

# Computing Project

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Testing

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## Test Strategy

My program will imminently need to be tested for errors to ensure that it runs accurately and reliably as intended and with minimal flaws. When testing I will be looking for errors and correcting those that I do find within my program. I will do this first by conducting alpha testing whereby I check through my program for any outstanding errors; it will be done in the following way and using the following method, I aim to analyse the hardware, social and legal implications, Organisation and structure of files, data types and data structures, programming and algorithms and system software.

My first and most important page that I will be testing is my Home page; it will be the first thing that customers see and the main focus of the project as it will be visible to everybody. The navigation consists of a series of tabs across the top of the screen that will take customers to their desired location dependant on the stock they wish to purchase, to test this I will click each of the tabs individually to see if the correct page is shown. Each category of stock is given a different tab to avoid confusion and look presentable. When an order is placed from a tab it will need to appear in the checkout, I will test this by placing example orders and then viewing the checkout to see if they have been entered correctly.

The Checkout is a final display of all of the products about to be purchased. It will need to be clear, understandable and have the option to delete or add new orders at any given time, to test this aspect I will add some example orders and then remove some orders, I can then add orders again to ensure there are no faults with order positioning (e.g. if order 2 is removed and then another order is placed, it should fill the place of order 2). The Customer can then enter his/her details and press confirm which will then add all of the data to the database, giving the customer the option to print off a receipt to keep, This can be confirmed by entering a test customer record and clicking confirm, I can test two things here by printing off a report and checking the printer connects and responds correctly, then check the database to ensure the customer details have been successfully added. In the database the stock levels will also be adjusted accordingly. If an item is out of stock it will prevent the user from placing an order. I can identify any mistakes by testing valid and extreme data, for example I can check what happens when an order is placed and there is a surplus of stock, I can check what happens when an order is placed with no stock available and I can check what happens when an order is placed for multiple items when there is some remaining stock but not enough to cover all the items required. Testing this data allows me to find any errors that may be occurring between the database and the program because the database should communicate with the program the level of stock remaining, any errors will indicate that this is not being done successfully. In addition I will also set a limit to how much can be paid for by cash or credit card because the company cannot allow credit limits of over £100 or they may face liquidity problems. I will test valid data (orders under £100) and extreme data (orders equal to £100 and orders 1p below and over) to ensure that the user can select the credit card and cash option (note the order total must actually exceed £100 to be invalid). I will then test an order greatly exceeding £100 to ensure that the options for credit card and cash are removed.

Included on my Home page will be my Login system whereby Staff can log in to access grids and graphical reports as well as make internal amendments to details such as change an order or add a customer to the database. The Login system is required to terminate upon three unsuccessful attempts and will log in when the entered password matches the password stored in the database. I can trial this by logging in with incorrect details three times in a row (also testing extreme data such

as attempting to log in with capitals which will test case sensitivity and using symbols to ensure that a wide range of characters can be used and work successfully because passwords are more secure with a range of capitals, numbers and symbols). If this works I can attempt to log in using a password stored in the database, if I am able to progress to the next page then the system works as intended.

When the Staff successfully logs in they will be displayed a menu form where they can do one of five options, They can navigate back, change password, Check Product details, Check Customer details and Check OrderLine details. I will test each of the buttons to ensure correct functionality. Each of the information forms has a built in calculator to assist with numerical problems, the project calculator can be tested by performing calculations using each of the 4 operators and comparing the answer against a handheld calculator, if the calculator gets the same answer as a handheld calculator then the project calculator is functioning correctly.

In addition to the calculator, all of the information forms have a print feature, I can test this by clicking print, the document should then be sent to the printer and be printed with just the datagrid present.

The Change password form is very simple; it needs to be able to change the user's password in the database when the user enters the correct credentials. This way the user they can change their password to what they desire. When testing the following I will need to take a piece of valid test data from the database and first make sure that it logs in successfully, I can then enter the username and password into the change password form and create a new password for the user. I should then attempt to log in with the users new password to see if it has changed. If this works correctly then I can agree that the system is not flawed; for example the user should not be able to change their password if the username or old password is incorrect. I will test extreme data such as capitals and symbols to ensure that the user can use these and that my system differentiates them from lower case letters, this makes the passwords more secure. I will also test invalid data such as leaving the field blank to ensure that no passwords can be left blank.

The Product information displays the details of products currently ordered for example their name, size, colour and stock. In this form the user can add new products to the database that may have been ordered over the phone and delete existing orders that may have been added by mistake. I can test these features by adding data manually and checking to see if the grid updates with the new data present, likewise for the deletion of data I can select a record to delete and check if the corresponding record in the database has been removed and the datagrid updated. In this form the user can add stock to a certain category. One way to test this is to make a note of the level of stock or a product, then add a set number of stock and check the new level of stock (for example if there were originally 5 helmets and you added another 5 the database should display 10 helmets left in stock). To assist with finding records in the form I have made a search feature that can display desired data in the data grid meeting the criteria of a search. I can test this by searching for specific records in my database by category, when an item matches it should only show items of that type, if no items match it should inform the user there are no matches. When adding data there is a maximum amount of stock that can be added at one time, this number is 10. I will test valid data to ensure that all numbers can be added between 2 and 9. I will test extreme data near the edges of the limits, 1 and 10 to ensure that this number of stock can be added without receiving an error; I will also test invalid data and attempt to add more than 10 items or less than 1 item. This should

present me with an error because you can't add less than 1 item to the stock and adding more than 10 is too much and could be the result of an adding error by the company (e.g. adding 100 by mistake rather than 10.)

The Customer information displays the details of the customer that has placed an order, for example their name, address and contact details. In this form the user can add or delete customer details manually. I can test these features by adding data manually and checking to see if the grid updates with the new data present, likewise for the deletion of data I can select a record to delete and check if the corresponding record in the database has been removed and the datagrid updated. As well as add data the user can find specific data using the search criteria created, the search only displays relevant data in the datagrid. I can test this works by searching for specific records in my database by category, when an item matches it should only show items of that type, if no items match is should inform the user there are no matches. There is no extreme data in this case. Only valid or invalid data, because the item either matches or it doesn't. There is no middle ground. I will test both cases to ensure that if there is a match the system recognises this and retrieves the correct data. If not then an error message will show.

The Orderline shows details of both the customer and the product for example the delivery address, order date and order time again this form gives the user an opportunity to manually add details as well as delete details in the grid, I can test these features by adding data manually and checking to see if the grid updates with the new data present, likewise for the deletion of data I can select a record to delete and check if the corresponding record in the database has been removed and the datagrid updated. Included in the form is a search feature to find a record by keyword thus making navigation and searching easier. I can test the search feature by searching for specific records in my database by category, when an item matches it should only show items of that type, if no items match is should inform the user there are no matches. There is no extreme data in this case. Only valid or invalid data, because the item either matches or it doesn't. There is no middle ground. I will test both cases to ensure that if there is a match the system recognises this and retrieves the correct data. If not then an error message will show.

An overall test should be conducted to make sure that my program is user friendly. I will issue a feedback sheet with questions on such as "How easily was my program to navigate?" to which a select few users will test my program by clicking buttons to navigate through my program and testing data to make sure it is easy to edit, add and delete the data. The filled in forms will then be returned and I will look for common flaws where I scored lower than desired, I can then improve upon these areas.

Test No.	Test Data	Reasons	Expected outcome	Actual outcome	Evidence
1.1	UserID: 1 Password: Test <i>Test with: Valid data</i>	To Check that correct credentials allow Users access to the staff database. Also that	User will be able to Log in to the database and access data	User could successfully log in and the Staff home page was opened	Figure 1

		the password is case sensitive.			
<b>1.2</b>	UserID : 1 Password: Wrong  UserID:1 Password test <i>Test with: Invalid data</i>	To Check that incorrect credentials do not allow Users access to the database.	User will not be able to Log in to the database and access data	User was not able to log in but was displayed a message box stating incorrect username or password.	Figure 2
<b>1.3</b>	3 incorrect attempts (UserID : 17 Password: Wrong) x3 <i>Test with: Invalid data</i>	To Check that the application terminates after three attempts (Not before or after).	Application will terminate after three attempts.	When three incorrect attempts were reached the application terminated.	Figure 3
<b>2.1</b>	Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 2 <i>Test with: Valid data</i>  *Click the Add to checkout button	To ensure that the correct helmet order is added to the checkout.	The Checkout will display the exact data ordered for the Helmet, no data will be entered into the database until the proceed button is clicked.	The Checkout displayed the exact data ordered for the Helmet.	Figure 4
<b>2.2</b>	Bat Quality: Kashmir Willow Bat Extras: White Stickers Bat Size: Harrow Bat Quantity: 1 <i>Test with: Valid data</i>  *Click the Add to checkout button	To ensure that the correct Bat order is added to the checkout.	The Checkout will display the exact data ordered for the Bats, no data will be entered into the database until the proceed button is clicked.	The Checkout displayed the exact data ordered for the Bat.	Figure 5
<b>2.3</b>	Pad Quality: Grade 2 (50-80mph) Pad Extras: Blue Logo Pad Size: Junior Quantity: 4 <i>Test with: Valid data</i>  *Click the Add to checkout button	To ensure that the correct Pads order is added to the checkout.	The Checkout will display the exact data ordered for the Pads, no data will be entered into the database until the proceed button is clicked.	The Checkout displayed the exact data ordered for the Pads.	Figure 6
<b>2.4</b>	Shoe Quality: Hawk Padded Shoe extras: Spikes Shoe Size: 8 Shoe Quantity: 3 <i>Test with: Valid data</i>  *Click the Add to checkout button	To ensure that the correct Boots order is added to the checkout.	The Checkout will display the exact data ordered for the Shoes, no data will be entered into the database until the proceed button is clicked.	The Checkout displayed the exact data ordered for the Shoes.	Figure 7

2.5	Glove Quality: Hawk Unpadded (Left Handed) Glove Extras: Gray Overlay Glove Size: Men's Glove Quantity: 5 <i>Test with: Valid data</i>	To ensure that the correct Gloves order is added to the checkout.	The Checkout will display the exact data ordered for the Gloves, no data will be entered into the database until the proceed button is clicked.	The Checkout displayed the exact data ordered for the Gloves.	Figure 8
3.0	Click all of the tabs at the top of the Homepage, one by one.	Confirm navigation works as intended and the program takes you to the correct tab dependent upon the button pressed.	The page will change to the correct tab corresponding to the button clicked	Each form was successfully navigated to via the tabs provided.	N/A
3.1	Click remove order on the checkout (order 1, 2 and 3)	To check that the user can remove an order that they incorrectly place or if they decide they do not wish to purchase the product.	The order will be removed completely from the checkout thus making room for a new order.	Each order was removed from the checkout when the remove order button adjacent to it was clicked.	Figure 9
3.2	Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 2 <i>Test with: Valid data</i>  *Click the Add to checkout button	Add another order to ensure that the checkout functions correctly after removing an order.	The Checkout will display the exact data ordered for the Helmet, no data will be entered into the database until the proceed button is clicked and there will be no trace of the last order that was removed.	The Checkout displayed the exact data ordered for the Helmet and functions correctly with no trace of previous orders.	Figure 10
4.1	Click Proceed to payment with no orders or details present <i>Test with: Invalid data</i>	Check that the order cannot be processed with no details present	A message box will appear stating that details must be provided for an order to be placed. And no further action such as adding the item to the database will be taken.	A message box was displayed stating that some fields were missing or blank. No data was added to the database.	Figure 11
4.2	Click Add to checkout button on the helmet form when fields are blank. <i>Test with: Invalid data</i>	To check that a blank or incomplete order cannot be added to the checkout.	A message box will appear stating that the order cannot be added because some fields are missing or incomplete.	A message box was displayed stating that some fields were missing or incomplete, no order was added to the checkout.	Figure 12

4.3	Click Add to checkout button on the bat form when fields are blank. <i>Test with: Invalid data</i>	To check that a blank or incomplete order cannot be added to the checkout.	A message box will appear stating that the order cannot be added because some fields are missing or incomplete.	A message box was displayed stating that some fields were missing or incomplete, no order was added to the checkout.	Figure 13
4.4	Click Add to checkout button on the pads form when fields are blank. <i>Test with: Invalid data</i>	To check that a blank or incomplete order cannot be added to the checkout.	A message box will appear stating that the order cannot be added because some fields are missing or incomplete.	A message box was displayed stating that some fields were missing or incomplete, no order was added to the checkout.	Figure 14
4.5	Click Add to checkout button on the boots form when fields are blank. <i>Test with: Invalid data</i>	To check that a blank or incomplete order cannot be added to the checkout.	A message box will appear stating that the order cannot be added because some fields are missing or incomplete.	A message box was displayed stating that some fields were missing or incomplete, no order was added to the checkout.	Figure 15
4.6	Click Add to checkout button on the gloves form when fields are blank. <i>Test with: Invalid data</i>	To check that a blank or incomplete order cannot be added to the checkout.	A message box will appear stating that the order cannot be added because some fields are missing or incomplete.	A message box was displayed stating that some fields were missing or incomplete, no order was added to the checkout.	Figure 16
4.7	Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 2  *Click the Add to checkout button  Add the following Details to the customer summary:  First Name: TestFirst Surname: TestLast Address: 1 1 Test street Address2: Testbridge Address3: Test Midlands Postal Code: TE1 TE2 Telephone number: 01234567890 Mobile number: 09876543210 E-Mail:	To test the data entry system. The order, customer details and orderline details should all be placed into the database and the option should be given to the customer to print the receipt.	Customer details will be added to tblCustomer Purchases will be added to tblGoods The Order information such as date and dispatch address will be added to tblOrders and finally the tblGoods and tblOrders will be linked together using tblOrderLine. A message box will appear confirming the first order.	The Customer details were added to tblCustomer. The Purchases were added to tblGoods. The Order details were added to tblOrders. TblOrderline was populated with ID's from both tblGoods and tblOrders.	Figure 17

	<a href="mailto:Test.tester@Testing.co.uk">Test.tester@Testing.co.uk</a> Payment method: Debit Card No Discount code. <i>Test with: Valid data</i>				
5.1	When asked whether I would like a receipt I will click "print"	To test the print feature works as intended.	It should print the entire summary section without the proceed button.	A receipt of the Customer and Order summary was printed.	Figure 18
5.2	Place an order for an AryTeck helmet and see if the stock is reduced.  Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 3 <i>Test with: Valid data</i>  *Click the Add to checkout button *Click the proceed to payment button	To check that the level of stock is recorded accurately and is up to date when an order is placed.	The number of stock should be reduced by 3	The number of stock in the database was reduced to 6	Figure 19
5.3	Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 2  *Click the Add to checkout button  Pad Quality: Grade 2 (50-80mph) Pad Extras: Blue Logo Pad Size: Junior Quantity: 4  *Click the Add to checkout button  Bat Quality: Kashmir Willow Bat Extras: White Stickers Bat Size: Harrow Bat Quantity: 1	This test can be carried out after a single order is placed correctly. The test involves placing three orders simultaneously to see if all three orders are added to the database correctly.	Customer details will be added to tblCustomer All three purchases will be added to tblGoods The Order information such as date and dispatch address of all 3 orders will be added to tblOrders and finally the tblGoods and tblOrders will be linked together using tblOrderLine. A message box will appear confirming the first order, second order and third order.	The Customer details were added to tblCustomer. All three purchases were added to tblGoods. All three Order details were added to tblOrders. TblOrderline was populated with ID's from both tblGoods and tblOrders on all three of the orders.	Figure 20

	<p>*Click the Add to checkout button</p> <p>Add the following Details to the customer summary:</p> <p>First Name: TestFirst          Surname: TestLast          Address: 1 1 Test street          Address2: Testbridge          Address3: Test Midlands          Postal Code: TE1 TE2          Telephone number:          01234567890          Mobile number: 09876543210          E-Mail:          Test.tester@Testing.co.uk          Payment method: Debit Card          No Discount code.  <i>Test with: Valid data</i></p>				
5.41	<p>Helmet Style: AryTeck          Helmet Quality: Test          Helmet Grill: Titanium          Helmet Size: Youth          Helmet Colour: Blue          Quantity: 4</p> <p>*Click the Add to checkout button</p> <p>First Name: TestFirst          Surname: TestLast          Address: 1 1 Test street          Address2: Testbridge          Address3: Test Midlands          Postal Code: TE1 TE2          Telephone number:          01234567890          Mobile number: 09876543210          E-Mail:          Test.tester@Testing.co.uk          Payment method: Debit Card          No Discount code.</p> <p>*Click proceed to payment  <i>Test with: Valid data</i></p>	To test that an order can be placed when there is available stock.	Order should be added without any problems and the stock number should be reduced to 2.	The order was added successfully and the number of stock was reduced to 2 for all helmets.	Figure 21
5.42	Helmet Style: AryTeck Helmet Quality: Test	To test that when there is not enough	Order will be added differently on this	Order was added to the database	Figure 22

	<p>Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 4</p> <p>*Click the Add to checkout button</p> <p>First Name: TestFirst Surname: TestLast Address: 1 1 Test street Address2: Testbridge Address3: Test Midlands Postal Code: TE1 TE2 Telephone number: 01234567890 Mobile number: 09876543210 E-Mail: Test.tester@Testing.co.uk Payment method: Debit Card No Discount code.</p> <p>*Click proceed to payment <i>Test with: Extreme data</i></p>	<p>stock to cover the entire order that an order is entered into the database correctly for the remaining stock and then when the stock reaches 0 the orders cannot then be placed and a message box will appear stating how many items could not be ordered.</p>	<p>occasion. Because there are only two items left in stock it will place an order for two and then inform the user that only two of the items could be purchased and that the other two helmets could not be ordered due to low stock.</p>	<p>for the first 2 helmets however the final two helmets could not be ordered and so a message box was triggered stating that 2 orders could not be placed. The quantity value in the database was entered as 2 and the stock reduced to 0.</p>	
<b>5.43</b>	<p>Helmet Style: AryTeck Helmet Quality: Test Helmet Grill: Titanium Helmet Size: Youth Helmet Colour: Blue Quantity: 4</p> <p>*Click the Add to checkout button</p> <p>First Name: TestFirst Surname: TestLast Address: 1 1 Test street Address2: Testbridge Address3: Test Midlands Postal Code: TE1 TE2 Telephone number: 01234567890 Mobile number: 09876543210 E-Mail: Test.tester@Testing.co.uk Payment method: Debit Card No Discount code.</p> <p>*Click proceed to payment <i>Test with: Invalid data</i></p>	<p>To ensure that an item cannot be ordered if it is out of stock, stock will remain at 0.</p>	<p>Order will not be placed because the items are out of stock. Database stock value will remain at 0.</p>	<p>No data was changed in the database and a message box appears stating the item is out of stock.</p>	Figure 23

5.5	First Name: TestFirst Surname: TestLast Address: 1 1 Test street Address2: Testbridge Address3: Test Midlands Postal Code: TE1 TE2 Telephone number: 01234567890 Mobile number: 09876543210 E-Mail: Test.tester@Testing.co.uk Discount code: PC010Z	The discount code is important to reduce the price of goods for loyal or advanced customers. This test is to ensure the price of items in the checkout are reduced when the customer enters a promo code.	When the promo code is entered correctly the red cross should be changed to a green tick and the cost of items should be reduced by 10%	The red cross changed to a green tick and the final price is reduced by 10%	Figure 24
5.6	Select AryTeck helmet which has a stock of 2. <i>Test with: Extreme data</i>	To test the traffic light stock system in place. Red = Out of stock Amber = Low Stock Green = High Stock	The Amber Light will be illuminated on the traffic light because the stock is 2 which is greater than 0 and less than 5.		Figure 25
5.7	Select Grade 1 (80+ pmh) pads which have a stock of 10. <i>Test with: Valid data</i>	To test the traffic light stock system in place. Red = Out of stock Amber = Low Stock Green = High Stock	The Green light will be illuminated on the traffic light because the stock is higher than 5.		Figure 26
5.8	Select Hawk custom bowlers edition boots which have a stock of 0 <i>Test with: Invalid data</i>	To test the traffic light stock system in place. Red = Out of stock Amber = Low Stock Green = High Stock	The Red light will be illuminated on the traffic light because the item is out of stock.		Figure 27
6.1	Place an order below £100 Place an order over £100 <i>Test with: Valid data, Invalid data</i>	To test that the customer is unable to pay cash or credit card for items over £100 and is able to pay when the order is below £100	The Cash and Credit card option will be removed from the select payment method combo box so it cannot be selected when the order exceeds £100.	When over £100 Cash and credit card were removed from the payment option combo box and a label stating that cash and credit card are not available on orders over £100 appeared	Figure 28
6.2	Place an order for £100 <i>Test with: Extreme data</i>	To test extreme data around the limits of the payment options boundary of £100	Cash and credit card will still be available because the order is not <b>OVER</b> £100.	Cash and credit card were still available to select and no label was present with a message that cash and credit card are	Figure 29

				not available on orders over £100 will appear.	
7.1	Click the back button on the StaffHome form.	To ensure the button takes the user back to the HomePage form.	The StaffHome form will close and the HomePage form will open.	The StaffHome form closed and the HomePage form opened.	Figure 30
8.1	Click the Change Password button on the StaffHome form.	To ensure the button opens the ChangePassword form.	The ChangePassword form will be opened.	The ChangePassword form opened.	Figure 31
8.2	Click the Current Order line button on the StaffHome form.	To ensure the Orderline form opens when the button is clicked.	The OrderLine form will be opened.	The OrderLine form opened.	Figure 32
8.3	Click the Product information button on the StaffHome form.	To ensure the ProductInfo form opens when the button is clicked.	The ProductInfo form will be opened.	The ProductInfo form opened.	Figure 33
8.4	Click the Customer information button on the StaffHome form.	To ensure the CustomerInfo form opens when the button is clicked.	The CustomerInfo form will be opened.	The CustomerInfo form opened.	Figure 34
8.5	Username: 1 First Name: Mike Last Name: Hawk Previous Password: Test Password: Correct Confirm Password: Correct *Click the confirm changes button.	To check that the user can change their password to a password they desire.	The Password in the database will be changed and the user can now log in with their new password.	The password in the database is updated to the new password and the user can now log in with this password.	Figure 35
9.1	Username: 1 First Name: Mike Last Name: Hawk Previous Password: Wrong Password: Test Confirm Password: Test *Click the confirm changes button. <i>Test with: Invalid data</i>	To check that the user can only change their password if they enter their previous password correctly.	The Password will not be changed and a message box will appear stating "Incorrect previous password".	A message box appears stating that there are incorrect credentials and passwords do not match. No data is changed. The User can log in with their new details however cannot log in with their old details.	Figure 36
9.2	Username: First Name:	To check that the user cannot change	The Password will not be changed and	A message box appeared stating	Figure 37

	Last Name: Previous Password: Password: “ ” Confirm Password: “ ” *Click the confirm changes button. <i>Test with: Invalid data</i>	their password to a blank field.	a message box will appear stating “Password could not be changed, password field cannot be blank”.	“Password could not be changed, password field cannot be blank”.	
9.3	Click the Close button on the ChangePassword form.	To ensure that the back button closes the form and leaves only the StaffHome form open.	ChangePassword form will be closed.	ChangePassword form was closed.	Figure 38
9.4	FirstName: Adam *Click the search button. <i>Test with: Valid data</i>	To test the search feature and ensure it only returns the correct results and displays them in the datagrid.	The only results returned will be where the First Name is Adam. These specified results will be displayed in the datagrid.	Datagrid repopulates only with data that matches the criteria where the first name = Adam.	Figure 39
10.1	Click the Reset button on the search feature on the CustomerInfo form	To check that the originaldatagrid can be restored and that all the data is shown again.	The Datagrid will display all of the customers once again.	Data grid populates with all of the customers present.	Figure 40
10.2	Click the next user button on the CustomerInfo form	The check that the textboxes populate with the correct information of the next customer.	The textboxes will update with the next users information	Textboxes update with the details of the next user.	Figure 41
11.1	Click the Previous User button on the CustomerInfo form	To check that the textboxes populate with the correct information from the previous customer.	The textboxes will update with the previous users information.	Textboxes update with the details of the previous	Figure 42
11.2	Click the last user button on the CustomerInfo form	To check that the textboxes populate with the correct information from the last customer.	The textboxes will update with the last users information.	Textboxes update with the details of the Last user.	Figure 43
11.3	Click the first user button on the CustomerInfo form	To Check that the textboxes populate with the correct information from the first customer.	The Textboxes will update with the first users information.	Textboxes update with the details of the First user.	Figure 44
11.4	Click the back button on the CustomerInfo form	To check that the back button functions correctly.	The form should close and leave only the StaffHome form open.	The CustomerInfo form closes leaving only the StaffHome form open	Figure 45

<b>11.5</b>	Click the Print button on the CustomerInfo form	To check the print button functions correctly and the page contains the correct data.	The button should print the current datagrid to a connected printer showing only the datagrid and no surrounding items.	Thedatagrid is printed to the nearest printer.	Figure 46
<b>11.6</b>	Click the Calculator button on the CustomerInfo form	To check that the Calculator is brought up without closing the current form.	The calculator will be brought up and the current form will still be open in the background.	The Calculator is shown in the foreground of the current screen.	Figure 47
<b>11.7</b>	Click the add customer button.	To ensure the Add customer button functions correctly	The AddCustomer form should be opened leaving the CustomerInfo form open in the background.	The AddCustomer form opens and leaves the CustomerInfo form open in the background.	Figure 48
<b>11.8</b>	Click the Remove customer button.	To ensure the remove customer button functions correctly	Upon clicking confirm, the currently selected customer should be removed from the database.	When the remove customer button is clicked, and confirm is clicked the currently selected	Figure 49
<b>11.9</b>	Manually alter the following details in the data grid: UserID: 43 Change the details to: FirstName: Helen LastName: Clarke Address1: 3 Flick Ave Address2: Wolverhampton Address3: West Midlands Postcode: WR9 6DN Email Address: <a href="mailto:Helen.Clarke@blueyonder.co.uk">Helen.Clarke@blueyonder.co.uk</a> Telephone Number 01384 266710 Mobile Number 03482 266010 *Click the update grid button  <i>Test with: Valid data</i>	To ensure that a record can be added manually from the grid	The grid should update saving the manual made changes.	Thedatagrid and database updates permanently so even if the application is closed the new date will remain saved.	Figure 50
<b>11.10</b>	First Name: Test Second Name: Tester Address1: 1 Test Road Address2: Testbridge Address3: Test Midlands PostCode: TE1 TE2 Telephone Number: 01234567890	To check that customers can be added to the database manually and the details are added exactly as entered in the textboxes.	The Customer described in the textboxes will be added to the database in tblCustomers.	The Customer in the textboxes was entered into the database under tblCustomers.	Figure 51

	Mobile Number: 09876543210 E-mail Address: Test.tester@Test.co.uk Payment Method: Debit Card Amount Paid: 100 <i>*Click Confirm Customer</i> <i>Test with: Valid data</i>				
<b>12.1</b>	Click the Close form button.	Ensure that the close form button functions correctly.	The form should close leaving only the CustomerInfo form open.	Add Customer form closes leaving Customer Information form open.	Figure 52
<b>12.2</b>	Press the following buttons: 9876543210 <i>Test with: Valid data</i>	To check buttons add the correct corresponding number to the display.	Display should read: 9876543210	Display reads: 9876543210	Figure 53
<b>13.1</b>	$150 + 75 =$ <i>Test with: Valid data</i>	Test the addition function of the calculator.	225	Display reads 225	Figure 54
<b>13.2</b>	$350 - 140 =$ <i>Test with: Valid data</i>	Test the subtraction function of the calculator.	210	Display reads 210	Figure 55
<b>13.3</b>	$80 * 4 =$ <i>Test with: Valid data</i>	Test the multiplication function of the calculator.	320	Display reads 320	Figure 56
<b>13.4</b>	$210 / 30 =$ <i>Test with: Valid data</i>	Test the Division function of the calculator.	7	Display reads 7	Figure 57
<b>13.5</b>	$110.65 * 0.85 =$ <i>Test with: Extreme data</i>	Check that decimal points are recognised and the actual value beyond the decimal point is recognised (e.g. tenths, hundredths)	94.0525	Display reads 94.0525	Figure 58
<b>13.6</b>	Enter the number: 12345 Click the CA button <i>Test with: Valid data</i>	To check the display is cleared and memory erased when CA is clicked	Blank display	Display is Blank	Figure 59
<b>13.7</b>	Click the next Order button on the OrderLine form	The check that the textboxes populate with the correct information from the next Order	The textboxes will update with the next Orders information	Textboxes update with the details of the next Order	Figure 60
<b>14.1</b>	Click the Previous Order button on the OrderLine form	To check that the textboxes populate with the correct	The textboxes will update with the previous Orders	Textboxes update with the details of the previous Order	Figure 61

		information from the previous Order.	information.		
<b>14.2</b>	Click the last Order button on the OrderLine form	To check that the textboxes populate with the correct information from the last Order.	The textboxes will update with the last Orders information.	Textboxes update with the details of the last Order	Figure 62
<b>14.3</b>	Click the first Order button on the OrderLine form	To Check that the textboxes populate with the correct information from the first Order.	The Textboxes will update with the first Orders information.	Textboxes update with the details of the first Order	Figure 63
<b>14.4</b>	Click the back button on the OrderLine form	To check that the back button functions correctly.	The form should close and leave only the StaffHome form open.	OrderLine form Closes leaving only the StaffHome form open.	Figure 64
<b>14.5</b>	Click the Print button on the OrderLine form	To check the print button functions correctly and the page contains the correct data.	The button should print the current datagrid to a connected printer showing only the datagrid and no surrounding items.	Thedatagrid is printed to a connected printer and displays only the grid itself.	Figure 65
<b>14.6</b>	Click the Calculator button on the OrderLine form	To check that the Calculator is brought up without closing the current form.	The calculator will be brought up and the current form will still be open in the background.	The Calculator is shown in the foreground and the Orderline form remains open in the background.	Figure 66
<b>14.7</b>	Click the add Order button on the OrderLine form.	To ensure the Add Order button functions correctly	The AddOrder form should be opened leaving the OrderLine form open in the background.	The AddOrder form remains open leaving the OrderLine form open in the background.	Figure 67
<b>14.8</b>	Click the remove order button on the OrderLine form.	To ensure the Remove order button functions correctly.	When the confirm button on the messagebox is selected The	When the confirm button is clicked the currently selected record is	Figure 68

			currently selected order in the textboxes should be removed.	deleted from the database permanently.	
<b>14.9</b>	Manually alter the following details in the data grid: Order ID: 56 Customer ID: 89 Product Name: Masuri Vision  Change the product name to: AryTeck  *Click the confirm changes button <i>Test with: Valid data</i>	To ensure that a record can be added manually from the grid	The grid should update saving the manual made changes.	The database and datagrid are updated immediately thus saving the changes.	Figure 69
<b>14.10</b>	Dispatch Address: King Edward VI College Stourbridge West Midlands. <i>Test with: Valid data</i>	To check that the search feature functions and returns the correct results	The only results returned will be where the dispatch address is King Edward VI College Stourbridge West Midlands, These specified results will be displayed in the datagrid.	The Grid updates and displays only results where the Dispatch address = King Edward VI College Stourbridge West Midlands.	Figure 70
<b>15.1</b>	Click the reset button on the OrderLine form.	To check that the originaldatagrid can be restored and that all the data is shown again.	The Datagrid will display the Order line once again.	The datagrid repopulates with all of the date from tblOrderLine	Figure 71
<b>15.2</b>	CustomerID: 1 Product Name: AryTeck Dispatch Date: 01/11/2015 Dispatch Time: 19:07:34 Dispatch Address: King Edward VI College Stourbridge West Midlands.  *Click the refresh grid button <i>Test with: Valid data</i>	To check that an Order can be added to the database manually and the details are added exactly as entered in the textboxes.	The Order described in the textboxes will be added to the database in tblOrders.	The Order entered into the textboxes was added to the database in tblOrders	Figure 72
<b>16.1</b>	Click the Close form button on the AddOrder form.	To check that the form can be closed when the button is clicked.	The AddOrder form will close leaving the OrderLine form open.	The AddOrder form closed leaving the OrderLine form open.	Figure 73
<b>16.2</b>	Click the next Order button on the ProductInfo form	The check that the textboxes populate	The textboxes will update with the	The textboxes update with the	Figure 74

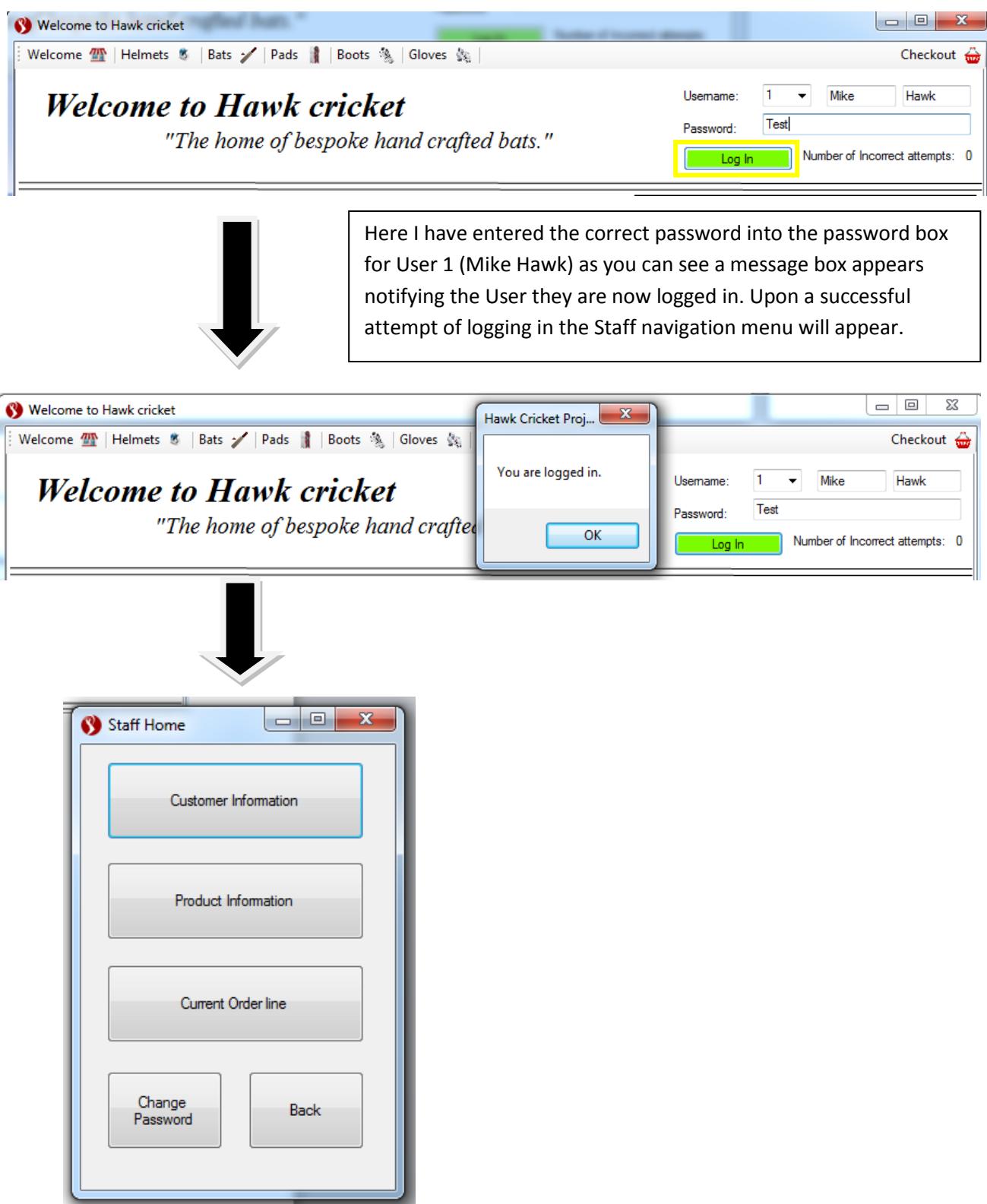
		with the correct information of the next Order	next Orders information	details of the next order	
17.1	Click the Previous Order button on the Product Info form	To check that the textboxes populate with the correct information from the previous Order.	The textboxes will update with the previous Orders information.	The textboxes update with the details of the previous order	Figure 75
17.2	Click the last Order button on the ProductInfo form	To check that the textboxes populate with the correct information from the last Order.	The textboxes will update with the last Orders information.	The textboxes update with the details of the last order	Figure 76
17.3	Click the first Order button on the ProductInfo form	To Check that the textboxes populate with the correct information from the first Order.	The Textboxes will update with the first Orders information.	The textboxes update with the details of the first order	Figure 77
17.4	Click the back button on the ProductInfo form	To check that the back button functions correctly.	The form should close and leave only the StaffHome form open.	The ProductInfo form closes and leaves the StaffHome form open.	Figure 78
17.5	Click the Print button on the ProductInfo form	To check the print button functions correctly and the page contains the correct data.	The button should print the current datagrid to a connected printer showing only the datagrid and no surrounding items.	Thedatagrid is printed to a connected printer and displays only the grid itself.	Figure 79
17.6	Click the Calculator button on the ProductInfo form	To check that the Calculator is brought up without closing the current form.	The calculator will be brought up and the current form will still be open in the background.	The Calculator appears in the foreground of the ProductInfo form.	Figure 80
17.7	Click the Add Product button on the ProductInfo form.	To ensure the Add Order button functions correctly	The AddOrder form should be opened leaving the OrderLine form	The AddOrder form is opened in the foreground leaving the	Figure 81

