pass or fail
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TEST 1: User enters a valid email and password to register.

The image shows two overlapping windows from a software application. The top window, titled "Register", contains a form with the following fields: "Email Address" (containing "TedBundy@gmail.com"), "Phone Number" (containing "07111222333"), "Password" (containing four dots), "Address" (containing "1 Test Avenue, Filton, Bristol, BS1 1AB"), and "Full Name" (containing "Ted Bundy"). Below these fields is a "Register" button. Underneath the button is a section titled "Contact NHS" with the text: "For urgent medical help: <https://111.nhs.uk/> or call 111. For life-threatening emergencies, call 999 for an ambulance." The bottom window, titled "REGISTERED", has a grey header bar with the word "ERROR" in white. Below this, the text "Registered successfully. Please log in." is displayed. At the bottom of this window is an "OK" button.

Pass, a slight bug in the message displayed, should not say "ERROR"

<p>TEST 2: User enters an invalid email and password to register.</p>	 <p>The screenshot shows two windows. The top window is titled 'Register' and contains two input fields: 'Email Address' with the value 'TedBundy.com' and 'Phone Number' with the value '07111222333'. The bottom window is titled 'ERROR' and displays the message 'Invalid e-mail address. Please enter a valid one.' with an 'OK' button at the bottom.</p>	<p>Pass</p>
<p>Test 3: User enters to log in but have not registered.</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. The 'Login' tab is active, showing fields for 'Email Address' (TedBundy@gmail.com) and 'Password' (masked with dots). There are 'Login' and 'Register' buttons. The bottom window is titled 'ERROR' and displays the message 'No account with this email address exists. Try registering instead.' with an 'OK' button at the bottom.</p>	<p>Pass</p>

<p>Test 4: User enters the same email to attempts to register</p>	 <p>The screenshot shows a 'Register' window with three input fields: 'Email Address' containing 'TedBundy@gmail.com', 'Phone Number' containing '07111222333', and 'Password'. Below the form, an 'ERROR' dialog box is displayed with the message 'An account with this e-mail address already exists.' and an 'OK' button.</p>	<p>Pass</p>
<p>Test 5: User enters invalid password with the right email.</p>	 <p>The screenshot shows a 'TTS' window with a 'Login' tab. It contains two input fields: 'Email Address' with 'TedBundy@gmail.com' and 'Password' which is masked with dots. Below the form, an 'ERROR' dialog box is displayed with the message 'The password provided was incorrect.' and an 'OK' button.</p>	<p>Pass</p>

Test 6: The admin logs in and takes to the admin tab.

The image displays two screenshots of a web application interface, both titled 'TTS'.

The top screenshot shows the 'Login' tab selected. It features a form with the following elements:

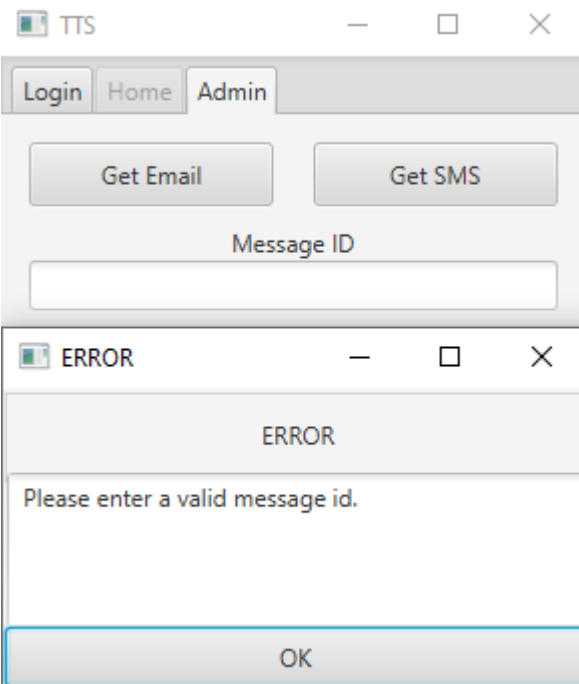
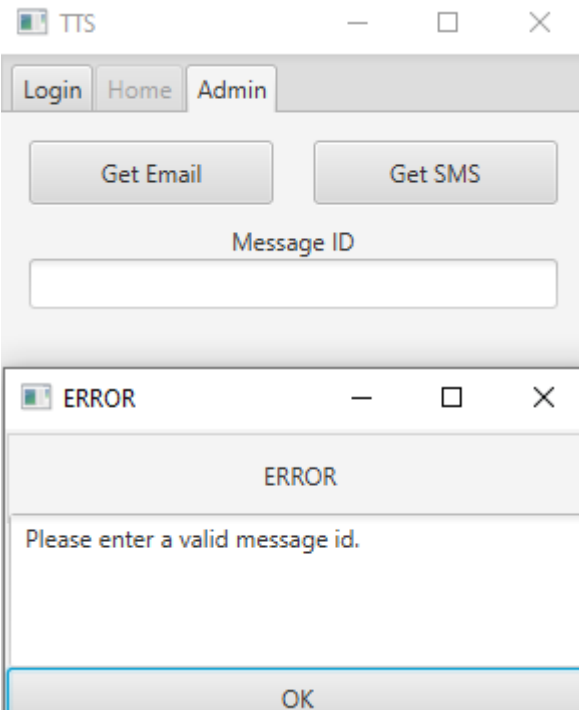
- Email Address:** A text input field containing 'admin@nhstts.com'.
- Password:** A password input field with masked characters (dots).
- Login:** A button to submit the login form.
- Register:** A button to navigate to the registration page.

