

# **SYSTEM DEVELOPMENT AND TESTING**

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## **TESTING**

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### **OBJECTIVES**

After developing the software it was time to test and see if every feature was fully functional. A simple test plan involving every form was used, it will involve the layout of what the form is supposed to do and a recorded pass or fail depending on how it does.

There are a total of about 20 forms with about five that mainly serve the function of a switchboard to give the application that professional feeling the user has asked for.

Since the switchboard forms require less detail and data tracking to test it seemed logical to start with testing them first. Some of the forms were tested in window mode to ensure that the user.

## **SWITCHBOARD FORMS**

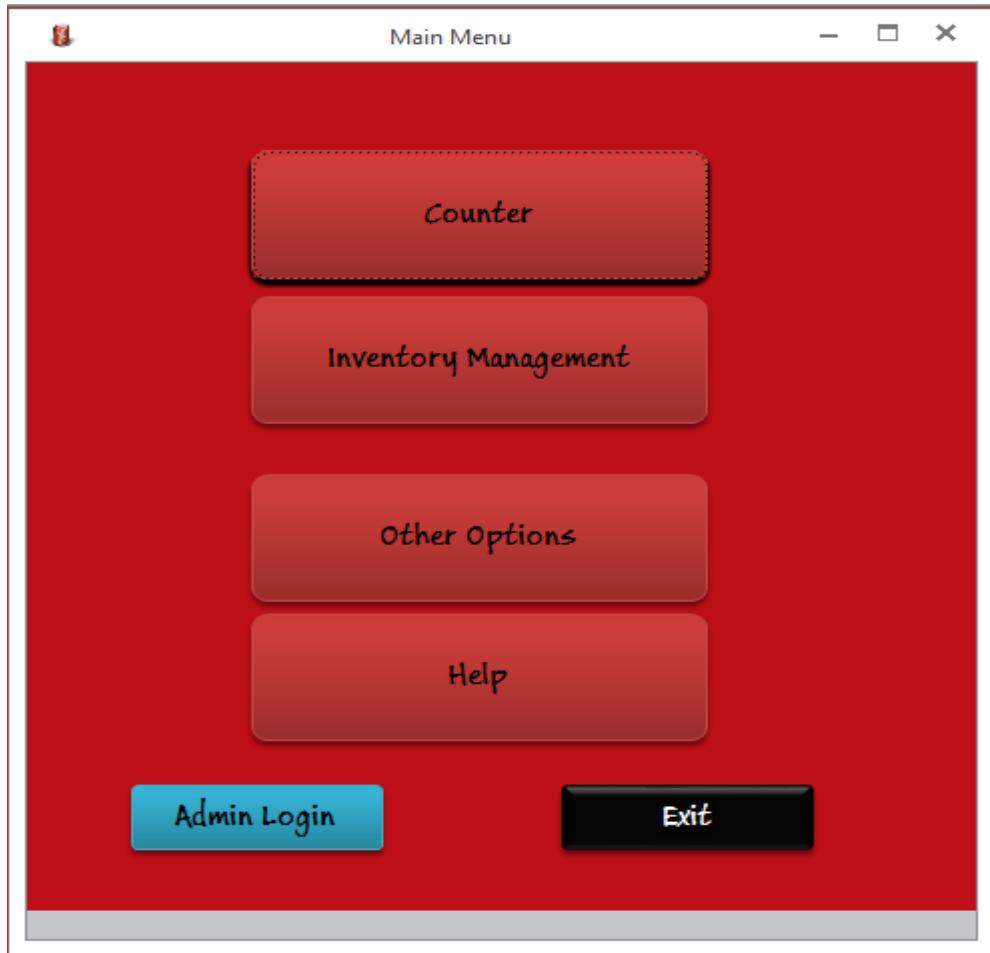
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- The testing of the switchboard buttons though is done in general as they are used by the user to navigate from form to form.
- The switchboard form testing will mainly be restrictions and status notifications on special events and special forms.

## **MAIN MENU FORM**

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- The main menu form is the one that greets the user under normal login circumstances (No Reorder Products, Normal login credentials).
- This form has four buttons, 2 go to other switchboards where by the first one is supposed to go to the main interface, the second button to the inventory switchboard , the third to the “others menu” and last the special help menu with an admin login status notification/button and an exit button.



## Tests

Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/ Fail
1	Re-Order Notification	If there are products that need to be reordered the system has a pop up list on login that notifies the user of the products needed for reorder	If there is at least one product that needs re ordering the list should pop up on load	Reorder list sub-form and the reorder query	Pass
2	Admin Login Main menu button/ status notification	When the admin logs in the main menu admin login button should turn into a disable admin rights button indicating all permissions being granted	When admin logs in disable admin rights button shows and when normal password login the admin login button shows	Static values table and main menu form	Pass
3	Working Buttons	Test the four buttons to see if they open their	When a button is pressed the main menu	Main menu	Pass

		respective forms when they are pressed	will close and the menu suggested in the name of the button will open	form and the four forms in the main menu	
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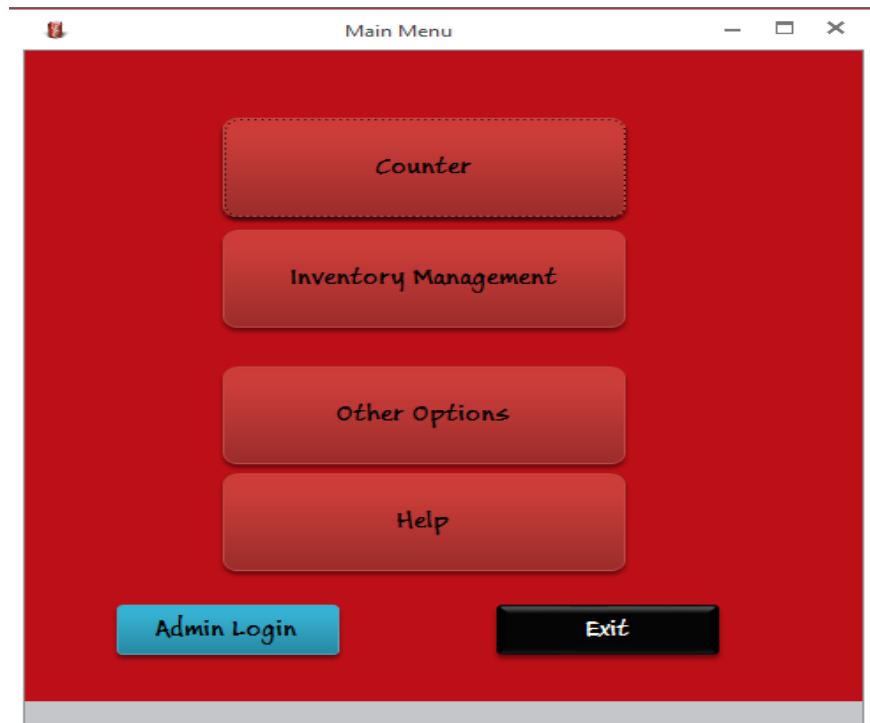
## Test Evidence