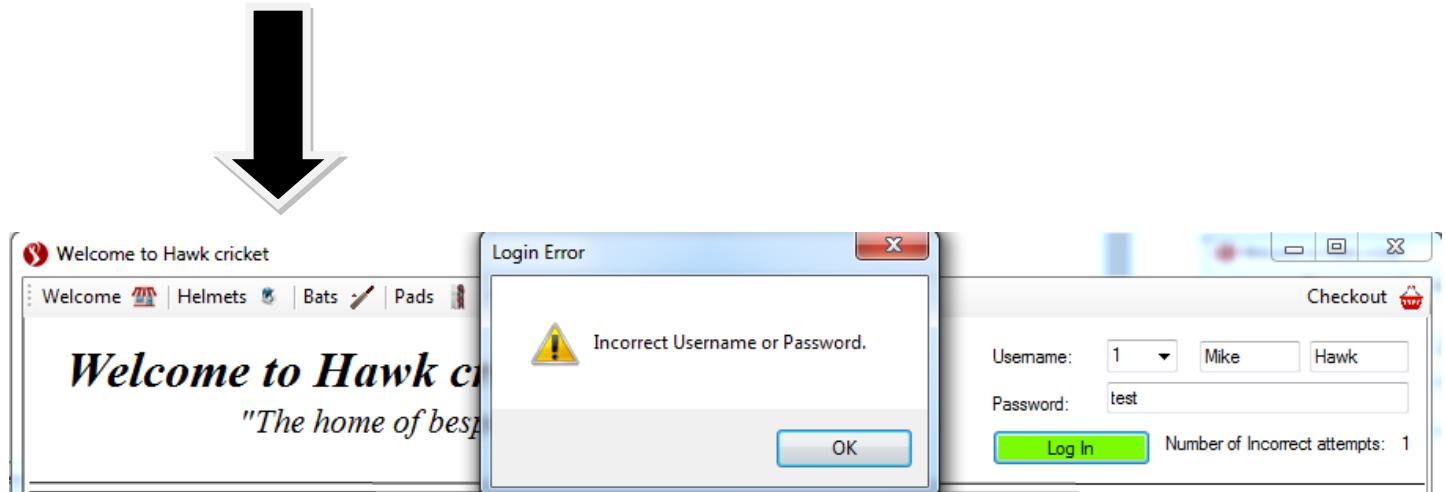
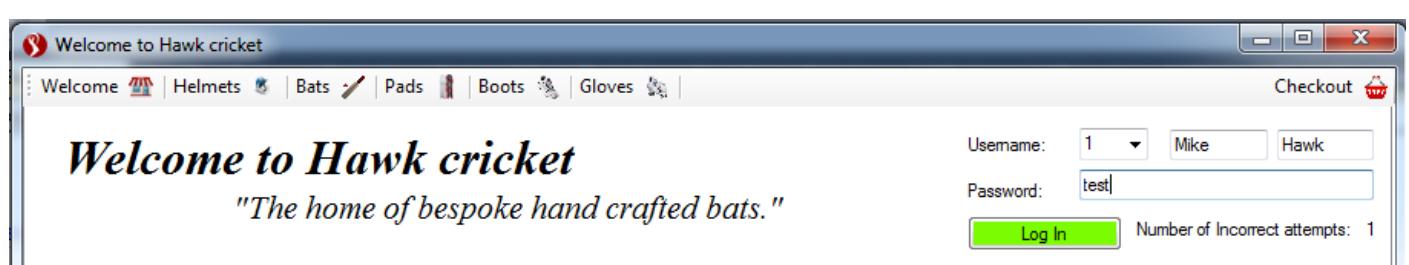
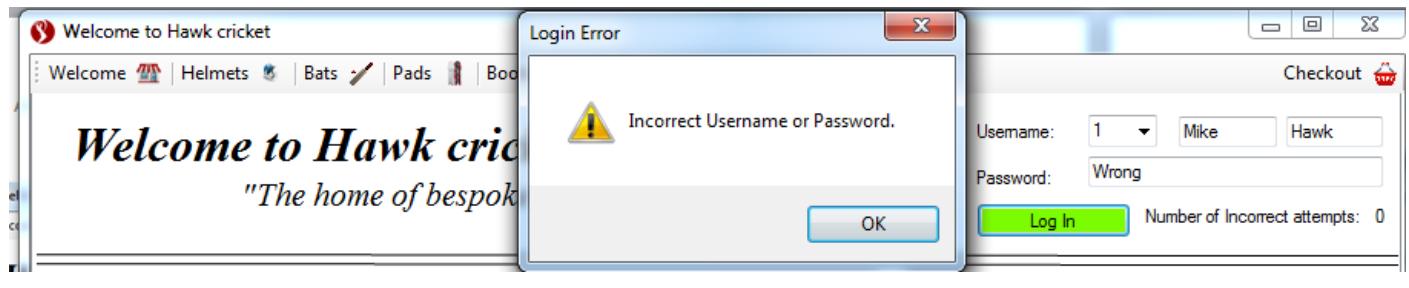
			open in the background.	ProductInfo form open in the background.	
17.8	Click the remove Product button on the ProductInfo form and remove Goods ID: 10	To ensure the Remove order button functions correctly.	When the confirm button on the message box is selected The currently selected order in the textboxes should be removed from the database.	When the confirm button is clicked the currently selected record is deleted from the database <code>tblGoods</code> permanently.	Figure82
17.9	Manually alter the following details in the data grid: Goods ID: 9  Product Name: Masuri Vision Extras: Steel  Change the Extras to: Titanium  *Click the confirm changes <i>Test with: Valid data</i>	To ensure that a record can be added manually from the grid	The grid should update saving the manual made changes.	The database and datagrid are updated immediately thus saving the changes and refreshing the datagrid to display these changes.	Figure 83
17.10	Product Name: AryTeck Click the search button. <i>Test with: Valid data</i>	To check that the search feature functions and returns the correct results	The only results returned will be where the Product name is AryTeck. These specified results will be displayed in the datagrid.	The datagrid now only displays results where the product name is AryTeck.	Figure 84
18.1	Click the Reset button on the ProductInfo form.	To check that the originaldatagrid can be restored and that all the data is shown again.	The datagrid will display all of the product orders once again.	The datagrid repopulates and displays all of the records from <code>tblGoods</code> .	Figure 85
18.2	Click the Add stock button on the ProductInfo form	To check that the Add stock button functions correctly and opens the correct form.	AddStock form will be opened leaving the ProductInfo form open in the background.	AddStock is opened in the foreground, leaving ProductInfo open in the background.	Figure 86
19.1	Click the Close Button on the AddStock form	To check that the user can return to the ProductInfo form.	AddStock will be closed and the ProductInfo form will remain open.	AddStock is closed and ProductInfo remains open.	Figure 87
19.2	Increase the number of stock added ( <i>Valid data</i> ) to as high as possible ( <i>Extreme data</i> ), when an error is received ( <i>Invalid</i>	To check that a number of stock between 1 and 10 can be added and	When 10 is reached if the user clicks the increase button again an error will	When Stock injection = 10 if the increase button is clicked	Figure 88

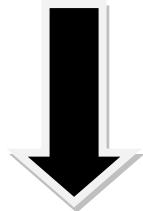
	<i>data); attempt the minimum amount of stock possible (Extreme data).</i>	no amount higher or lower.	appear saying "maximum amount of stock is 10", and the number will remain at 10.  When 1 is reached if the user clicks the decrease button an error will be displayed stating "Minimum stock is 1" and the number will remain at 1.	again a message box appears stating "Max stock injection = 10" and the number remains at 10. However if the decrease button is pressed when the Stock injection = 1 then another message box appears stating "Minimum Stock injection = 1" and the number remains at 1.	
<b>20.1</b>	Product Name: Doesn't Exist Press the confirm button. <i>Test with: Invalid data</i>	To check that stock of an item that does not exist cannot be added to the database	A message box will appear stating "No results were found for Doesn't Exist". And should then proceed to clear the textbox.	A message box appears with the text "No results were found for Doesn't Exist". And then the textbox is cleared.	Figure 89
<b>20.2</b>	Product Name: AryTeck Add Stock: 5 <i>Test with: Valid data</i>	To Check that a quantity of stock can successfully be added to an existing item.	In the database, any items with the product name Aryteck will have the value of stock increased by 5. Also the datagrid in ProductInfo should be updated with the new value of stock.	The number of AryTeck helmets was increased from 3 to 8 when an injection of 5 was made. This was shown in the datagrid immediately.	Figure 90
<b>20.3</b>	Product Name: Masuri Vision Quality: Test Extras: Steel Colour: Blue Size: Youth Price: 59.99 Quantity: 1 *Click Confirm Product Order. <i>Test with: Valid data</i>	To check that an Order can be added to the database manually and the details are added exactly as entered in the textboxes.	The Order described in the textboxes will be added to the database in tblGoods.	The order that was entered into the textboxes was added to the database under tblGoods and the datagrid was refreshed to display this order.	Figure 91
<b>21.1</b>	Click the Close form button in the AddProduct form.	To ensure the Close form button functions correctly and the user can leave the AddProduct form.	The form AddProduct should be closed leaving the ProductInfo form open in the background.	AddProduct form closes leaving ProductInfo open.	Figure 92

## Testing screenshots

Figure 1 – Valid data



**Figure 2 – Invalid data**



Another incorrect password increases the count to 2.

Welcome to Hawk cricket

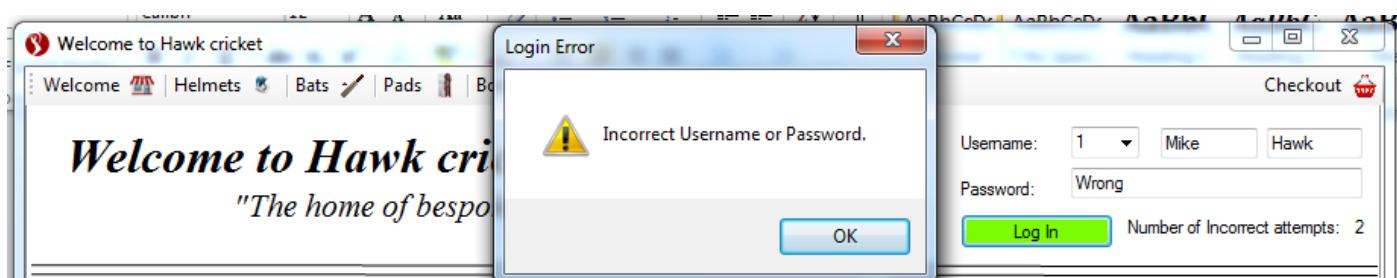
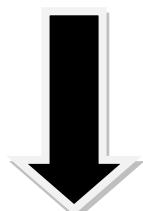
Welcome Helmets Bats Pads Boots Gloves Checkout

**Welcome to Hawk cricket**  
"The home of bespoke hand crafted bats."

Username: 1 Mike Hawk

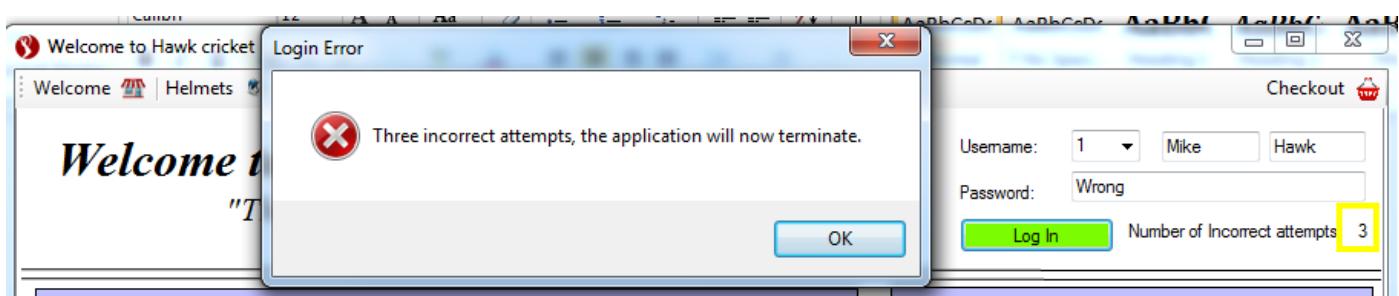
Password: Wrong

Log In Number of Incorrect attempts: 2



**Figure 3 – Invalid data**

When a third incorrect password is entered, the count increases to 3 and informs the user that because three incorrect attempts have been made the application will now close. The application then proceeds to close.



**Figure 4 – Valid data**

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

## Helmets

Helmet Style: AryTeck

Helmet Quality: Test

Steel Grill  
 Titanium Grill

Helmet Size: Youth

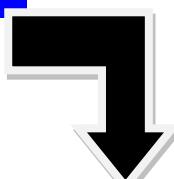
Blue  
 Green

Quantity: -1 2 +1

Price: 330

Add order to checkout

In this scenario I have entered an example of a helmet that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the Helmet section.



Welcome to Hawk cricket

Checkout

Order 1

Helmet:	AryTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Remove Order

Order 2

Order 3

Summary

First Name \_\_\_\_\_  
Last Name \_\_\_\_\_  
Address 1 \_\_\_\_\_  
Address 2 \_\_\_\_\_  
Address 3 \_\_\_\_\_  
Postal Code \_\_\_\_\_  
Telephone number \_\_\_\_\_  
Mobile Number \_\_\_\_\_  
E-Mail \_\_\_\_\_  
Payment Method \_\_\_\_\_

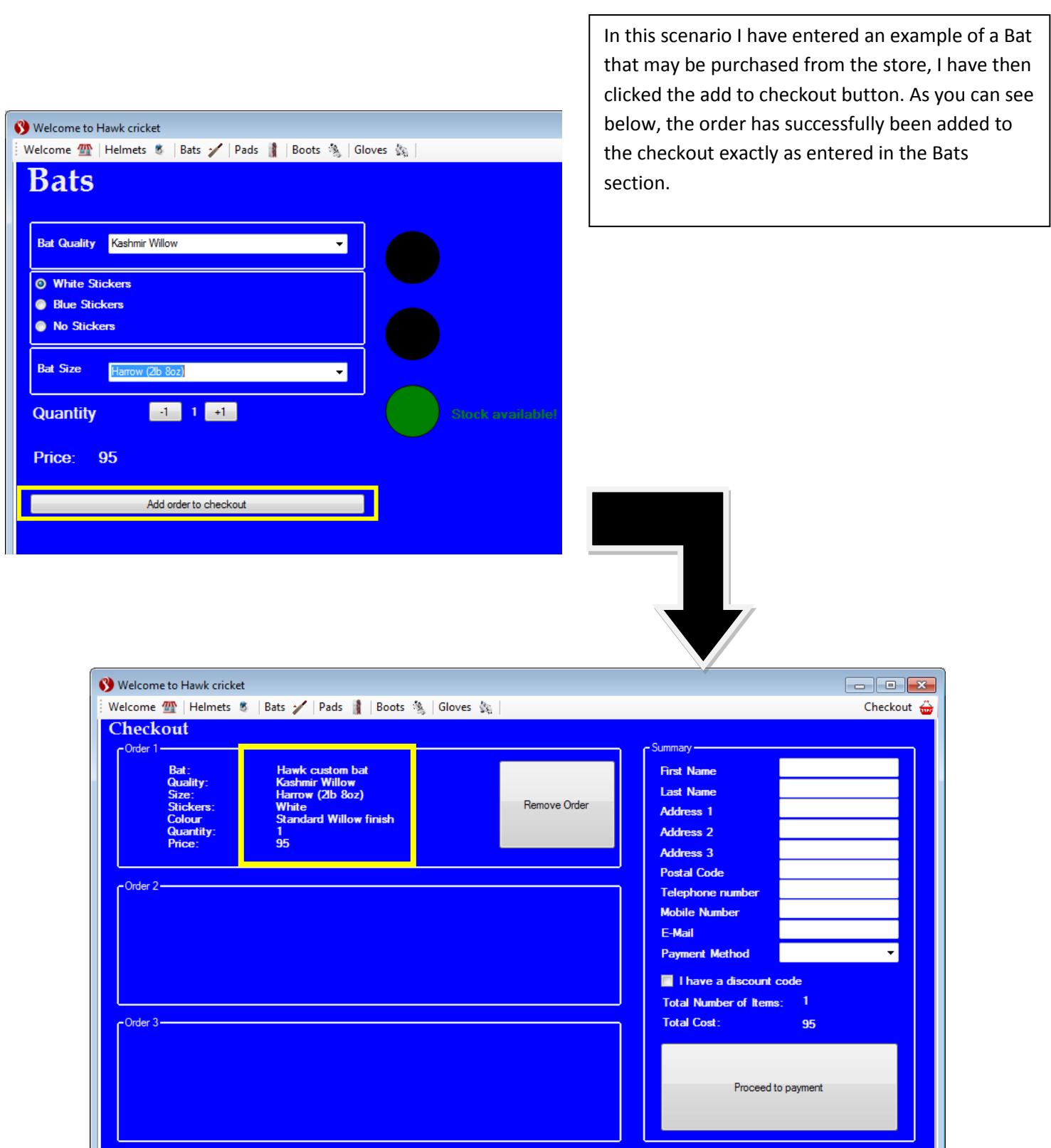
I have a discount code

Total Number of Items: 2  
Total Cost: 330

Proceed to payment

**Figure 5 Valid data**

In this scenario I have entered an example of a Bat that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the Bats section.



**Bats**

Bat Quality: Kashmir Willow

White Stickers, Blue Stickers, No Stickers

Bat Size: Harrow (2lb 8oz)

Quantity: 1

Price: 95

Add order to checkout

**Checkout**

Order 1

Bat:	Hawk custom bat
Quality:	Kashmir Willow
Size:	Harrow (2lb 8oz)
Stickers:	White
Colour:	Standard Willow finish
Quantity:	1
Price:	95

Remove Order

Summary

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount code  
Total Number of Items: 1  
Total Cost: 95

Proceed to payment

**Figure 6 – Valid data**

In this scenario I have entered an example of a set of pads that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the pads section.

In this scenario I have entered an example of a set of pads that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the pads section.

**Figure 7 – Valid data**

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

## Boots

Shoe Quality: Hawk Padded

Spikes  
 Soft Spikes  
 No Spikes

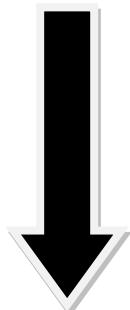
Shoe Size: 08  
\*Note: Only adult shoe sizes available

Quantity: -1 3 +1

Price: 161.97

Add order to checkout

In this scenario I have entered an example of a set of boots that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the boots section.



Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

## Checkout

Order 1

Boots:	Hawk custom boots
Quality:	Hawk Padded
Size:	08
Spikes:	Grass Spikes
Colour:	Hawk Design Blue_White
Quantity:	3
Price:	161.97

Remove Order

Order 2

Order 3

Summary

First Name:

Last Name:

Address 1:

Address 2:

Address 3:

Postal Code:

Telephone number:

Mobile Number:

E-Mail:

Payment Method:

I have a discount code

Total Number of Items: 3

Total Cost: 161.97

Proceed to payment

**Figure 8 – Valid data**

Welcome to Hawk cricket

Gloves

Glove Quality: Hawk Unpadded (Left Handed)

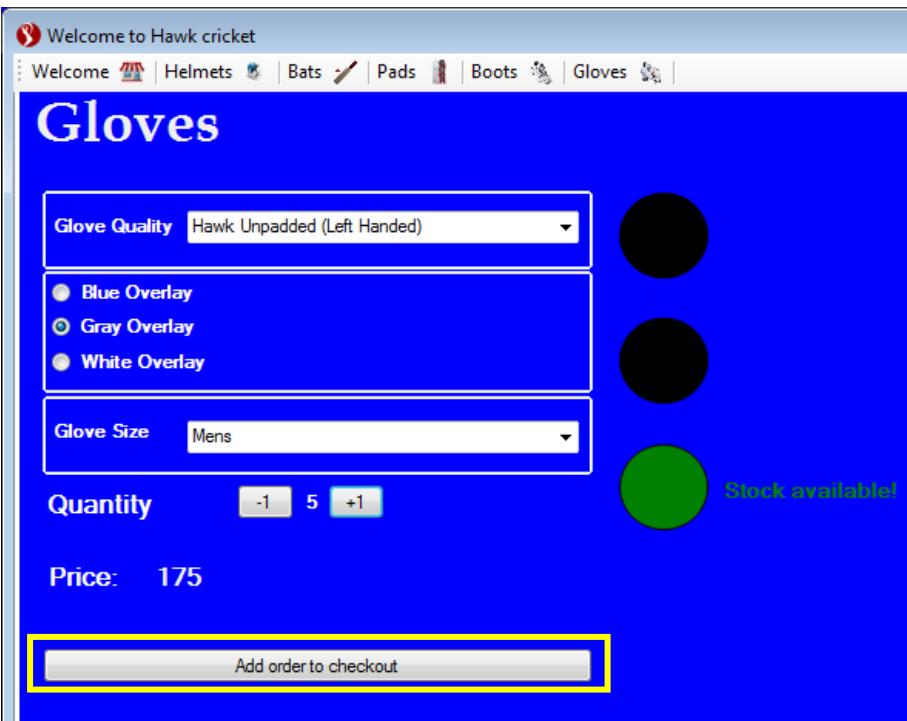
Blue Overlay  
 Gray Overlay  
 White Overlay

Glove Size: Mens

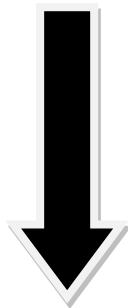
Quantity: -1 5 +1

Price: 175

Add order to checkout



In this scenario I have entered an example of a set of gloves that may be purchased from the store, I have then clicked the add to checkout button. As you can see below, the order has successfully been added to the checkout exactly as entered in the gloves section.



Welcome to Hawk cricket

Checkout

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue_White
Quantity:	5
Price:	175

Remove Order

Order 2

Order 3

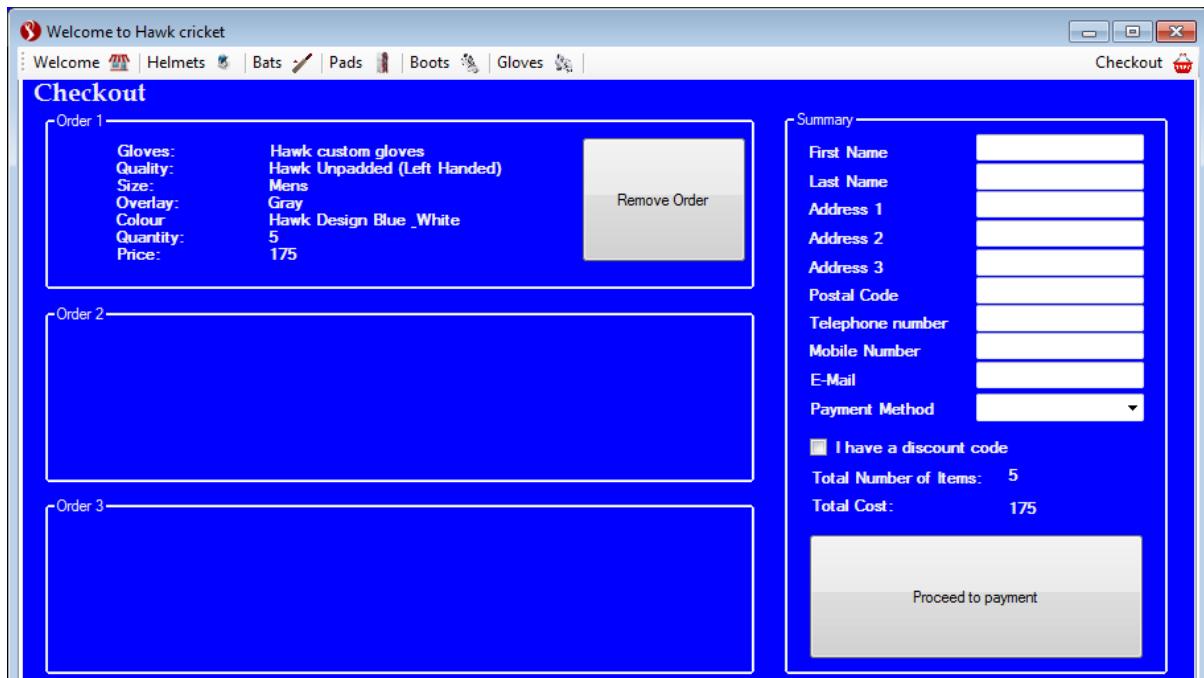
Summary

First Name \_\_\_\_\_  
Last Name \_\_\_\_\_  
Address 1 \_\_\_\_\_  
Address 2 \_\_\_\_\_  
Address 3 \_\_\_\_\_  
Postal Code \_\_\_\_\_  
Telephone number \_\_\_\_\_  
Mobile Number \_\_\_\_\_  
E-Mail \_\_\_\_\_  
Payment Method \_\_\_\_\_

I have a discount code

Total Number of Items: 5  
Total Cost: 175

Proceed to payment



**Figure 9**

**Checkout**

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue ,White
Quantity:	5
Price:	175

Remove Order

Order 2

Pads:	Hawk custom pads
Quality:	Grade 2 (50-80mph)
Size:	Junior
Logo Colour:	Blue
Colour:	Standard White finish
Quantity:	4
Price:	120

Remove Order

Order 3

Helmet:	AryTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Remove Order

**Summary**

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount code

Total Number of Items: 11  
Total Cost: 625

Proceed to payment

In the following images I have added three orders to my Checkout, in each image I have then clicked one of the remove buttons to test that it works and removes the corresponding order next to it.

**Order 3 removed.**

**Order 2 removed.**

**Order 1 removed.**

**Checkout**

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue ,White
Quantity:	5
Price:	175

Remove Order

Order 2

Pads:	Hawk custom pads
Quality:	Grade 2 (50-80mph)
Size:	Junior
Logo Colour:	Blue
Colour:	Standard White finish
Quantity:	4
Price:	120

Remove Order

Order 3

Proceed to payment

**Checkout**

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue ,White
Quantity:	5
Price:	175

Remove Order

Order 2

Order 3

**Checkout**

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue ,White
Quantity:	5
Price:	175

Remove Order

Order 2

Order 3

**Summary**

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount code

Total Number of Items: 5  
Total Cost: 175

Proceed to payment

**Checkout**

Order 1

Gloves:	Hawk custom gloves
Quality:	Hawk Unpadded (Left Handed)
Size:	Mens
Overlay:	Gray
Colour:	Hawk Design Blue ,White
Quantity:	5
Price:	175

Remove Order

Order 2

Order 3

**Summary**

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount code

Total Number of Items: 0  
Total Cost: 0

Proceed to payment

**Figure 10**

To ensure that the checkout still functions correctly after removing orders in the image below I have added another order to the checkout.

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves | Checkout

**Checkout**

Order 1

Helmet:	AnyTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Remove Order

Order 2

Order 3

**Summary**

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

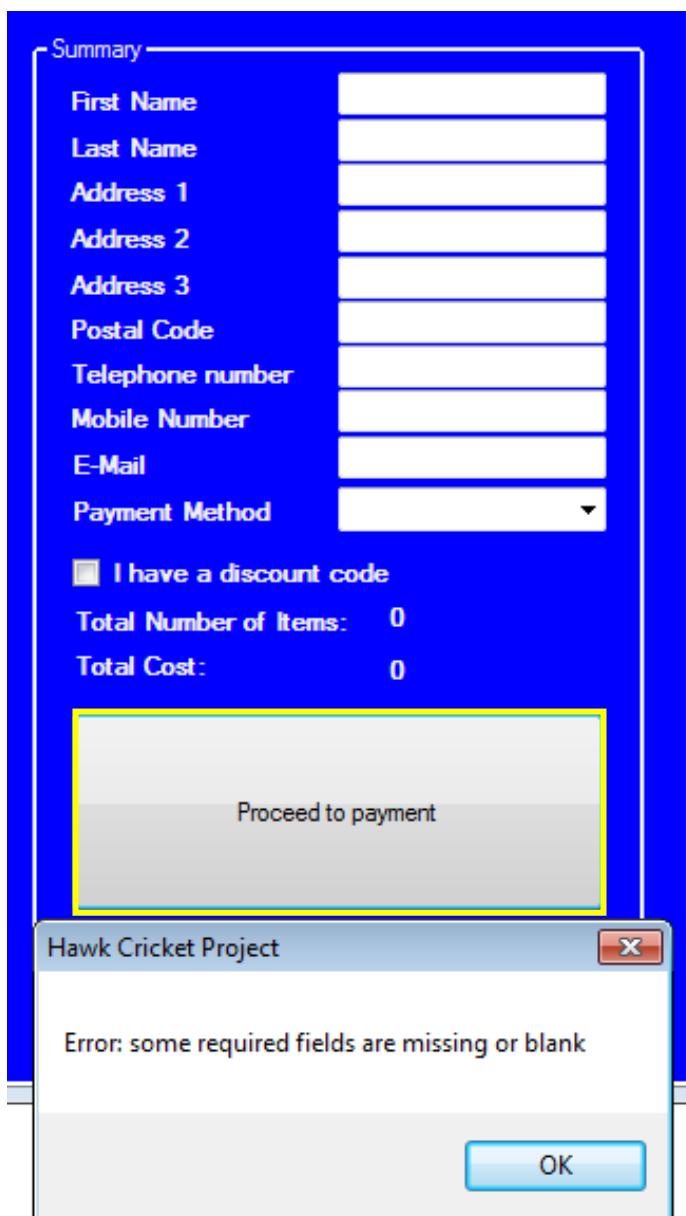
I have a discount code

Total Number of Items: 2  
Total Cost: 330

Proceed to payment

Cash and Credit card cannot be used on orders over £100

06/11/2015 10:20:57

**Figure 11 – Invalid data**

In the image to the left I have added no details to the customer summary and clicked the proceed to payment button, as you can see a message box appears stating that there is an error and that some fields are missing or blank and no code is executed to add the order to the database.

**Figure 12 – Invalid data**

In this scenario I have clicked the Add order to checkout button without adding any data to the boxes, the result is a message box saying “Order incomplete, some required fields are missing”.

Welcome to Hawk cricket

Welcome Helmets Bats Pads Boots Gloves

Checkout

# Helmets

Our Helmets:

**At Hawk Cricket we take pride in our diverse range of helmets. We understand that a helmet is likely the most important piece of equipment in a players kit bag, and so we take extra care when creating the helmets to ensure that each one offers an outstanding level of protection from physical damage. We offer three**

**Steel Grill**

**Titanium Grill**

**Blue**

**Green**

**Quantity** -1 1 +1

**Price:**

Add order to checkout

**Order Error**

**X Order incomplete, some required fields are missing**

OK

**Figure 13 – Invalid data**

In this scenario I have clicked the Add order to checkout button without adding any data to the boxes, the result is a message box saying “Order incomplete, some required fields are missing”.

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves | Checkout | Basket

## Bats

Bat Quality:

White Stickers  
 Blue Stickers  
 No Stickers

Bat Size:

Quantity: -1 1 +1

Price:

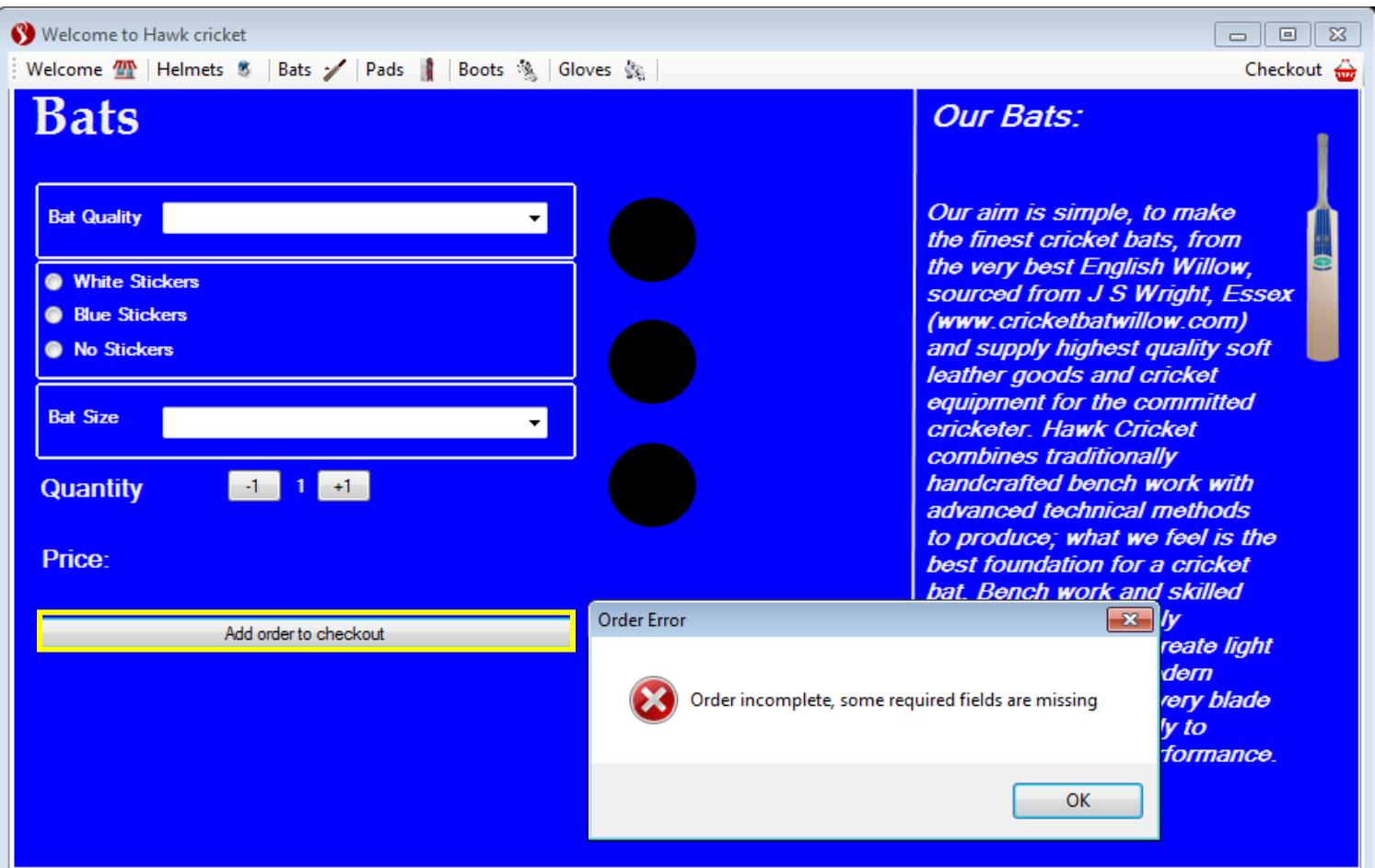
Add order to checkout

*Our aim is simple, to make the finest cricket bats, from the very best English Willow, sourced from J S Wright, Essex ([www.cricketbatwillow.com](http://www.cricketbatwillow.com)) and supply highest quality soft leather goods and cricket equipment for the committed cricketer. Hawk Cricket combines traditionally handcrafted bench work with advanced technical methods to produce; what we feel is the best foundation for a cricket bat. Bench work and skilled*

**Order Error**

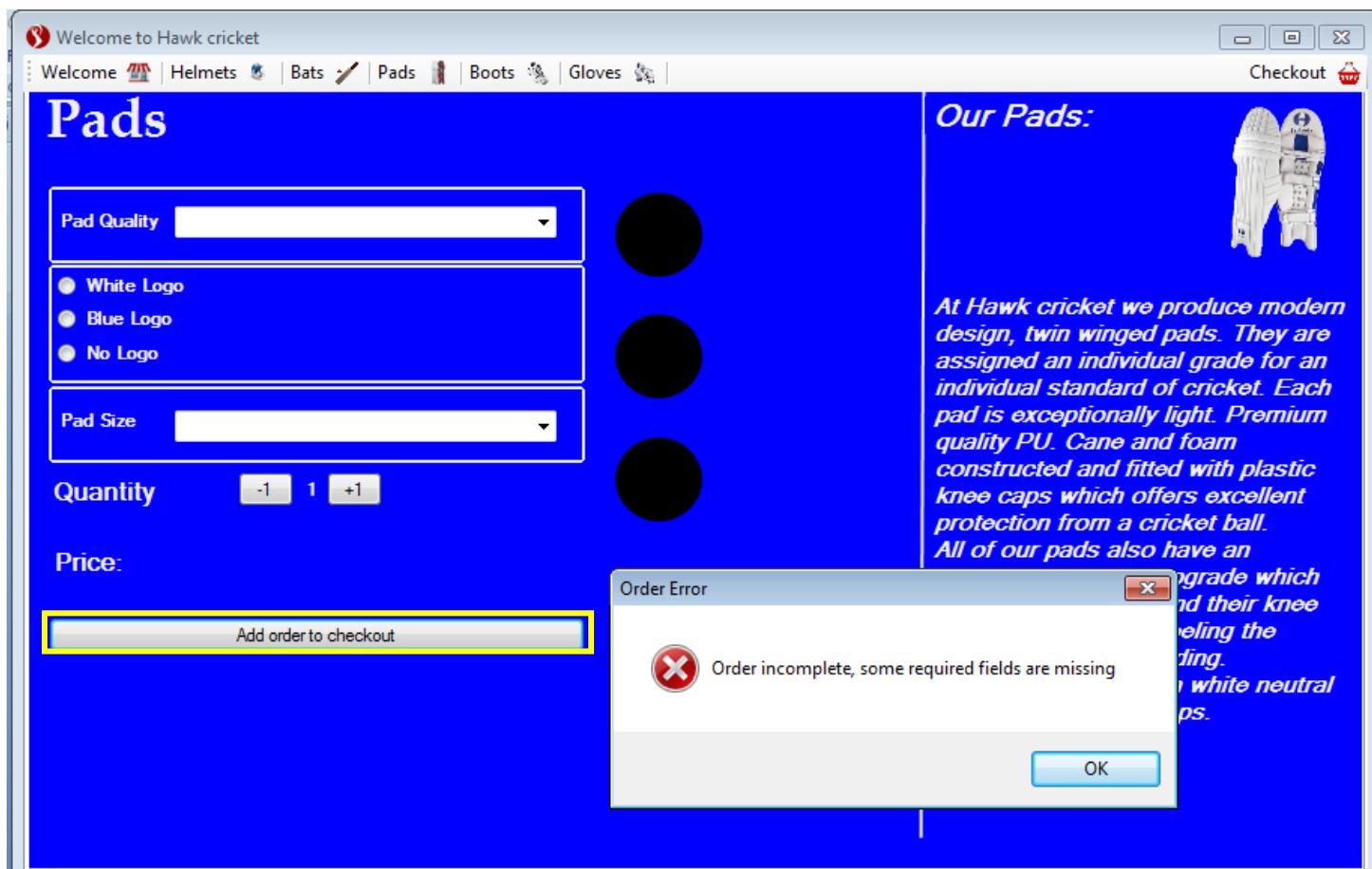
 Order incomplete, some required fields are missing

OK



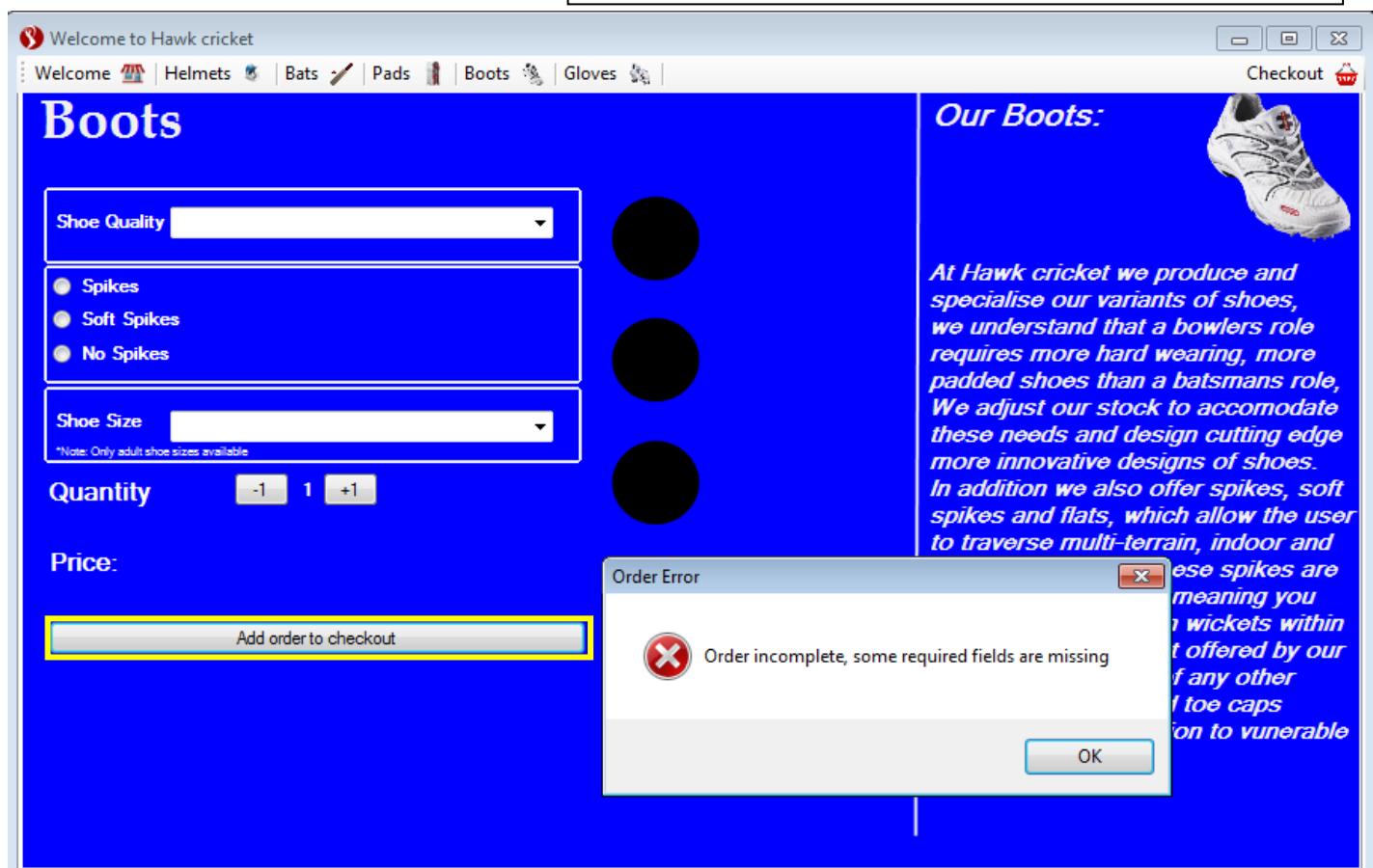
**Figure 14 – Invalid data**

In this scenario I have clicked the Add order to checkout button without adding any data to the boxes, the result is a message box saying “Order incomplete, some required fields are missing”.