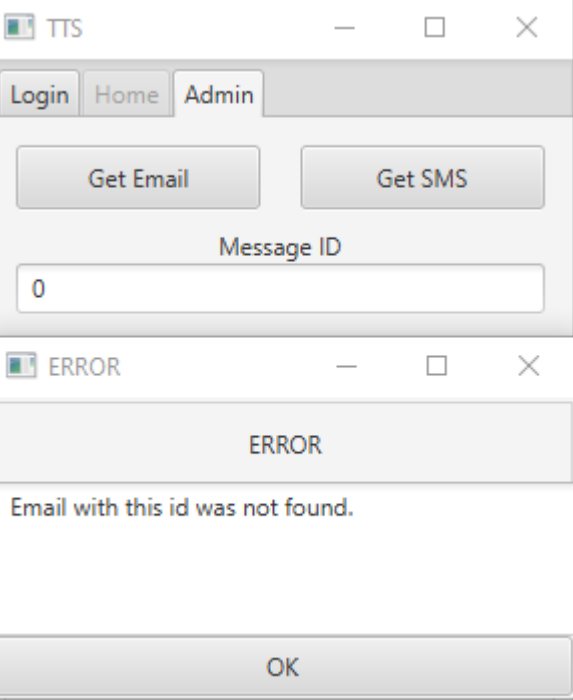
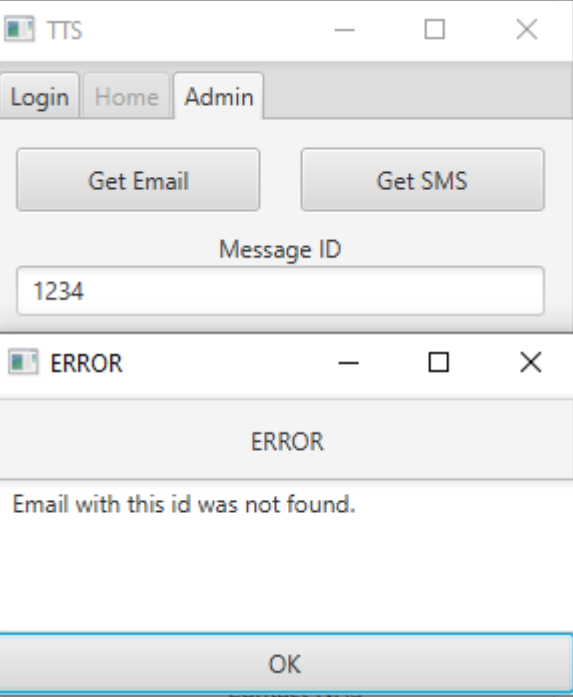
The bottom screenshot shows the 'Admin' tab selected. It features a form with the following elements:

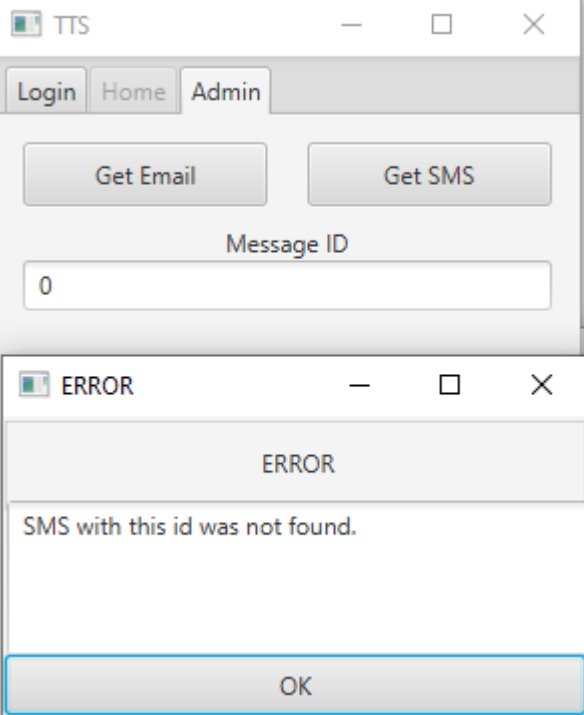
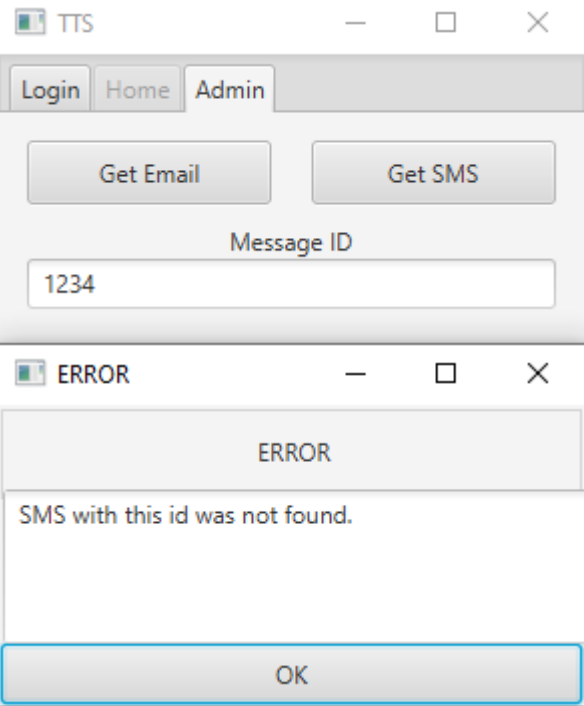
- Get Email:** A button to request an email.
- Get SMS:** A button to request an SMS.
- Message ID:** A text input field for entering a message ID.
- Delete Account:** A button to delete an account.
- Update Password:** A button to update a password.

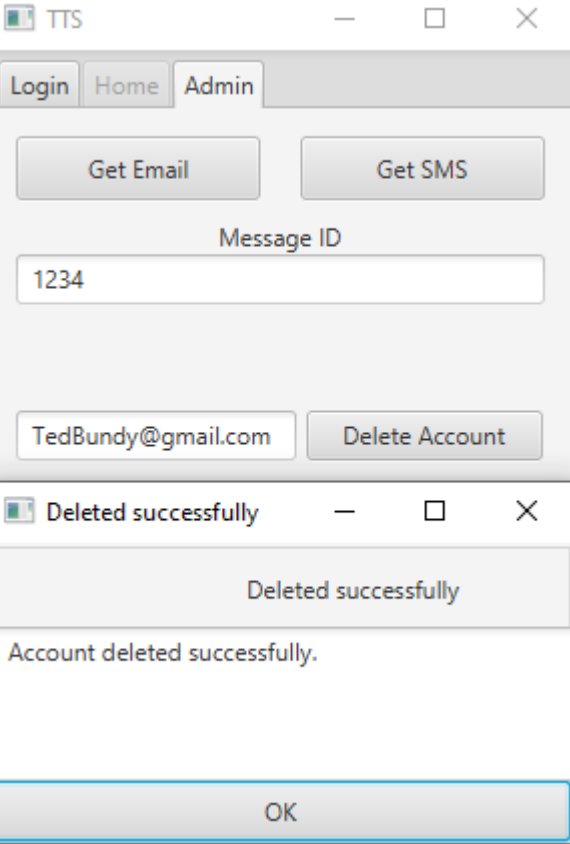
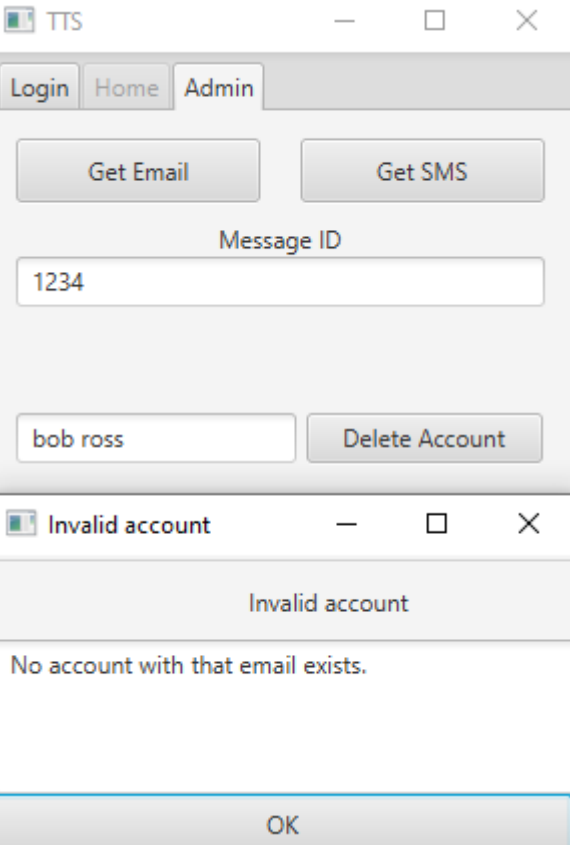
Pass