### 1. RE ORDER NOTIFICATION TEST

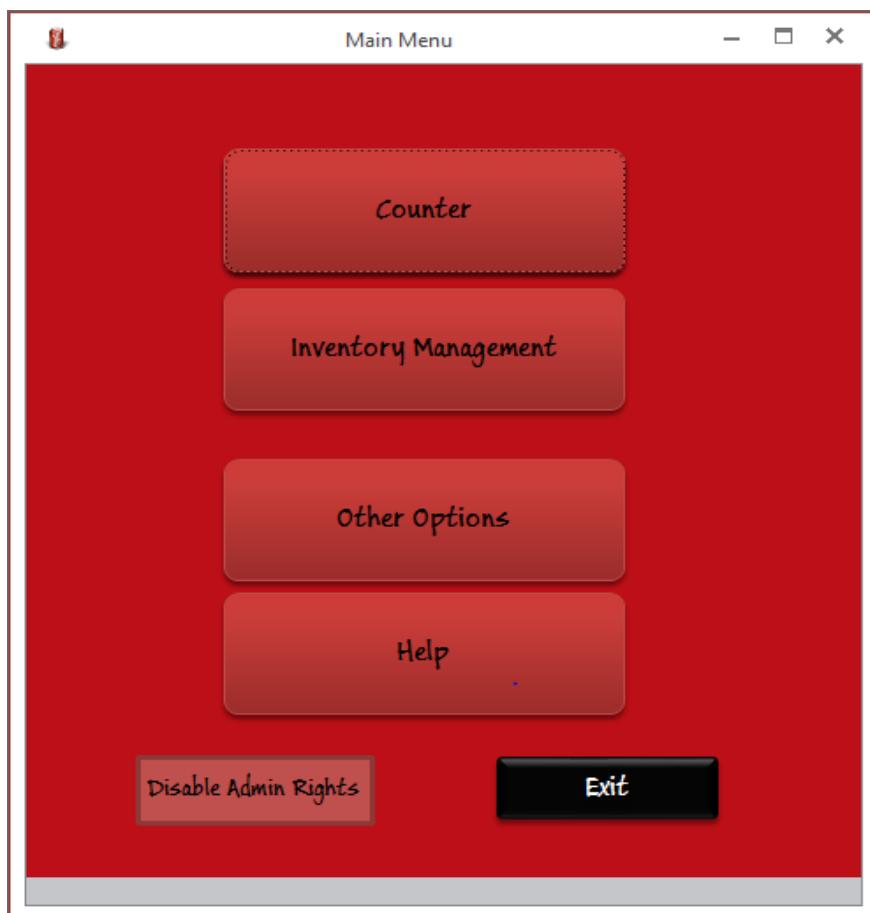


2. ADMIN LOGIN BUTTON NOTIFICATION TEST

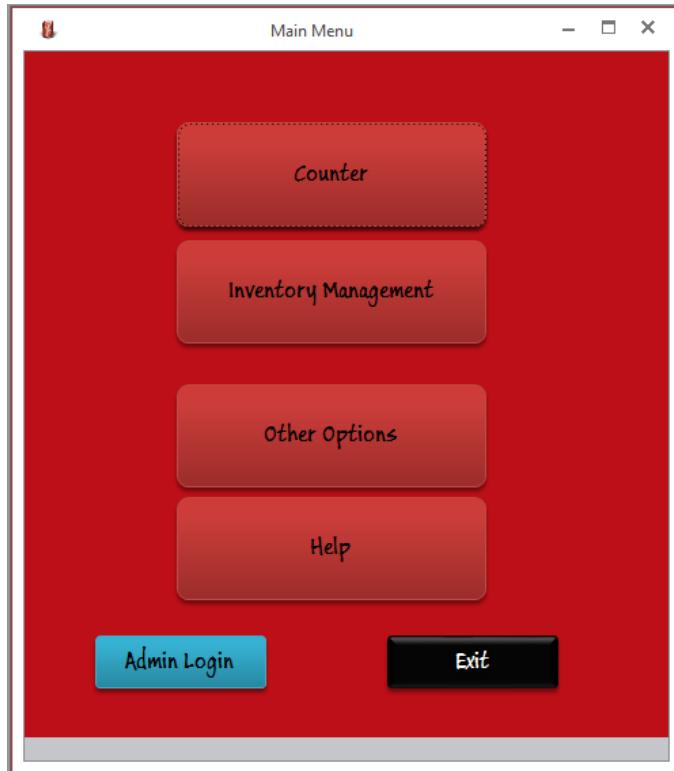
A. THIS IS WHEN THE NORMAL LOGIN HAS BEEN DONE.



B. THIS IS WHEN THE ADMIN LOGIN HAS BEEN DONE.



- C. THIS IS WHEN THE ADMIN LOGIN IS DONE AND THE DISABLE RIGHTS BUTTON HAS BEEN PRESSED.



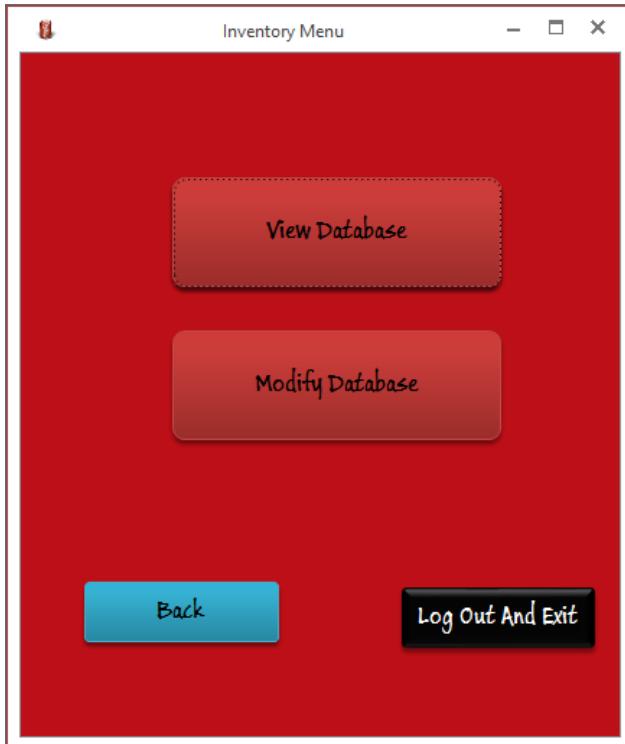
3. THE EVIDENCE FOR THE BUTTON OPENING OF THE OTHER FORMS IS PROVEN WHEN THE TESTING IS DONE FOR THE INDIVIDUAL BUTTONS SINCE THAT'S THE ONLY WAY TO NAVIGATE TO THEM.