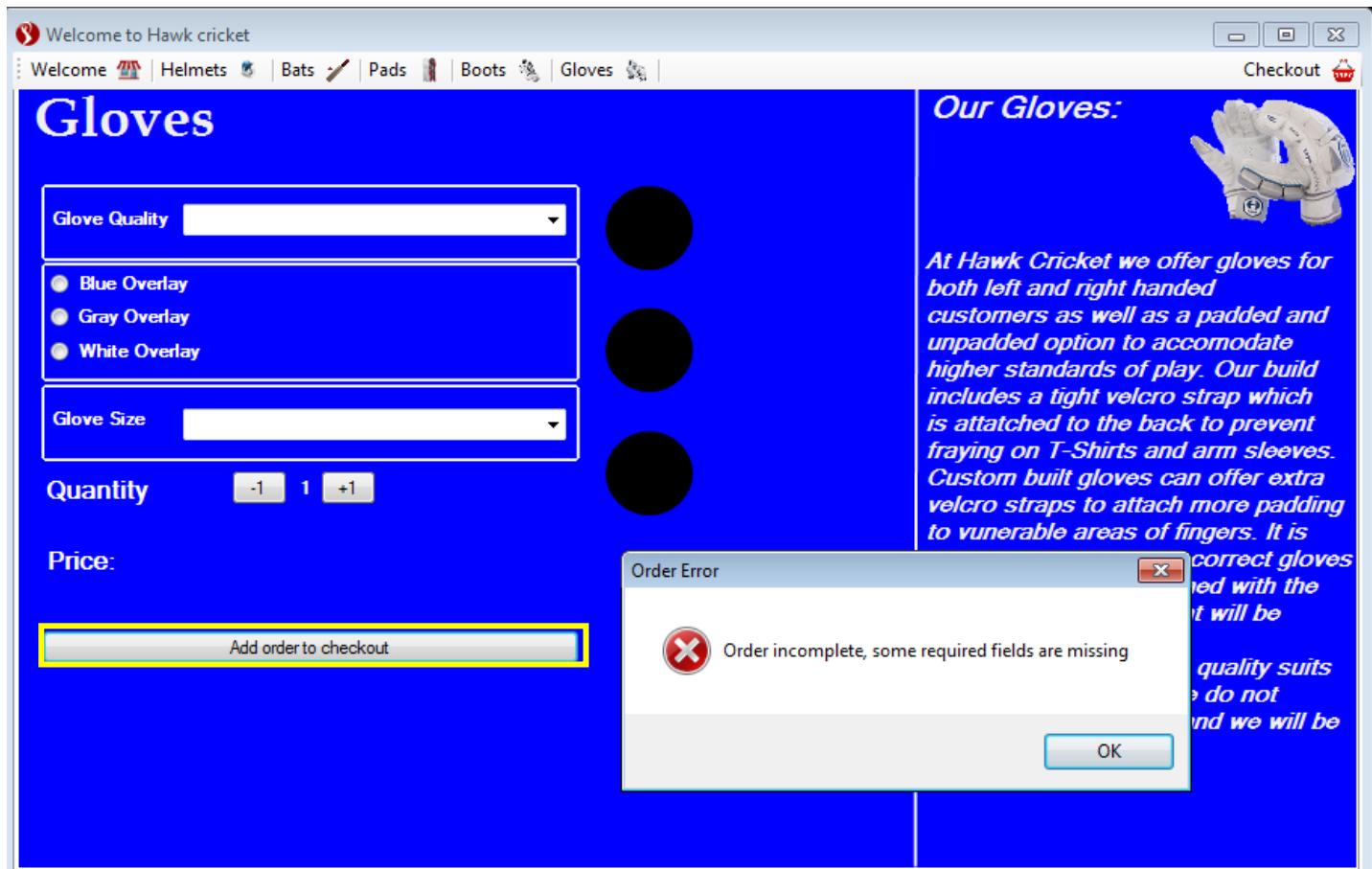
**Figure 15 – Invalid data**

In this scenario I have clicked the Add order to checkout button without adding any data to the boxes, the result is a message box saying “Order incomplete, some required fields are missing”.



**Figure 16 – Invalid data**

In this scenario I have clicked the Add order to checkout button without adding any data to the boxes, the result is a message box saying "Order incomplete, some required fields are missing".



**Figure 17 – Valid data**

In the images below I have placed an order for an AryTeck helmet and filled in the customer information form with some test details. I have then clicked proceed to payment. The order and details are then added to the database as the screenshot of the fields in the database display.

The screenshot shows a software interface for placing an order. On the left, there are three sections labeled 'Order 1', 'Order 2', and 'Order 3'. The 'Order 1' section contains the following details:

Helmet:	AryTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Next to the details is a 'Remove Order' button. To the right of the order sections is a 'Summary' panel containing customer information:

First Name	TestFirst
Last Name	TestLast
Address 1	Test Street
Address 2	TestBridge
Address 3	Test Midlands
Postal Code	TE1 TE2
Telephone number	01234567890
Mobile Number	09876543210
E-Mail	test.tester@Testing.co.uk
Payment Method	Debit Card

Below the summary is a checkbox for 'I have a discount code'. At the bottom of the summary panel are the total item count ('Total Number of Items: 2') and total cost ('Total Cost: 330'). At the very bottom of the window is a note: 'Cash and Credit card cannot be used on orders over £100' and two date/time fields: '06/11/2015' and '10:46:49'.

Customer details added to the Customer table.

All Tables	tblCustomer	CustomerID	FirstName	Surname	Address1	Address2	Address3	Postcode	TelNum	MobileNum	Email	PaymentMe	AmountPaid
	tblCustomer	125	TestFirst	TestLast	Test Street	Testbridge	Test Midlands	TE1 TE2	01234567890	09876543210	Test.tester@T	Debit Card	330
	(New)												

The product ordered has been added to the Orders table.

All Tables	tblCustomer	tblOrders	OrderID	CustomerID	ProductNam	OrderTime	OrderDate	DispatchAddress
			89	126	AryTeck	14:27:39	29/10/2015	Test Street Testbridge Test Midlands

The OrderLine has been populated with the ID's of the order and the customer.

All Tables	tblCustomer	tblOrd...	tblGoods
		tblCustomer	tblOrd...
		OrderID	GoodsID
		89	92
			2

**Figure 18 – Valid data**

In the images below I have placed an order for an AryTeck helmet and filled in the customer information form with some test details. I have then clicked proceed to payment. When given the option to print the receipt as confirmation of purchase I clicked yes. Below you can see my computer running the printing process

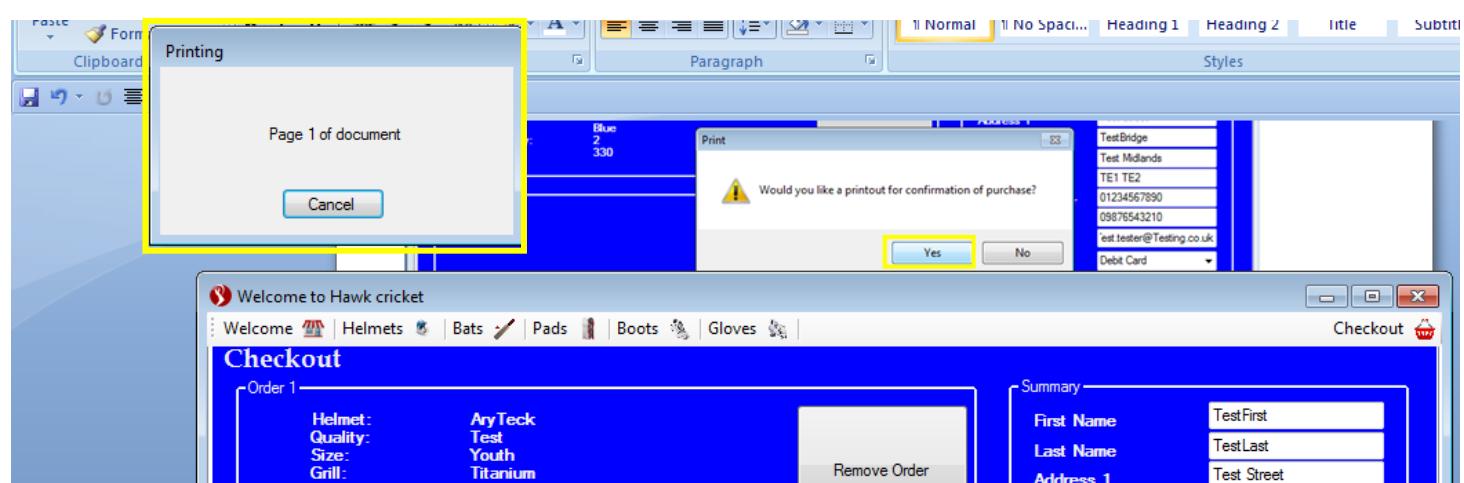
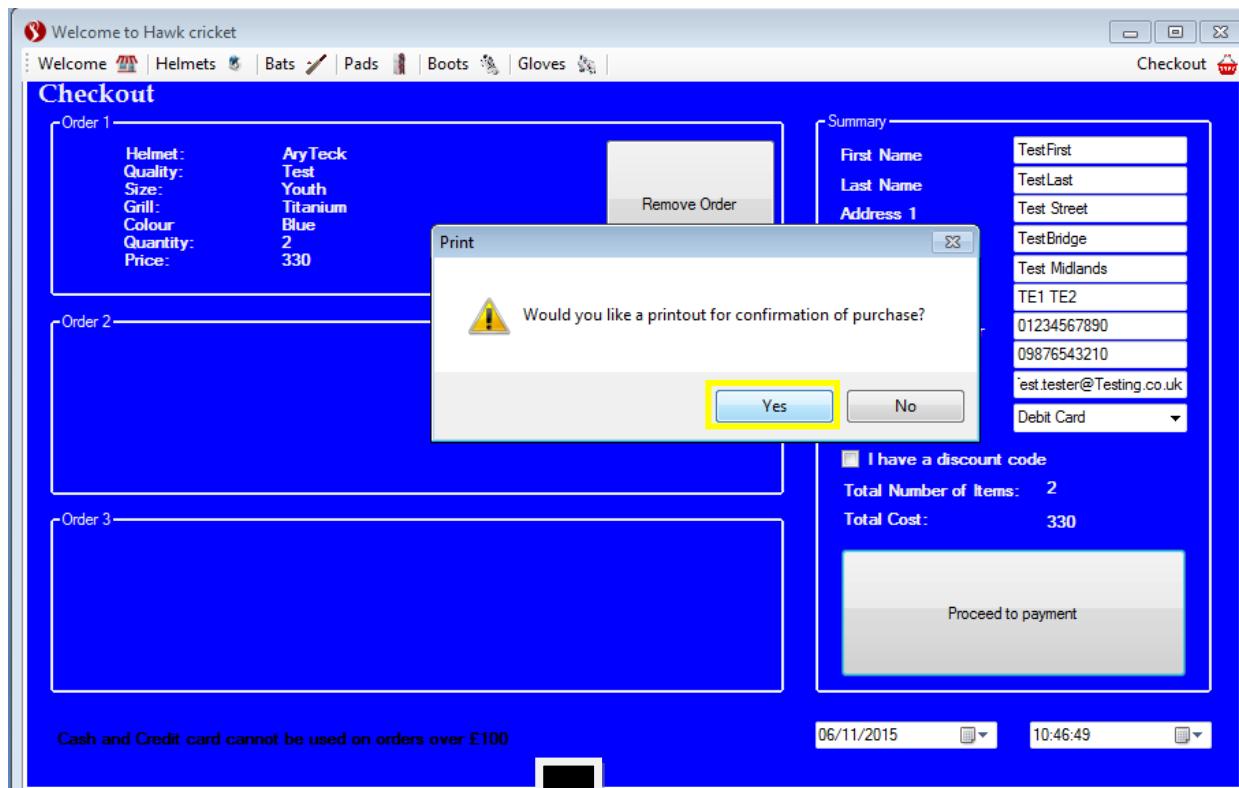


Figure 19 – Valid data

In this image you can clearly see that the stock of AryTeck helmets is 9

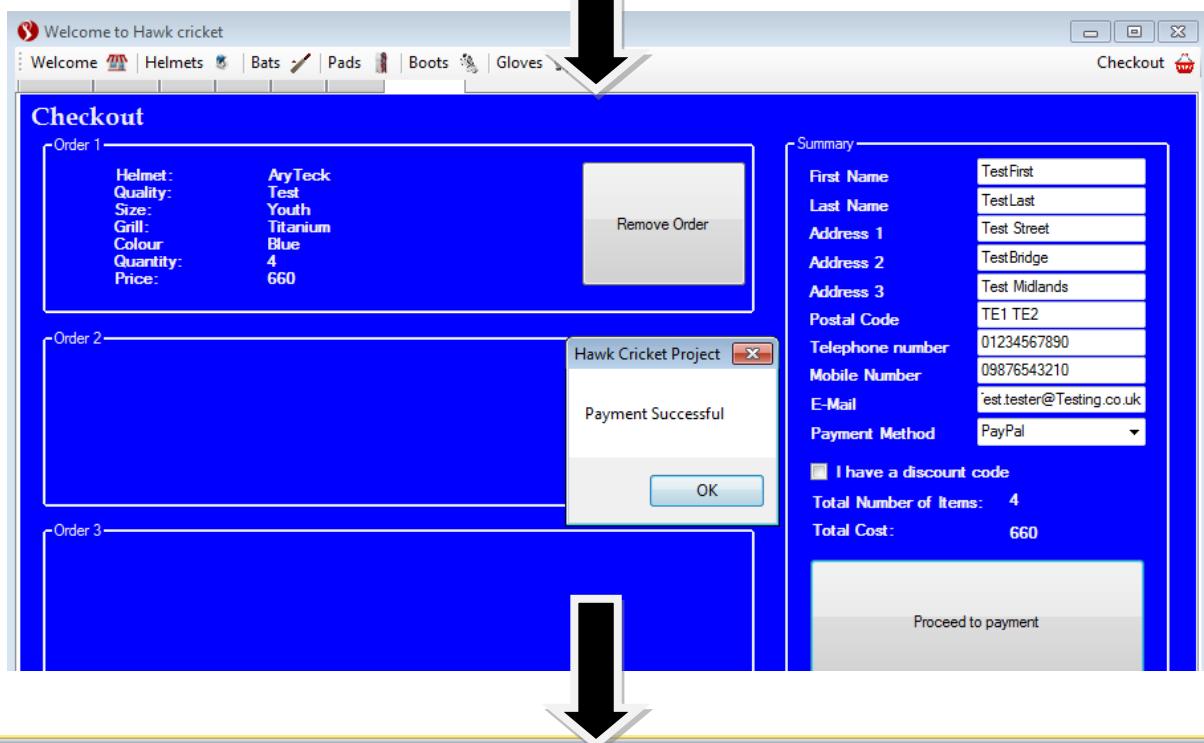
Below is an image of the database after the purchase, as you can see the number of stock for all AryTeck helmets has been reduced by 3. (It is now 6).

All Tables	tblCustomer	tblOrders	tblOrderLine	tblGoods						
	GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to Add
tblCustomer : Table	Shutter Bar Open/Close Button	AryTeck	Test	Steel	Blue	Youth	£150.00	1	6	
tblOrders : Table	106 Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior		£90.00	1	10	
tblOrderLine : Table	107 Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth		£80.00	1	10	
tblGoods : Table	108 Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens		£75.00	1	10	
tblStaff : Table	109 Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens		£70.00	1	10	
	110 AryTeck	Test	Steel	Blue	Youth		£145.00	1	6	
	111 AryTeck	Test	Titanium	Blue	Youth		£495.00	3	6	
	*	(New)								

**Figure 20 – Valid data**

In this scenario I am testing that an order can be placed when there is enough stock, below I have placed an order successfully and the stock is reduced accordingly.

GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to A
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	6	
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10	
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10	
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10	
109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	10	
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	6	
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	6	
*	(New)								

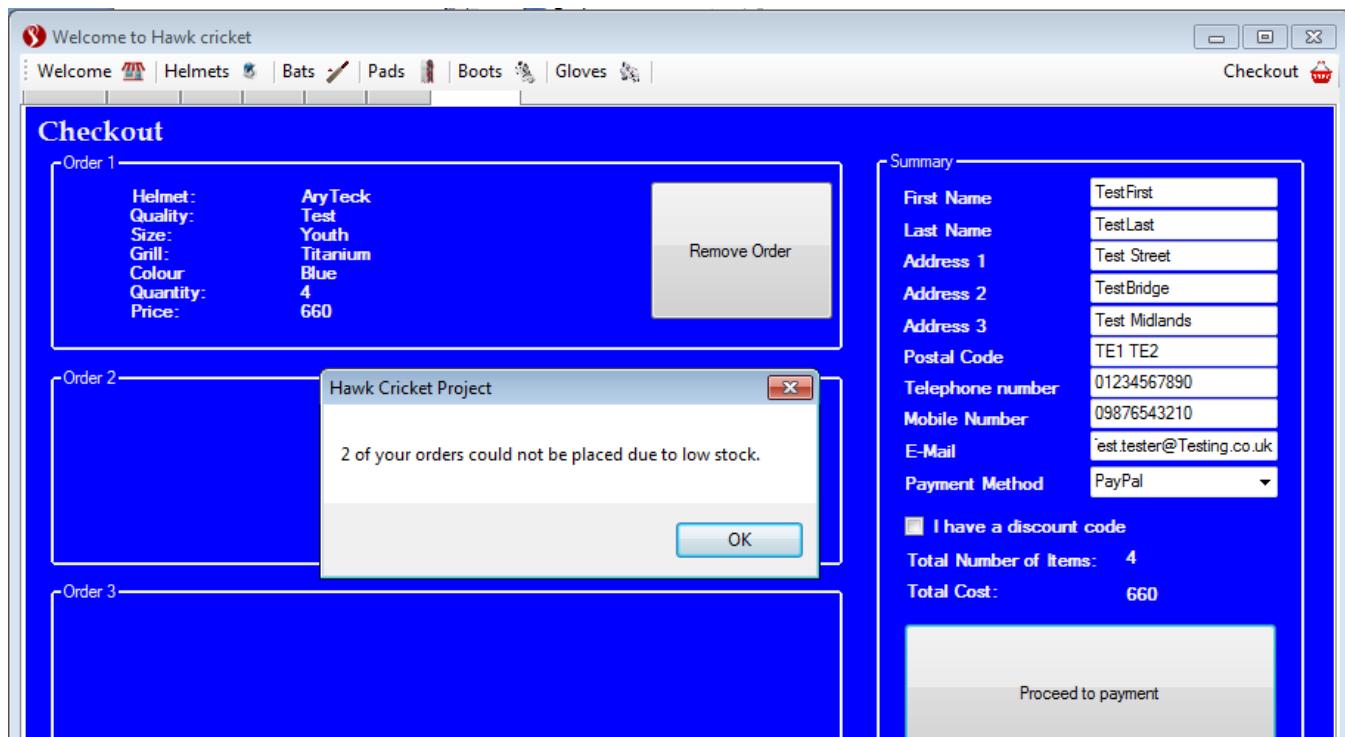


GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to A
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	2	
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10	
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10	
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10	
109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	10	
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	2	
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	2	
112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	2	

The database has now been updated with the new record and the stock of the AryTeck helmet reduced to 2.

**Figure: 21 – Extreme data**

In this scenario I have placed an order for 4 helmets although there are only two in stock, as you can see the order has been placed but for only 2 helmets, a message box appears stating that 2 orders could not be placed due to low stock. The database is then updated accordingly.



GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to A
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	0	
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10	
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10	
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10	
109	Hawk custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	10	
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	0	
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	0	
112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	0	
*	(New)					£660.00	2	0	

The database has now been updated with the new data and the stock of the AryTeck helmet reduced to 0. Notice that the quantity is entered as 2 rather than 4.

**Figure: 22 – Invalid data**

In the scenario below there is no stock left in the database for AryTeck helmets, an order is placed for 4 of these helmets however because there is no stock left no data is changed in the database a message box is triggered which tells the user there is no stock remaining.

The screenshot illustrates a software application interface for managing cricket equipment. At the top, a navigation bar includes links for Helmets, Bats, Pads, Boots, and Gloves, along with a Checkout button. A large central window is titled "Checkout". It displays three orders:

- Order 1:** Details for a helmet: Helmet: AryTeck, Quality: Test, Size: Youth, Grill: Titanium, Colour: Blue, Quantity: 4, Price: 660. A "Remove Order" button is present.
- Order 2:** Details for a helmet: Helmet: AryTeck, Quality: Test, Size: Youth, Grill: Titanium, Colour: Blue, Quantity: 4, Price: 660. A modal dialog box titled "Hawk Cricket Project" shows the message "Item out of Stock" with an "OK" button.
- Order 3:** Details for a helmet: Helmet: AryTeck, Quality: Test, Size: Youth, Grill: Titanium, Colour: Blue, Quantity: 4, Price: 660.

To the right of the orders is a "Summary" section containing form fields for payment information:

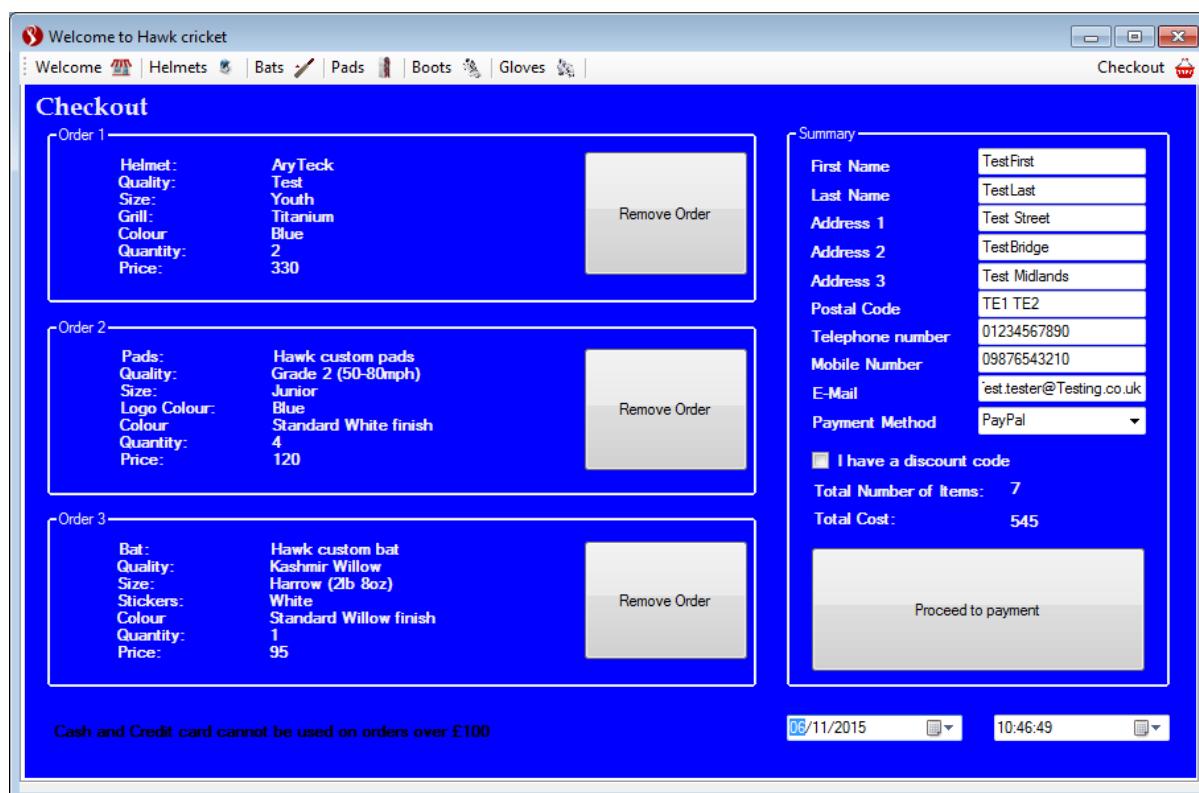
- First Name: TestFirst
- Last Name: TestLast
- Address 1: Test Street
- Address 2: Test Bridge
- Address 3: Test Midlands
- Postal Code: TE1 TE2
- Telephone number: 01234567890
- Mobile Number: 09876543210
- E-Mail: test.tester@Testing.co.uk
- Payment Method: PayPal

At the bottom right of the "Checkout" window is a "Proceed to payment" button.

Below the "Checkout" window, a separate database grid shows the following data:

GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to A
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	0	
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10	
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10	
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10	
109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	10	
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	0	
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	0	
112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	0	
113	AryTeck	Test	Titanium	Blue	Youth	£660.00	2	0	

The data in the database has not been changed and no new records have been added because there wasn't enough stock to make an order.

**Figure 23 – Valid data**

Now I am confident with one order being added to the database correctly. Below I have added three orders to the database. You can see that the three orders are added to the appropriate tables in the database.

The Order line has been populated with the ID's of the order and the

All Tables		tblOrderLine	tblCustomer	tblOrd...
tblCustomer		OrderID	GoodsID	Quantity
tblCustomer	: Table	92	96	2
tblOrders	: Table	93	97	4
tblOrders	: Table	94	98	1

The Order details have been added to the Orders table.

All Tables		tblOrderLine	tblCustomer	tblOrders	tblGoods	tblStaff	
tblCustomer		OrderID	CustomerID	ProductNam	OrderTime	OrderDate	DispatchAdr
tblCustomer	: Table	92	129	AryTeck	16:11:49	29/10/2015	Test Street Tes
tblOrders	: Table	93	129	Hawk Custom	16:11:49	29/10/2015	Test Street Tes
tblOrders	: Table	94	129	Hawk Custom	16:11:49	29/10/2015	Test Street Tes
tblOrderLine	: Table	*	(New)				

The Product details have been added to the Goods table.

All Tables		tblOrderLine	tblCustomer	tblOrd...	tblGoods	tblStaff					
tblCustomer		GoodsID	ProductNam	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click to Add
tblCustomer	: Table	96	AryTeck	Test	Titanium	Blue	Youth	£330.00	2	4	
tblOrders	: Table	97	Hawk Custom	Grade 2 (50-80mph)	Blue	Standard Whit	Junior	£120.00	4	0	
tblOrders	: Table	98	Hawk Custom	Kashmir Willow	White	Standard Will	Harrow (2lb 8o	£95.00	1	0	
tblOrderLine	: Table	*	(New)								

**Figure 24 - Invalid data, Valid data**

The tests below are run to trial the discount codes. As you can see when the box is checked and nothing is entered a small red cross appears to inform the user the code is incorrect, However when a correct code is entered then a green tick appears and the total for the item is reduced in the final payment box below the customer summary.

Welcome to Hawk cricket

Checkout

Order 1

Helmet:	AnyTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Remove Order

Order 2

Order 3

Summary

First Name	TestFirst
Last Name	TestLast
Address 1	Test Street
Address 2	TestBridge
Address 3	Test Midlands
Postal Code	TE1 TE2
Telephone number	01234567890
Mobile Number	09876543210
E-Mail	test.tester@Testing.co.uk
Payment Method	PayPal

I have a discount code X

Total Number of Items: 2

Total Cost: 330

Proceed to payment

Cash and Credit card cannot be used on orders over £100

06/11/2015 10:46:49

Welcome to Hawk cricket

Checkout

Order 1

Helmet:	AnyTeck
Quality:	Test
Size:	Youth
Grill:	Titanium
Colour:	Blue
Quantity:	2
Price:	330

Remove Order

Order 2

Order 3

Summary

First Name	TestFirst
Last Name	TestLast
Address 1	Test Street
Address 2	TestBridge
Address 3	Test Midlands
Postal Code	TE1 TE2
Telephone number	01234567890
Mobile Number	09876543210
E-Mail	test.tester@Testing.co.uk
Payment Method	PayPal

I have a discount code ✓ PC010Z

Total Number of Items: 2

Total Cost: 297

Proceed to payment

Cash and Credit card cannot be used on orders over £100

06/11/2015 10:46:49

**Figure: 25 – Extreme data**

tblOrd...	tblGoods	GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock
		105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	2
		106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10
		107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10
		108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10
		109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	10
		110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	2
		111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	2
		112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	2

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

## Helmets

Helmet Style: AryTeck

Helmet Quality: Test

Steel Grill  
 Titanium Grill

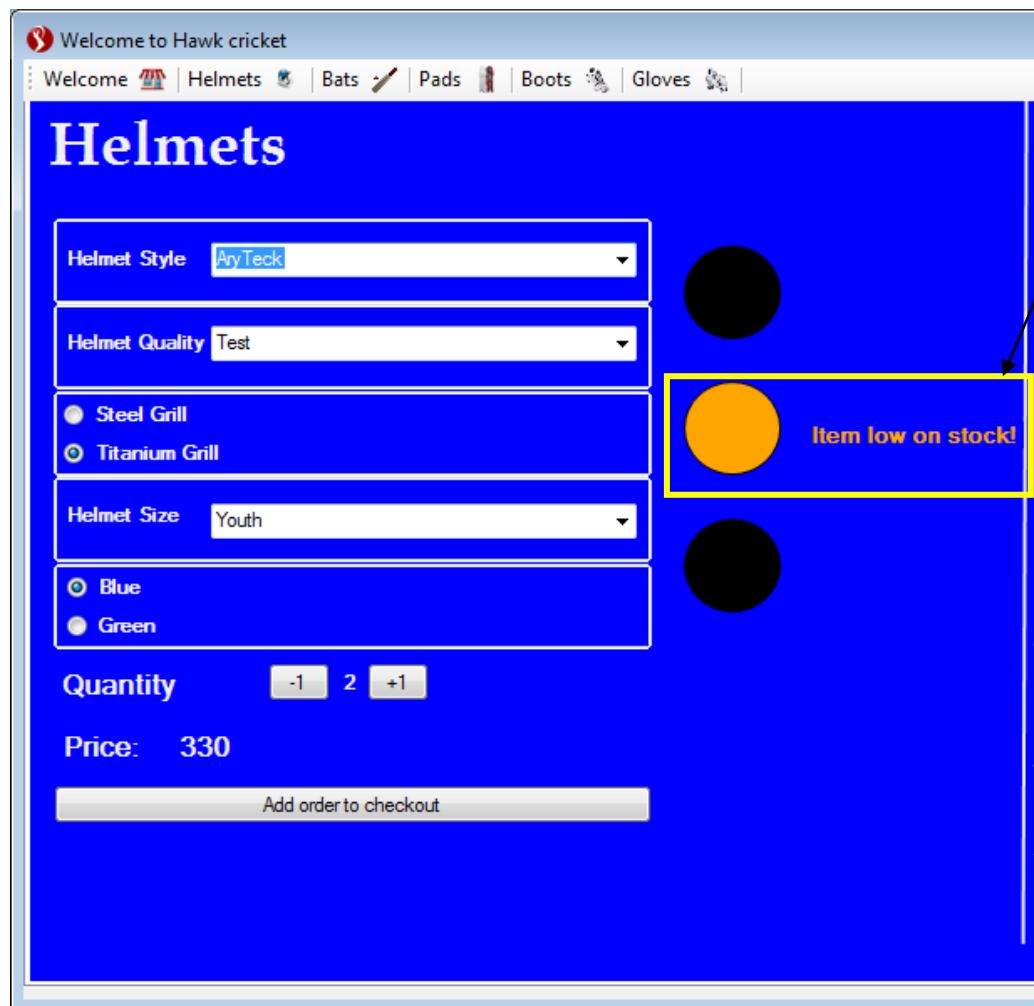
Helmet Size: Youth

Blue  
 Green

Quantity: -1 2 +1

Price: 330

Add order to checkout



In this image when I enter in an order for an AryTeck helmet, the amber light is illuminated along with a label with the message "Item low on stock". This is because there is more than 0 but less than 5 items of stock remaining.

**Figure: 26 - Valid data**

GoodsID	ProductName	Quality	Extras	Colour	Equipments	EquipmentF	Quantity	Stock	Click
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	2	
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10	
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10	
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10	
109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	0	
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	2	
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	2	
112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	2	
114	Hawk custom boots	Custom bowlers edition	Spikes	Standard White finish	8	£110.00	5	0	

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

# Pads

Pad Quality: Grade 1 (80mph +)

White Logo  
Blue Logo  
No Logo

Pad Size: Large Mens

Quantity: -1 4 +1

Price: 220

Add order to checkout

In this image when I enter in an order for a Grade 1 set of pads, the green light is illuminated along with a label with the message "Stock available". This is because there is more than 5 items of stock remaining.

**Figure: 27 – Invalid data**

tblGoods										
GoodsID	ProductName	Quality	Extras	Colour	EquipmentS	EquipmentF	Quantity	Stock	Click	
105	AryTeck	Test	Steel	Blue	Youth	£150.00	1	2		
106	Hawk custom bat	English Willow	Blue	Standard Willow finish	Junior	£90.00	1	10		
107	Hawk custom pads	Grade 2 (50-80mph)	White	Standard White finish	Youth	£80.00	1	10		
108	Hawk custom gloves	Hawk Padded (Left Handed)	Gray	Hawk Design Blue & White	Mens	£75.00	1	10		
109	Hawl custom boots	Hawk Padded	Spikes	Hawk Design Blue & White	Mens	£70.00	1	0		
110	AryTeck	Test	Steel	Blue	Youth	£145.00	1	2		
111	AryTeck	Test	Titanium	Blue	Youth	£495.00	3	2		
112	AryTeck	Test	Titanium	Blue	Youth	£660.00	4	2		
114	Hawk custom boots	Custom bowlers edition	Spikes	Standard White finish	8	£110.00	5	0		

Welcome to Hawk cricket

Welcome | Helmets | Bats | Pads | Boots | Gloves |

# Boots

Shoe Quality: Hawk Custom Bowlers edition

Spikes  
 Soft Spikes  
 No Spikes

Shoe Size:

\*Note: Only adult shoe sizes available

Quantity: 0

-1    1    +1

Price: 0

Add order to checkout

In this image when I enter an order for a set of Hawk custom bowlers edition boots, the red light is illuminated along with a label with the message "Out of stock" This is because there are 0 items of stock remaining in this category.

Figure 28 &amp; 29 – Valid data, Invalid data, Extreme data

The following tests are run to check that cash and credit card cannot be used on orders over £100, I have run three tests, in the first test of £90 all payment options are available. In the second test of £115 Cash and credit card are not available and are removed from the combo box, and in the final test of exactly £100 (not OVER £100) all payment options are available.

**£90 (Valid data test)**

Welcome to Hawk cricket

Checkout

Order 1

Helmet:	Masuri Vision Club
Quality:	Test
Size:	Youth
Grill:	Steel
Colour:	Blue
Quantity:	1
Price:	90

Remove Order

Order 2

Order 3

Summary

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount

Total Number of Items: 3

Total Cost: £90

Cash  
Debit Card  
Credit Card  
Cheque  
Bank Transfer  
PayPal

Proceed to payment

**£115 (Invalid data test)**

Welcome to Hawk cricket

Checkout

Order 1

Helmet:	Masuri Vision Club
Quality:	Test
Size:	Youth
Grill:	Steel
Colour:	Blue
Quantity:	1
Price:	115

Remove Order

Order 2

Order 3

Summary

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

I have a discount

Total Number of Items: 3

Total Cost: £115

Cash  
Debit Card  
Cheque  
Bank Transfer  
PayPal

Proceed to payment

Cash and Credit card have been removed automatically.

Cash and Credit card cannot be used on orders over £100.