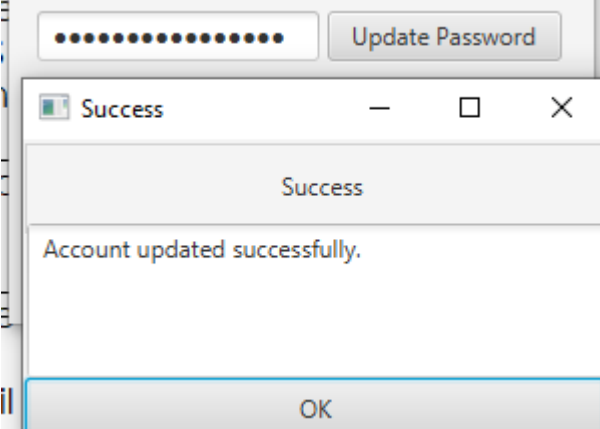
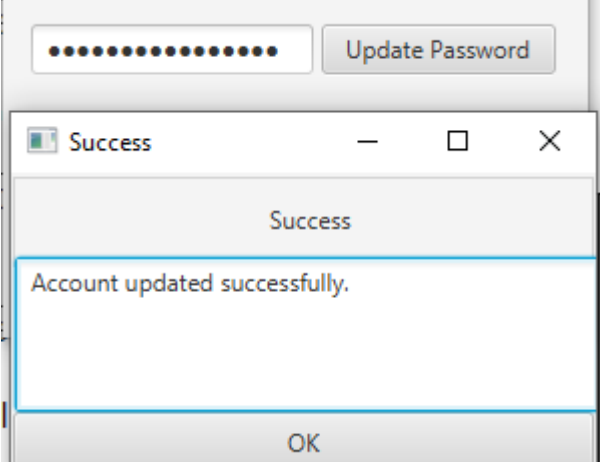
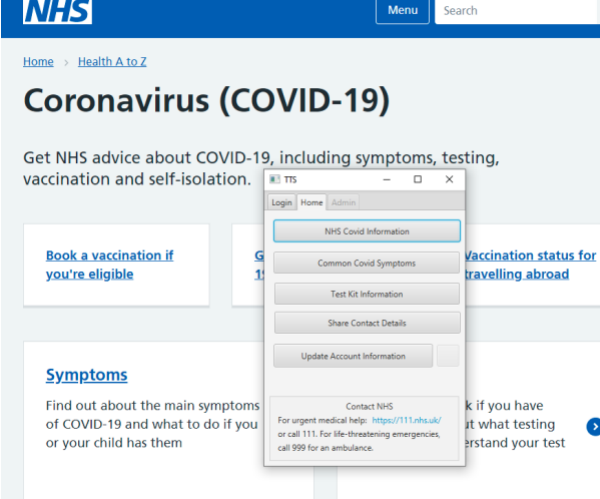


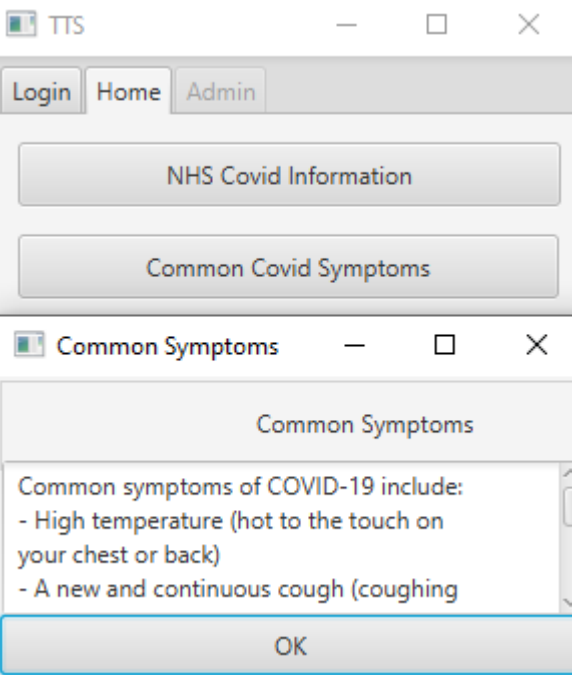
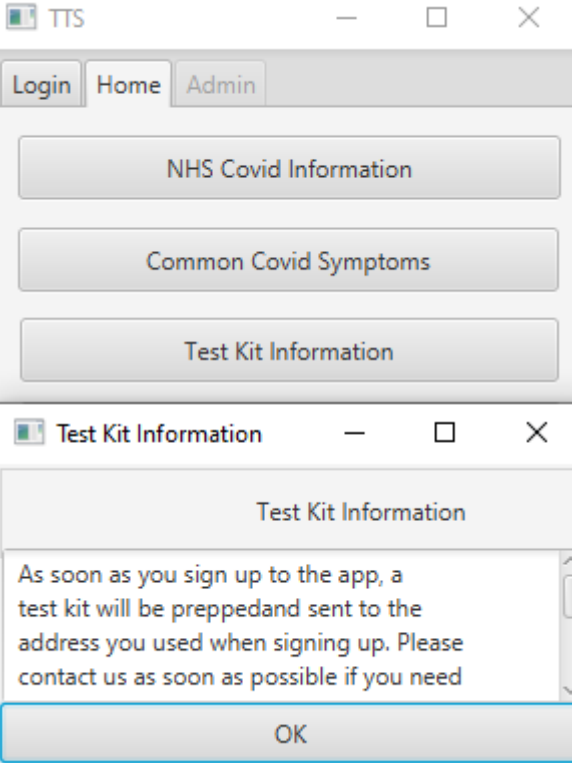
<p>Test 7: Admin presses the get email button without entering anything</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. It contains two buttons: 'Get Email' and 'Get SMS'. Below these buttons is a text input field labeled 'Message ID'. The bottom window is titled 'ERROR' and contains the text 'ERROR' followed by 'Please enter a valid message id.' and an 'OK' button.</p>	<p>Pass</p>
<p>Test 8: Admin presses the get SMS button without entering anything</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. It contains two buttons: 'Get Email' and 'Get SMS'. Below these buttons is a text input field labeled 'Message ID'. The bottom window is titled 'ERROR' and contains the text 'ERROR' followed by 'Please enter a valid message id.' and an 'OK' button.</p>	<p>Pass</p>