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## INVENTORY MANAGEMENT

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- This is the switchboard that contains all the buttons that lead to the forms where changes can be made to the database tables.
  - These changes consist off adding, editing and deleting products.
  - These changes consist of adding orders.
- These forms however should be restricted disregarding the view database that shows the product table and locks editing.

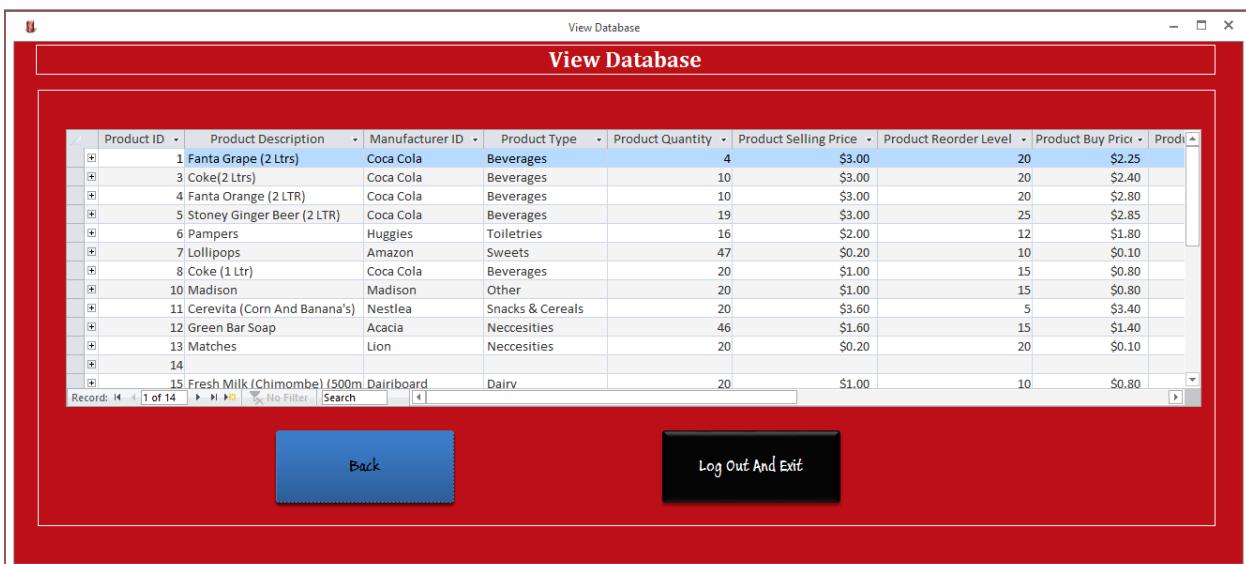


## Tests

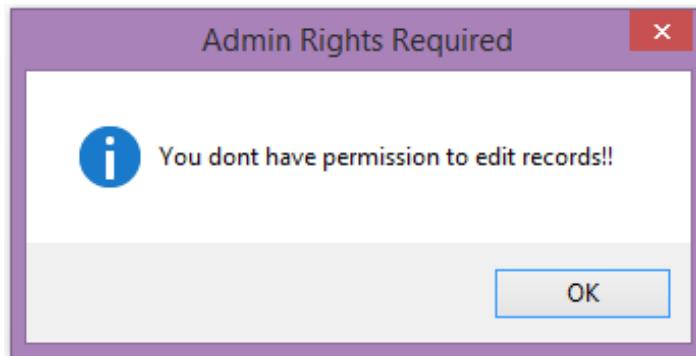
Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/Fail
1	View Database button	Clicking on this button should take us to the view database interface	Closing of the menu and opening of the view database	View database and inventory management form	Pass
2	Modify database button	Clicking should take us to the modify database switchboard	Closing of the menu and opening of the Modify switchboard	inventory management form and modify database form	Pass
3	Other buttons (Back & Exit)	Clicking on the buttons and seeing what's happening	Closing of the form and opening of the main menu(back button) Closing of the form and quitting (Exit)	inventory management form and main menu	Pass
4	Modify database admin restrictions	The modify database button will not let the user through unless the admin has logged in	A notification telling the user to login as admin if not	Modify database form and inventory management form static value table	Pass

## Test Evidence

View database



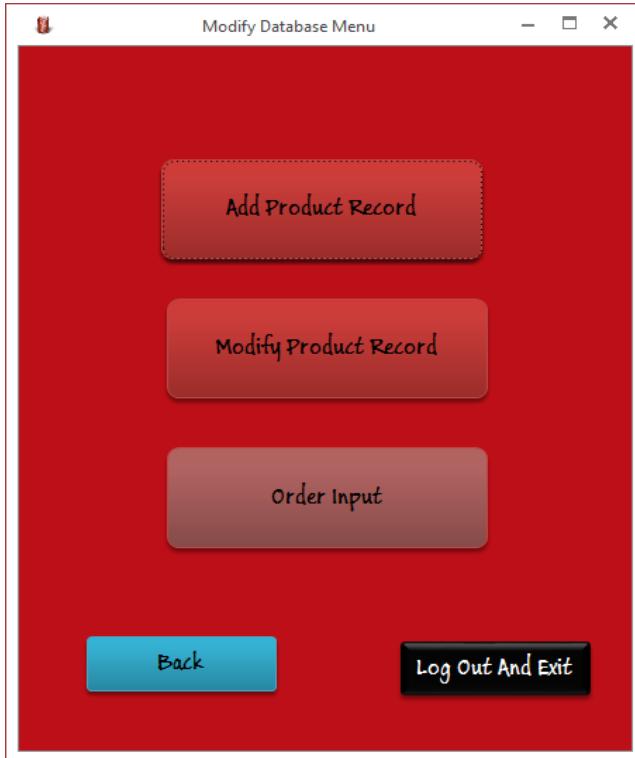
1. MODIFY DATABASE SWITCHBOARD WHICH IS BEING TESTED OUT NEXT
2. THE BACK BUTTON RETURNS TO MAIN MENU AND CLOSES ITSELF, THE MAIN MENU TESTED IN THE EARLIER SECTION.
3. MODIFY DATABASE BUTTON RESTRICTIONS.