**£100 (Extreme data test)**

Welcome to Hawk cricket

Checkout

Order 1

Pads:	Hawk custom pads
Quality:	Grade 1 (80mph +)
Size:	Mens
Logo Colour:	White
Colour:	Standard White finish
Quantity:	2
Price:	100

Remove Order

Order 2

Order 3

Summary

First Name  
Last Name  
Address 1  
Address 2  
Address 3  
Postal Code  
Telephone number  
Mobile Number  
E-Mail  
Payment Method

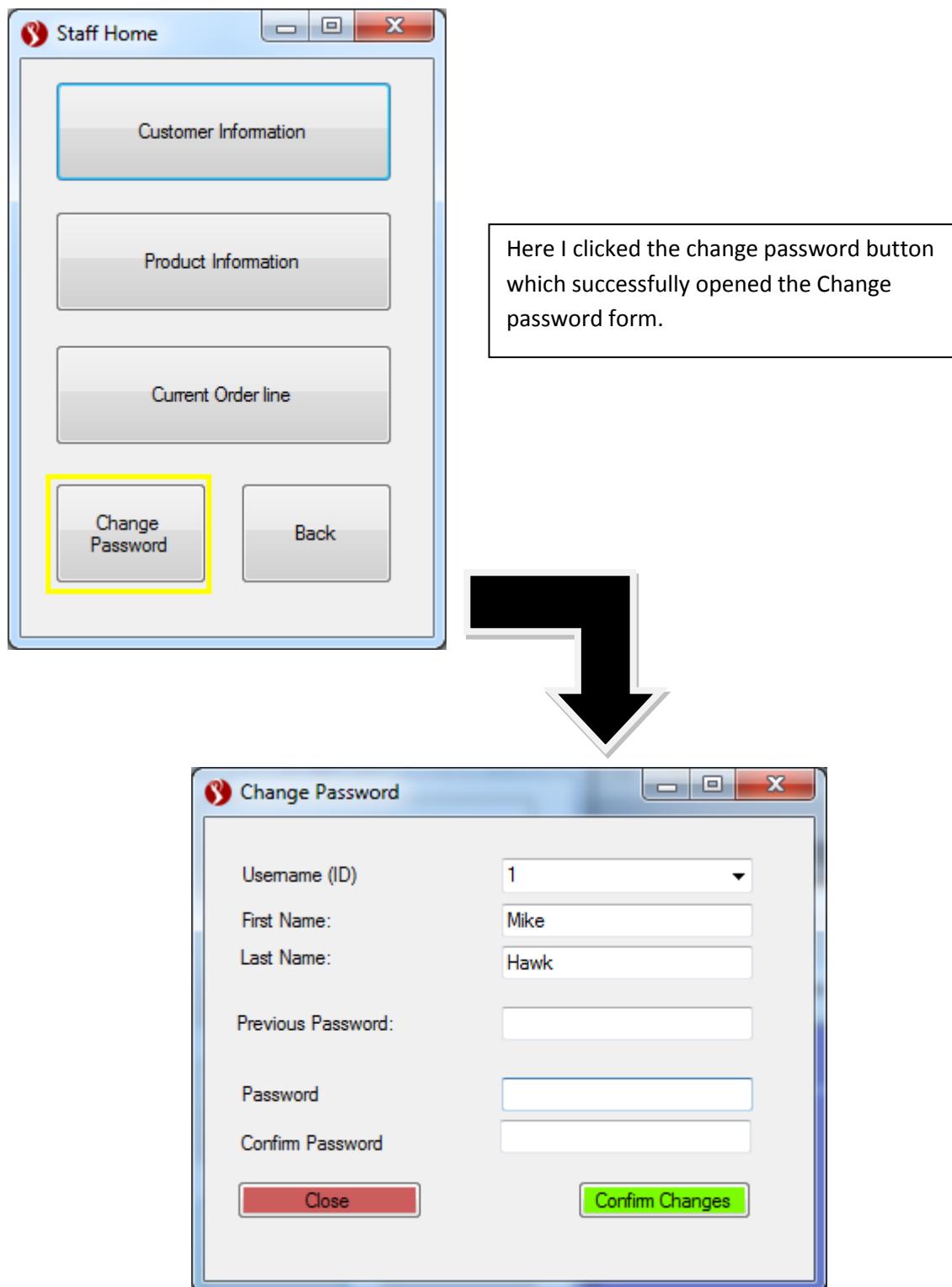
I have a discount

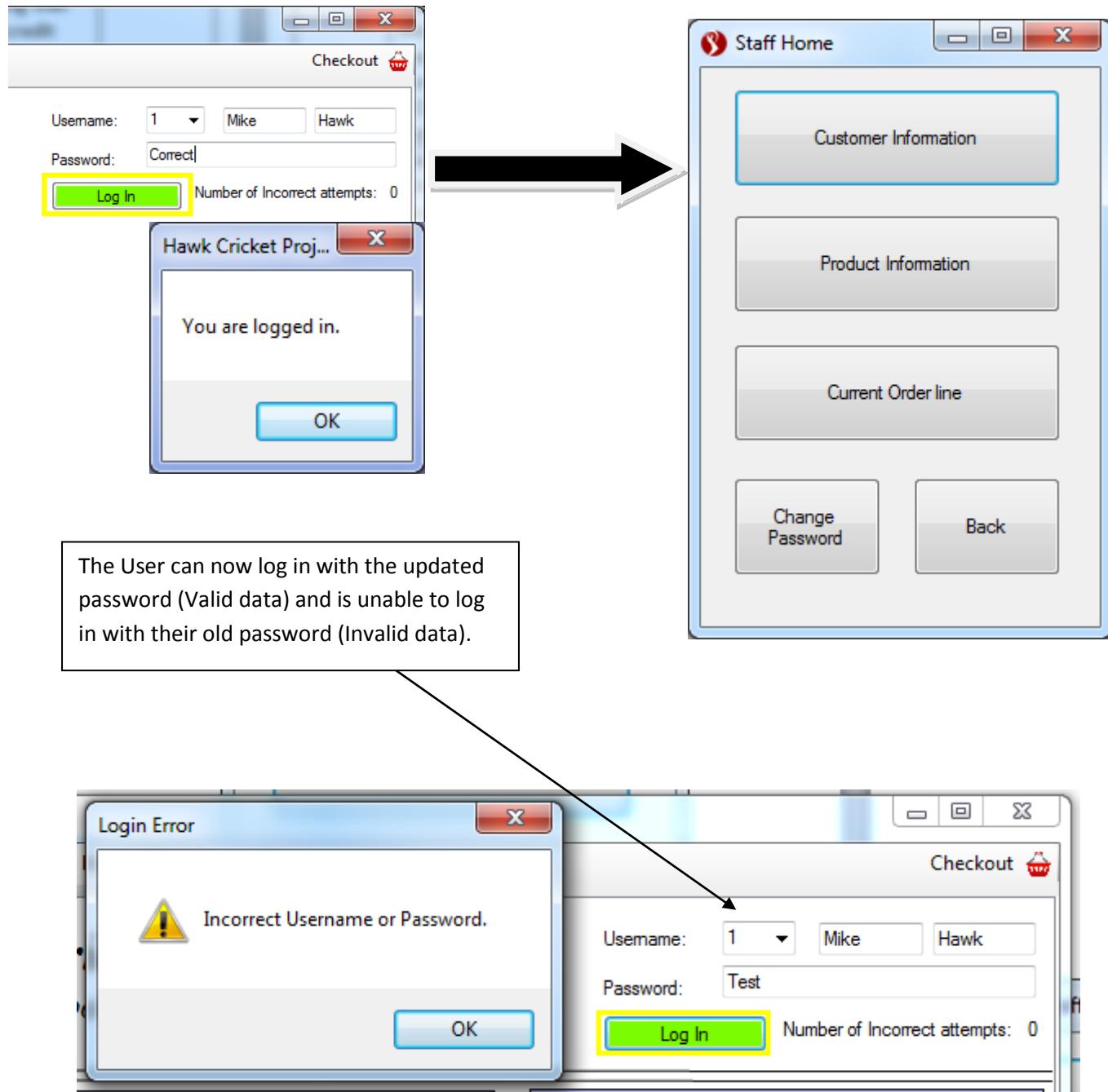
Total Number of Items: 3

Total Cost: £100

Cash  
Debit Card  
Credit Card  
Cheque  
Bank Transfer  
PayPal

Proceed to payment

**Figure 30**

**Figure 31 – Valid data, Invalid data**

**Figure 32**

Staff Home

Customer Information

Product Information

Current Order line

Change Password Back

Here I clicked the change Customer Information button which successfully opened the Customer Information form.

Customer Information

Customer ID: 10

First Name: Bev

Second Name: Passmore

Address 1: 1 The Rise

Address 2: Kingswinford

Address 3: West Midlands

Postcode: DY6 8LB

Telephone Number: 01384 400967

Mobile Number: 07517 078998

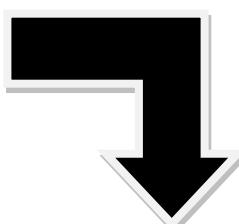
E-Mail Address: adam.cricket@blueyonder.co.uk

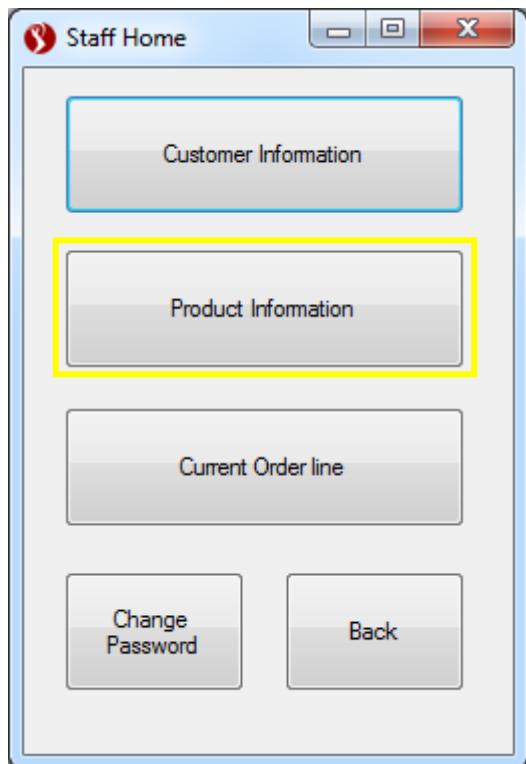
Payment Method: Debit Card

CustomerID FirstName Surname Address1 Address2 Address3

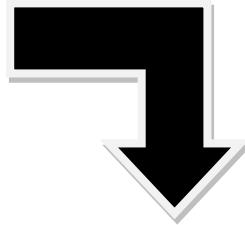
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	Adam	Passmore	1the rise	king	dud
13	Test	Tester	1 Test	The Tester	Teseract
14	Maureen	Cooke	King Edward VI c...	Stroubridge	West Midlands
17	Joe	Nicholson	Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	test	test	test	test	test
28	test2	test2	test2	test2	test2
29	t	t	t	t	t
30	t	t	t	t	t
31	t	t	t	t	t
32	t	t	t	t	t
33	m	m	m	m	m
34	m	m	m	m	m
35	t	t	t	t	t
36	t	t	t	t	t
37	t	t	t	t	t
38	t	t	t	t	t
39	Les	Timms	King Edward VI C...	Stourbridge	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	Dudley
41	A	A	A	A	A
42	B	B	B	B	B

First Order Previous Order Next Order Last Order



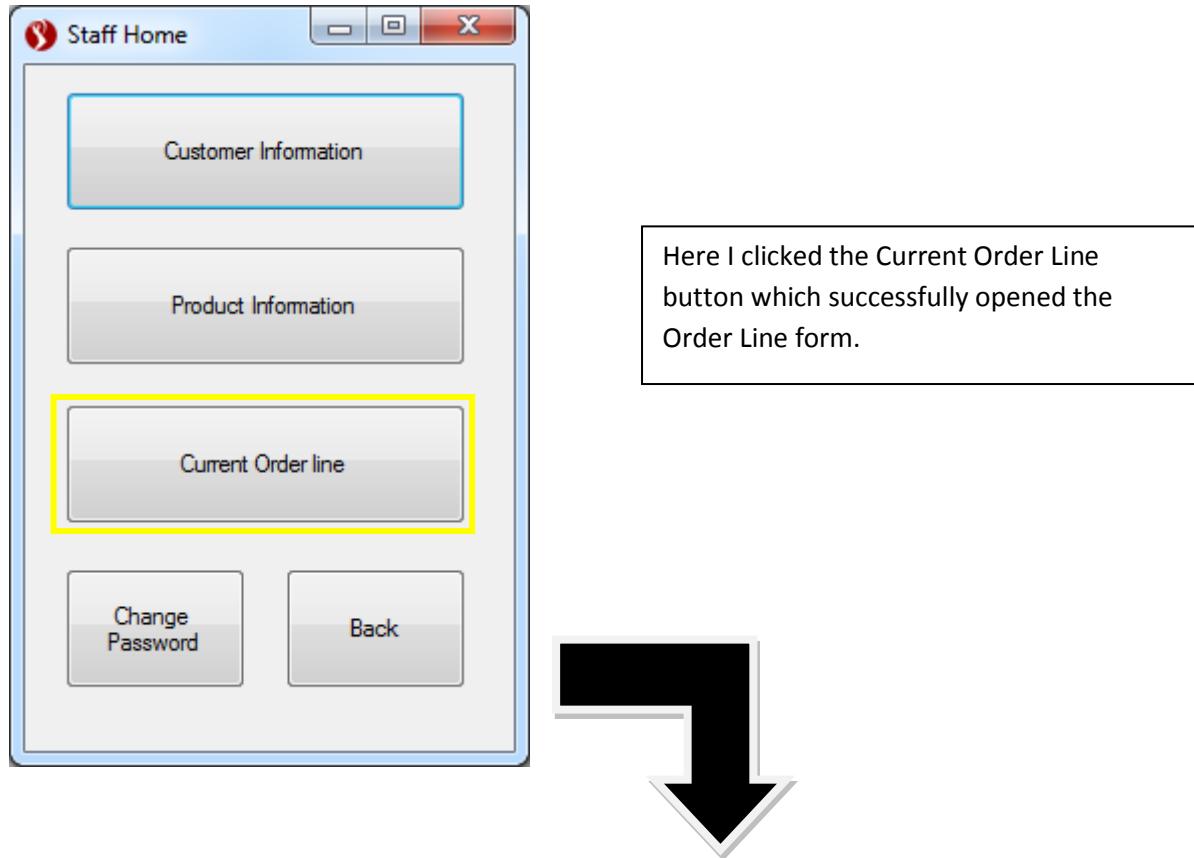
**Figure 33**

Here I clicked the Product Information button which successfully opened the Product information form.



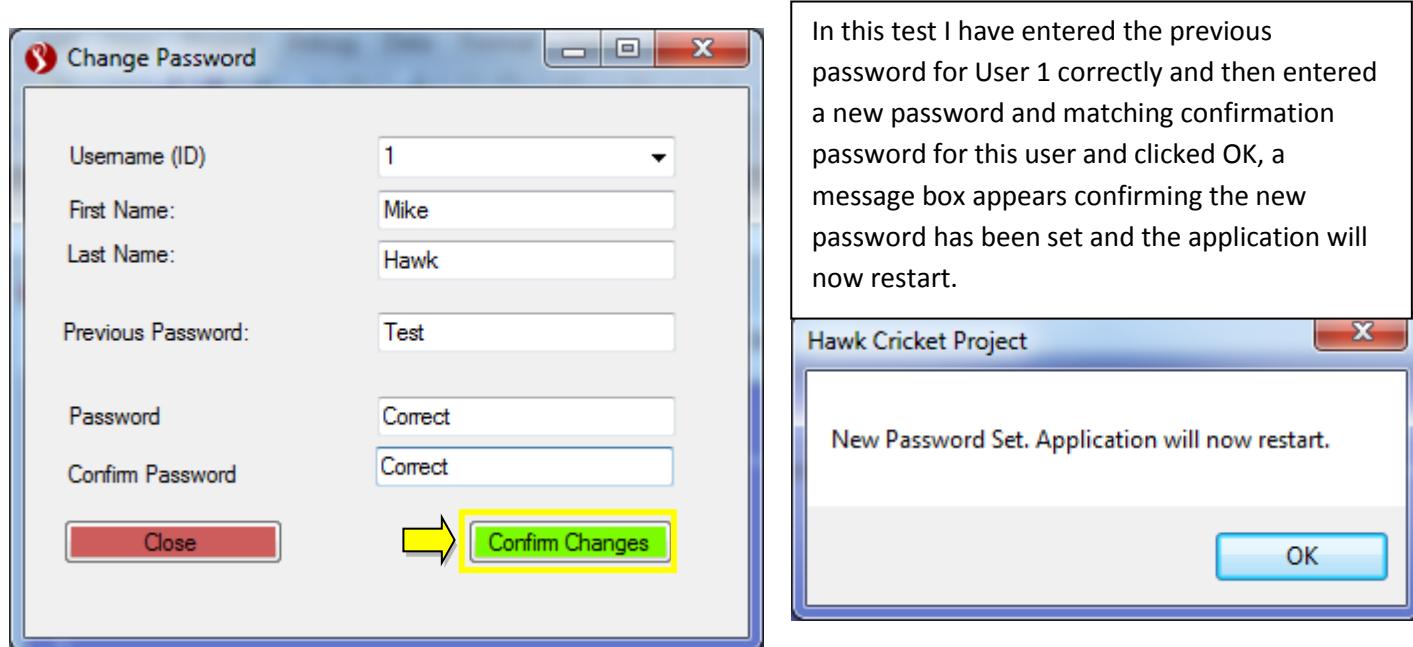
The screenshot shows the 'Product Information' form window. At the top left are 'Search' and 'Reset' buttons. In the center-left is a vertical column of input fields with labels: 'Product ID:' (containing '1'), 'Product Name:' (containing 'Helmet'), 'Quality:', 'Colour:', 'Size:', 'Price:', and 'Stock'. Below these are four small navigation buttons: two arrows pointing left and two arrows pointing right. To the right of the input fields is a large grid table with columns labeled 'ProductName', 'Extras', 'Quality', 'Colour', 'Equipment Size', and 'Equipment Price'. The first row of the grid has 'Helmet' in the 'ProductName' column highlighted with a yellow background. The grid contains numerous rows of product data. On the far right of the grid is a vertical toolbar with eight icons: a chart, a folder with a plus sign, a folder with a minus sign, a printer, a calculator, a circular arrow, and a house.

ProductName	Extras	Quality	Colour	Equipment Size	Equipment Price
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

**Figure 34**

The screenshot shows the 'Order Line' application window. On the left, there is a search interface with a dropdown menu, a search button, and a reset button. Below it are input fields for 'Order ID' (50), 'Customer ID' (65), 'Product Name' (Hawk Custom), 'Order Time' (empty), 'Order Date' (empty), and 'Dispatch Address' (XXX). At the bottom left are buttons for 'First Order', 'Previous Order', 'Next Order', and 'Last Order'. The main area contains a grid table with columns: OrderID, CustomerID, ProductName, OrderTime, OrderDate, and DispatchAddress. The table lists 29 rows of data. To the right of the table is a vertical toolbar with several icons: a folder with a plus sign, a folder with a minus sign, a calculator, a printer, a refresh symbol, and a home icon.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
88	115	Hawk Custom edi...	17:46:41	25/10/2015	d d d
89	126	AryTeck	14:27:39	29/10/2015	Test Street Testb.
90	127	AryTeck	14:27:39	29/10/2015	Test Street Testb.
91	128	AryTeck	14:27:39	29/10/2015	Test Street Testb.
92	129	AryTeck	16:11:49	29/10/2015	Test Street Testb.
93	129	Hawk Custom	16:11:49	29/10/2015	Test Street Testb.
94	129	Hawk Custom	16:11:49	29/10/2015	Test Street Testb.
18	10	Hawk Custom	14:29:01	29/09/2015	test2 test2 test2
19	37	Hawk Custom	15:34:16	29/09/2015	ttt
20	38	Hawk Custom edi...	15:35:38	29/09/2015	ttt
21	39	Hawk Custom	15:39:25	29/09/2015	King Edward VI C
22	39	Hawk Custom	15:39:25	29/09/2015	King Edward VI C
23	39	AryTeck	15:39:25	29/09/2015	King Edward VI C
24	40	Hawk Custom	20:59:00	12/10/2015	1 The Rise Kings.
25	41	AryTeck	21:08:39	12/10/2015	A A A
26	42	Hawk Custom	21:20:30	12/10/2015	B B B
27	43	Hawk Custom edi...	21:36:31	12/10/2015	C C C
28	44	Hawk Custom edi...	22:48:28	12/10/2015	D D D
29	45	Hawk Custom edi...	22:52:08	12/10/2015	E E E

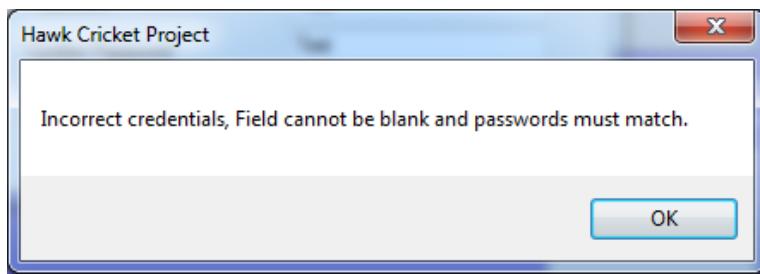
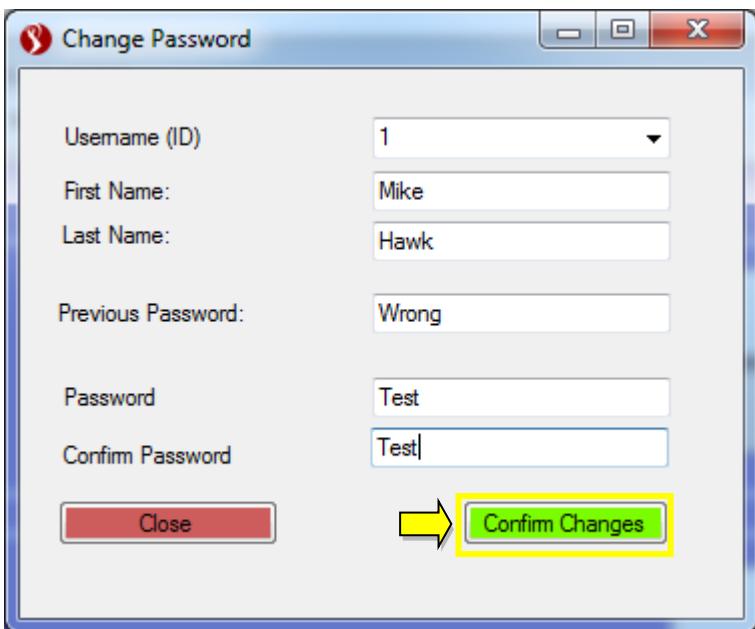
**Figure 35 – Valid data**

In this test I have entered the previous password for User 1 correctly and then entered a new password and matching confirmation password for this user and clicked OK, a message box appears confirming the new password has been set and the application will now restart.

Here is the database with the new changed password set under the password field for user 1.

The screenshot shows the Microsoft Access ribbon and the 'tblStaff' table in the database. The 'tblStaff' table has columns: StaffID, FirstName, LastName, ChosenPass, and Click to Add. The first record shows StaffID 1, FirstName Mike, LastName Hawk, and ChosenPass Correct. A dashed arrow points from the 'ChosenPass' column in the table back to the 'ChosenPass' field in the 'Confirm Changes' button of the dialog box above.

StaffID	FirstName	LastName	ChosenPass
1	Mike	Hawk	Correct
2	Adam	Passmore	Adam

**Figure 36 – Invalid data**

In this test I have entered the previous password for User 1 incorrectly but a legitimate new password. The result was that a message box appeared stating that there were incorrect credentials and below is an image of the database, as you can see no changes have been made because the previous password didn't match.

Here is the database with the old, unchanged password which did not match the password entered by the user.

The screenshot shows the Microsoft Access ribbon with tabs for 'Tables', 'tblCustomer', 'tblOrders', and 'tblStaff'. The 'tblStaff' tab is selected. Below the ribbon is a table with columns: StaffID, FirstName, LastName, ChosenPass, and Click to Add. The row where StaffID is 1 has FirstName 'Mike', LastName 'Hawk', ChosenPass 'Correct', and Click to Add. The row where StaffID is 2 has FirstName 'Adam', LastName 'Passmore', ChosenPass 'Adam', and Click to Add.

StaffID	FirstName	LastName	ChosenPass	Click to Add
1	Mike	Hawk	Correct	
2	Adam	Passmore	Adam	

**Figure 37 – Invalid data**

The screenshot displays a 'Change Password' application interface. It consists of two side-by-side windows, each with a title bar, minimize, maximize, and close buttons.

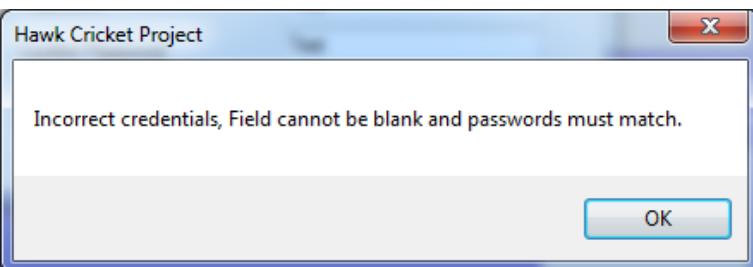
**Left Window (Successful Change):**

- Username (ID): 1
- First Name: Mike
- Last Name: Hawk
- Previous Password: Correct
- Password: (empty)
- Confirm Password: (empty)

**Right Window (Unsuccessful Change):**

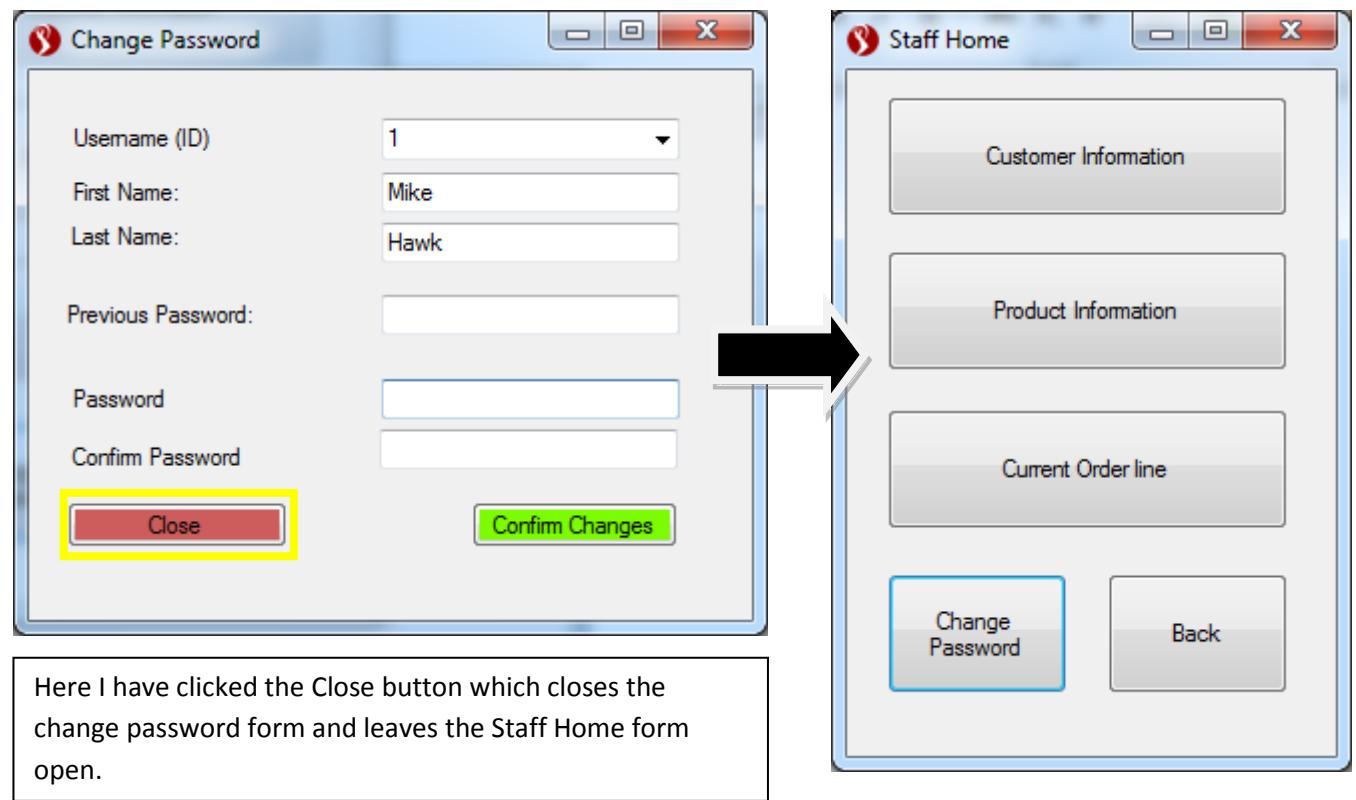
- Username (ID): 1
- First Name: Mike
- Last Name: Hawk
- Previous Password: Correct
- Password: This Password
- Confirm Password: Doesn't Match

A large black arrow points from the left window to the right window, highlighting the transition between the two states.



In this test I have entered the previous password for User 1 correctly but an illegitimate new password (a blank field or passwords that do not match). The result was that a message box appeared stating that there were incorrect credentials and below is an image of the database, as you can see no changes have been made because the two new passwords didn't match or the field was left blank.

New	Cut	Filter	Ascending	Selection	New	Totals	Replace
Paste	Copy	Z↓	Descending	Advanced	Save	Spelling	Go To
	Format Painter	A↓	Remove Sort	Toggle Filter	Refresh All	Delete	More
views	Clipboard	A	Sort & Filter		Records	Find	Select

**Figure 38**

**Figure 39 – Valid data**

**Customer Information**

First Name	Adam
<input type="button" value="Search"/> <input type="button" value="Reset"/>	
Customer ID:	10
First Name:	Bev
Second Name:	Passmore
Address 1:	1 The Rise
Address 2:	Kingswinford
Address 3:	West Midlands
Postcode:	DY6 8LB
Telephone Number:	01384 400967
Mobile Number:	07517 078998
E-Mail Address:	adam.cricket@blueyonder.co.uk
Payment Method:	Debit Card
<input type="button" value="First Order"/> <input type="button" value="Previous Order"/> <input type="button" value="Next Order"/> <input type="button" value="Last Order"/>	

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Brierly Hill	Dudley
13	Edward	Bym	214 Lime Ave	Cleent	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

In this test I have used the search feature to search for a customer with the first name Adam, the grid returned and displayed 4 results.

**Customer Information**

First Name	Adam
<input type="button" value="Search"/> <input type="button" value="Reset"/>	
Customer ID:	11
First Name:	Adam
Second Name:	Passmore
Address 1:	1 The Rise
Address 2:	Kingswinford
Address 3:	Dudley
Postcode:	DY6 8LB
Telephone Number:	01384400967
Mobile Number:	07517078998
E-Mail Address:	adam.cricket@blueyonder.co.uk
Payment Method:	Cheque
<input type="button" value="First Order"/> <input type="button" value="Previous Order"/> <input type="button" value="Next Order"/> <input type="button" value="Last Order"/>	

CustomerID	FirstName	Surname	Address1	Address2	Address3
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
100	Adam	Passmore	1 The Rise	Kingswinford	West Midlands

Figure 40

**Customer Information**

CustomerID	FirstName	Surname	Address1	Address2	Address3
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
100	Adam	Passmore	1 The Rise	Kingswinford	West Midlands

First Name: Adam

Customer ID: 11

First Name: Adam  
Second Name: Passmore  
Address 1: 1 The Rise  
Address 2: Kingswinford  
Address 3: Dudley  
Postcode: DY6 8LB  
Telephone Number: 01384400967  
Mobile Number: 07517 078998  
E-Mail Address: adam.cricket@blueyonder.co.uk  
Payment Method: Cheque

**Customer Information**

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Brierly Hill	Dudley
13	Edward	Byn	214 Lime Ave	Clent	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroudbridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Enville	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kiddminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

In this test I have clicked the reset button, the grid then returns to its original form, displaying all of the Customers and the search bar is reset.

Figure 41

**Customer Information**

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Briery Hill	Dudley
13	Edward	Byn	214 Lime Ave	Clent	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

Customer ID: 10  
First Name: Bev  
Second Name: Passmore  
Address 1: 1 The Rise  
Address 2: Kingswinford  
Address 3: West Midlands  
Postcode: DY6 8LB  
Telephone Number: 01384 400967  
Mobile Number: 07517 078998  
E-Mail Address: adam.cricket@blueyonder.co.uk  
Payment Method: Debit Card

First Order Previous Order Next Order Last Order

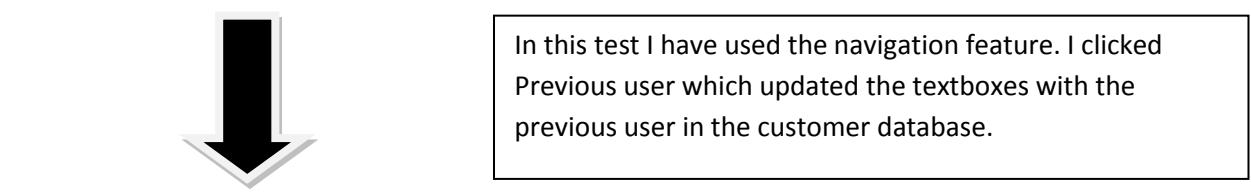
In this test I have used the navigation feature. I clicked next user which updated the textboxes with the next user in the customer database.

**Customer Information**

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Briery Hill	Dudley
13	Edward	Byn	214 Lime Ave	Clent	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

Customer ID: 11  
First Name: Adam  
Second Name: Passmore  
Address 1: 1 The Rise  
Address 2: Kingswinford  
Address 3: Dudley  
Postcode: DY6 8LB  
Telephone Number: 01384400967  
Mobile Number: 07517078998  
E-Mail Address: adam.cricket@blueyonder.co.uk  
Payment Method: Cheque

First Order Previous Order **Next Order** 

**Figure 42**

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Brierty Hill	Dudley
13	Edward	Bym	214 Lime Ave	Cleint	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Womboume	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

Customer Information

Search Reset

Customer ID: 114

First Name: Kat

Second Name: Williams

Address 1: 17 Car Lane

Address 2: Kingswinford

Address 3: West Midlands

Postcode: DY7 8AL

Telephone Number: 01384 285 670

Mobile Number: 07610 851090

E-Mail Address: Kat.Williams@yahoo.co.uk

Payment Method: Bank Transfer

First Order Previous Order Last Order

Icons: File (yellow folder), Add (green plus), Delete (red minus), Calculator, Printer, Refresh, Home.

**Figure 43**

In this test I have used the navigation feature. I clicked last user which updated the textboxes with the last user in the customer database.

CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Brierty Hill	Dudley
13	Edward	Bym	214 Lime Ave	Cleint	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Womboume	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

Customer Information

Search Reset

Customer ID: 115

First Name: Harry

Second Name: Stevens

Address 1: 92 Reed Street

Address 2: Wolverhampton

Address 3: West Midlands

Postcode: WR11 6DN

Telephone Number: 01384 622910

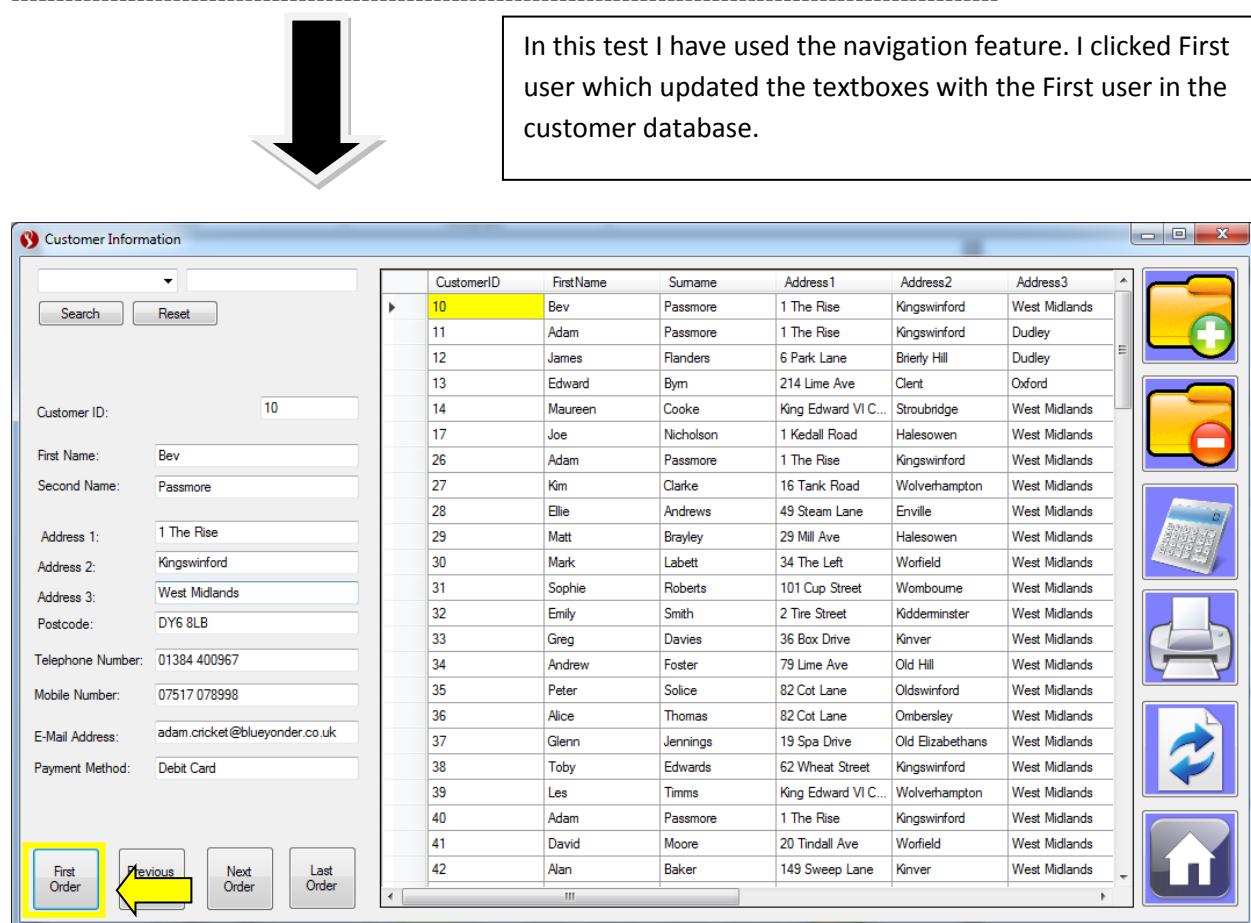
Mobile Number: 07502 098410

E-Mail Address: Harry.Stevens@gmail.com

Payment Method: Bank Transfer

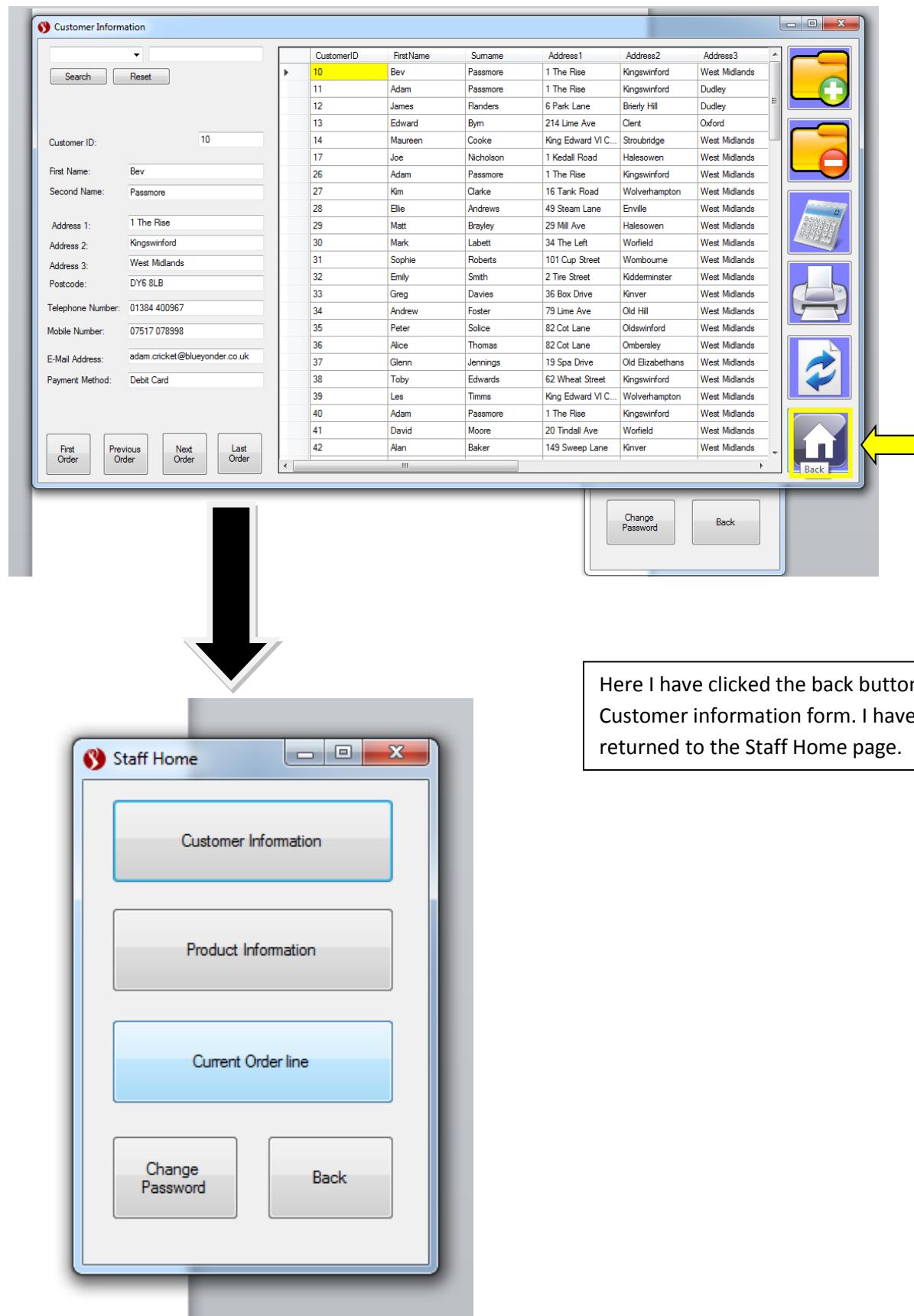
First Order Previous Order Next Order Last Order

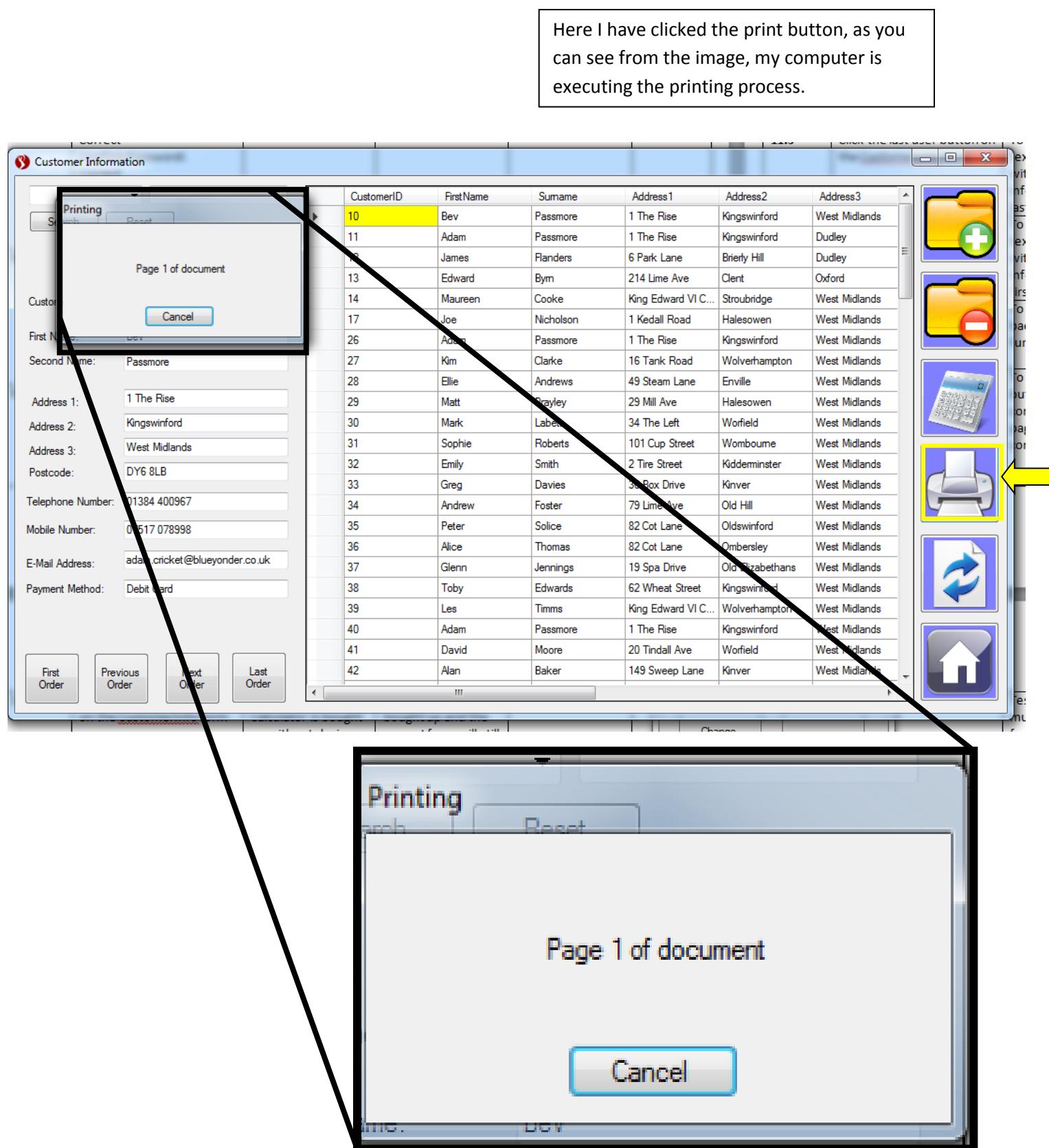
Icons: File (yellow folder), Add (green plus), Delete (red minus), Calculator, Printer, Refresh, Home.

**Figure 44**

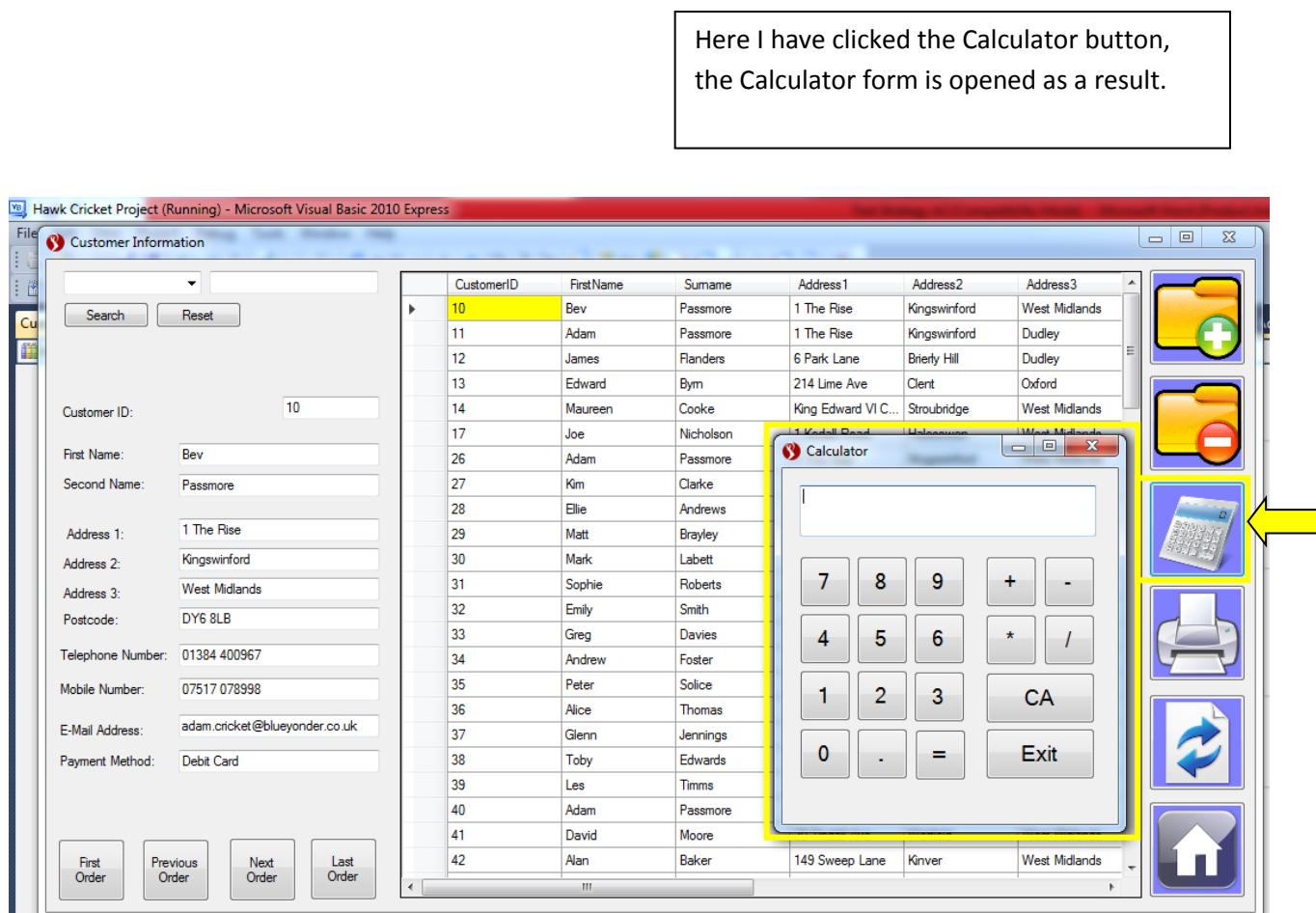
Clicking previous user when the first user is already selected presents the user with the message box on the left. Clicking the next user when the last user is already selected presents the user with the message box on the right.



**Figure 45**

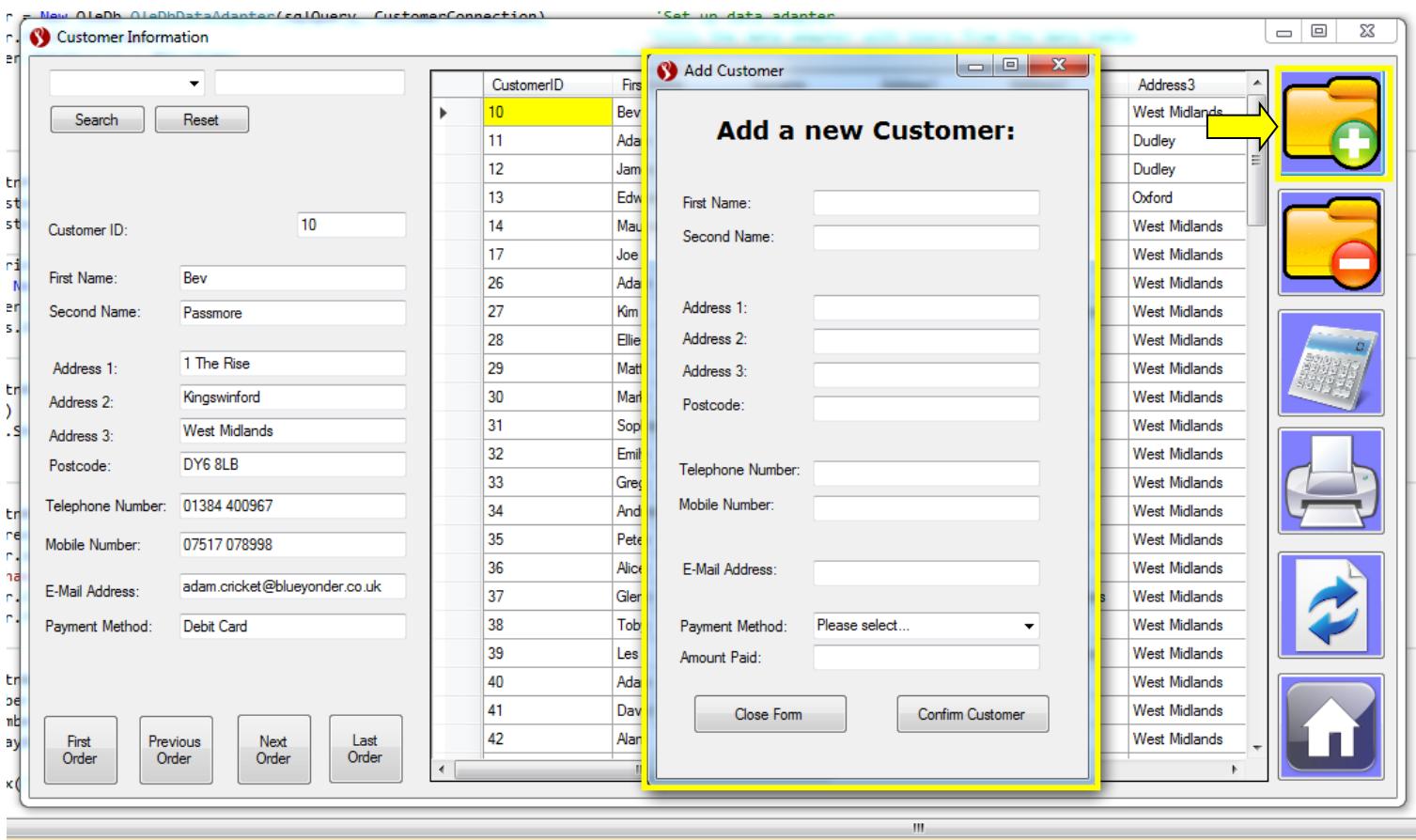
**Figure 46**

Here I have clicked the print button, as you can see from the image, my computer is executing the printing process.

**Figure 47**

**Figure 48**

Here I have clicked the Add customer button, as a result the Add customer form is opened leaving the Customer Information form open in the background.



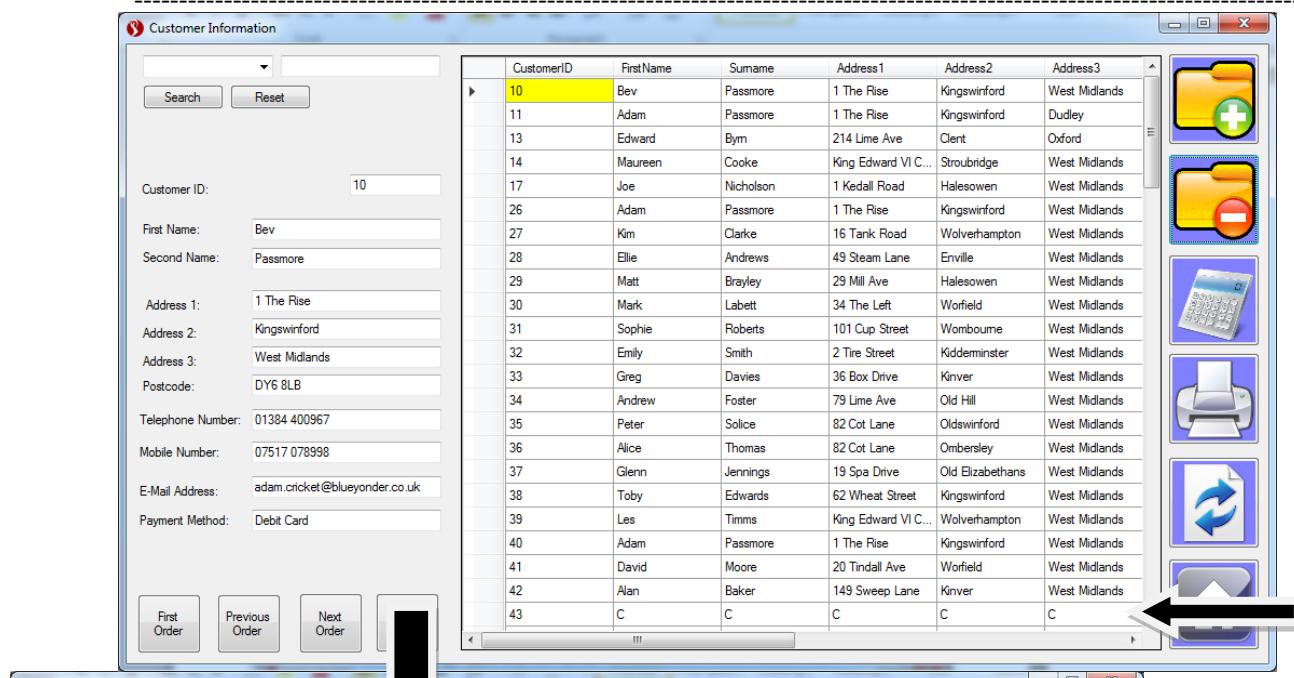
**Figure 49**

Here I have clicked the Remove customer button on Customer ID 12. When I clicked yes, the customer was removed from the grid and the database immediately.

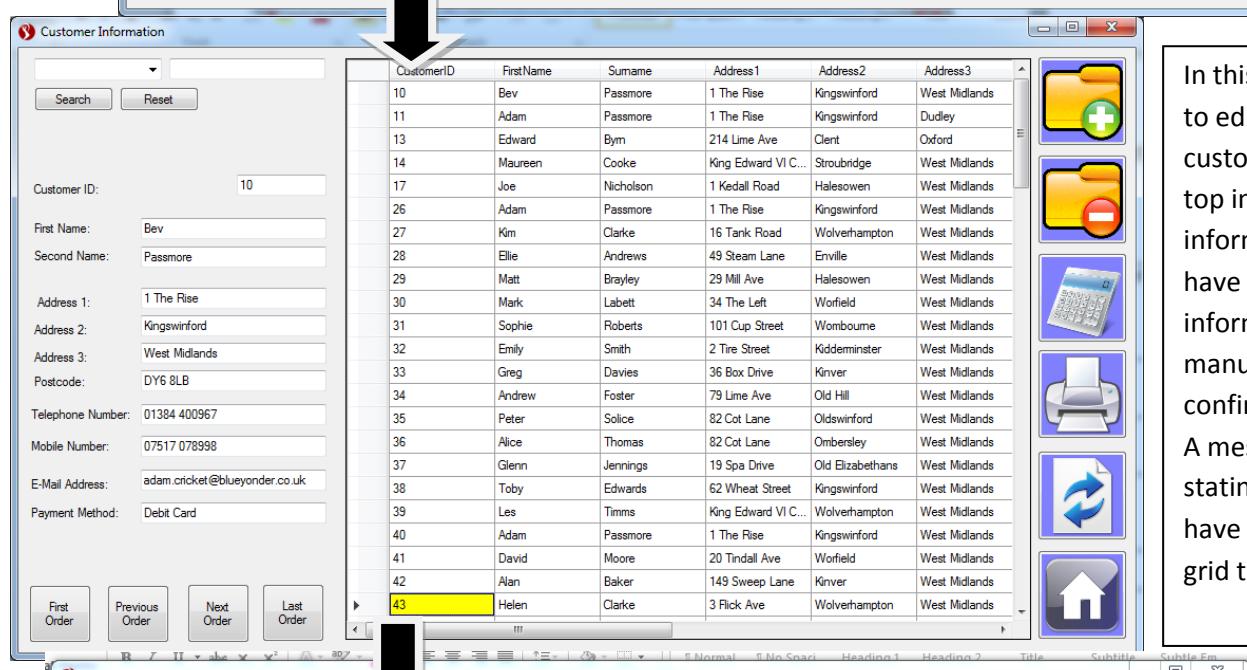
CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
12	James	Flanders	6 Park Lane	Brierly Hill	Dudley
13	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands

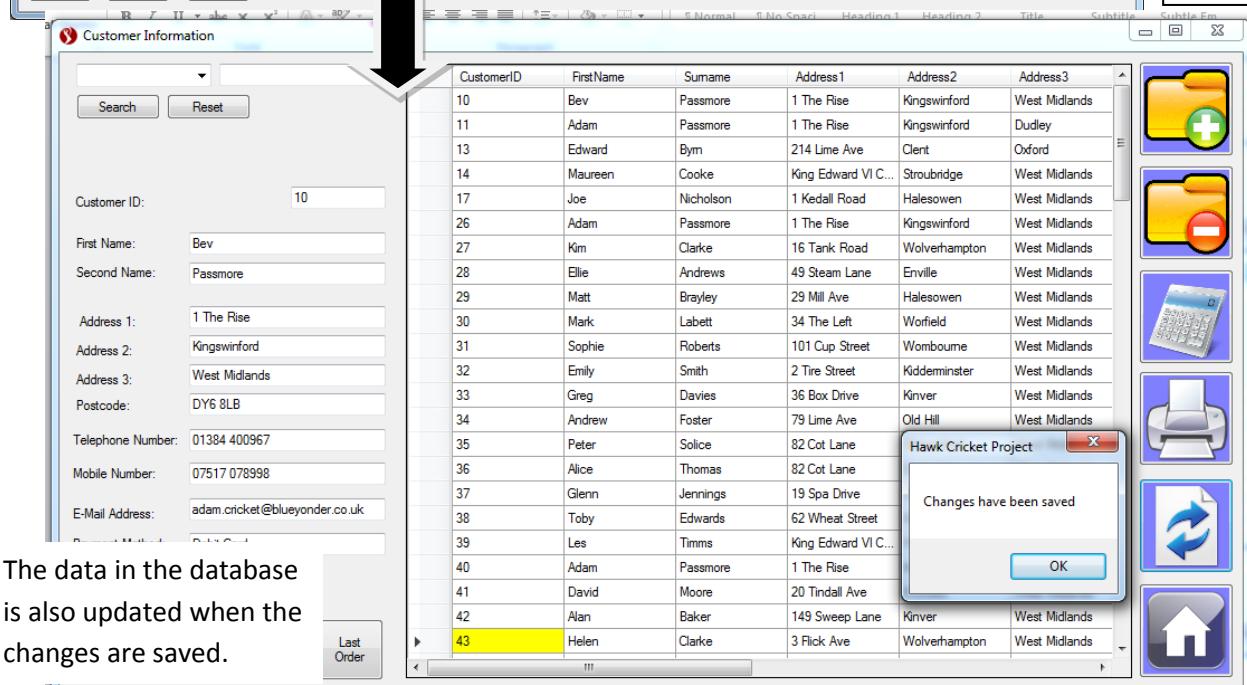
CustomerID	FirstName	Surname	Address1	Address2	Address3
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley
13	Edward	Bym	214 Lime Ave	Clent	Oxford
14	Maureen	Cooke	King Edward VI C...	Stroubridge	West Midlands
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands
28	Elle	Andrews	49 Steam Lane	Envile	West Midlands
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands
30	Mark	Labett	34 The Left	Worfield	West Midlands
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands
33	Greg	Davies	36 Box Drive	Kinver	West Midlands
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands
39	Les	Timms	King Edward VI C...	Wolverhampton	West Midlands
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands
41	David	Moore	20 Tindall Ave	Worfield	West Midlands
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands
43	C	C	C	C	C

**Figure 50 – Valid data**

Original row of nonsense needs to be changed.



In this test I have chosen to edit the details of customer ID 43. In the top image all of the information reads "C". I have changed this information in the grid manually and clicked the confirm changes button. A message box appears stating that changes have been saved. The grid then updates.

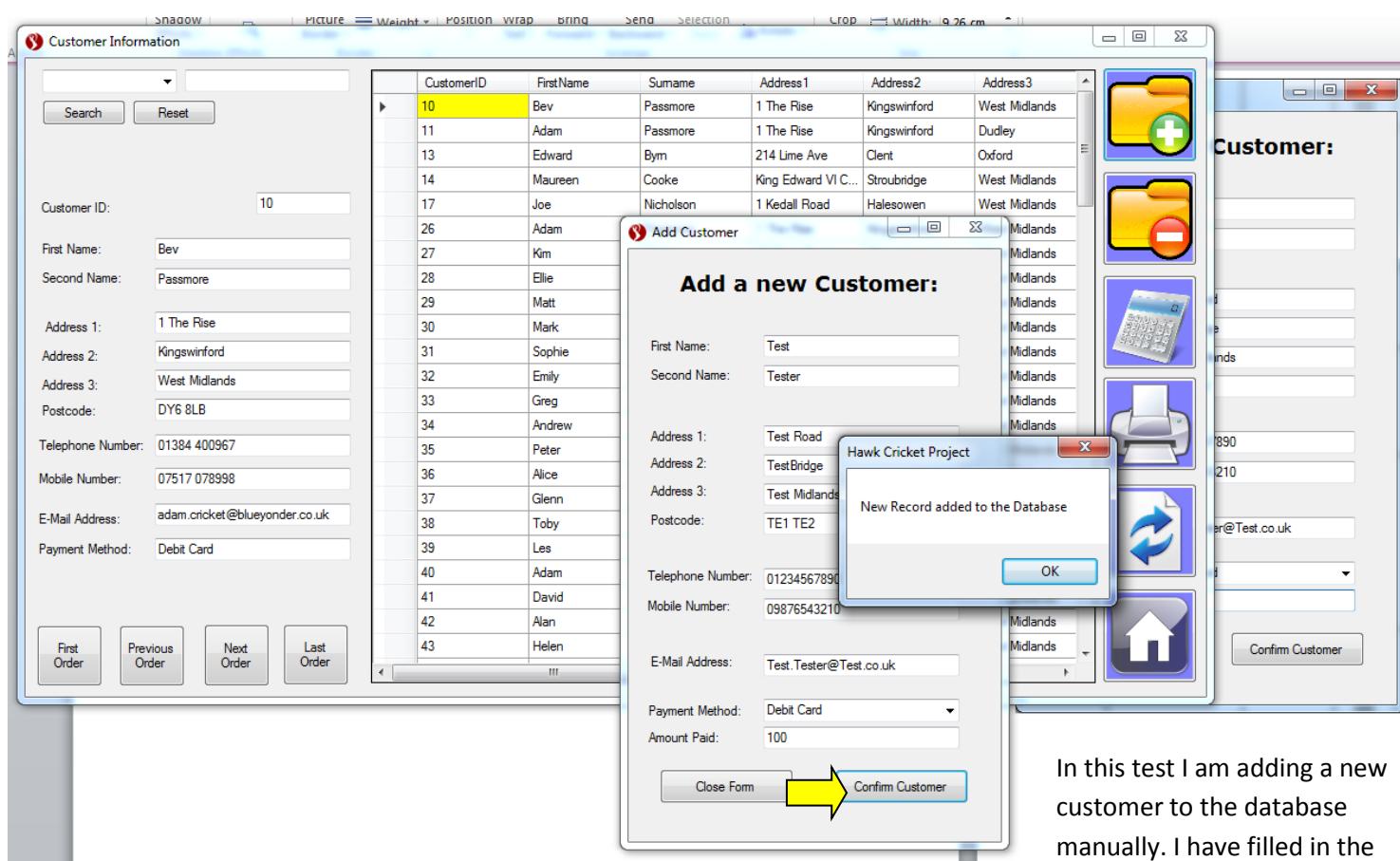


The data in the database is also updated when the changes are saved.

CustomerID	FirstName	Surname	Address1	Address2	Address3	Postcode	TelNum	MobileNum	Email	PaymentMe
10	Bev	Passmore	1 The Rise	Kingswinford	West Midlands	DY6 8LB	01384 400967	07517 078998	adam.cricket@blueyonder.co.uk	Debit Card
11	Adam	Passmore	1 The Rise	Kingswinford	Dudley	DY6 8LB	01384 400967	07517 078998	adam.cricket@blueyonder.co.uk	Cheque
13	Edward	Byrn	214 Lime Ave	Clent	Oxford	OX7 3RD	03441 677844	07217 069290	Ed.Byrn@yahoo.co.uk	Debit Card
14	Maureen	Cooke	King Edward VI College	Stroudbridge	West Midlands	ST0 8R1	01384 266517	07581 746522	maur33n.cooke@kedst.ac.uk	PayPal
17	Joe	Nicholson	1 Kedall Road	Halesowen	West Midlands	HA5 8LB	01968 668520	07563 334021	joe.nicholson@hotmail.com	PayPal
26	Adam	Passmore	1 The Rise	Kingswinford	West Midlands	DY6 8LB	01384 400967	07517 078998	adam.cricket@blueyonder.co.uk	Cheque
27	Kim	Clarke	16 Tank Road	Wolverhampton	West Midlands	WR12 6DL	01336 456286	07543 685773	K.clarke@blueyonder.co.uk	Credit Card
28	Ellie	Andrews	49 Steam Lane	Envile	West Midlands	EN3 9AL	01328 785463	07527 071296	Ellie.Andrews@gmail.com	Cash
29	Matt	Brayley	29 Mill Ave	Halesowen	West Midlands	HL4 1EC	01369 623765	07286 786201	Matt.Brayler@kedst.ac.uk	Debit Card
30	Mark	Labett	34 The Left	Worfield	West Midlands	WO7 6HR	01319 375643	07564 054365	M.Labett@gmail.com	Cash
31	Sophie	Roberts	101 Cup Street	Wombourne	West Midlands	WM4 7FK	01333 675298	07565 376546	S.Roberts@blueyonder.co.uk	Cheque
32	Emily	Smith	2 Tire Street	Kidderminster	West Midlands	KD5 5CL	01324 852967	07856 564287	E.Smith@Gmail.co.uk	Bank Transfer
33	Greg	Davies	36 Box Drive	Kinver	West Midlands	KI10 8JX	01399 876923	07543 657897	G.Davies@blueyonder.co.uk	Cash
34	Andrew	Foster	79 Lime Ave	Old Hill	West Midlands	OH3 6UK	01376 349788	01465 265491	A.Foster@blueyonder.co.uk	PayPal
35	Peter	Solice	82 Cot Lane	Oldswinford	West Midlands	OS7 6DR	01328 675194	07034 065798	Peter.Solice@Yahoo.co.uk	PayPal
36	Alice	Thomas	82 Cot Lane	Ombersley	West Midlands	OM2 4AZ	01362 764976	08543 487671	Alice.Thomas@gmail.co.uk	Debit Card
37	Glenn	Jennings	19 Spa Drive	Old Elizabethans	West Midlands	OE9 8YL	01347 588392	07614 343367	Glenn.Jennings@kedst.ac.uk	PayPal
38	Toby	Edwards	62 Wheat Street	Kingswinford	West Midlands	DY6 7AR	01384 566297	09876 548975	T.Edwards@gmail.com	Cheque
39	Les	Timms	King Edward VI College	Wolverhampton	West Midlands	DY8 4ST	01384 233014	07518 668520	Les.Timms@Kedst.ac.uk	Debit Card
40	Adam	Passmore	1 The Rise	Kingswinford	West Midlands	DY6 8LB	01384 400967	07517 078998	adam.cricket@blueyonder.co.uk	Cash
41	David	Moore	20 Tindall Ave	Worfield	West Midlands	WO7 5DZ	01388 629094	0845 677 876	Dave.Moore@Blueyonder.co.uk	Debit Card
42	Alan	Baker	149 Sweep Lane	Kinver	West Midlands	KI10 8JX	01302 077091	01365 766592	A.Baker@yahoo.com	PayPal
43	Helen	Clarke	3 Flick Ave	Wolverhampton	West Midlands	WR9 6DN	01384 266710	03482 266010	Helen.Clarke@blueyonder.co.uk	PayPal

An image of the row in the database, it is the exact same as what the original row is now changed to.

43	Helen	Clarke	3 Flick Ave	Wolverhampton	West Midlands	WR9 6DN
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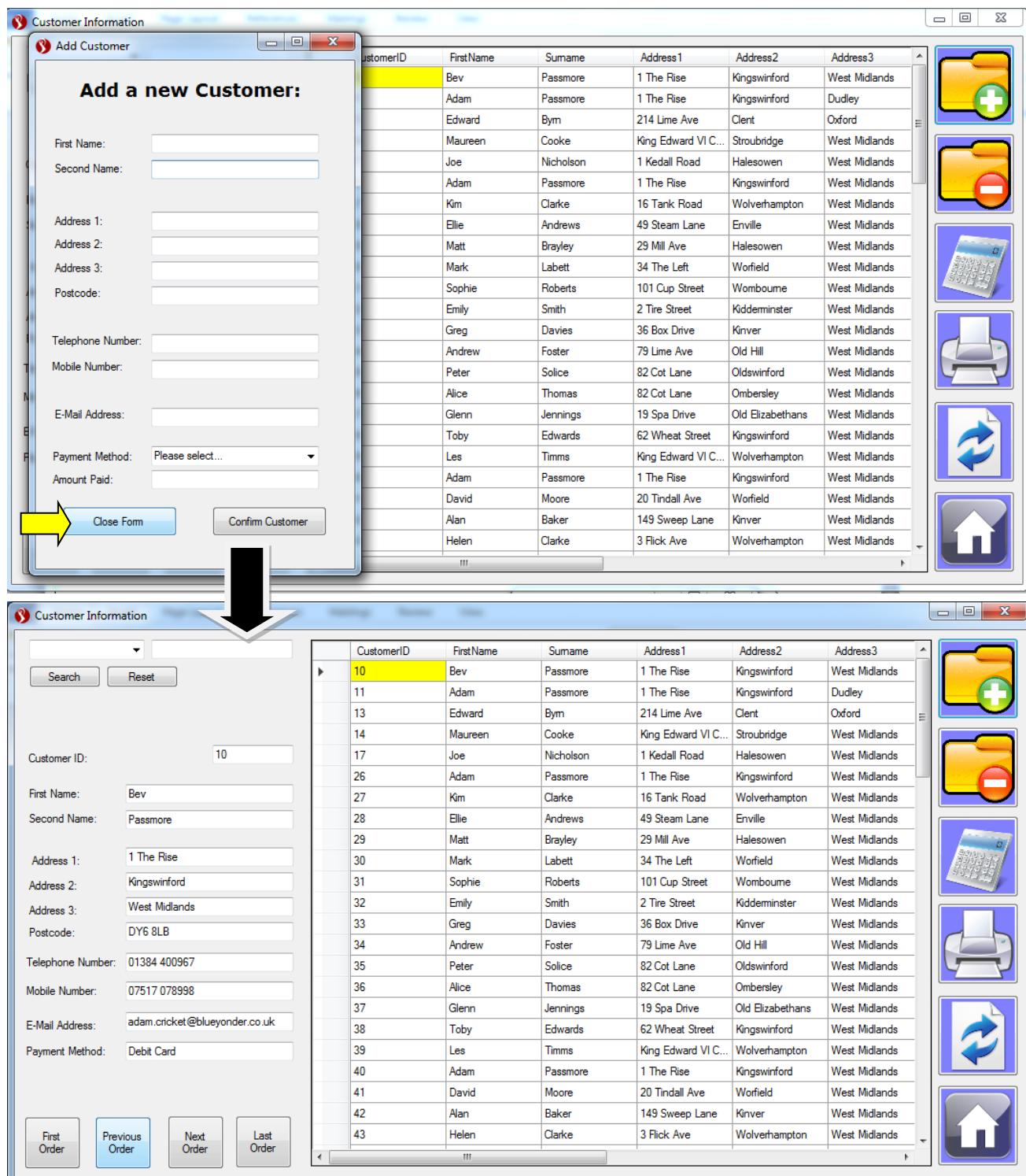
**Figure 51 – Valid data**

In this test I am adding a new customer to the database manually. I have filled in the details and clicked Confirm customer. A message box appears confirming that the customer has been added to the database. The form then closes and the database is updated with the new customer's details on a new row.

An image of the row in the database, it is the exact same as what is entered into the textboxes.



[+]	134	Test	Tester	Test Road	TestBridge	Test Midlands	TE1 TE2	01234567890	09876543210	Test.Tester@Test.co.uk	Debit Card	100
*	(1)											

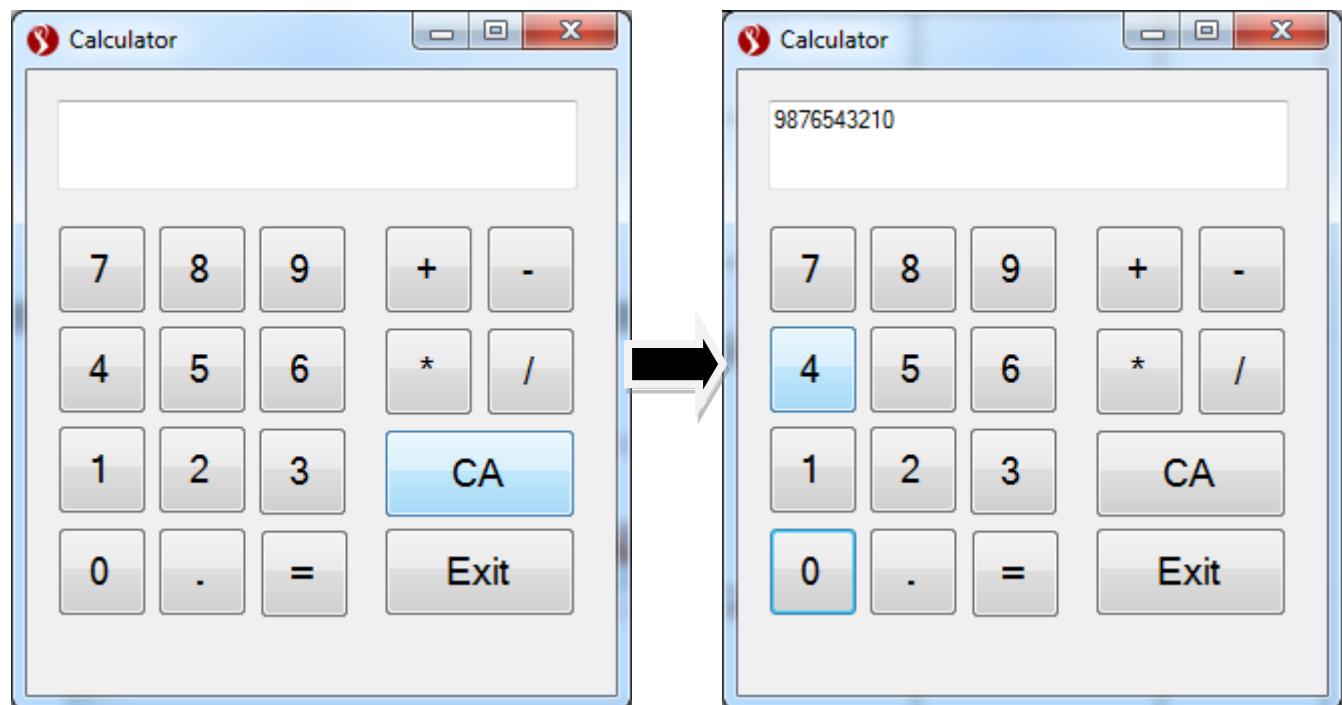
**Figure 52**

In this test I am clicking the close form button on the add customer form, as you can see the form closes leaving only the Customer Information form open.