<p>Test 9: Admin enters a valid message ID and presses the get email button</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. The 'Admin' tab is selected. It contains two buttons: 'Get Email' and 'Get SMS'. Below them is a text input field labeled 'Message ID' containing the value '0'. The bottom window is titled 'ERROR' and contains the text 'Email with this id was not found.' and an 'OK' button.</p>	<p>Fail</p>
<p>Test 10: Admin enters an invalid message ID and presses the get email button</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. The 'Admin' tab is selected. It contains two buttons: 'Get Email' and 'Get SMS'. Below them is a text input field labeled 'Message ID' containing the value '1234'. The bottom window is titled 'ERROR' and contains the text 'Email with this id was not found.' and an 'OK' button.</p>	<p>Pass</p>

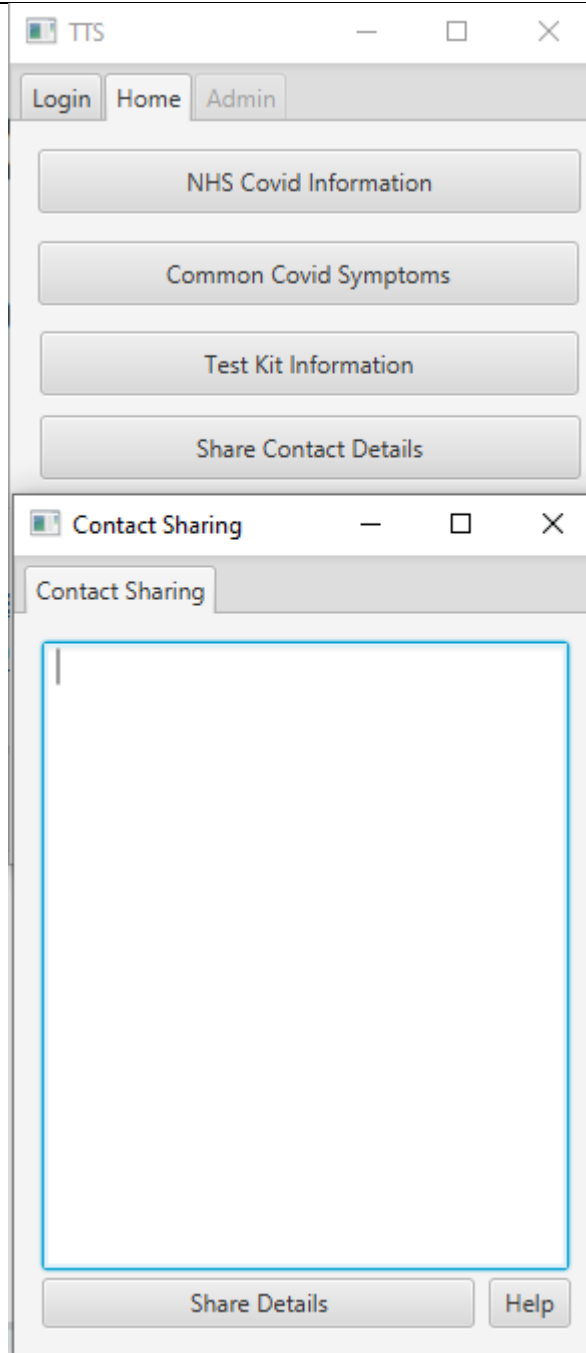
<p>Test 11: Admin enters a valid message ID and presses the get SMS button</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. It contains two buttons: 'Get Email' and 'Get SMS'. Below these is a text input field labeled 'Message ID' containing the value '0'. The bottom window is titled 'ERROR' and displays the message 'SMS with this id was not found.' with an 'OK' button at the bottom.</p>	<p>Fail</p>
<p>Test 12: Admin enters an invalid message ID and presses the get SMS button</p>	 <p>The screenshot shows two windows. The top window is titled 'TTS' and has tabs for 'Login', 'Home', and 'Admin'. It contains two buttons: 'Get Email' and 'Get SMS'. Below these is a text input field labeled 'Message ID' containing the value '1234'. The bottom window is titled 'ERROR' and displays the message 'SMS with this id was not found.' with an 'OK' button at the bottom.</p>	<p>Pass</p>

<p>Test 13: Admin enters a valid account email to delete the account</p>	 <p>The screenshot shows the TTS Admin interface with the 'Admin' tab selected. It features buttons for 'Get Email' and 'Get SMS', a 'Message ID' input field containing '1234', an email input field containing 'TedBundy@gmail.com', and a 'Delete Account' button. Below this, a modal dialog titled 'Deleted successfully' displays the message 'Account deleted successfully.' and an 'OK' button.</p>	<p>Pass</p>
<p>Test 14: Admin enters an invalid account email to delete the account</p>	 <p>The screenshot shows the TTS Admin interface with the 'Admin' tab selected. It features buttons for 'Get Email' and 'Get SMS', a 'Message ID' input field containing '1234', an email input field containing 'bob ross', and a 'Delete Account' button. Below this, a modal dialog titled 'Invalid account' displays the message 'No account with that email exists.' and an 'OK' button.</p>	<p>Pass</p>

<p>Test 15: Admin updates his/her password and presses the update password button</p>		<p>Pass</p>
<p>Test 16: Admin updates his/her password with the same password that he/she just updated.</p>		<p>Fail</p>
<p>Test 17: User presses the NHS covid information button</p>		<p>Pass</p>