## MODIFY DATABASE MENU

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- This is the one that holds the links to all the forms that edit the tables.

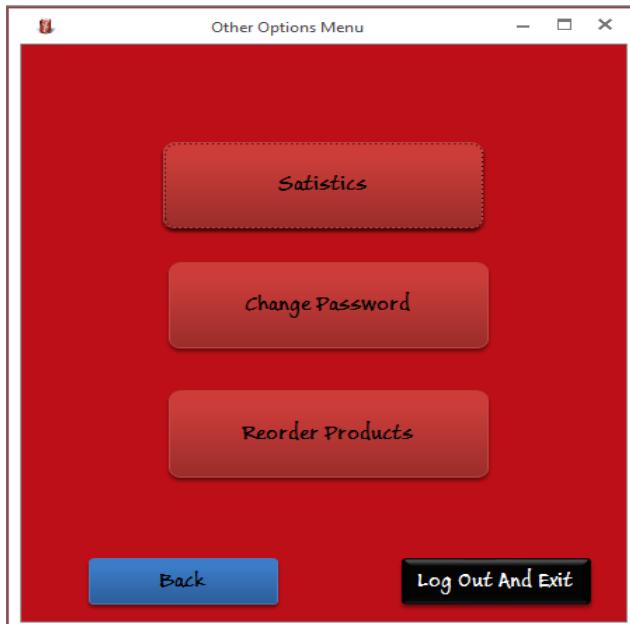


- The button testing evidence is shown when the testing of the individual forms suggested by the buttons because the only way to access them is via this form.

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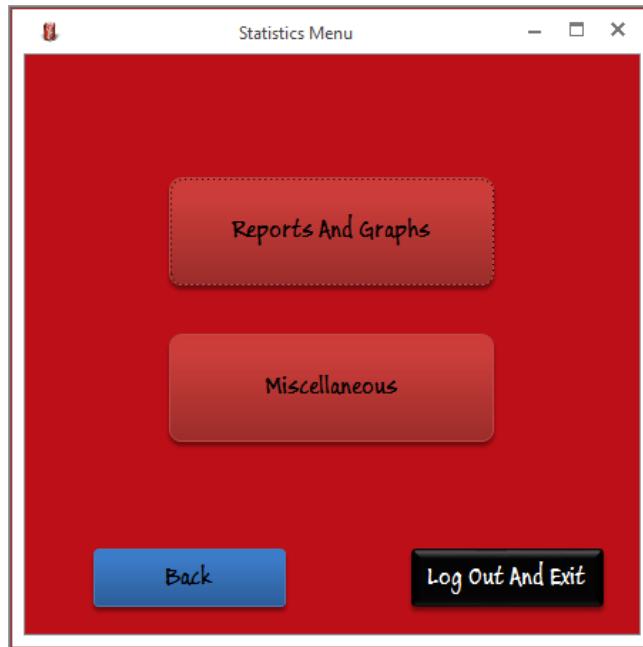
## OTHER OPTIONS MENU

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## STATISTICS MENU

- The reports and graphs button should take the user to that form.
- The miscellaneous button will take the user to that form.
- The back and exit buttons have been tested before.
- The evidence is show in the testing of the forms.



## LIST FORMS

### MISCELLANEOUS STATISTICS LISTS

- These contain just plain stats that the user asked for in the design.

A screenshot of a Windows-style application window titled "Miscellaneous Statistics". The background is red. Inside, there is a white rectangular area labeled "Stats" containing five data entries: "Re-Order Units" with value 6, "Number of Sales Today" with value 4, "Number of Sales This Month" with value 157, "Biggest Transaction Cost" with value \$20.00, and "Number of Products" with value 14. At the bottom left is a blue button labeled "Back" and at the bottom right is a black button labeled "Log Out And Exit".

## TESTING EVIDENCE

- Reorder Units("There are six records in the reorder query")

Product ID	Product Description	Manufacturer ID	Product Quantity	Product Selling Price	Product Reorder Level
1	Fanta Grape (2 Ltrs)	Coca Cola	4	\$3.00	20
3	Coke(2 Ltrs)	Coca Cola	6	\$3.00	20
4	Fanta Orange (2 LTR)	Coca Cola	10	\$3.00	20
5	Stoney Ginger Beer (2 LTR)	Coca Cola	19	\$3.00	25
6	Pampers	Huggies	12	\$2.00	12
13	Matches	Lion	20	\$0.20	20

- BIGGEST TRANSACTION COST (\$20.00) (DESCENDING ORDER OF SUBTOTAL WHICH IS TAKEN FROM THE TRANSACTION TABLE)

Transaction ID	Transaction Date	Transaction Time	Sub Total
138	15/09/2015	21:47:04	\$20.00
74	12/09/2015	11:26:15	\$19.00
76	12/09/2015	15:57:16	\$16.00
117	14/09/2015	15:50:34	\$15.00
73	12/09/2015	10:40:35	\$14.00
78	12/09/2015	15:59:48	\$12.00
77	12/09/2015	15:58:00	\$12.00
26	11/09/2015	23:39:35	\$10.00
135	14/09/2015	22:20:48	\$9.00
88	14/09/2015	13:10:41	\$8.00
70	12/09/2015	10:37:55	\$8.00
72	12/09/2015	10:40:01	\$8.00
83	14/09/2015	08:02:11	\$7.00

- NUMBER OF PRODUCTS(HAS A TOTAL OF 14 RECORDS)

Product	Product ID	Product Description	Manufacturer ID	Product Type	Product Quantity	Product Selling Price
	1	Fanta Grape (2 Ltrs)	Coca Cola	Beverages	4	\$3.00
	3	Coke(2 Ltrs)	Coca Cola	Beverages	6	\$3.00
	4	Fanta Orange (2 LTR)	Coca Cola	Beverages	10	\$3.00
	5	Stoney Ginger Beer (2 LTR)	Coca Cola	Beverages	19	\$3.00
	6	Pampers	Huggies	Toiletries	12	\$2.00
	7	Lollipops	Amazon	Sweets	47	\$0.20
	8	Coke (1 Ltr)	Coca Cola	Beverages	20	\$1.00

- DAILY SALES(HAS A TOTAL OF 2 RECORDS FOR THE DAY)