**Figure 53 – Valid data**

In the image below I have clicked the buttons 9876543210 to test that the corresponding numbers are shown on the display.

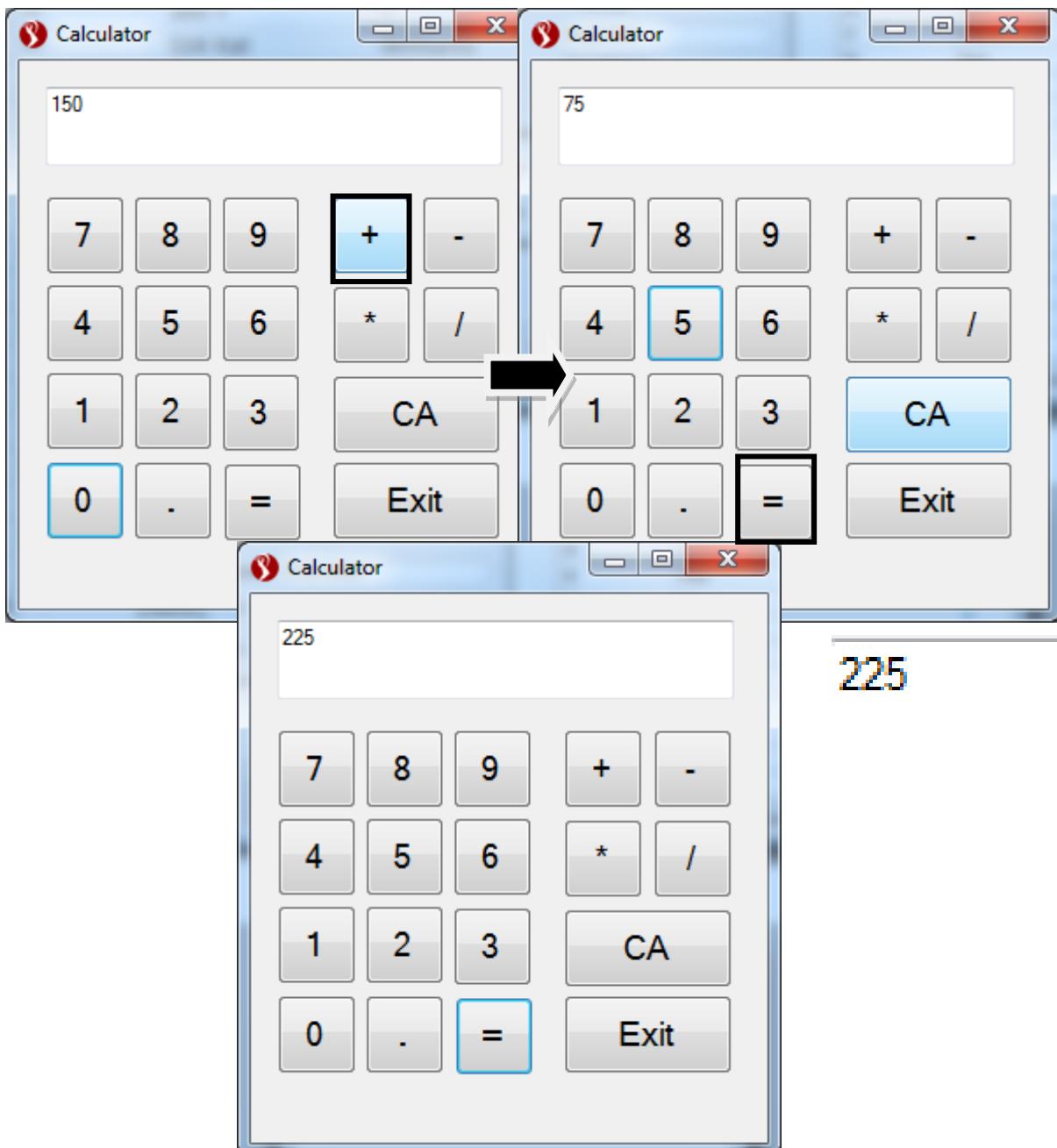
9876543210

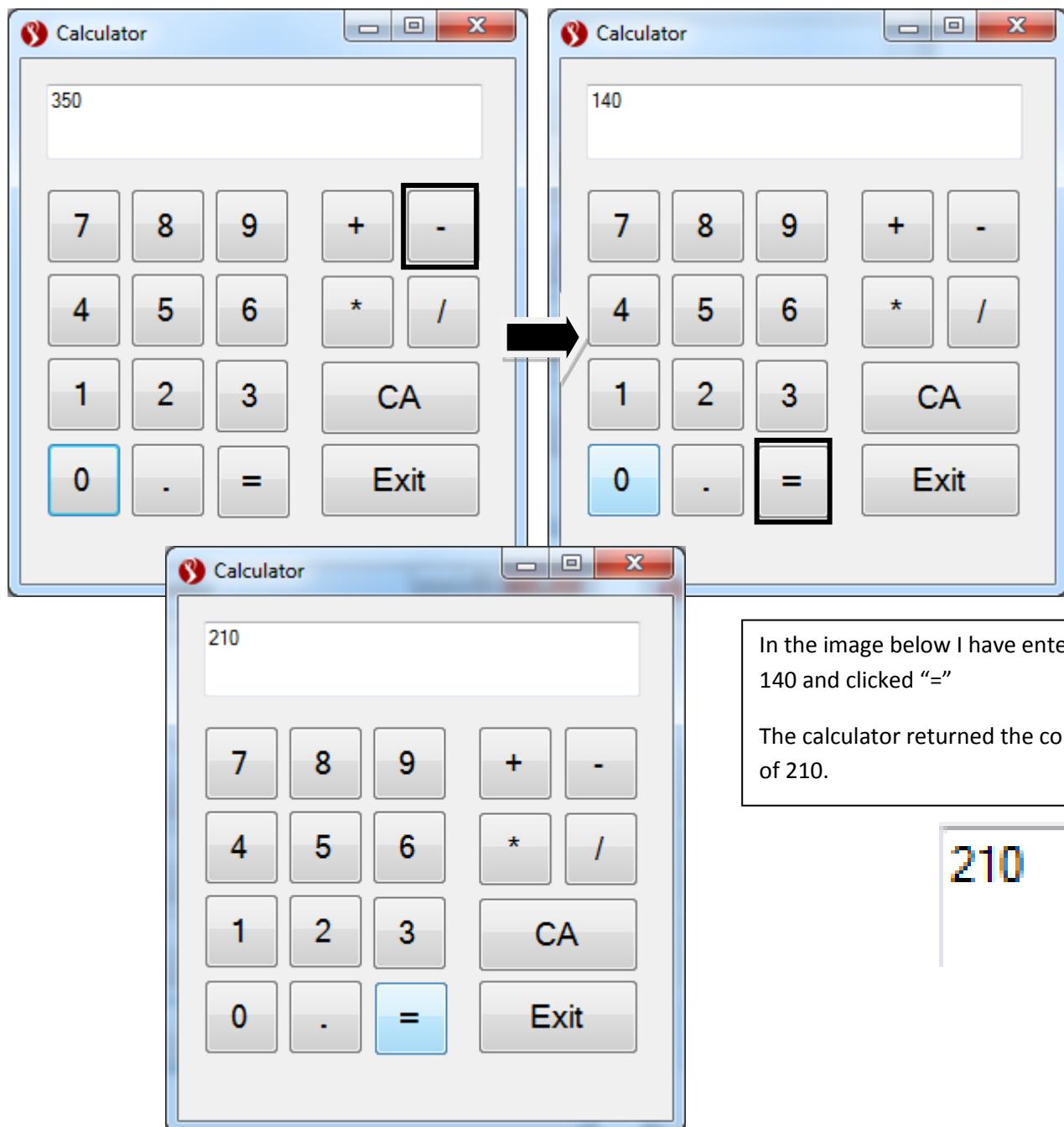


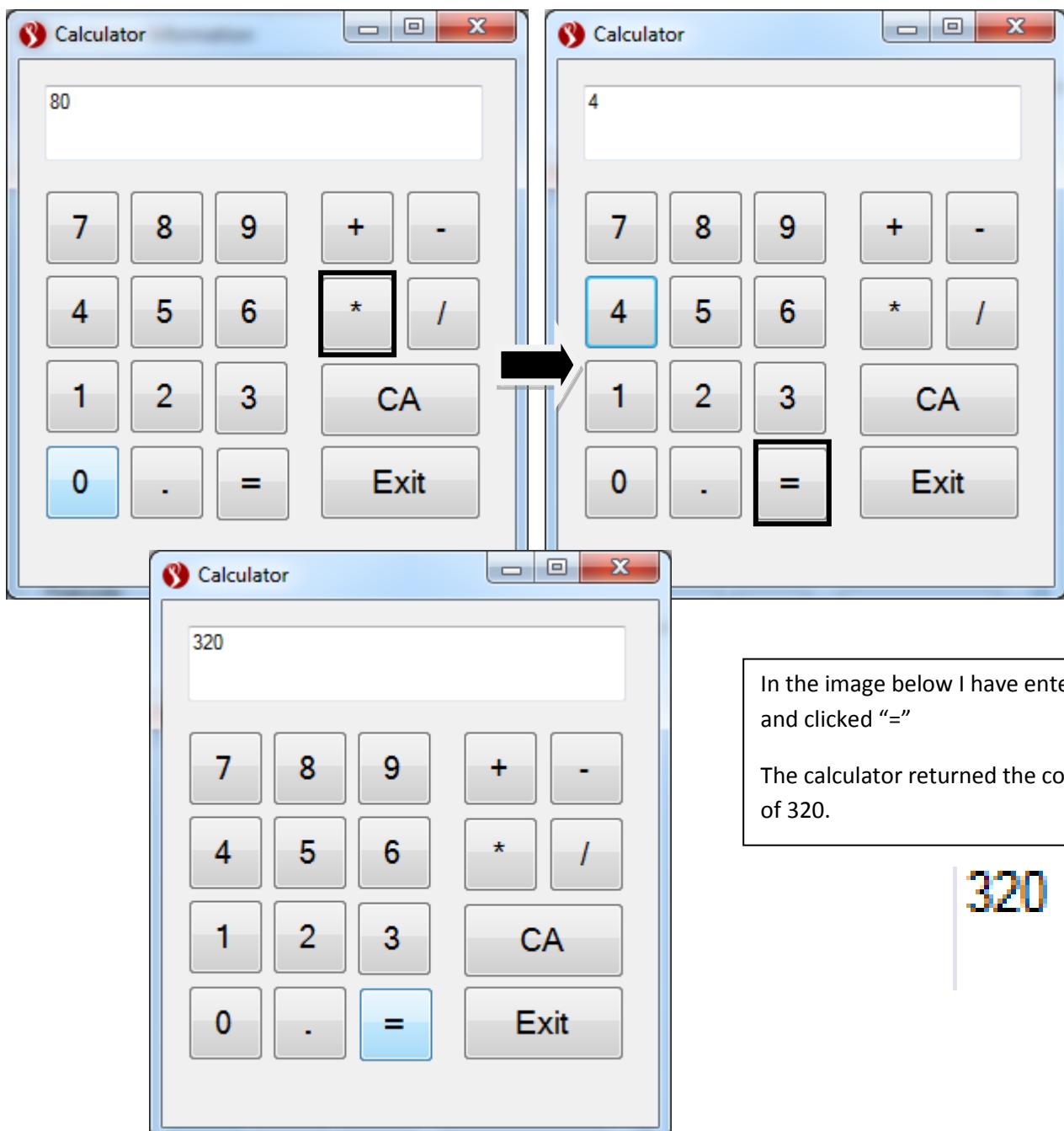
**Figure 54 – Valid data**

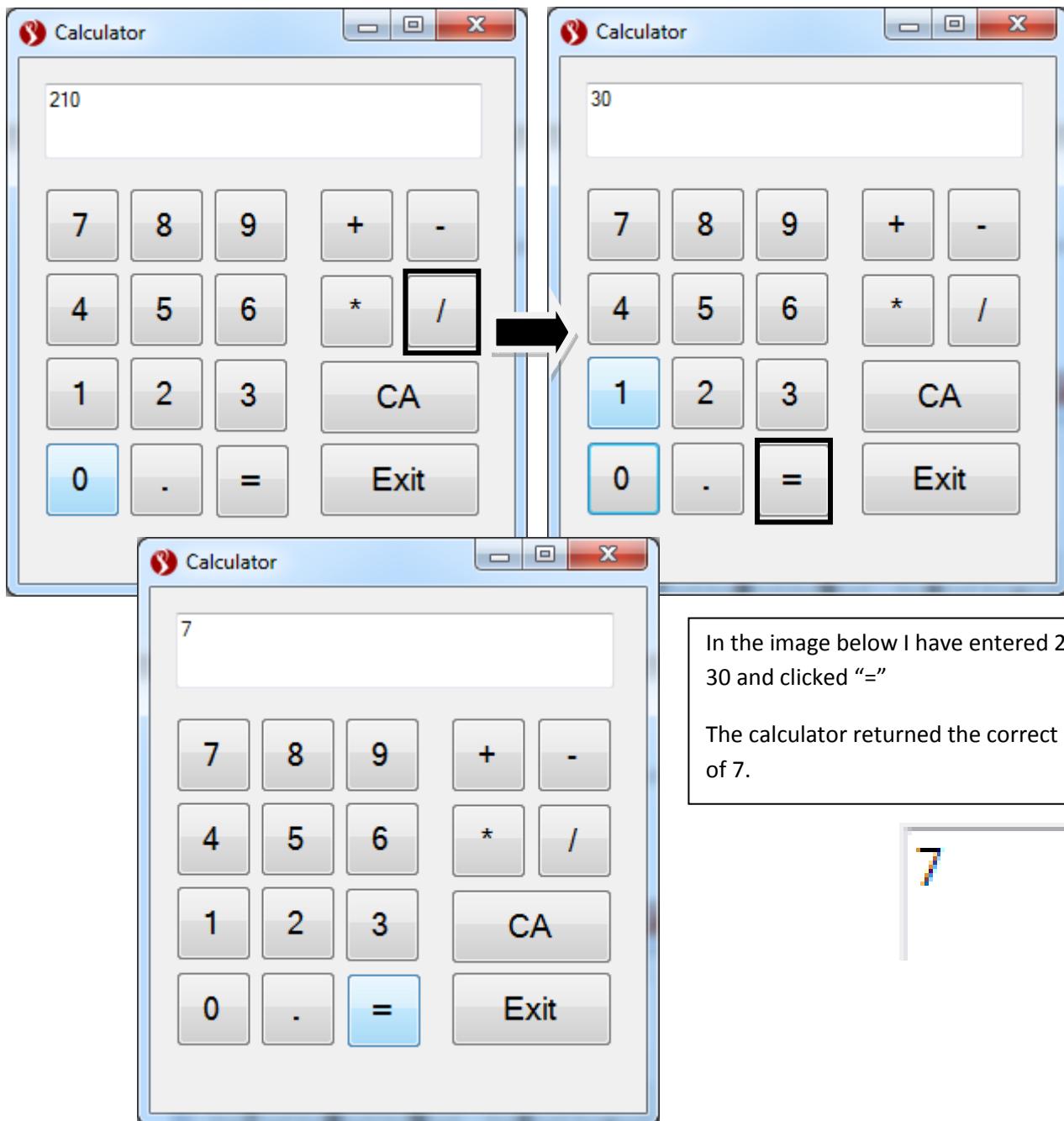
In the image below I have entered 150 + 75 and clicked “=”

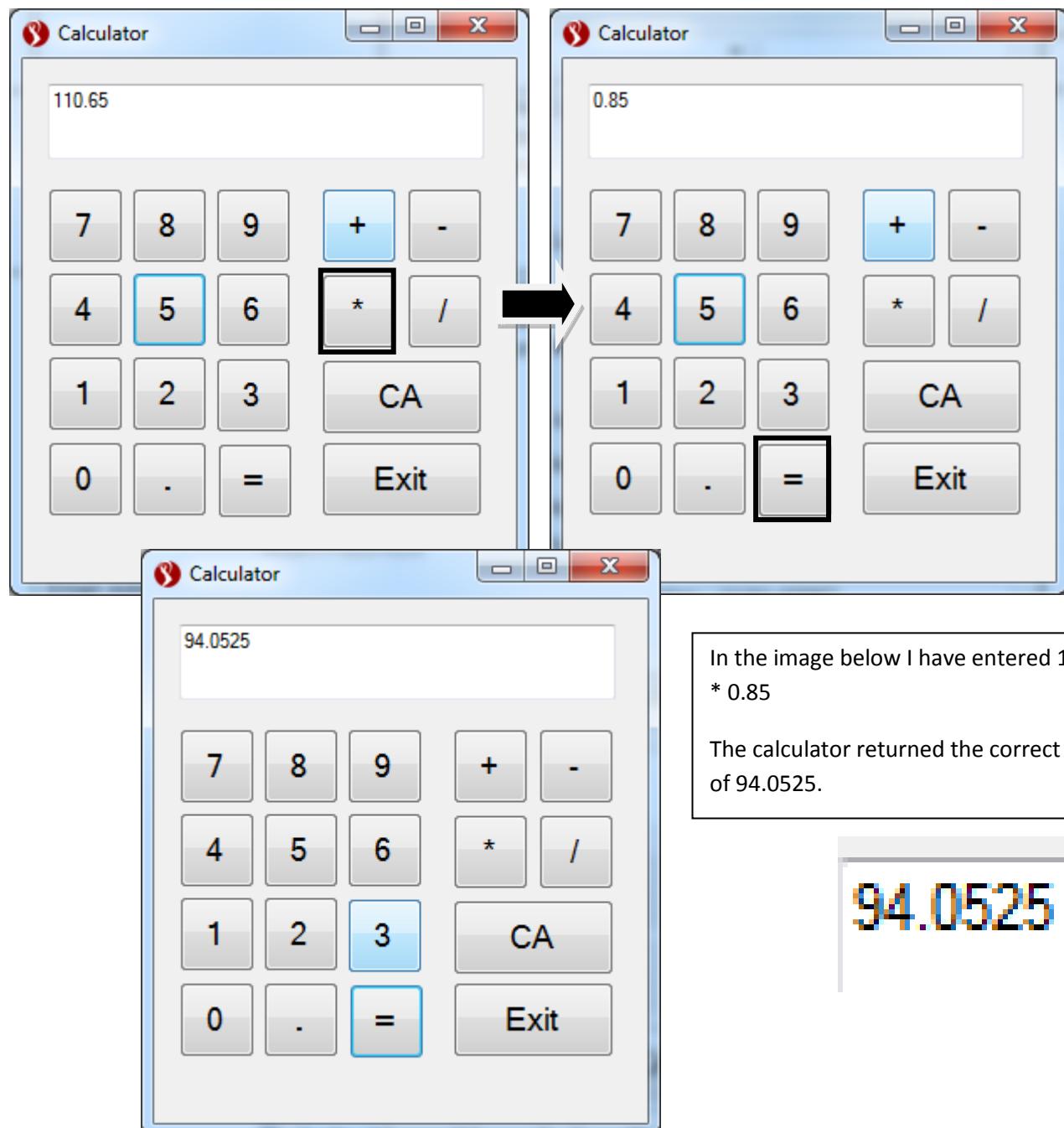
The correct result of 225 is obtained.

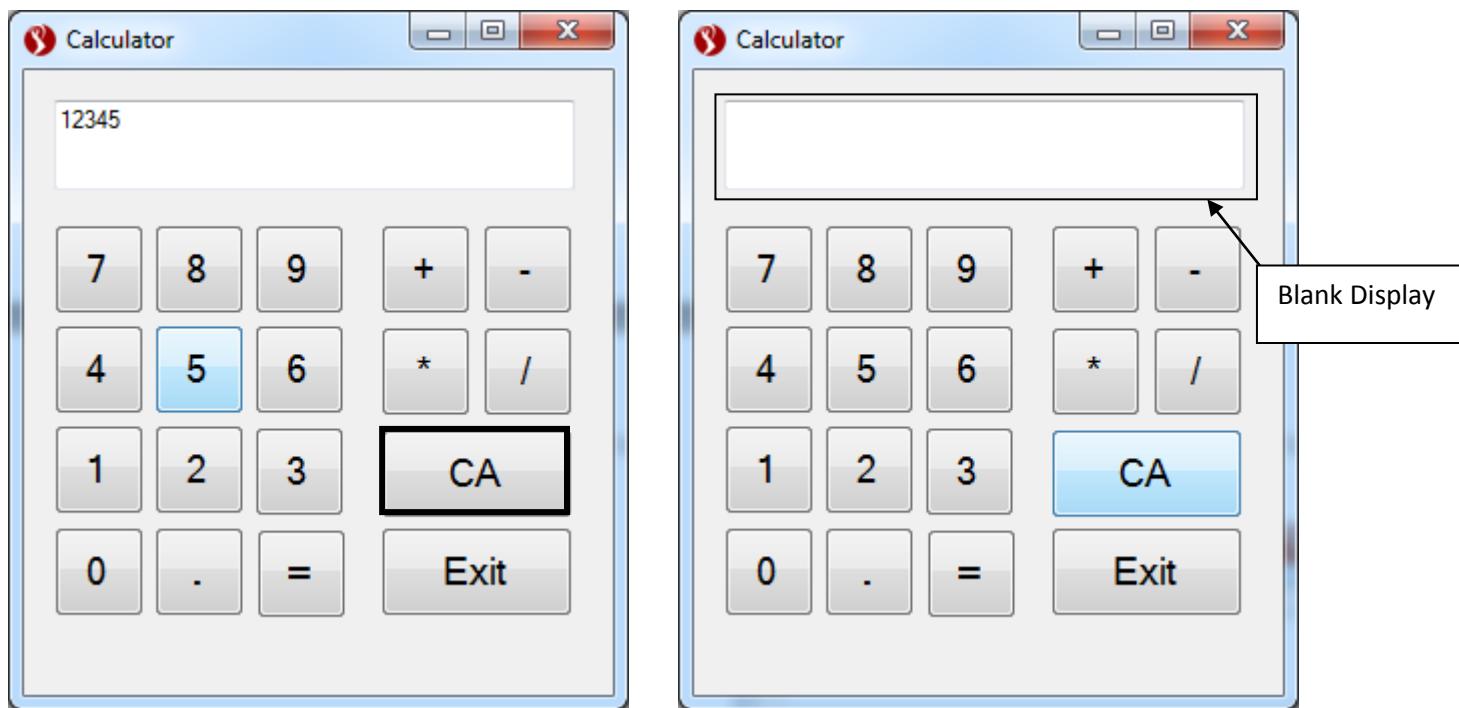


**Figure 55 – Valid data**

**Figure 56 – Valid data**

**Figure 57 – Valid data**

**Figure 58 – Extreme data**

**Figure 59 – Valid data**

For this test I entered the numbers 12345 and clicked the CA button. As you can see the display was cleared of any numbers.

**Figure 60**

In this test I have used the navigation feature. I clicked next order which updated the textboxes with the next Order in the Order database.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuri Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
60	90	Hawk Custom	16:51:50	07/10/2015	House Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
65	94	Masuri Vision	20:03:37	07/10/2015	Horseshoe Cresc.
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	07/10/2015	Kingswinford Villa
70	98	AryTeck	00:37:05	07/10/2015	Dallas Road

**Figure 61**

In this test I have used the navigation feature. I clicked previous order which updated the textboxes with the previous Order in the Order database.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuni Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuni Vision	16:01:00	07/10/2015	Sky Street
60	90	Hawk Custom	16:51:50	07/10/2015	House Street
61	91	Masuni Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
65	94	Masuni Vision	20:03:37	07/10/2015	Horseshoe Cresc.
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	07/10/2015	Kingswinford Villa
70	98	AryTeck	00:27:05	07/10/2015	Dallas Road

**Figure 62**

In this test I have used the navigation feature. I clicked last order which updated the textboxes with the last Order in the Order database.

The screenshot shows the 'Order Line' application window. On the left, there is a search interface with a dropdown menu, a 'Search' button, and a 'Reset' button. Below this are four text input fields: 'Order ID' (51), 'Customer ID' (75), 'Product Name' (Hawk Custom), and 'Dispatch Address' (Dream Ave). At the bottom of this panel are four buttons: 'First Order', 'Previous Order', 'Next Order' (highlighted with a blue border), and 'Last Order'. To the right is a large grid table containing 20 rows of order data. The first row (OrderID 50) is highlighted with yellow. The right side of the window features a vertical toolbar with icons for file operations like add, delete, save, print, and refresh, along with a home icon.

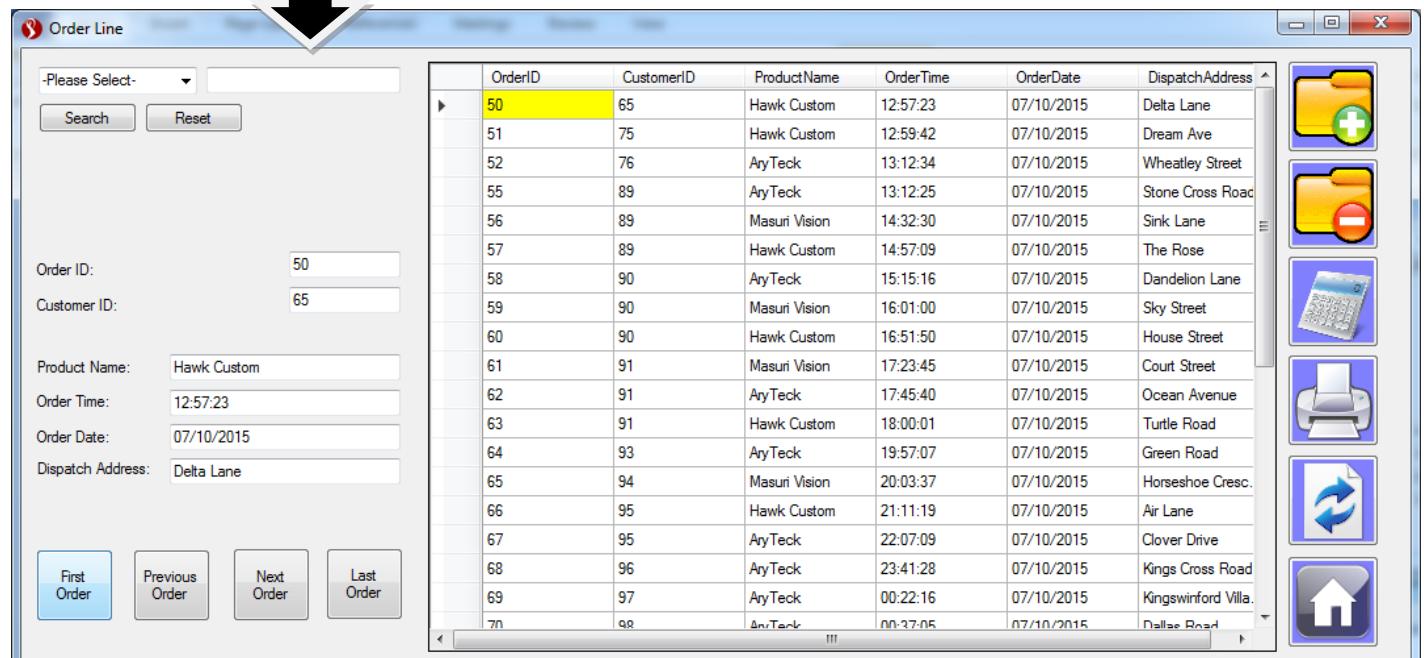
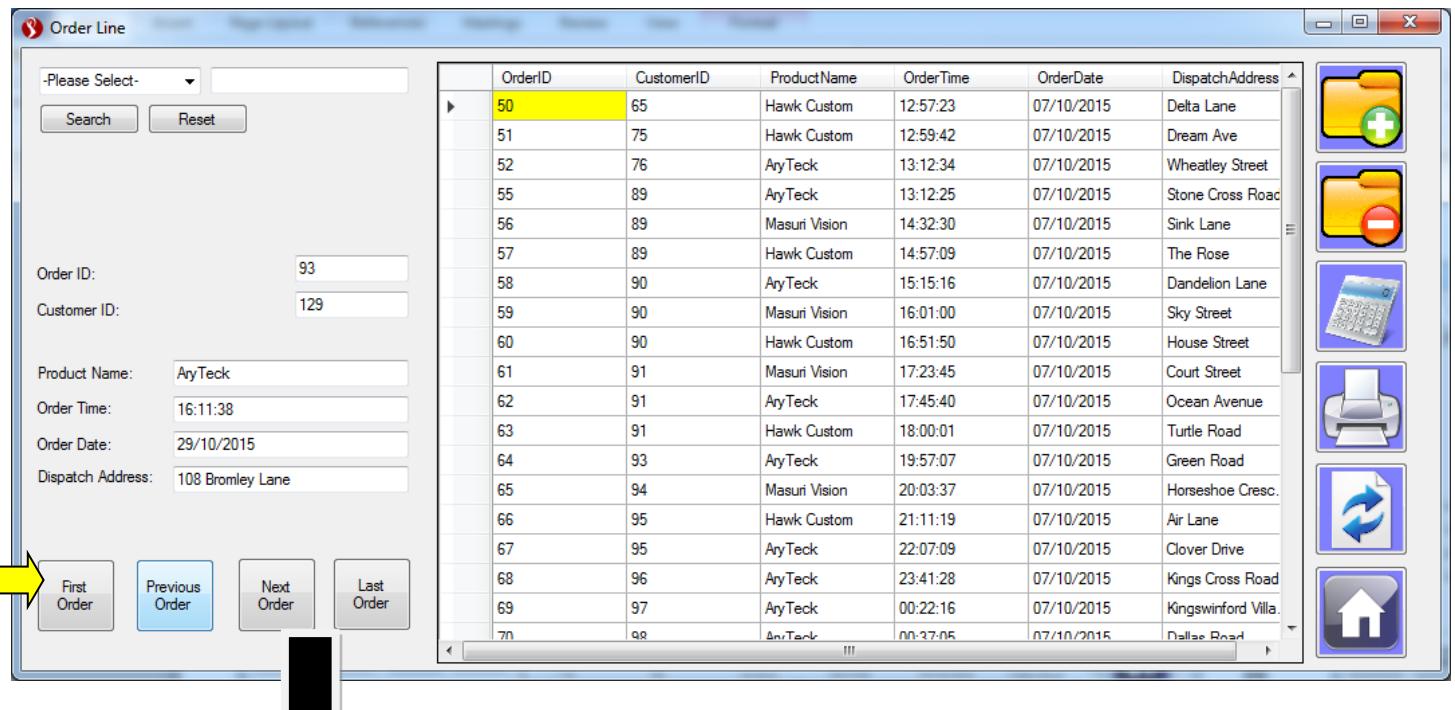
OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuri Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
60	90	Hawk Custom	16:51:50	07/10/2015	House Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
65	94	Masuri Vision	20:03:37	07/10/2015	Horseshoe Cresc.
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	07/10/2015	Kingswinford Villa.
70	98	AryTeck	00:37:05	07/10/2015	Dallas Road

This screenshot shows the same 'Order Line' application window after the 'Last Order' button was clicked. The 'Order ID' and 'Customer ID' fields now contain the values 94 and 129 respectively, reflecting the data from the last order in the database. The rest of the interface and the grid table remain the same as in the previous screenshot.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuri Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
60	90	Hawk Custom	16:51:50	07/10/2015	House Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
65	94	Masuri Vision	20:03:37	07/10/2015	Horseshoe Cresc.
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	07/10/2015	Kingswinford Villa.
70	98	AryTeck	00:37:05	07/10/2015	Dallas Road

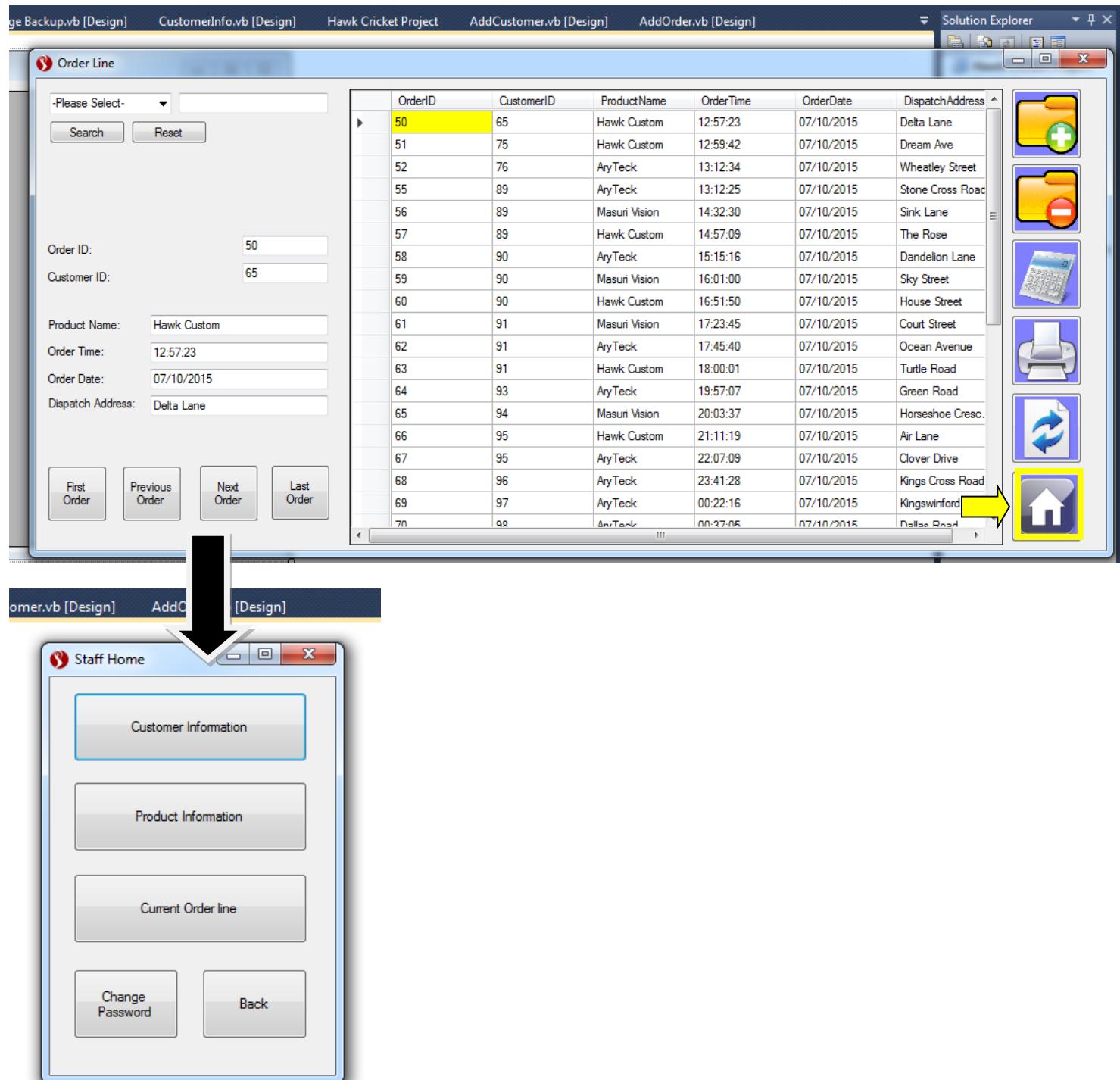
Figure 63

In this test I have used the navigation feature. I clicked First order which updated the textboxes with the First Order in the Order database.



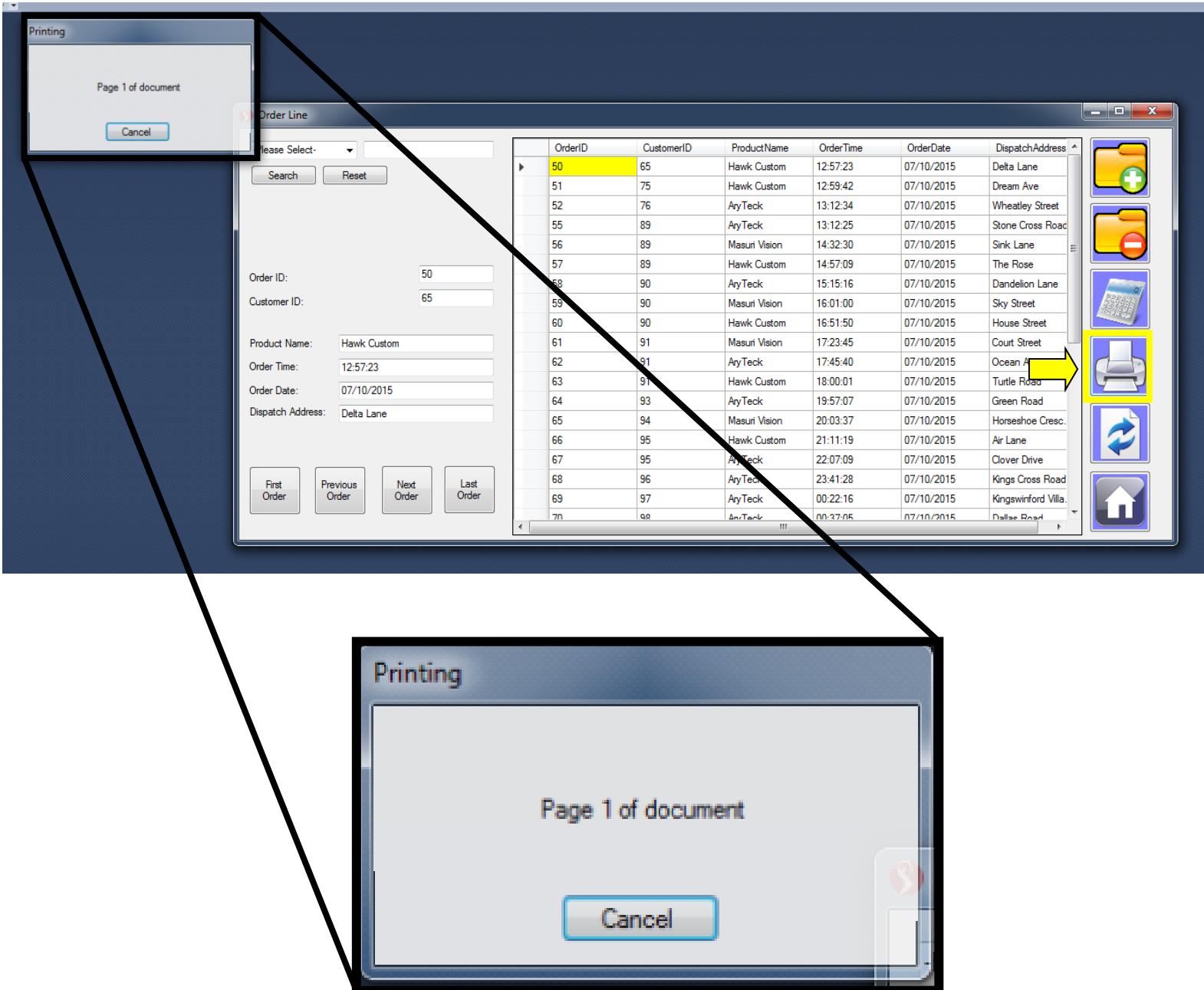
**Figure 64**

Below I have clicked the back button on the Order line form. The Order line form was closed leaving the Staff home form open in the background.