<p>Test 18: User presses the common covid symptoms button</p>	 <p>The screenshot shows the TTS application interface. At the top, there are three tabs: 'Login', 'Home', and 'Admin'. Below the tabs are two buttons: 'NHS Covid Information' and 'Common Covid Symptoms'. The 'Common Covid Symptoms' button is highlighted with a blue border. Below this, a dialog box titled 'Common Symptoms' is open. It contains the text: 'Common symptoms of COVID-19 include:' followed by a list: '- High temperature (hot to the touch on your chest or back)' and '- A new and continuous cough (coughing)'. At the bottom of the dialog box is an 'OK' button.</p>	<p>Pass</p>
<p>Test 19: User presses the Test kit information button</p>	 <p>The screenshot shows the TTS application interface. At the top, there are three tabs: 'Login', 'Home', and 'Admin'. Below the tabs are three buttons: 'NHS Covid Information', 'Common Covid Symptoms', and 'Test Kit Information'. The 'Test Kit Information' button is highlighted with a blue border. Below this, a dialog box titled 'Test Kit Information' is open. It contains the text: 'As soon as you sign up to the app, a test kit will be prepped and sent to the address you used when signing up. Please contact us as soon as possible if you need'. At the bottom of the dialog box is an 'OK' button.</p>	<p>Pass</p>

Test 20: User presses the share contact details button



Pass

<p>Test 21: User presses the share contact details button and clicks the help button</p>		<p>Pass</p>
<p>Test 22: User provides invalid information on the contact sharing details</p>		<p>Pass</p>



Test 23: User provides valid information on the contact sharing details.

Pass

Id	Sender	Recipient	Content
0	111	180380084	Your NHS Track And Trace account has been created successfully. Please use t
1	Oliver@nhstts.com	71094313	Hello SamOverton. This message is to warn you that you have been in contact

Id	Sender	Recipient	Subject	Content
0	tts@nhs.com	peasant@NormalEmail.com	Registration Confirmation	Your NHS Track And Trace account has been created successfully. Please use t
1	Oliver@nhstts.com	Sam2.Overton@gmail.com	Warning of Covid Contact	Hello SamOverton. This message is to warn you that you have been in contact

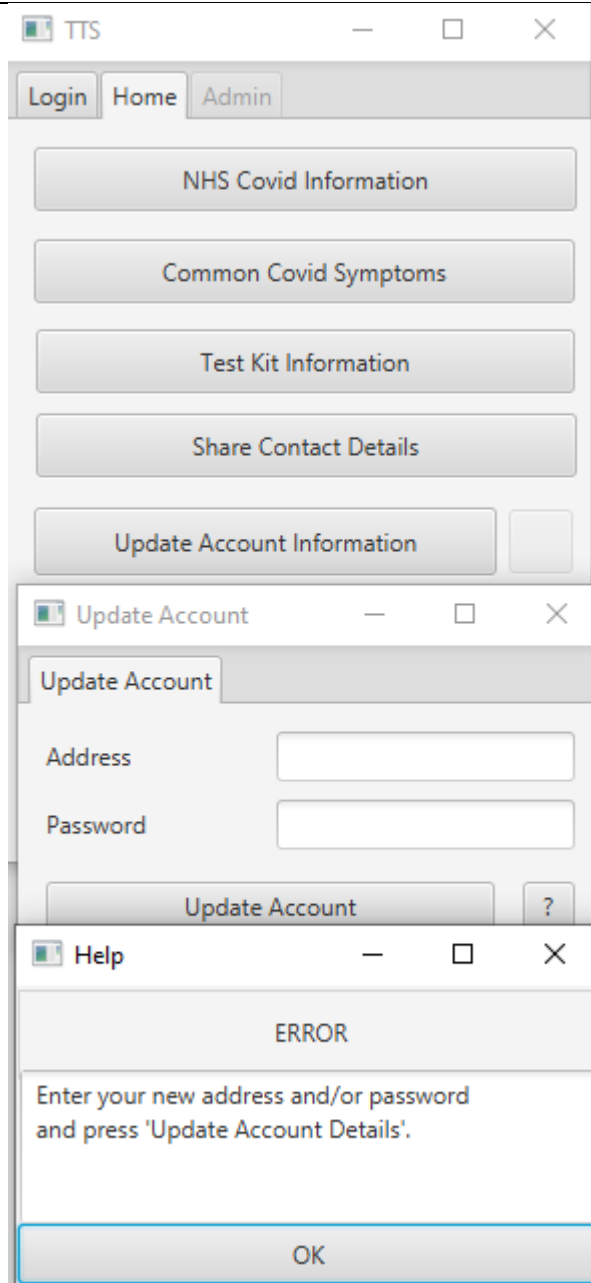
A client has connected successfully.  
 SamOverton|Sam2.Overton@gmail.com|071094313  
 SamOverton|Sam2.Overton@gmail.com|071094313  
 Email was sent successfully! (Saved to email.csv)  
 SMS was sent successfully! (Saved to sms.csv)

Test 24: User presses the update account information button

The screenshot displays two windows from the TTS application. The top window, titled 'TTS', has a menu bar with 'Login', 'Home', and 'Admin'. Below the menu bar are five buttons: 'NHS Covid Information', 'Common Covid Symptoms', 'Test Kit Information', 'Share Contact Details', and 'Update Account Information'. The bottom window, titled 'Update Account', has a single tab labeled 'Update Account'. It contains two input fields: 'Address' and 'Password'. Below these fields is an 'Update Account' button and a small button with a question mark.

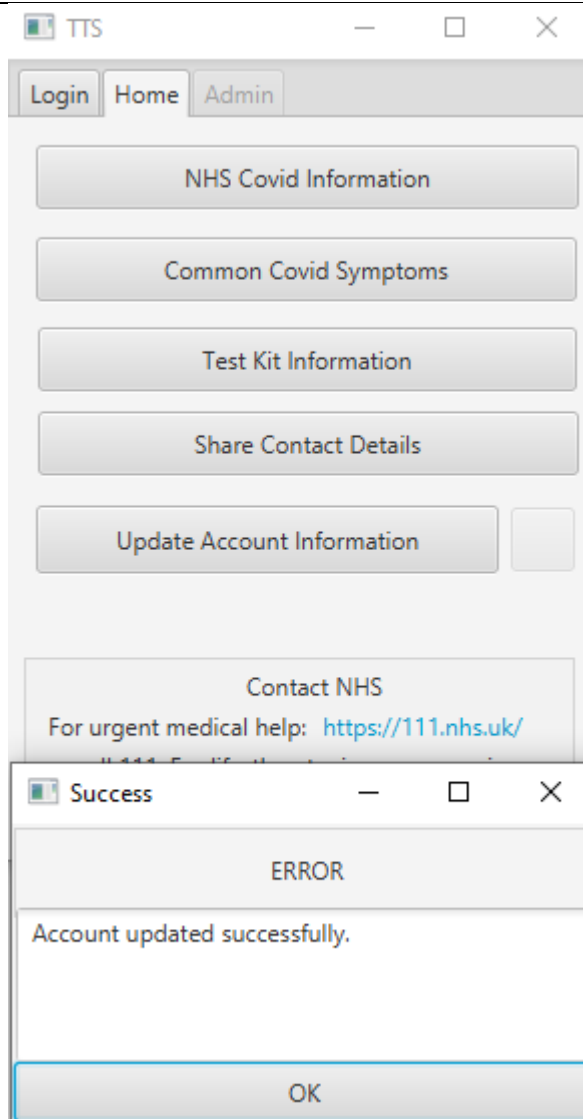
Pass

Test 25: User presses the update account information button and presses the help button (?)