Day Sales	SalesID	Transaction Date	Transaction Time	TransactionID	ProdID	QuantityBought	Sub Total
	164	16/09/2015	08:21:17	139	Pampers	1	\$2.20
	165	16/09/2015	08:21:17	139	Lollipops	1	\$2.20
	166	16/09/2015	08:36:44	140	Fresh Milk (Chimombe) (500mL)	1	\$2.00
	167	16/09/2015	08:36:44	140	Coke (1 Ltr)	1	\$2.00

- MONTHLY SALES(HAS A TOTAL OF 157 RECORDS)(THE PROD ID WAS EMPTY BECAUSE THESE TRANSACTIONS WERE TESTING)

Month Sales	SalesID	Transaction Date	Transaction Time	TransactionID	ProdID	SumOfQuantityBought	Sub Total
	1	11/09/2015	22:27:36	3	Coke(2 Ltrs)	0	\$1
	2	11/09/2015	22:28:26	4		0	\$1
	3	11/09/2015	22:29:52	5		1	\$1
	4	11/09/2015	22:31:22	7		0	\$1
	5	11/09/2015	22:32:05	9		0	\$1
	6	11/09/2015	22:33:56	10		0	\$4
	7	11/09/2015	22:33:56	10		0	\$4

## **RE - ORDER LIST'S**

- This contains a list with the products that need reordering.
  - It's just a plain list with some details and a button to the order input menu.

ReOrderListFRM

ReOrder Products

Product Name	Product Quantity	Product Reorder Level
Fanta Grape (2 Ltrs)	4	20
Coke(2 Ltrs)	6	20
Fanta Orange (2 LTR)	10	20
Stoney Ginger Beer (2 LTR)	19	25
Pampers	11	12
Matches	20	20

[Back](#) [Order Input Menu](#) [Log out and exit](#)

## Test

A simple test to see if the contents of the list exist in the reorder query and if they update.

## Status: Pass

## Test Evidence

Reorder Query					
Product ID	Product Description	Manufacturer ID	Product Quantity	Product Selling Price	Product Reorder Level
1	Fanta Grape (2 Ltrs)	Coca Cola	4	\$3.00	20
3	Coke (2 Ltrs)	Coca Cola	6	\$3.00	20
4	Fanta Orange (2 LTR)	Coca Cola	10	\$3.00	20
5	Stoney Ginger Beer (2 LTR)	Coca Cola	19	\$3.00	25
6	Pampers	Huggies	11	\$2.00	12
13	Matches	Lion	20	\$0.20	20
*	(New)				

- The records listed on the query match the contents of the list

Another test is to see if it updates when a product is ordered and then removed from the reorder list

## Test Evidence

- Changing the stock level of matches to value 30 by literal means(Going to the table and updating)

13 Matches	Lion	Necessities	30	\$0.20	20	\$0.10	Picture
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- Checking the reorder query (which updated itself as there are now 5 records)

Reorder Query					
Product ID	Product Description	Manufacturer ID	Product Quantity	Product Selling Price	Product Reorder Level
1	Fanta Grape (2 Ltrs)	Coca Cola	4	\$3.00	20
3	Coke(2 Ltrs)	Coca Cola	6	\$3.00	20
4	Fanta Orange (2 LTR)	Coca Cola	10	\$3.00	20
5	Stoney Ginger Beer (2 LTR)	Coca Cola	19	\$3.00	25
6	Pampers	Huggies	11	\$2.00	12
*	(New)				

- Checking the reorder lists to see if they updated (They both passed)

Products Needing Attention		
ReOrder Products		
Product Name	Product Quantity	Product Reorder Level
Fanta Grape (2 Ltrs)	4	20
Coke(2 Ltrs)	6	20
Fanta Orange (2 LTR)	10	20
Stoney Ginger Beer (2 LTR)	19	25
Pampers	11	12

ReOrder Products		
Product Name	Product Quantity	Product Reorder Level
Fanta Grape (2 Ltrs)	4	20
Coke(2 Ltrs)	6	20
Fanta Orange (2 LTR)	10	20
Stoney Ginger Beer (2 LTR)	19	25
Pampers	11	12

## REPORTS AND GRAPHS

- This is a statistics menu where it produces reports and graphs of the listed criteria.
- These reports will be tested after the forms



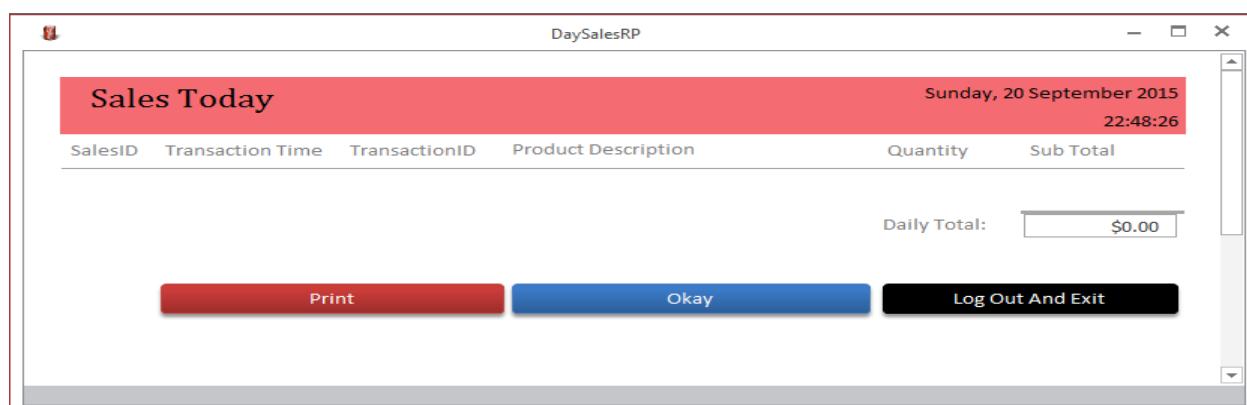
### Test

- The only test on this page is to see if the reports actually opens.
- Any report can be picked and clicked on, if the report opens then it's a pass

RESULT: PASS

### TEST EVIDENCE

THE REPORT OPENS AND SHOWS THE CORRECT DATA SINCE THERE WERE NO SALES



## DATABASE MODIFICATION FORMS

These are the forms that are used to add/edit/delete records from every table excluding sales and transaction tables.

They appear in the “Modify database” section of the inventory management menu.