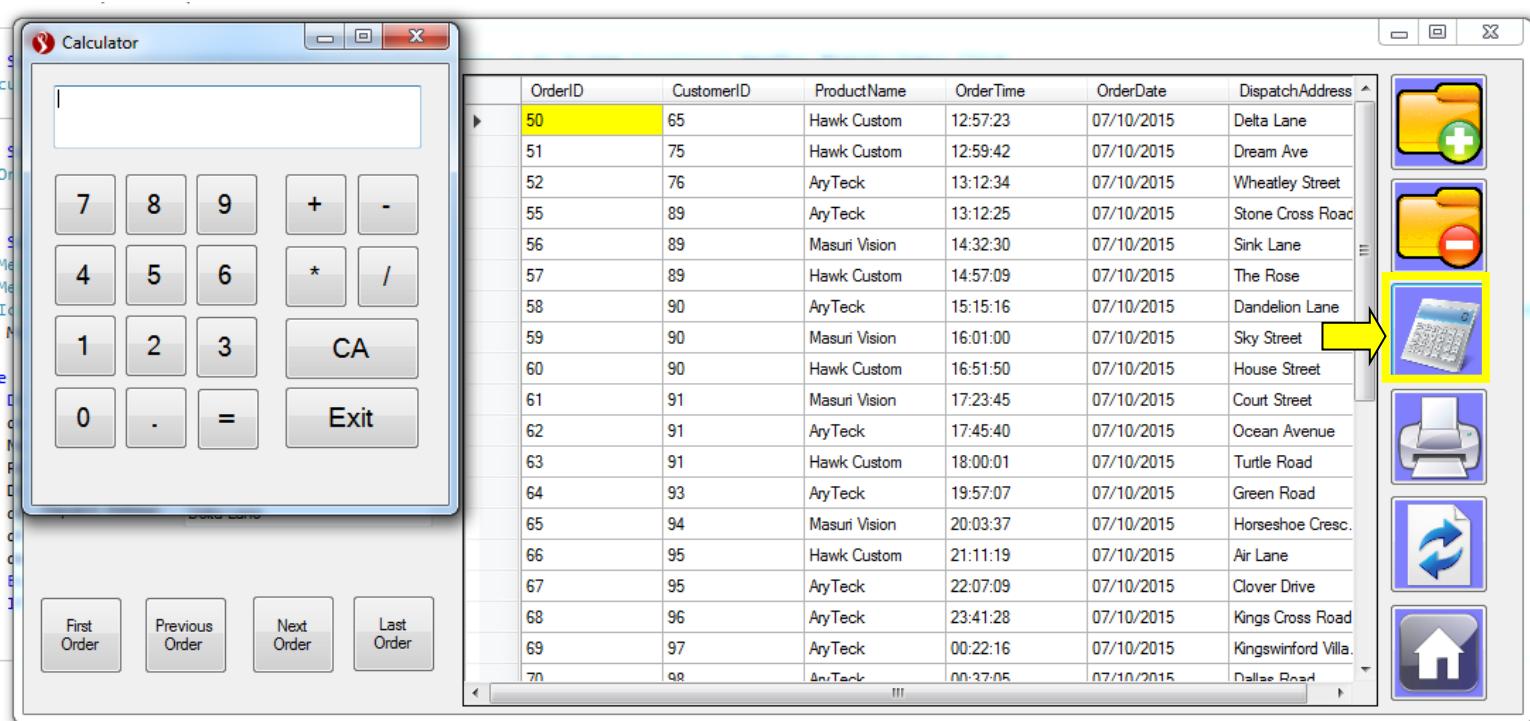
**Figure 65**

Here is evidence of me using the print feature on the Order line form. I have clicked the print button and as you can see my computer is executing the print process.



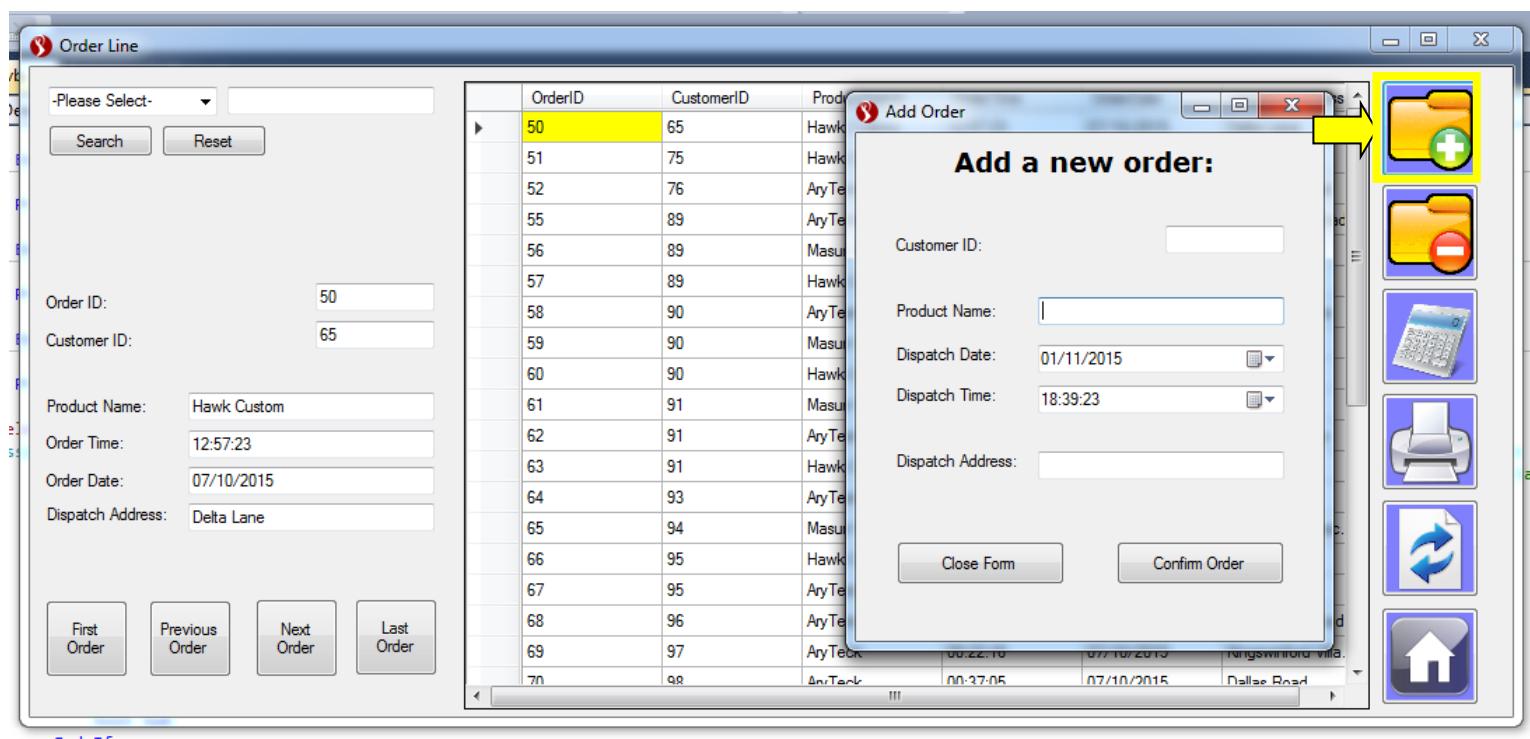
**Figure 66**

Here is evidence of me using the Calculator feature on the Order line form. I clicked the calculator button to ensure that the link works correctly and the calculator was displayed.



**Figure 67**

In this test I clicked the add order button to check the link functions correctly. The button opened the Add order form.



End If

**Figure 68**

In this test I selected Order ID 65 and clicked the remove Order button. I was presented with a message box asking me if I really wanted to remove the record. When I clicked yes the record was removed from the database and the grid was updated with the old data omitted.

The screenshot shows two instances of the 'Order Line' application window. In the top window, Order ID 65 is selected in the grid. A callout box points to the 'Delete' button in a confirmation dialog box that asks 'Do you really want to Delete this Record?'. A large yellow arrow points to the 'Yes' button in the dialog. In the bottom window, the grid has been updated, and Order ID 65 is no longer present, indicating it has been deleted.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34		
55	89	AryTeck	13:12:25		
56	89	Masuri Vision	14:32:30		
57	89	Hawk Custom	14:57:09		
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck			
63	91	Hawk Custom			
64	93	AryTeck			
65	94	Masuri Vision			
66	95	Hawk Custom			
67	95	AryTeck			
68	96	AryTeck			
69	97	AryTeck			
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rose Kin...

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuri Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford Villa
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rose Kin...

+	63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
+	64	93	AryTeck	19:57:07	07/10/2015	Green Road
+	66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
+	67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
+	68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Ro...
+	69	97	AryTeck	00:22:16	08/10/2015	Kingswinford V...
+	70	98	AryTeck	00:37:05	08/10/2015	Dallas Road

The database now has Order ID 65 removed from it.

**Figure 69 – Valid data**

In this test I have manually edited the Product name of OrderID 56 from Masuri Vision to AryTeck and clicked save changes. I was presented with a message box stating the changes had been saved. The grid and data base were updated with the new data immediately.

**Order Line**

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	Masuri Vision	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford Villa.
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rose Kin...

**Order Line**

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	AryTeck	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford Villa.
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rose Kin...

**tblOrders**

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAdr	Click to Add
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane	
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave	
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Stre	
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Rc	
56	89	AryTeck	14:32:30	07/10/2015	Sink Lane	
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose	
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lan	
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street	
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street	
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue	
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road	
64	93	AryTeck	19:57:07	07/10/2015	Green Road	
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane	
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive	
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Ro	
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford V	
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road	

Click the save changes button

The Database now has the new manually altered data stored in the Product Name of Order 56.

**Figure 70 – Valid data**

Here I am testing the search feature. I selected the search criteria to be Dispatch Address and typed in "King Edward VI College Stourbridge West Midlands" and clicked search.

The grid was immediately populated with only data that matched the Dispatch address criteria.

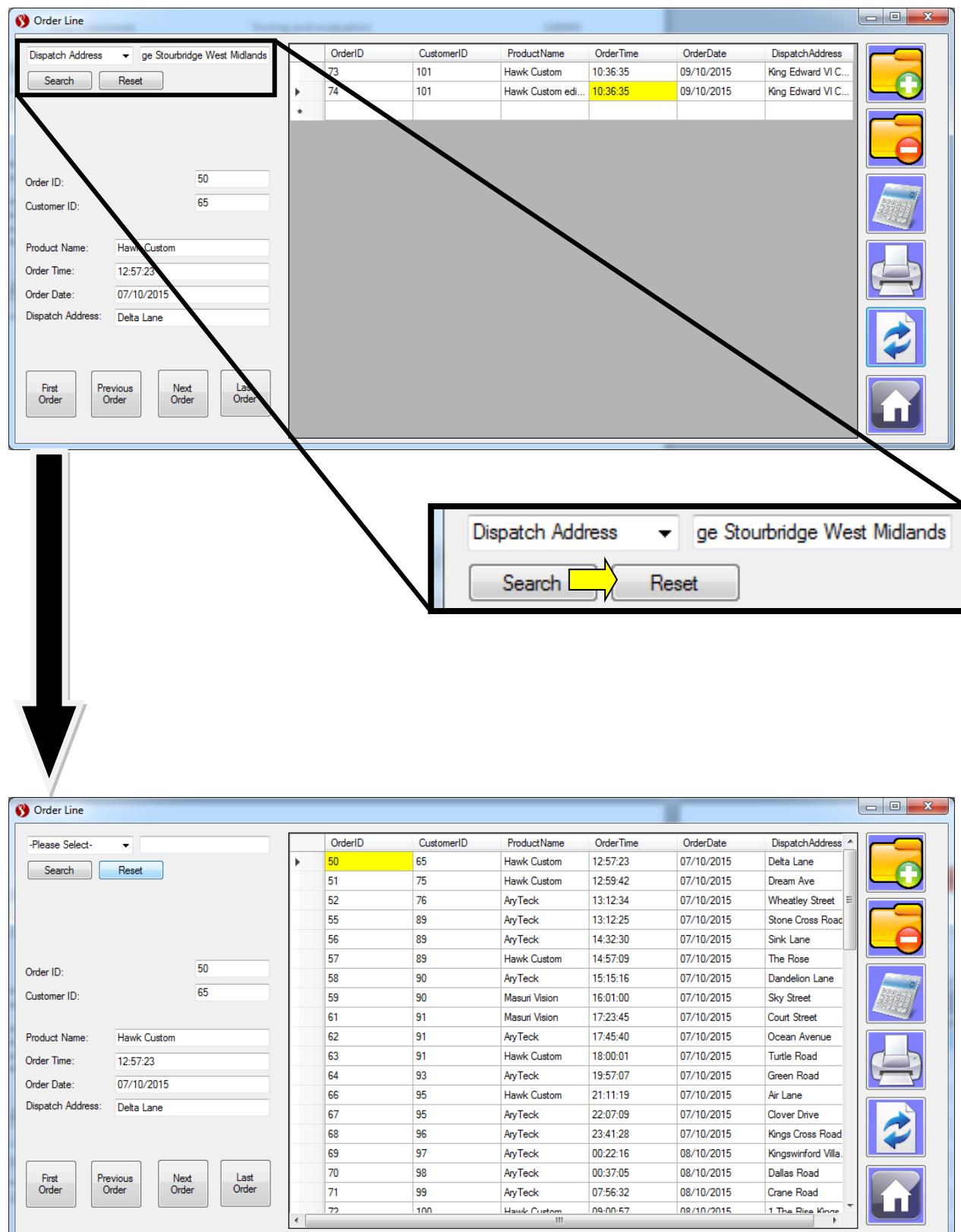
OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
50	65	Hawk Custom	12:57:23	07/10/2015	Delta Lane
51	75	Hawk Custom	12:59:42	07/10/2015	Dream Ave
52	76	AryTeck	13:12:34	07/10/2015	Wheatley Street
55	89	AryTeck	13:12:25	07/10/2015	Stone Cross Road
56	89	AryTeck	14:32:30	07/10/2015	Sink Lane
57	89	Hawk Custom	14:57:09	07/10/2015	The Rose
58	90	AryTeck	15:15:16	07/10/2015	Dandelion Lane
59	90	Masuri Vision	16:01:00	07/10/2015	Sky Street
61	91	Masuri Vision	17:23:45	07/10/2015	Court Street
62	91	AryTeck	17:45:40	07/10/2015	Ocean Avenue
63	91	Hawk Custom	18:00:01	07/10/2015	Turtle Road
64	93	AryTeck	19:57:07	07/10/2015	Green Road
66	95	Hawk Custom	21:11:19	07/10/2015	Air Lane
67	95	AryTeck	22:07:09	07/10/2015	Clover Drive
68	96	AryTeck	23:41:28	07/10/2015	Kings Cross Road
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford Villa
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rive Kinne

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
73	101	Hawk Custom	10:36:35	09/10/2015	King Edward VI C...
74	101	Hawk Custom edi...	10:36:35	09/10/2015	King Edward VI C...

**Figure 71**

In this test I clicked the reset button on the Order line search. This reset the grid and populated it with all of the Orders once again. It also cleared the search box of any criteria.



**Figure 72 – Valid data**

In this scenario I added a test piece of data to the Order Line. As you can see on the left the order is entered and ready. When I clicked Confirm Order a message box appeared stating that the order has been added to the database. The grid will then refresh and repopulate with the new entry included as well as Order being added to the database.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
65		Hawk Custom	12:57:23	07/10/2015	Delta Lane
75		Hawk Custom	12:59:42	07/10/2015	Dream Ave
76		AryTeck	13:12:34	07/10/2015	Wheatley Street
89		AryTeck	13:12:25	07/10/2015	Stone Cross Road
89		AryTeck	14:32:30	07/10/2015	Sink Lane
89		Hawk Custom	14:57:09	07/10/2015	The Rose
95		AryTeck	22:07:09	07/10/2015	Clover Drive
96		AryTeck	23:41:28	07/10/2015	Kings Cross Road
97		AryTeck	00:22:16	08/10/2015	Kingswinford Villa.
98		AryTeck	00:37:05	08/10/2015	Dallas Road
99		AryTeck	07:56:32	08/10/2015	Crane Road
100		Hawk Custom	09:00:57	08/10/2015	1 The Rise Kings.

OrderID	CustomerID	ProductName	OrderTime	OrderDate	DispatchAddress
69	97	AryTeck	00:22:16	08/10/2015	Kingswinford Villa.
70	98	AryTeck	00:37:05	08/10/2015	Dallas Road
71	99	AryTeck	07:56:32	08/10/2015	Crane Road
72	100	Hawk Custom	09:00:57	08/10/2015	1 The Rise Kings.
73	101	Hawk Custom	17:52:19	14/10/2015	King Edward VI C
74	101	Hawk Custom edi...	17:52:19	14/10/2015	King Edward VI C
75	102	Hawk Custom edi...	12:27:11	23/10/2015	Dallas Road
76	103	AryTeck	12:46:56	23/10/2015	Dallas Road
85	114	Hawk Custom edi...	16:58:34	25/10/2015	Himley Cricket Clu
87	116	AryTeck	17:18:23	25/10/2015	Himley Cricket Clu
89	126	AryTeck	14:27:39	29/10/2015	Test Street Testb
90	127	AryTeck	14:27:39	29/10/2015	Test Street Testb
91	128	AryTeck	14:27:39	29/10/2015	Test Street Testb
92	129	AryTeck	16:09:43	29/10/2015	Test Street Testb
93	129	AryTeck	16:11:38	29/10/2015	108 Bromley Lane
94	129	Hawk Custom	16:11:49	29/10/2015	Test Street Testb
*					

**Figure 73**

In this test I have clicked the close button on the Add order form to ensure that the form can be left. As you can see the Add Order form closed leaving the Order Line form open.

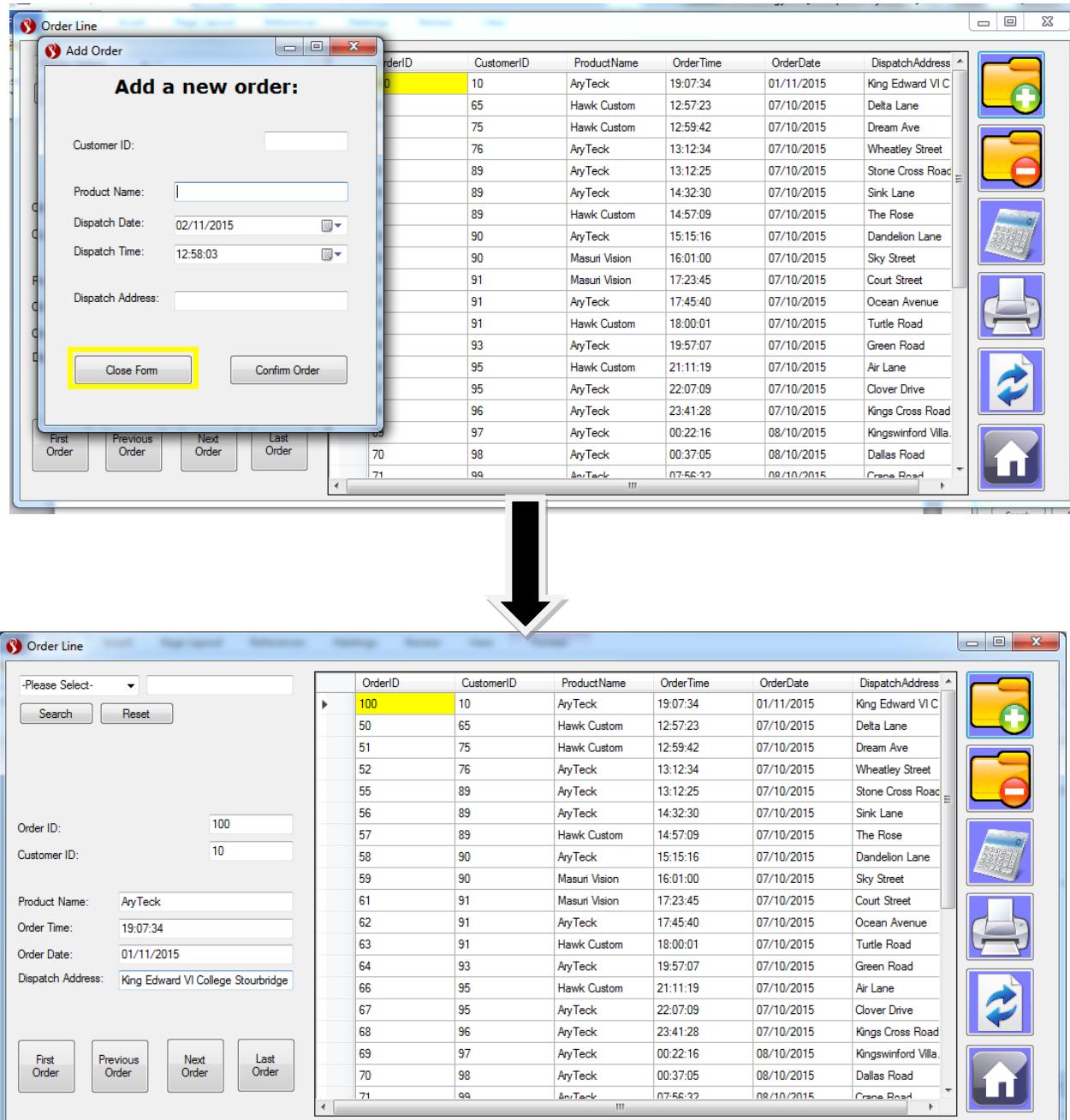


Figure 74

In this test I have used the navigation feature. I clicked Next Order which updated the textboxes with the Next order in the Goods database.

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

Figure 75

In this test I have used the navigation feature. I clicked Last Order which updated the textboxes with the Last order in the Goods database.

**Product Information**

Product ID:	3		
Product Name:	Helmet		
Quality:	Titanium		
Colour:	Test		
Size:	Blue		
Price:	Youth		
Stock	39.99		
<b>First Order</b>	<b>Previous Order</b>	<b>Next Order</b>	<b>Last Order</b>

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

**Product Information**

Product ID:	98		
Product Name:	Hawk Custom		
Quality:	White		
Colour:	Kashmir Willow		
Size:	Standard Willow finish		
Price:	Harrow (2lb 8oz)		
Stock	95		
<b>First Order</b>	<b>Previous Order</b>	<b>Next Order</b>	<b>Last Order</b>

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

**Figure 76**

In this test I have used the navigation feature. I clicked Previous Order which updated the textboxes with the previous order in the Goods database.

**Product Information**

		Search	Reset		
Product ID:	98				
Product Name:	Hawk Custom				
Quality:	White				
Colour:	Kashmir Willow				
Size:	Standard Willow finish				
Price:	Harrow (2lb 8oz)				
Stock:	95				
		First Order	Previous Order	Next Order	Last Order

**Product Information**

ProductName	Extras	Quality	Colour	Equipment Size	Equipment Price
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

**Product Information**

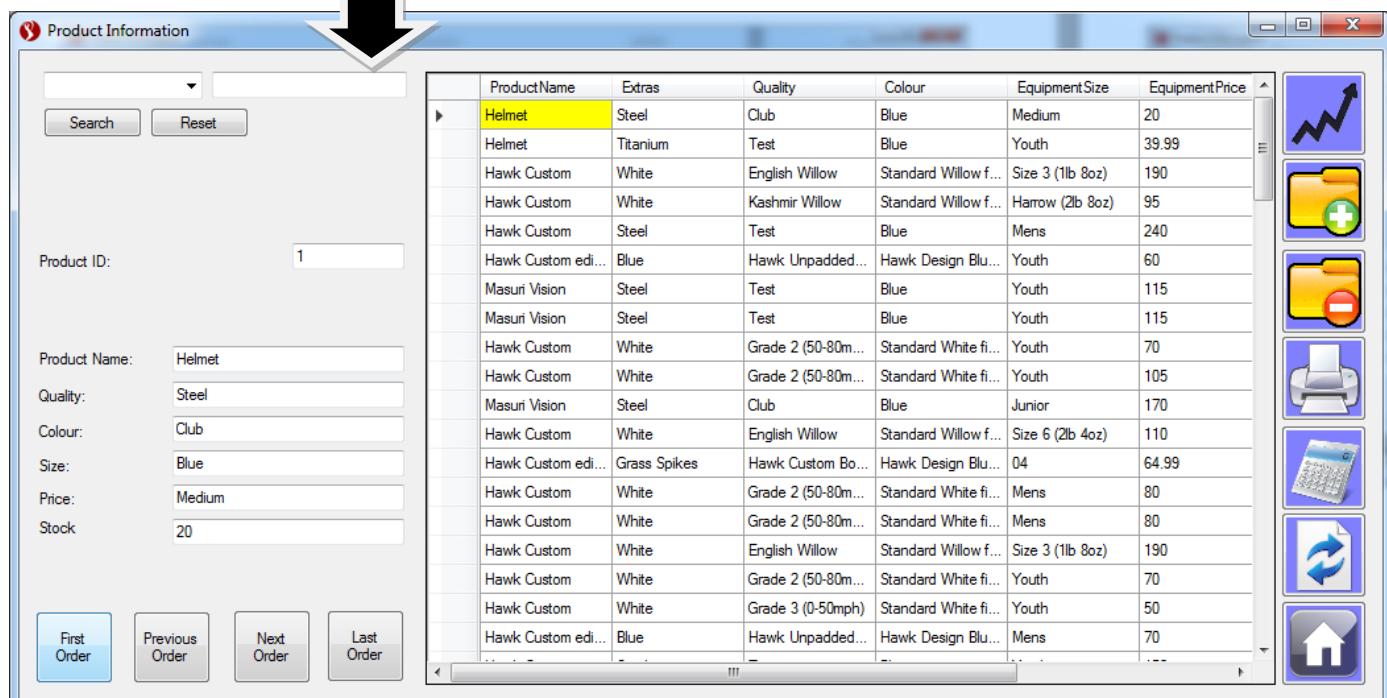
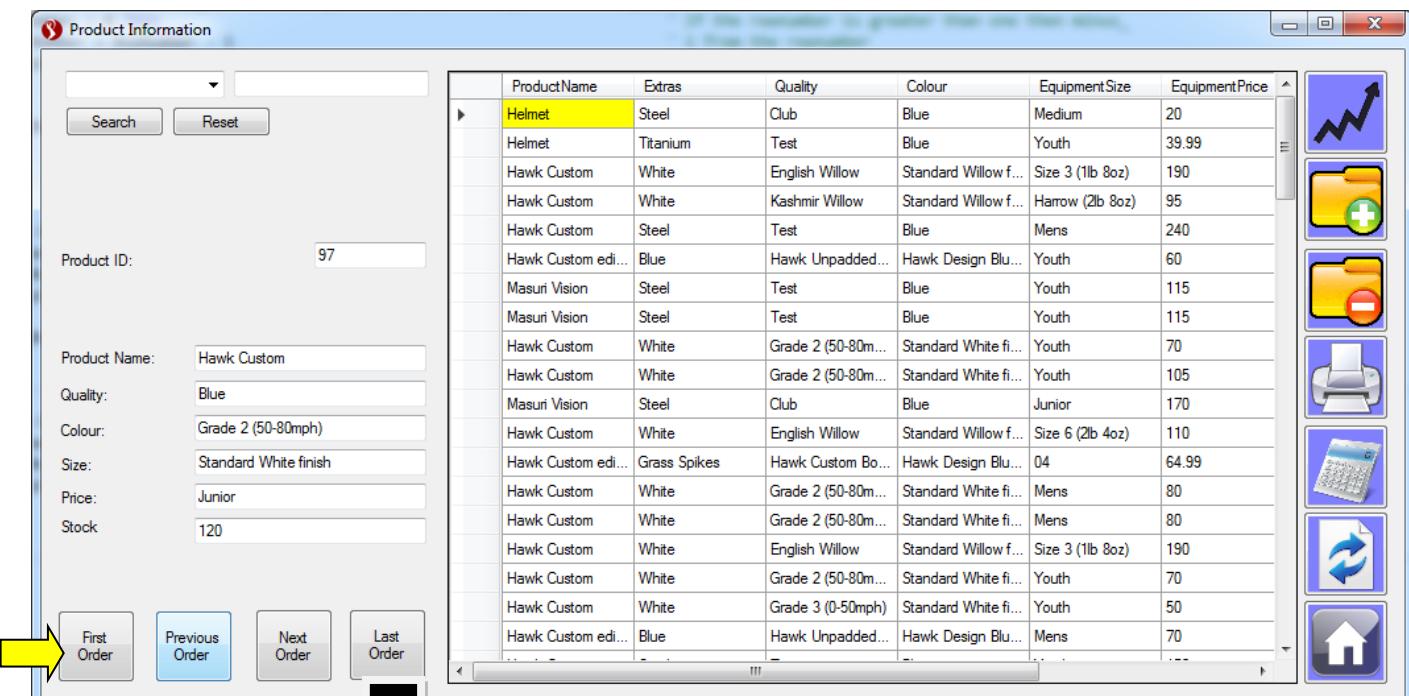
		Search	Reset		
Product ID:	97				
Product Name:	Hawk Custom				
Quality:	Blue				
Colour:	Grade 2 (50-80mph)				
Size:	Standard White finish				
Price:	Junior				
Stock:	120				
		First Order	Previous Order	Next Order	Last Order

**Product Information**

ProductName	Extras	Quality	Colour	Equipment Size	Equipment Price
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

Figure 77

In this test I have used the navigation feature. I clicked First Order which updated the textboxes with the First order in the Goods database.



**Figure 78**

For this test I simply clicked the back button in the bottom right of the screen to ensure that the user can navigate back to the staff home page. The result was that the Product Information form closed leaving the Staff Home form open.

**Product Information**

Product ID:	1
Product Name:	Helmet
Quality:	Steel
Colour:	Club
Size:	Blue
Price:	Medium
Stock:	20

Search    Reset

First Order    Previous Order    Next Order    Last Order

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

Back

**Staff Home**

Customer Information

Product Information

Current Order line

Change Password    Back

Click the Back button.

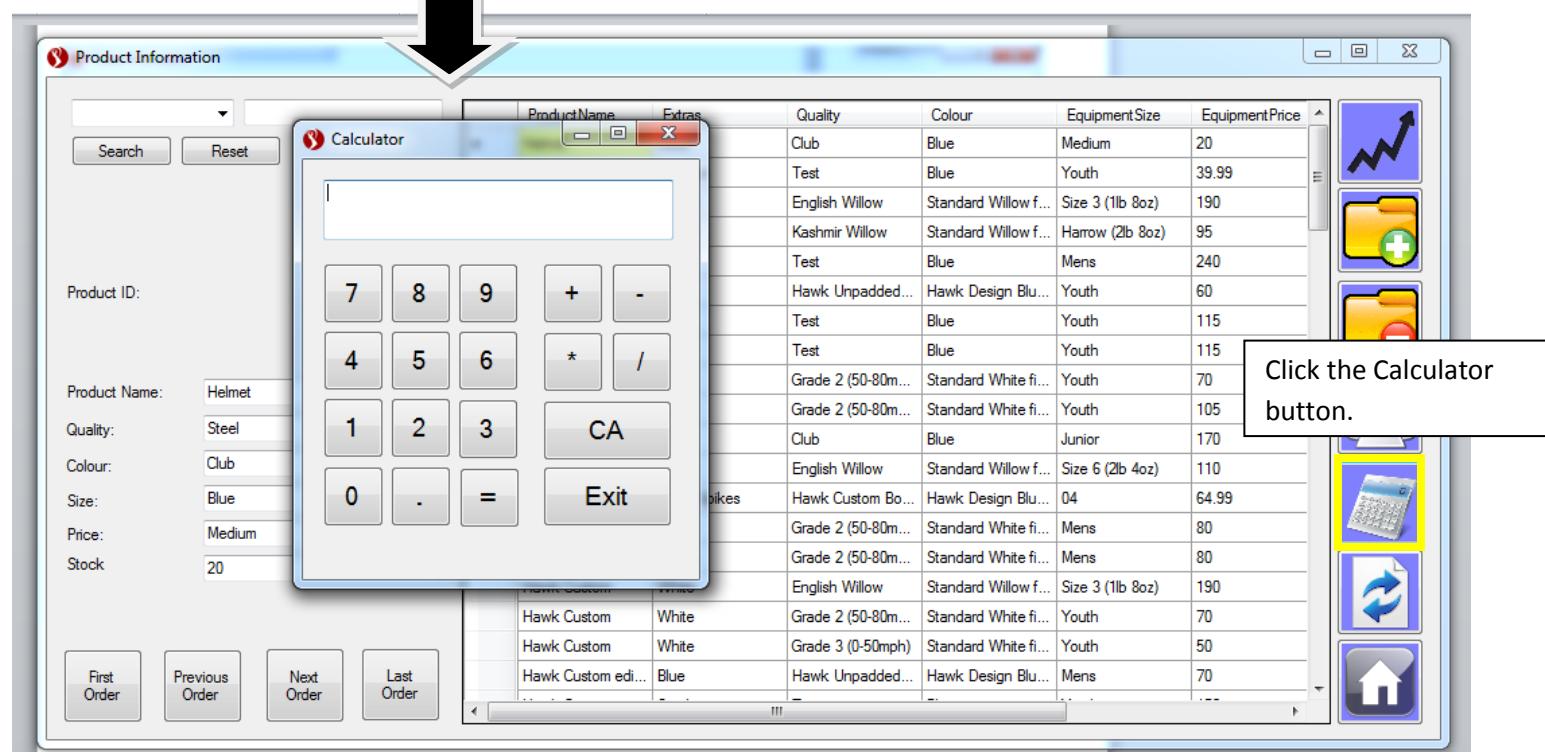
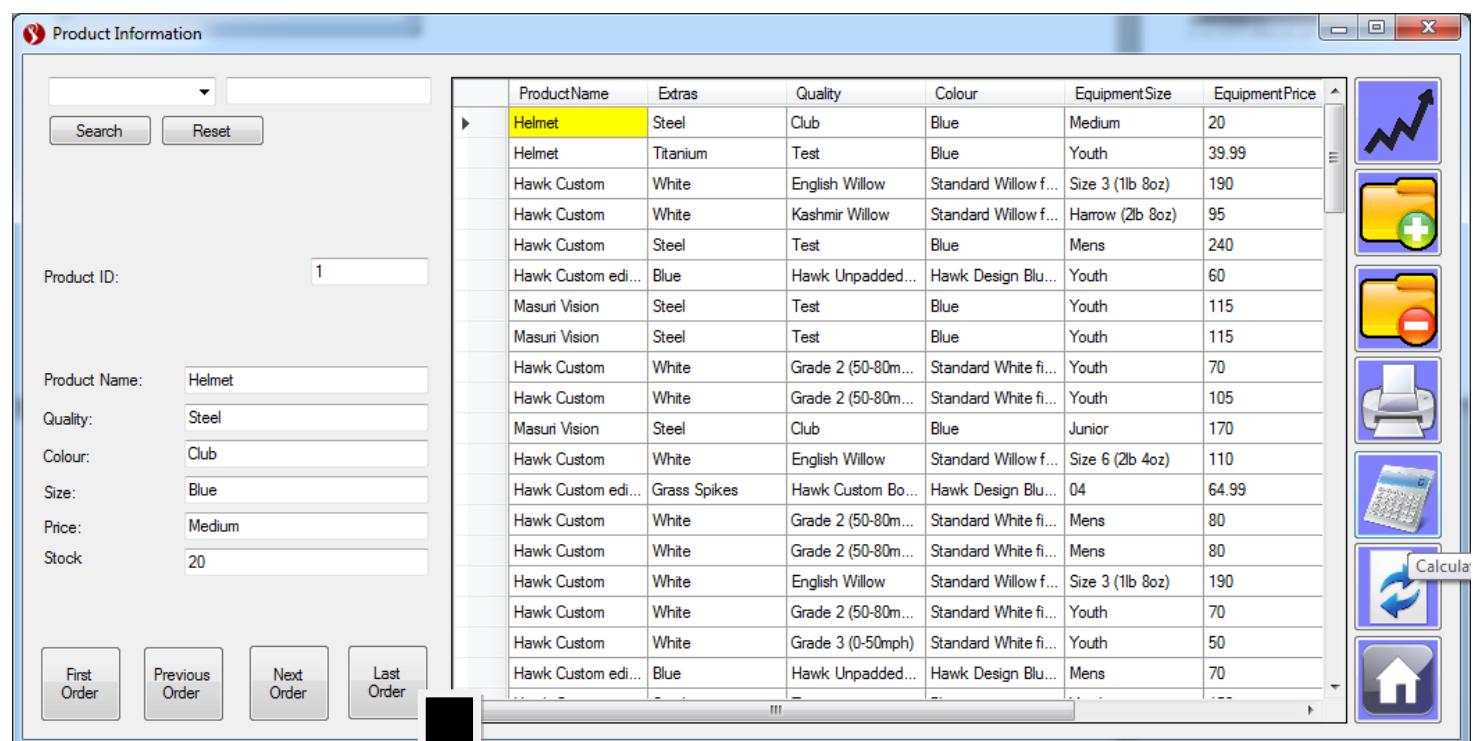
**Figure 79**

Here I clicked the Print button to test the print feature, as you can see the computer is executing the print process and is printing the grid.

ProductName	Extras	Quality	Colour	EquipmentSize	EquipmentPrice
Helmet	Steel	Club	Blue	Medium	20
Helmet	Titanium	Test	Blue	Youth	39.99
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)	95
Hawk Custom	Steel	Test	Blue	Mens	240
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth	60
Masuri Vision	Steel	Test	Blue	Youth	115
Masuri Vision	Steel	Test	Blue	Youth	115
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	105
Masuri Vision	Steel	Club	Blue	Junior	170
Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)	110
Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04	64.99
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens	80
Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)	190
Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth	70
Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth	50
Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens	70

**Figure 80**

Here I clicked the Calculator button to test that the Calculator shows on the screen. As you can see the calculator form appears when the button is clicked.