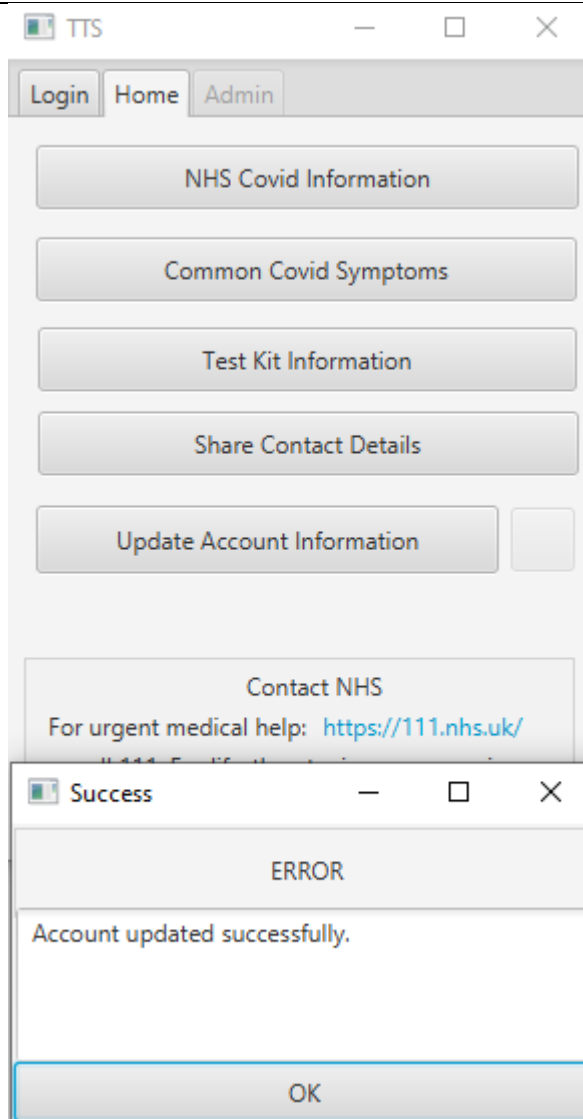
Pass

Test 26: User enters a new address and presses the updates account button

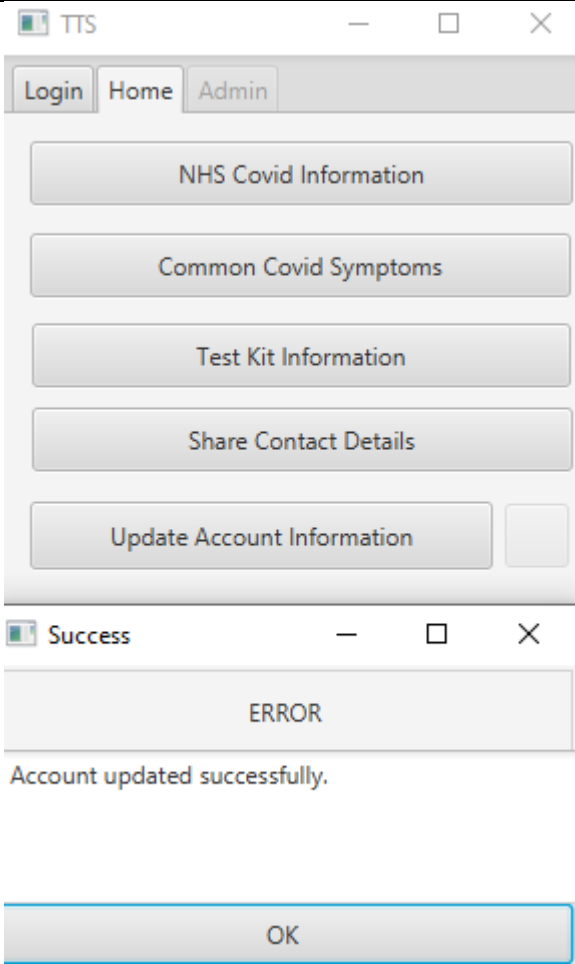


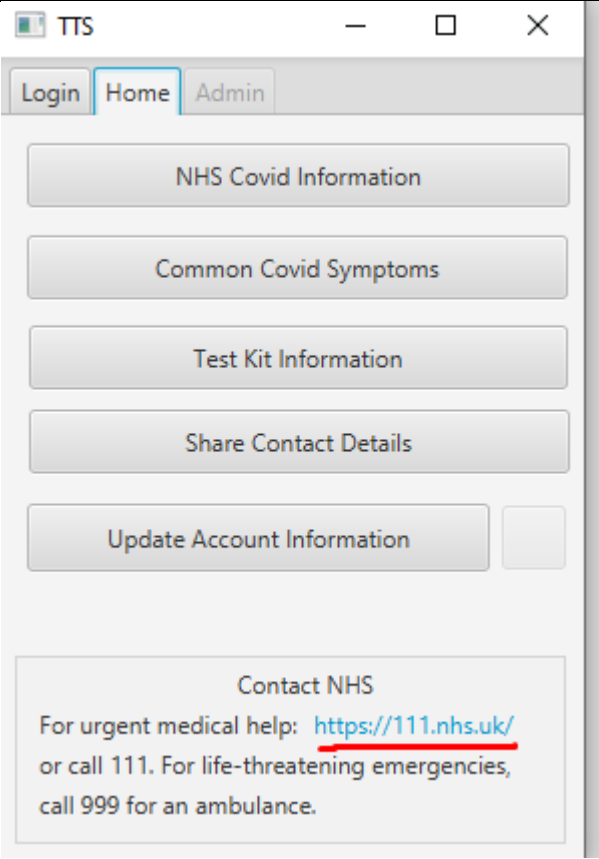
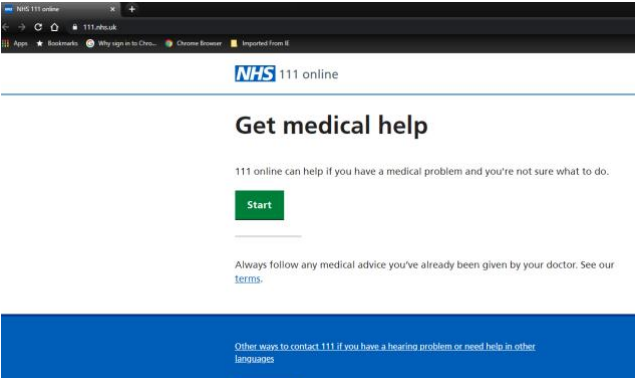
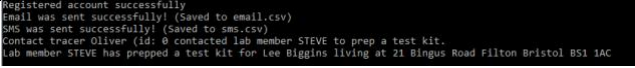
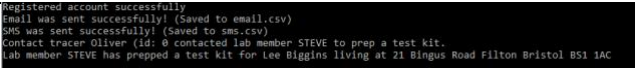
Pass