### **ADD RECORD FORM**

- This is the form that is used to add records to the database.
- It adds records to the product table only in normal circumstances
- When there is a manufacturer exists already we call that a normal circumstance.
- If there is a new manufacturer it adds the manufacturer record to the manufacturer table and then sets the manufacturer to the new one.
- After editing the save button is clicked to clear fields after taking note of contents of the boxes (Saving the product record).
- Inventory management forms can only be accessed by the admin excluding orders form.

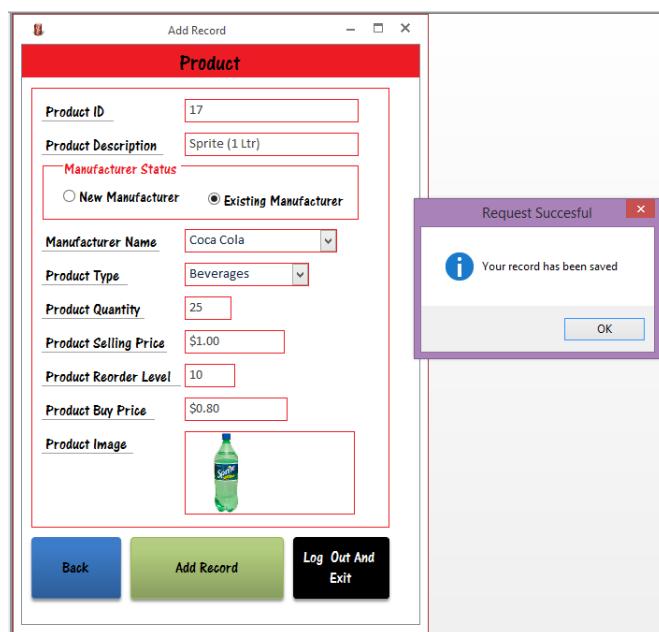
The screenshot shows a Windows-style application window titled "Add Record". Inside, a red header bar says "Product". The main area has a white background with black text labels for fields. A "Product ID" field contains "(New)". Below it is a "Product Description" field. A "Manufacturer Status" section contains two radio buttons: "New Manufacturer" (unchecked) and "Existing Manufacturer" (checked). Following this are dropdown menus for "Manufacturer Name" and "Product Type". There are also input fields for "Product Quantity", "Product Selling Price", "Product Reorder Level", and "Product Buy Price". A large empty rectangular box is labeled "Product Image". At the bottom are three buttons: a blue "Back" button, a green "Add Record" button, and a black "Log Out And Exit" button.

## Test

Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/ Fail
1	Adding a product with an existing manufacturer	A product will be added with an existing manufacturer and saved. Product table will be used to compare	A new record in product table	Product table and add product form	Pass
2	Adding a product with a new transaction	A product will be added with a new manufacturer and saved. Product table and manufacturer will be used to compare	New product table and manufacturer table record	Manufacturer table, product table and add product form	pass

## Test Evidence

1. The product table updated itself with the same details typed into the form.
  - a. The message box pops up when the save is successful after the button is clicked on.



	15 Fresh Milk (Chimombe) (500m Dairibord	Dairy	18	\$1.00	10	\$0.80	Picture	
	17 Sprite (1Ltr)	Coca Cola	Beverages	25	\$1.00	10	\$0.80	Picture

- b. The sprite record was updated.
- c. With all its details.

**2. The product table and manufacturer table got updated when the save button was clicked.**

**a. Save confirmation**

*	15 Fresh Milk (Chimombe) (500m)	Dairiboard	Dairy	18	\$1.00	10	\$0.80	Picture
*	17 Sprite (1ltr)	Coca Cola	Beverages	25	\$1.00	10	\$0.80	Picture
*	18 Cornflakes (1kg)	Kellogg	Snacks & Cereals	10	\$2.50	2	\$2.15	Picture
*	(New)							

**b. Product table update.**

### c. Manufacturer table update.

#### MODIFY RECORD FORM

- This is the form where product records that are in the product form either added before or added by the add record form can be modified and viewed in the case of a mistake or just to update buying price.

The screenshot displays the 'Modify Product' form. The form has a red header bar with the title 'Modify Product'. Below the header, there is a section titled 'Modify Item' containing the following fields:

- Product ID:** [Input field]
- Product Description:** Fanta Grape (2 Ltrs)
- Manufacturer ID:** Coca Cola [Dropdown menu]
- Product Type:** Beverages [Dropdown menu]
- Product Quantity:** 4
- Product Selling Price:** \$3.00
- Product Reorder Level:** 20
- Product Buy Price:** \$2.25
- Product Image:** [Image placeholder showing a Fanta Grape (2 Ltrs) bottle]

At the bottom of the form, there are several buttons:

- First Record
- Previous Record
- Delete Record
- Next Record
- Last Record
- Find Record
- Back
- Save Record
- Log Out And Exit

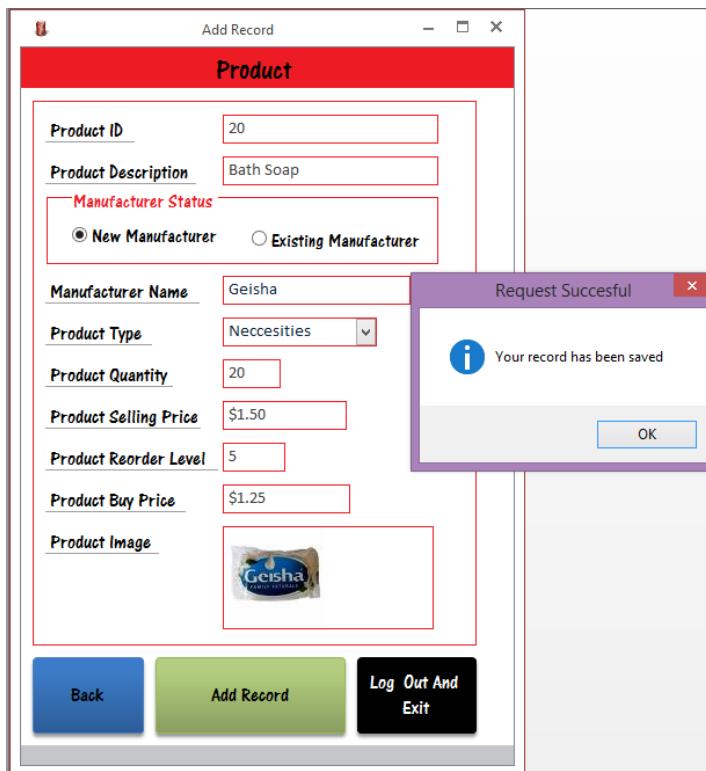
- There are also other buttons to help the user navigate through records and a find record button to search.

Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/Fail
1	Alternation of product details	A product will be made with the wrong details in the add product and then updated and saved.	The product details of the new product will change	Product table, add product record and modify product record	Pass
2	Finding of a product record	Because of the nature of the form it starts by showing detail on the first record in the table. Searching for a product somewhere in the middle of the file will prove the search function works	The product details should change to the one looked for	Product table, modify product form	Pass
3	Deletion of a record	A record (the one made in test 1) can be selected and the delete button can be clicked and the product is expected to be deletion	Product will be deleted from product table	Product table and modify product form	Pass

## TEST EVIDENCE

### 1. TESTING THE MODIFICATION FUNCTIONS

#### A. THE PRODUCT ADDED FROM THE ADD RECORD FORM



## B. THE PRODUCT VIEWED IN THE MODIFICATION FORM

The screenshot shows a Windows-style application window titled "Modify product". Inside, a red header bar says "Modify Product". Below it, a section titled "Modify Item" contains the following fields:

- Product ID:** 20
- Product Description:** Bath Soap
- Manufacturer ID:** Geisha
- Product Type:** Neccessities
- Product Quantity:** 20
- Product Selling Price:** \$1.50
- Product Reorder Level:** 5
- Product Buy Price:** \$1.25
- Product Image:** A small thumbnail image of a soap bar labeled "Geisha".

At the bottom are several buttons: "First Record", "Previous Record", "Delete Record" (disabled), "Next Record", "Last Record", "Find Record", "Back", "Save Record" (highlighted in green), and "Log Out And".

## C. THE CHANGES APPLIED TO THE DOCUMENT

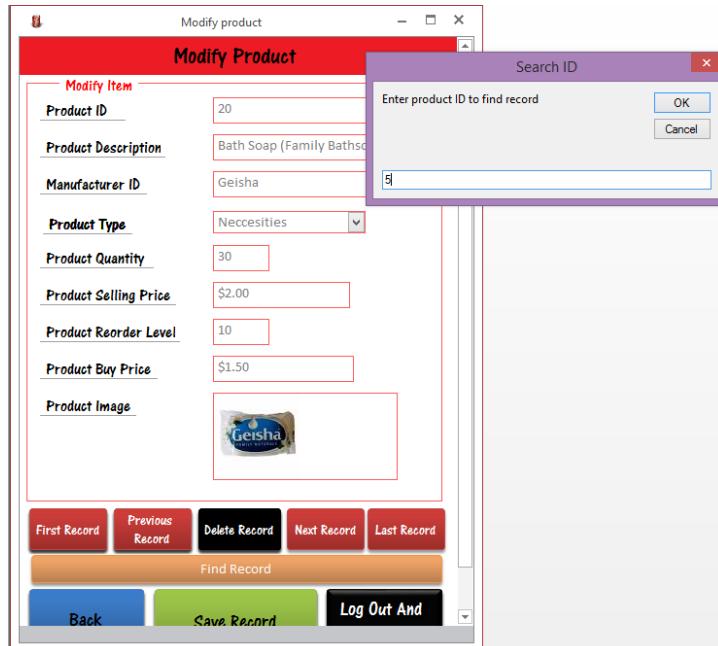
This screenshot is similar to the one above, but the "Product Description" field now contains "Bath Soap (Family Bathsoap)". A modal dialog box titled "Request Successful" is displayed in the center, stating "Your changes have been saved" with an "OK" button.

## D. THE UPDATED PRODUCT TABLE

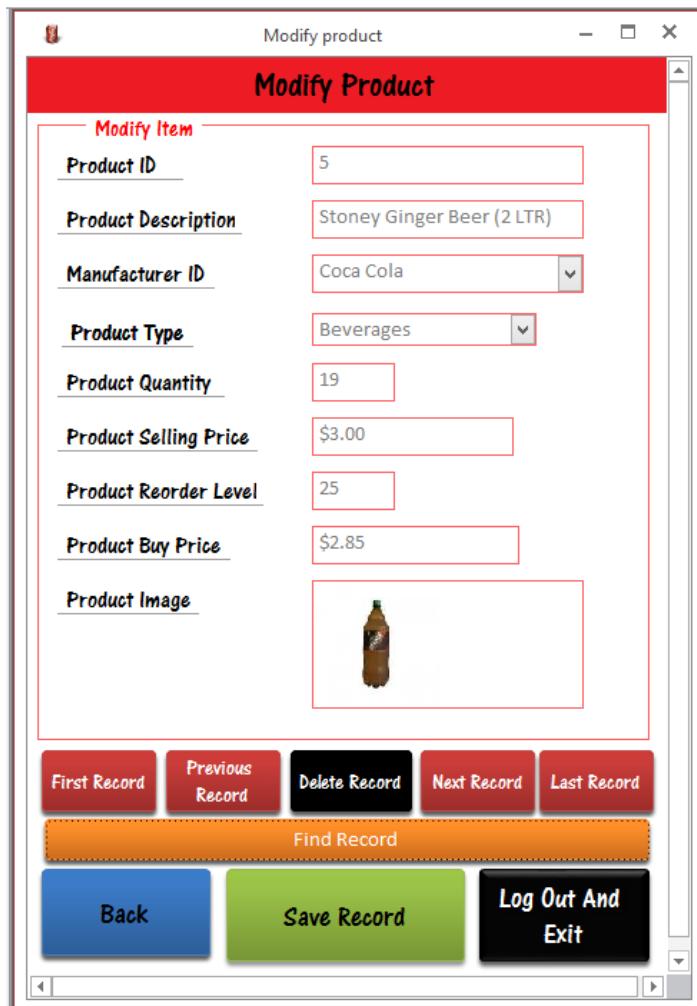
+	20	Bath Soap (Family Bathsoap)	Geisha	Neccessities	30	\$2.00	10	\$1.50
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## 2. TESTING THE FIND RECORD BUTTON