**Figure 81**

In this test I clicked the Add product button to check that the form opens correctly. As you can see below, the Add Product from appears when the button is clicked.

**Product Information**

Product ID:	1
Product Name:	Helmet
Quality:	Steel
Colour:	Club
Size:	Blue
Price:	Medium
Stock:	20

First Order   Previous Order   Next Order   Last Order

**Add Product**

**Add a new Product:**

Product Name:	<input type="text"/>
Quality:	<input type="text"/>
Colour:	<input type="text"/>
Size:	<input type="text"/>
Price:	<input type="text"/>
Quantity	<input type="text"/>

**Buttons:**

- Search
- Reset
- Calculator
- Close Form
- Confirm Product Order

**Icons:**

- Folder
- Print
- Calculator
- File
- Home
- Add Product (+)
- Remove (-)

**Text:** Click the Add Product button.

Figure 82

In this test I will be removing the record with GoodsID 10 from the database manually. I selected the record I wished to delete by using the navigation buttons. I then clicked the remove record button. I was presented with a message box asking whether I wanted to delete the record. When I clicked "yes" both the database and the datagrid were updated immediately and with the chosen record omitted.

**Click the Remove Product button.**

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Steel	Test	Blue	Youth
10	Hawk Custom	White	Grade 2 (50-80mph)	Standard White fi...	Youth
11	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
12	Masuri Vision	Steel	Club	Blue	Junior
13	Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)
14	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04
15	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
16	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
17	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
18	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Steel	Test	Blue	Youth
10	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
11	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
12	Masuri Vision	Steel	Club	Blue	Junior
13	Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)
14	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04
15	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
16	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
17	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
18	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
9	Masuri Vision	Steel	Test	Blue	
11	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
9	Masuri Vision	Test	Steel	Blue	Youth
11	Hawk Custom	Grade 2 (50-80mph)	White	Standard Whit	Youth

Evidence on the left that GoodsID 10 has been removed.

**Figure 83 – Valid data**

In this test I manually altered GoodsID 9 with the Steel extras to Titanium extras, This was done by double clicking the grid and changing the text to Titanium and then clicking the save changes button, A message box appears stating that the changes have been saved and in addition the datagrid and database are updated with the new details and repopulated immediately.

**Click the Save changes button.**

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Steel	Test	Blue	Youth
11	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth
12	Masuri Vision	Steel	Club	Blue	Junior
13	Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)
14	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04
15	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens
16	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens
17	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
18	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens
21	Hawk Custom	Steel	Test	Blue	Youth

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Titanium	Test	Blue	Youth
11	Hawk Custom		Standard White fi...	Youth	
12	Masuri Vision		Blue	Junior	
13	Hawk Custom		Standard Willow f...	Size 6 (2lb 4oz)	
14	Hawk Custom edi...		Hawk Design Blu...	04	
15	Hawk Custom		Standard White fi...	Mens	
16	Hawk Custom		Standard White fi...	Mens	
17	Hawk Custom		Standard Willow f...	Size 3 (1lb 8oz)	
18	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens
21	Hawk Custom	Steel	Test	Blue	Youth

GoodsID	ProductName	Quality	Extras	Colour	EquipmentSize	EquipmentF	Quantity	Stock	Click to Add
1	Helmet	Club	Steel	Blue	Medium	£20.00	1	10	
3	Helmet	Test	Titanium	Blue	Youth	£39.99	2	2	
4	Hawk Custom	English Willow	White	Standard Willow	Size 3 (1lb 8oz)	£190.00	2	0	
5	Hawk Custom	Kashmir Willow	White	Standard Willow	Harrow (2lb 8oz)	£95.00	1	0	
6	Hawk Custom	Test	Steel	Blue	Mens	£240.00	3	0	
7	Hawk Custom	Hawk Unpadded (Right Handed)	Blue	Hawk Design	Bo... Youth	£60.00	2	3	
8	Masuri Vision	Test	Steel	Blue	Youth	£115.00	1	8	
9	Masuri Vision	Test	Titanium	Blue	Youth	£115.00	1	8	
11	Hawk Custom	Grade 2 (50-80mph)	White	Standard Whit	Youth	£105.00	3	0	
12	Masuri Vision	Club	Steel	Blue	Junior	£170.00	2	8	
13	Hawk Custom	English Willow	White	Standard Willow	Size 6 (2lb 4oz)	£110.00	1	0	
14	Hawk Custom	Hawk Custom Bowlers edition	Grass Spikes	Hawk Design	B 04	£64.99	1	3	
15	Hawk Custom	Grade 2 (50-80mph)	White	Standard Whit	Mens	£80.00	2	0	
16	Hawk Custom	Grade 2 (50-80mph)	White	Standard Whit	Mens	£80.00	2	0	
17	Hawk Custom	English Willow	White	Standard Willow	Size 3 (1lb 8oz)	£190.00	2	0	
18	Hawk Custom	Grade 2 (50-80mph)	White	Standard Whit	Youth	£70.00	2	0	
19	Hawk Custom	Grade 3 (0-50mph)	White	Standard Whit	Youth	£50.00	2	0	

**The Database where the extras have manually been changed to Titanium.**

**Figure 84 – Valid data**

In this test I used the search feature to search for a specified set of results. In this example the criteria was Product Name and the search was for AryTeck. When I clicked Search the data grid was populated only with AryTeck helmets.

**Product Information**

Product Name	AryTeck		
Search	Reset		
Goods ID:	1		
Product Name:	Helmet		
Quality:	Steel		
Colour:	Club		
Size:	Blue		
Price:	Medium		
Stock	20		
First Order	Previous Order	Next Order	Last Order

**Data Grid:**

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Titanium	Test	Blue	Youth
11	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth
12	Masuri Vision	Steel	Club	Blue	Junior
13	Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)
14	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04
15	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens
16	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Mens
17	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
18	Hawk Custom	White	Grade 2 (50-80m...	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens
21	Hawk Custom	Steel	Test	Blue	Youth
...	...	...	...	...	...

**Product Information**

Product Name	AryTeck		
Search	Reset		
Goods ID:	1		
Product Name:	Helmet		
Quality:	Steel		
Colour:	Club		
Size:	Blue		
Price:	Medium		
Stock	20		
First Order	Previous Order	Next Order	Last Order

**Data Grid:**

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
23	AryTeck	Steel	Elite	Green	Mens
25	AryTeck	Titanium	Test	Blue	Youth
44	AryTeck	Steel	Test	Blue	Youth
49	AryTeck	Titanium	Elite	Blue	Youth
54	AryTeck	Steel	Test	Blue	Youth
55	AryTeck	Steel	Elite	Blue	Youth
56	AryTeck	Steel	Test	Blue	Mens
57	AryTeck	Steel	Test	Blue	Youth
60	AryTeck	Steel	Test	Blue	Junior
64	AryTeck	Steel	Elite	Blue	Youth
66	AryTeck	Steel	Club	Blue	Junior
69	AryTeck	Steel	Test	Blue	Youth
70	AryTeck	Steel	Elite	Blue	Mens
71	AryTeck	Steel	Club	Blue	Youth
72	AryTeck	Steel	Test	Blue	Youth
73	AryTeck	Steel	Test	Blue	Youth
78	AryTeck	Steel	Test	Blue	Youth
79	AryTeck	Titanium	Elite	Blue	Junior
85	AryTeck	Titanium	Test	Blue	Mens
...	...	...	...	...	...

**Figure 85**

In this test I clicked the reset button to reset the search and restore all of the Goods back into the datagrid. As you can see the data grid now looks identical to when the form is first opened.

**Product Information**

Product Name	AryTeck		
<input type="button" value="Search"/>	<input type="button" value="Reset"/>		
Goods ID:	1		
Product Name:	Helmet		
Quality:	Steel		
Colour:	Club		
Size:	Blue		
Price:	Medium		
Stock	20		
<input type="button" value="First Order"/>	<input type="button" value="Previous Order"/>	<input type="button" value="Next Order"/>	<input type="button" value="Last Order"/>

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
23	AryTeck	Steel	Elite	Green	Mens
25	AryTeck	Titanium	Test	Blue	Youth
44	AryTeck	Steel	Test	Blue	Youth
49	AryTeck	Titanium	Elite	Blue	Youth
54	AryTeck	Steel	Test	Blue	Youth
55	AryTeck	Steel	Elite	Blue	Youth
56	AryTeck	Steel	Test	Blue	Mens
57	AryTeck	Steel	Test	Blue	Youth
60	AryTeck	Steel	Test	Blue	Junior
64	AryTeck	Steel	Elite	Blue	Youth
66	AryTeck	Steel	Club	Blue	Junior
69	AryTeck	Steel	Test	Blue	Youth
70	AryTeck	Steel	Elite	Blue	Mens
71	AryTeck	Steel	Club	Blue	Youth
72	AryTeck	Steel	Test	Blue	Youth
73	AryTeck	Steel	Test	Blue	Youth
78	AryTeck	Steel	Test	Blue	Youth
79	AryTeck	Titanium	Elite	Blue	Junior
85	AryTeck	Titanium	Test	Blue	Mens

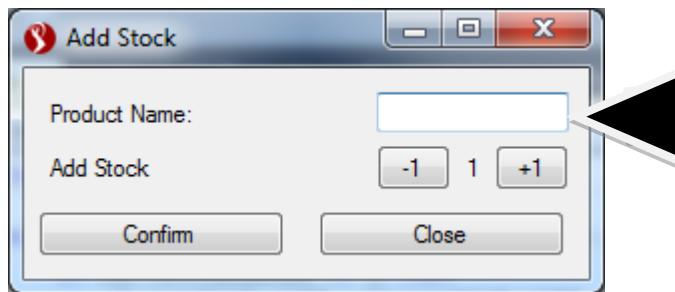
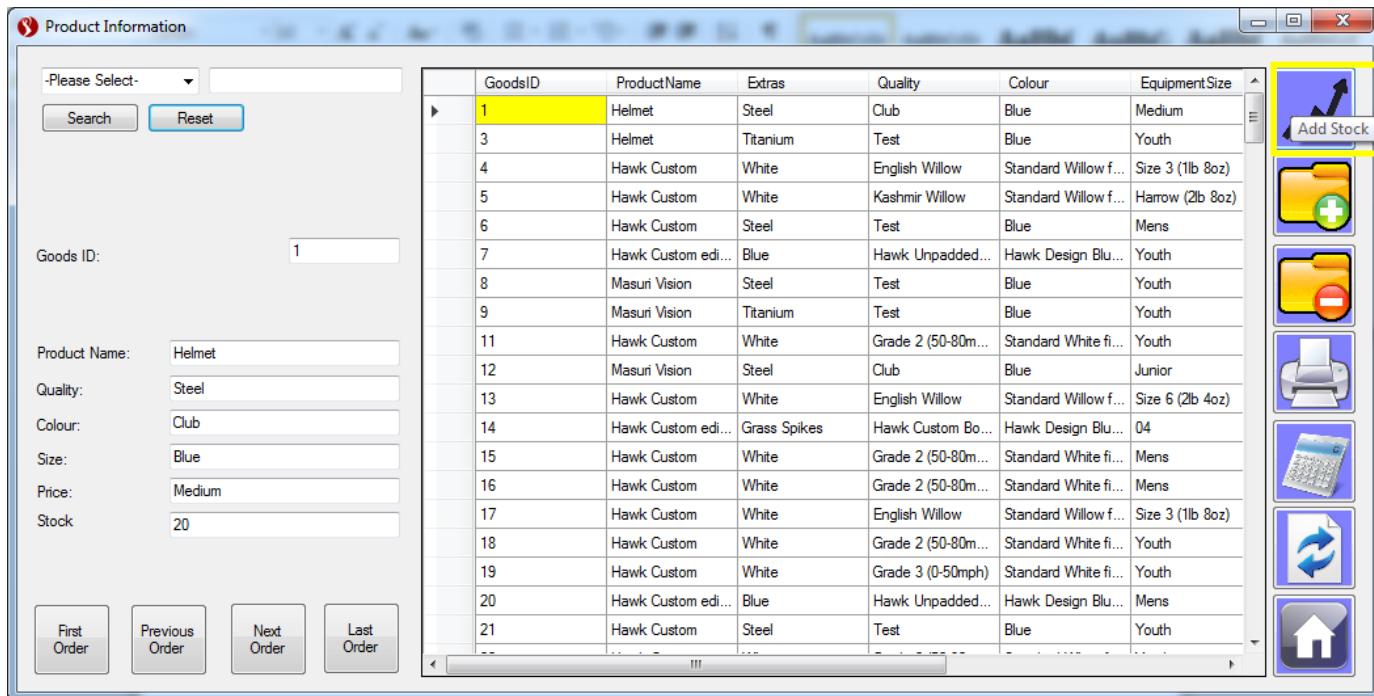
**Product Information**

-Please Select-			
<input type="button" value="Search"/>	<input type="button" value="Reset"/>		
Goods ID:	1		
Product Name:	Helmet		
Quality:	Steel		
Colour:	Club		
Size:	Blue		
Price:	Medium		
Stock	20		
<input type="button" value="First Order"/>	<input type="button" value="Previous Order"/>	<input type="button" value="Next Order"/>	<input type="button" value="Last Order"/>

GoodsID	ProductName	Extras	Quality	Colour	EquipmentSize
1	Helmet	Steel	Club	Blue	Medium
3	Helmet	Titanium	Test	Blue	Youth
4	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
5	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
6	Hawk Custom	Steel	Test	Blue	Mens
7	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Youth
8	Masuri Vision	Steel	Test	Blue	Youth
9	Masuri Vision	Titanium	Test	Blue	Youth
11	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
12	Masuri Vision	Steel	Club	Blue	Junior
13	Hawk Custom	White	English Willow	Standard Willow f...	Size 6 (2lb 4oz)
14	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	04
15	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
16	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Mens
17	Hawk Custom	White	English Willow	Standard Willow f...	Size 3 (1lb 8oz)
18	Hawk Custom	White	Grade 2 (50-80m...)	Standard White fi...	Youth
19	Hawk Custom	White	Grade 3 (0-50mph)	Standard White fi...	Youth
20	Hawk Custom edi...	Blue	Hawk Unpadded...	Hawk Design Blu...	Mens
21	Hawk Custom	Steel	Test	Blue	Youth

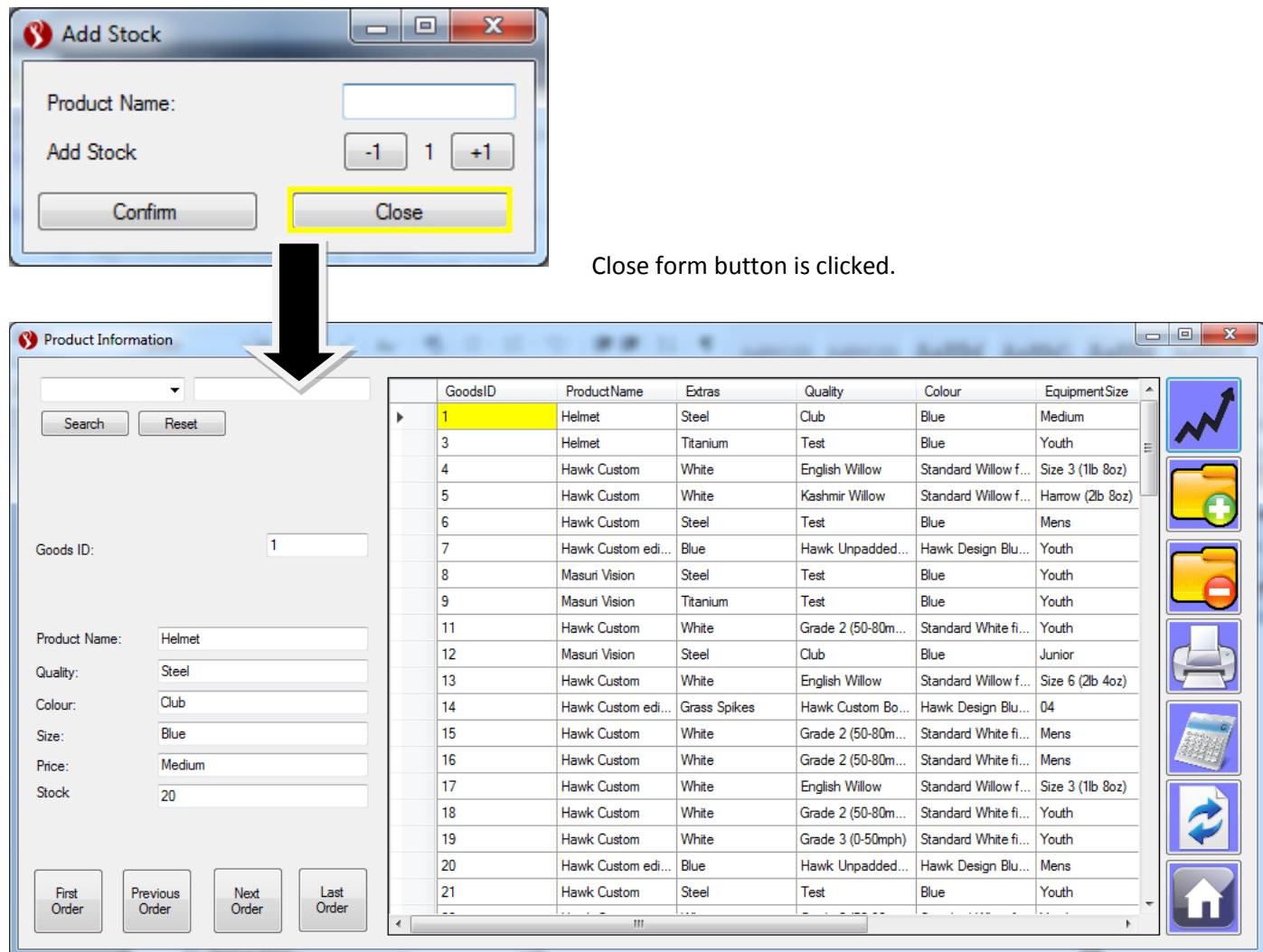
**Figure 86**

In this test I clicked the Add stock button located in the top right hand corner of the form. As you can see the Add Stock form was opened when the button was clicked.



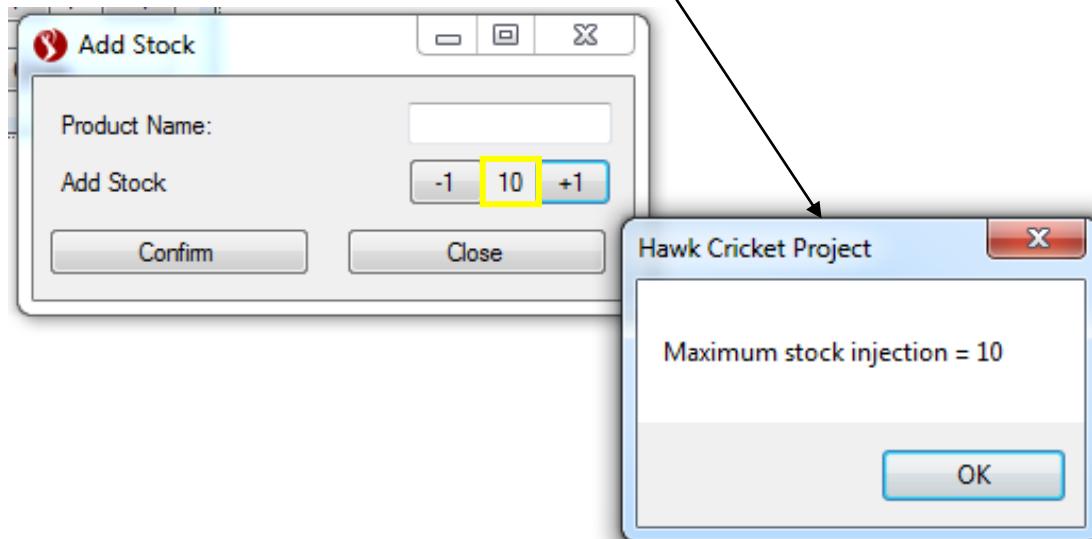
**Figure 87**

In this test I clicked the Close button on the Add stock form to ensure that the user can leave the form. As you can see below the Add stock form closed leaving only the Product information form open.

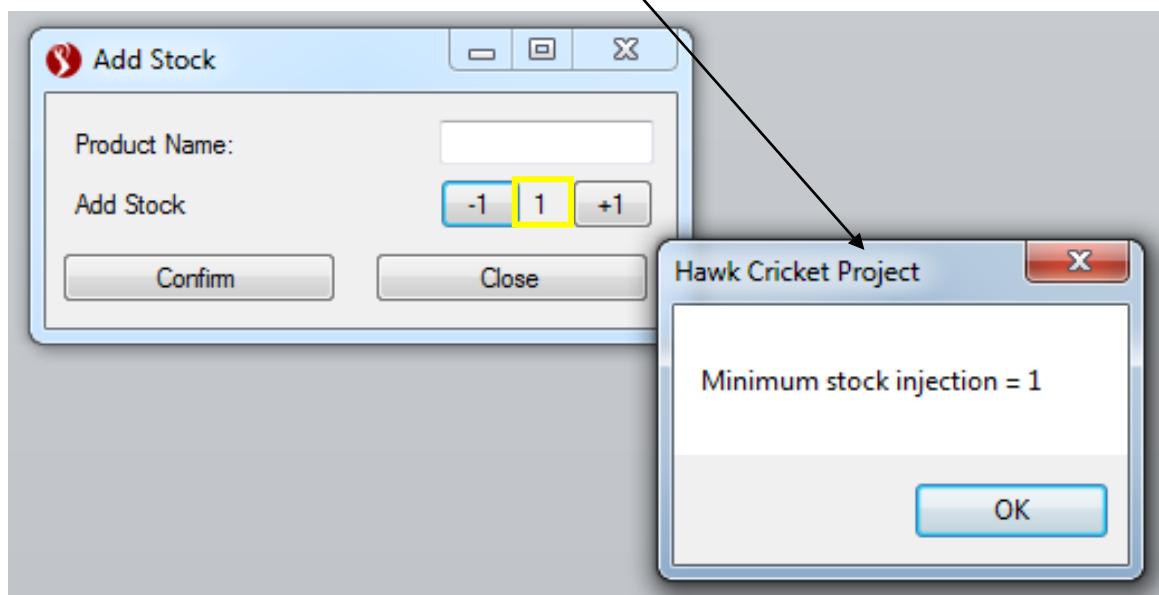


**Figure 88 – Valid data, Invalid data, Extreme data**

In this test I increased the number of stock injected into the database as high as possible. When the Add Stock number reached 10 (extreme data on the boundary), if it was clicked once more a message box would appear stating “Maximum stock injection = 10” and the number would remain at 10 (invalid data)



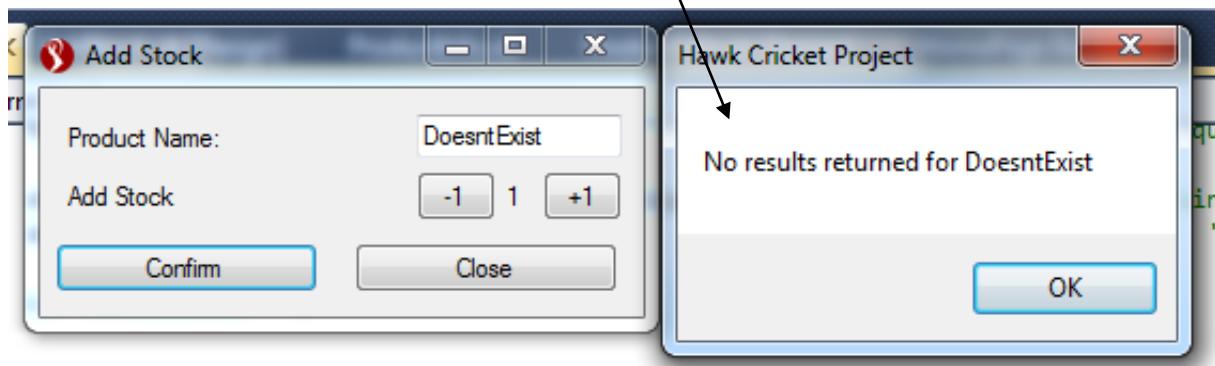
On the other end of the spectrum when decreasing the number of stock injected, when the number reached 1 (Extreme data on the boundary), if the decrease button was clicked again (Invalid data as it goes below 1) then a message box would appear stating “Minimum stock injection = 1” and the number would remain as 1.



**Figure 89 – Invalid data**

In this test an item that clearly does not exist was entered into the Product Name box and the confirm button was clicked.

Rather than searching for an item that doesn't exist the system simply shows a message box that says "No results returned for Doesn'tExist".



**Figure 90 – Valid data**

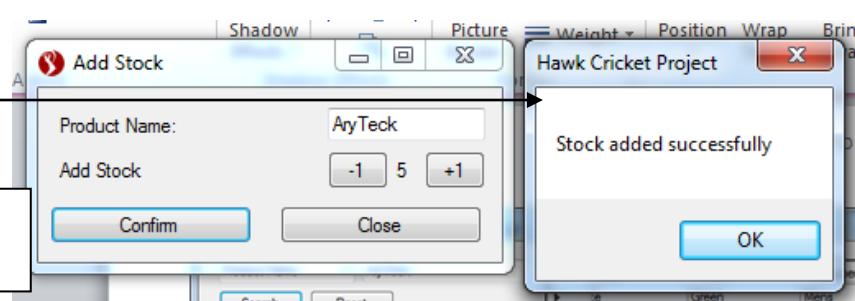
You can see below that the stock for AryTeck helmets currently stands at 3.

I clicked the Add stock button which opened the Add Stock form. I then entered AryTeck into the product name and increased the number of stock injected to 5 and clicked Confirm.

The screenshot shows the 'Product Information' application. On the left, there's a search interface with fields for Product Name (set to 'AryTeck'), Goods ID (set to '1'), and several dropdowns for Quality, Colour, Size, and Price. A secondary window titled 'Add Stock' is open over the main grid, showing a table with columns for Product Name (set to 'AryTeck'), Add Stock (with a value of '5' highlighted), and buttons for 'Confirm' and 'Close'. The main grid displays a list of products, including various helmets and jackets, with their details like Quality, Colour, Equipment Size, Price, Quantity, and Stock. One row for a 'Blue Youth' helmet has its Stock value set to '3'. A large black rectangle highlights this cell, and a smaller one highlights the '5' in the 'Add Stock' dialog. To the right of the grid is a vertical toolbar with icons for various functions.

A message box was shown stating that the stock was added successfully

As you can now see the stock of AryTeck helmets stands at 8 (an increase of 5).



The screenshot shows the 'Product Information' application again. The search interface remains the same. The main grid now shows the stock for the 'Blue Youth' helmet has been updated to '8'. A large black rectangle highlights this cell, and a smaller one highlights the '8' in the grid. The bottom navigation buttons ('First Order', 'Previous Order', 'Next Order', 'Last Order') are visible at the bottom of the grid area.

**Figure 91 – Valid data**

**Add Product**

### Add a new Product:

Product Name:	Masuri Vision
Quality:	Test
Extras:	Steel
Colour:	Blue
Size:	Youth
Price:	59.99
Quantity	1

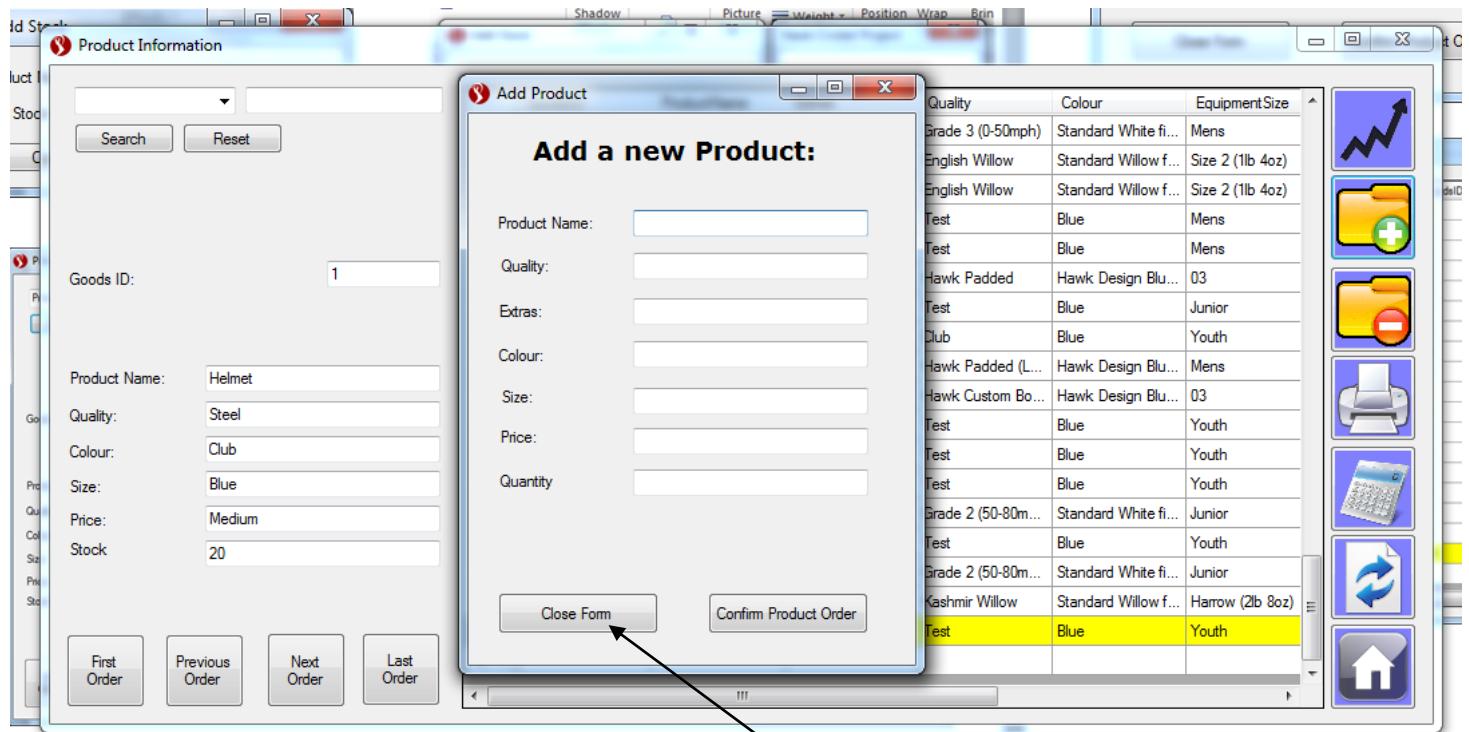
**Buttons:** Close Form | Confirm Product Order

In this test I added a new product to the form manually. I filled in the boxes on the left with test data and clicked the Confirm Product Order button. The data was then added to the database and the datagrid was refreshed thus showing the new data immediately.

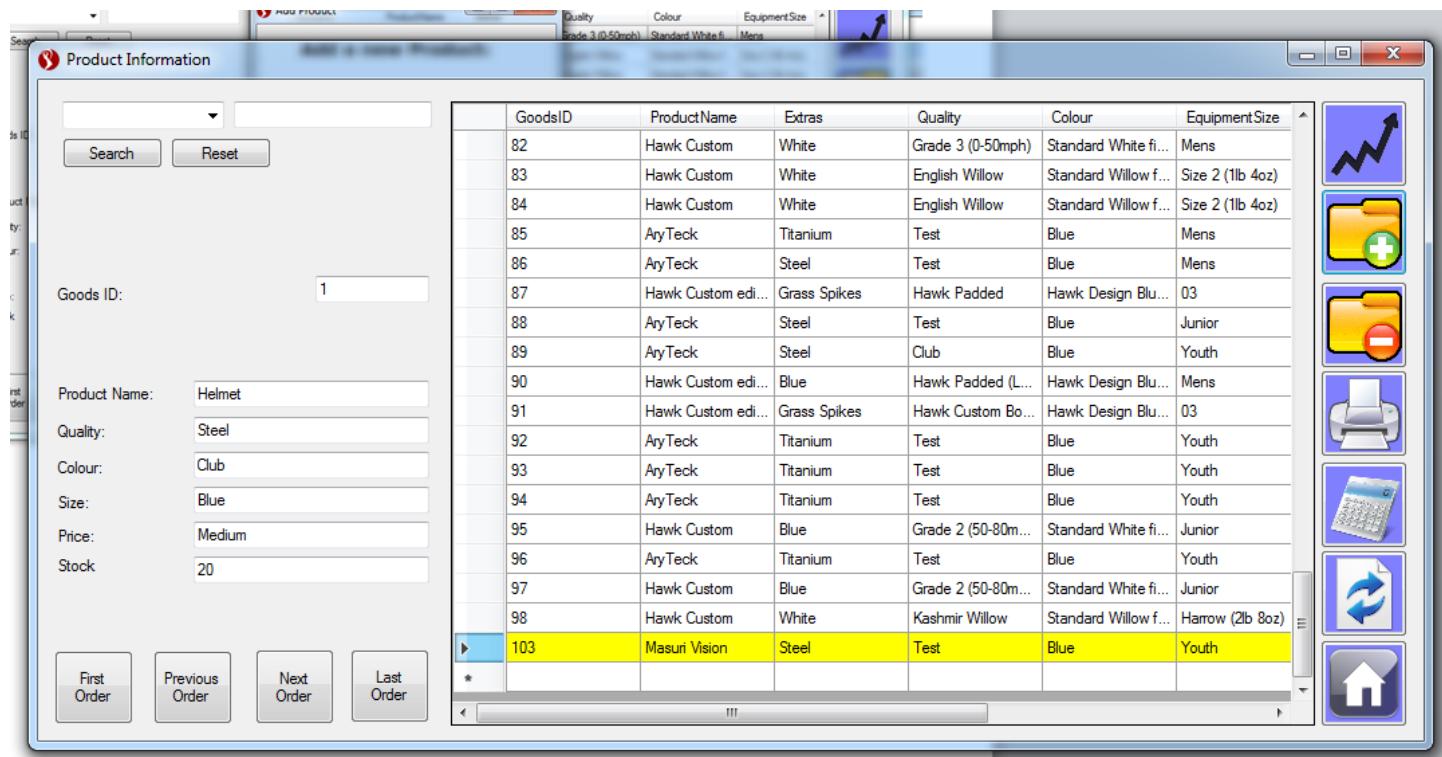
**Product Information**

Goods ID:	Product Name:	Extras:	Quality:	Colour:	Equipment Size:
82	Hawk Custom	White	Grade 3 (0-50mph)	Standard White f...	Mens
83	Hawk Custom	White	English Willow	Standard Willow f...	Size 2 (1lb 4oz)
84	Hawk Custom	White	English Willow	Standard Willow f...	Size 2 (1lb 4oz)
85	AryTeck	Titanium	Test	Blue	Mens
86	AryTeck	Steel	Test	Blue	Mens
87	Hawk Custom edi...	Grass Spikes	Hawk Padded	Hawk Design Blu...	03
88	AryTeck	Steel	Test	Blue	Junior
89	AryTeck	Steel	Club	Blue	Youth
90	Hawk Custom edi...	Blue	Hawk Padded (L...	Hawk Design Blu...	Mens
91	Hawk Custom edi...	Grass Spikes	Hawk Custom Bo...	Hawk Design Blu...	03
92	AryTeck	Titanium	Test	Blue	Youth
93	AryTeck	Titanium	Test	Blue	Youth
94	AryTeck	Titanium	Test	Blue	Youth
95	Hawk Custom	Blue	Grade 2 (50-80m...	Standard White f...	Junior
96	AryTeck	Titanium	Test	Blue	Youth
97	Hawk Custom	Blue	Grade 2 (50-80m...	Standard White f...	Junior
98	Hawk Custom	White	Kashmir Willow	Standard Willow f...	Harrow (2lb 8oz)
103	Masuri Vision	Steel	Test	Blue	Youth

**Buttons:** Search | Reset | First Order | Previous Order | Next Order | Last Order

**Figure 92**

Close form button is clicked.



This test was very simple and involved clicking the close form button on the Add a new product form to ensure that the user could navigate away from the page if they desired. As you can see when the button was clicked the form closed leaving only the Product Information form open.

### Questionnaire

Below is a set of questions regarding the Performance and Usability of my project. I would be extremely grateful if you could fill them in with the most accurate and honest response possible.

*Please put an "X" in the box that most represents your view.*

**1) "You were able to successfully log into the system".**

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

**2) "You were able to navigate around the system using the tabs".**

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

**3) "You were able to add data to the database"**

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

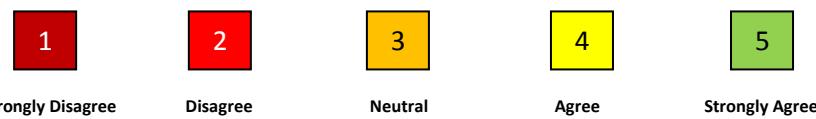
**4) "You were able to delete data from the database".**

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

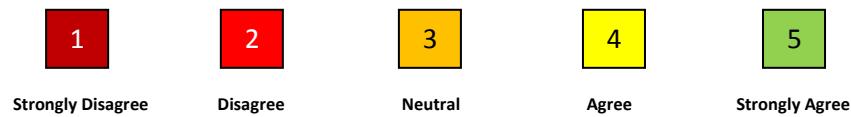
**5) "You were able to manually edit data in the datagrid".**

<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

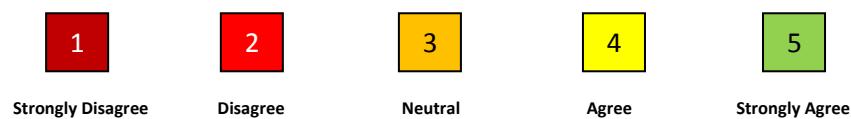
6) ***"You were able to cycle through records using the 'next, previous, first and last' buttons and could use the search feature to select only a specific set of records that matched a criteria".***



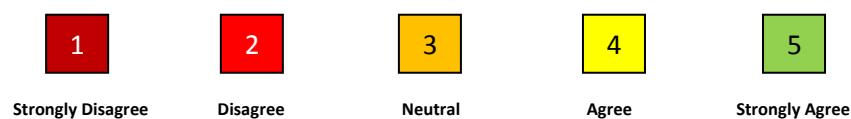
7) ***"The data was easy to understand the way it was presented".***



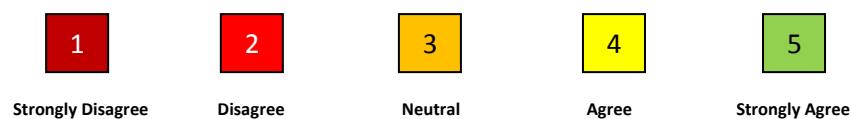
8) ***"I felt I knew what I was doing when using the system, I could add an order without any difficulties".***



9) ***"I felt the system was aesthetically pleasing and presented in a professional manner".***



10) ***"I feel the system was suitable for purpose".***



*Thank you for your time.*

Total score: \_\_\_\_\_

Success Criteria Score: 35 \_\_\_\_\_