Test 27: User enters a new password and presses the updates account button



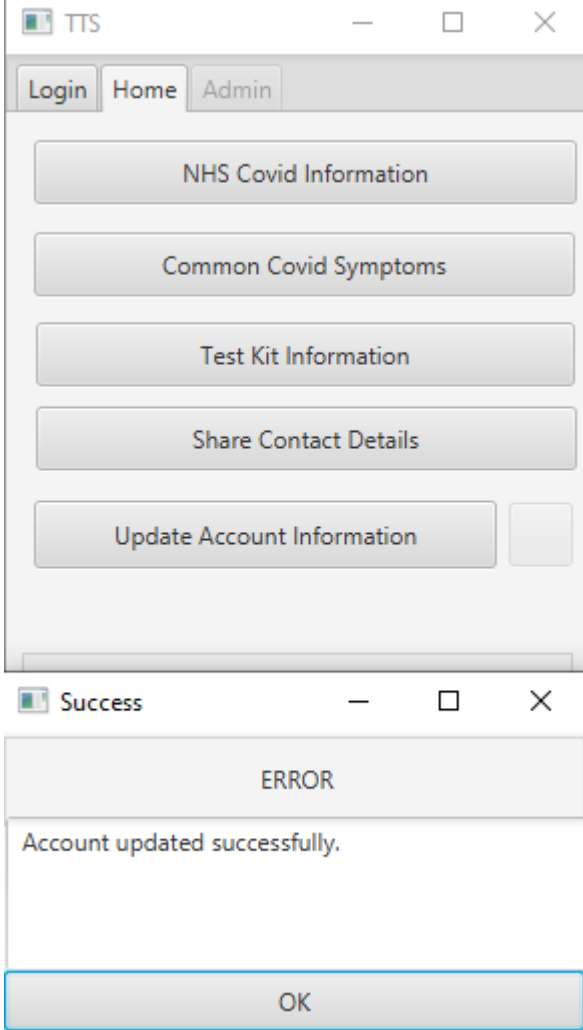
Pass

<p>Test 28: User enters the same password and presses the updates account button</p>		<p>Fail</p>
<p>Test 29: User enters a new phone number and presses the update account button</p>	<p>Not implemented</p>	

<p>Test 30: User presses the contact NHS link</p>	 	<p>Pass</p>
<p>Test 31: A new user registers and information has been sent to say lab member [name] has been sent to the user</p>		<p>Pass</p>
<p>Test 32: The system output will inform that an NHS contact tracer has contacted a lab member</p>		<p>Pass</p>

Test 33: The account CSV file lists all the members that have been registered	<table><tr><th>Email</th><th>Password</th><th>Phone Number</th><th>Address</th><th>Name</th></tr><tr><td>TedBundy@gmail.com</td><td>1234</td><td>7111222333</td><td>1 Test Avenue Filton Bristol BS11AB</td><td>Ted Bundy</td></tr><tr><td>peasant@NormalEmail.com</td><td>NewPassword</td><td>180380084</td><td>22 Lancelot Road</td><td>Norman Perrson</td></tr><tr><td>peasant1@NormalEmail.com</td><td>RegularPassword456</td><td>180380085</td><td>21 Bingus Road Filton Bristol BS1 1AC</td><td>Lee Biggins</td></tr></table>	Email	Password	Phone Number	Address	Name	TedBundy@gmail.com	1234	7111222333	1 Test Avenue Filton Bristol BS11AB	Ted Bundy	peasant@NormalEmail.com	NewPassword	180380084	22 Lancelot Road	Norman Perrson	peasant1@NormalEmail.com	RegularPassword456	180380085	21 Bingus Road Filton Bristol BS1 1AC	Lee Biggins	Pass				
Email	Password	Phone Number	Address	Name																						
TedBundy@gmail.com	1234	7111222333	1 Test Avenue Filton Bristol BS11AB	Ted Bundy																						
peasant@NormalEmail.com	NewPassword	180380084	22 Lancelot Road	Norman Perrson																						
peasant1@NormalEmail.com	RegularPassword456	180380085	21 Bingus Road Filton Bristol BS1 1AC	Lee Biggins																						
Test 34: The admin account CSV file lists who is admin	<table><tr><th>Email</th><th>Password</th><th>Phone Nu</th><th>Address</th><th>Name</th></tr><tr><td>admin@nhstts.com</td><td>AdminPassword123</td><td>111</td><td>N/A</td><td>admin</td></tr></table>	Email	Password	Phone Nu	Address	Name	admin@nhstts.com	AdminPassword123	111	N/A	admin	Pass														
Email	Password	Phone Nu	Address	Name																						
admin@nhstts.com	AdminPassword123	111	N/A	admin																						
Test 35: The contact tracer CSV file lists who are contact tracers	<table><tr><th>Id</th><th>Name</th></tr><tr><td>0</td><td>Oliver</td></tr><tr><td>1</td><td>Rosie</td></tr><tr><td>2</td><td>Poppy</td></tr><tr><td>3</td><td>Mike</td></tr></table>	Id	Name	0	Oliver	1	Rosie	2	Poppy	3	Mike	Pass														
Id	Name																									
0	Oliver																									
1	Rosie																									
2	Poppy																									
3	Mike																									
Test 36: Email CSV file will list all the information that has been sent to the registered user	<table><tr><th>Id</th><th>Sender</th><th>Recipient</th><th>Subject</th><th>Content</th><th>Attachments</th></tr><tr><td>0</td><td>ts@nhs.c</td><td>peasant@Registrati</td><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to</td><td></td><td></td></tr><tr><td>1</td><td>Oliver@nl</td><td>Sam2.Ove</td><td>Warning c: Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-</td><td></td><td></td></tr><tr><td>2</td><td>ts@nhs.c</td><td>peasant1@Registrati</td><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to</td><td></td><td></td></tr></table>	Id	Sender	Recipient	Subject	Content	Attachments	0	ts@nhs.c	peasant@Registrati	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to			1	Oliver@nl	Sam2.Ove	Warning c: Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-			2	ts@nhs.c	peasant1@Registrati	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to			Pass
Id	Sender	Recipient	Subject	Content	Attachments																					
0	ts@nhs.c	peasant@Registrati	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to																							
1	Oliver@nl	Sam2.Ove	Warning c: Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-																							
2	ts@nhs.c	peasant1@Registrati	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to																							
Test 37: Email CSV file will list all the information to the person that the user has been in contact with.	<table><tr><th>Content</th></tr><tr><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few</td></tr><tr><td>Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your address. The</td></tr><tr><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few</td></tr></table>	Content	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few	Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your address. The	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few	Pass																				
Content																										
Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few																										
Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your address. The																										
Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the next few																										
Test 38: SMS CSV file will list all the information that has been sent to the registered user	<table><tr><th>Id</th><th>Sender</th><th>Recipient</th><th>Content</th></tr><tr><td>0</td><td>111</td><td>180380084</td><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC</td></tr><tr><td>1</td><td>Oliver@nhstts.com</td><td>71094313</td><td>Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please si</td></tr><tr><td>2</td><td>111</td><td>180380085</td><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC</td></tr></table>	Id	Sender	Recipient	Content	0	111	180380084	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC	1	Oliver@nhstts.com	71094313	Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please si	2	111	180380085	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC	Pass								
Id	Sender	Recipient	Content																							
0	111	180380084	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC																							
1	Oliver@nhstts.com	71094313	Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please si																							
2	111	180380085	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A CC																							
Test 39: SMS CSV file will list all the information to the person that the user has been in contact with.	<table><tr><th>Content</th></tr><tr><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the</td></tr><tr><td>Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your ad</td></tr><tr><td>Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the</td></tr></table>	Content	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the	Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your ad	Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the	Pass																				
Content																										
Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the																										
Hello SamOverton. This message is to warn you that you have been in contact with someone who has contracted COVID-19. Please self-isolate and sign up to the NHS TTS app to get a test kit sent to your ad																										
Your NHS Track And Trace account has been created successfully. Please use the details you entered when registering to sign in. A COVID-19 test kit is on the way to your house and shall be there within the																										
Test 40: Laboratories CSV file will list all the lab members	<table><tr><th>Name</th><th>Members</th></tr><tr><td>BRISTOL LAB</td><td>STEVE   JEFF   MARY   LISA</td></tr></table>	Name	Members	BRISTOL LAB	STEVE   JEFF   MARY   LISA	Pass																				
Name	Members																									
BRISTOL LAB	STEVE   JEFF   MARY   LISA																									
Test 41: User provides valid information on the contact sharing details (more than one contact people)	<table><tr><td>Mark Olzon  MarkD2@gmail.com 07126139155</td></tr><tr><td>Email was sent successfully! (Saved to email.csv)</td></tr><tr><td>SMS was sent successfully! (Saved to sms.csv)</td></tr><tr><td>MikeHunt MikeHunt@gmail.com  0744612395</td></tr><tr><td>Email was sent successfully! (Saved to email.csv)</td></tr><tr><td>SMS was sent successfully! (Saved to sms.csv)</td></tr></table>	Mark Olzon  MarkD2@gmail.com 07126139155	Email was sent successfully! (Saved to email.csv)	SMS was sent successfully! (Saved to sms.csv)	MikeHunt MikeHunt@gmail.com  0744612395	Email was sent successfully! (Saved to email.csv)	SMS was sent successfully! (Saved to sms.csv)	Pass																		
Mark Olzon  MarkD2@gmail.com 07126139155																										
Email was sent successfully! (Saved to email.csv)																										
SMS was sent successfully! (Saved to sms.csv)																										
MikeHunt MikeHunt@gmail.com  0744612395																										
Email was sent successfully! (Saved to email.csv)																										
SMS was sent successfully! (Saved to sms.csv)																										



<p>Test 42: User enters the same address and presses the updates account button</p>	 <p>The screenshot shows two windows. The top window, titled 'TTS', has a navigation bar with 'Login', 'Home', and 'Admin' buttons. Below the navigation bar are five buttons: 'NHS Covid Information', 'Common Covid Symptoms', 'Test Kit Information', 'Share Contact Details', and 'Update Account Information'. The bottom window, titled 'Success', contains a red 'ERROR' header, the text 'Account updated successfully.', and an 'OK' button at the bottom.</p>	<p>Fail</p>
<p>Test 43: A display message to say if these contact sharing details are correct.</p>	<p>Not implemented</p>	

## 5. HW and SW requirements

### 5.1 Hardware Requirements

Internet connectivity peripheral - it will be a requirement to have some method of connecting to the internet whether by a wireless router or otherwise due to the need to connect to the server to run the client as well as test some aspects of the system that require a connection such as linking to the NHS website.

Mouse and keyboard – it will be a requirement to have some method of interacting with the system and the ability to record the test, this will be done

with a mouse and keyboard to capture screenshots and navigate the system to use it.

PC or Laptop – it will be a requirement to have a device that can run the prototype such as a pc or a laptop to carry out the testing.

## 5.2 Software Requirements

Java - it will be a requirement to have a version of Java installed on the hardware system used to test the prototype since it is programmed in java therefore it needs to be installed to run.

Word processor - it will be a requirement to have a word processor such as Microsoft word to record the tests and their results.

Windows operating system – due to the nature of the prototype, it will be necessary to test it on a PC or laptop running a Windows operating system as the batch files that run the server and client will only run-on windows.

Spreadsheet software – it will be a requirement to have some method of opening .csv files to verify that any designated pieces of data get saved to these files. To do that, spreadsheet software such as Microsoft Excel will be needed.

Internet browser – it will be a requirement to have a browser installed, such as google chrome, on the testing system as some of the features of the system to be tested require access to the worldwide Web.

Screenshot tool - to accurately record system outputs, a screenshot tool like snipping tool should be used.

## 6. Recording mechanism of tests

The main recording mechanism for each test will be through Microsoft word, wherein the specified test case and any specified data to be tested will be fed into the system and the result is screenshots and provided with whether the result was a pass or a failure. These screenshots will include images of the main user interface displaying relevant success or error messages and data, the.csv files showing any data that will be saved there and any success or error messages that may appear within the server console.