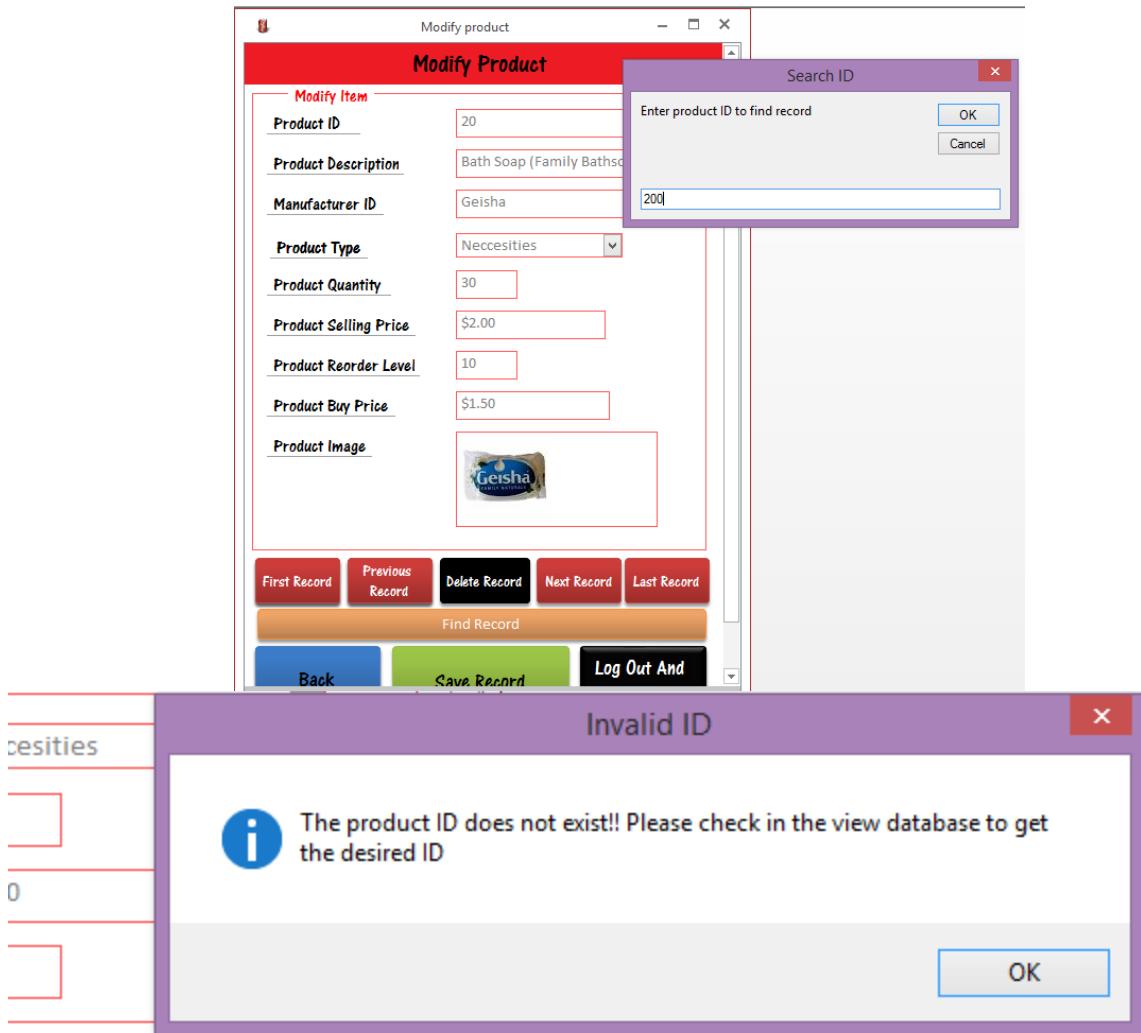
### A. ENTERING THE PRODUCT ID FOR THE SEARCH



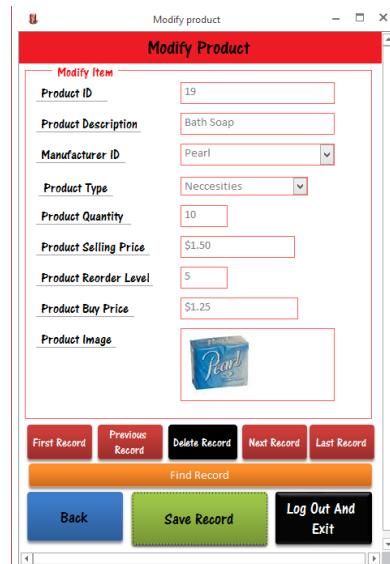
### B. THE RECORD IS FOUND AND THE PROGRAM DISPLAYS THE DETAILS



C. IF NOT FOUND OR THE ID IS INVALID THEN THE SYSTEMS SENDS A MESSAGE BOX



3. DELETING A PRODUCT RECORD.



- A. ABOVE IS THE SELECTED PRODUCT TO BE DELETED  
B. BELOW THE SYSTEM ASKS FOR CONFIRMATION

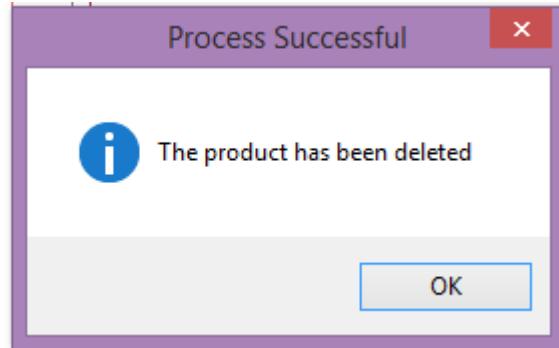
The screenshot shows a 'Modify Product' window with the following details:

- Product ID:** 20
- Product Description:** Bath Soap (Family Bathsoap)
- Manufacturer ID:** Geisha
- Product Type:** Neccesities
- Product Quantity:** 30
- Product Selling Price:** \$2.00
- Product Reorder Level:** 10
- Product Buy Price:** \$1.50
- Product Image:** An image of a 'Geisha' brand bath soap bar.

At the bottom, there are buttons for navigating between records: First Record, Previous Record, Delete Record, Next Record, Last Record, Find Record, Back, Save Record, and Log Out And Exit.

A confirmation dialog box titled 'The Spaza™ Tuckshop' is overlaid on the window, containing the message: "You are about to delete 1 record(s). If you click Yes, you won't be able to undo this Delete operation. Are you sure you want to delete these records?" with Yes and No buttons.

- C. THE CONFIRM DIALOG BOX POPS UP



- D. THE RECORD DOESN'T EXIST

+	17 Sprite (1 Ltr)	Coca Cola	Beverages	25	\$1.00	10	\$0.80	
+	18 Cornflakes (1kg)	Kellogg	Snacks & Cereals	10	\$2.50	2	\$2.15	
+	20 Bath Soap (Family Bathsoap)	Geisha	Neccesities	30	\$2.00	10	\$1.50	

## ORDER INPUT FORM

- This is the form used to record incoming orders to update the stock level.

The screenshot shows a Windows application window titled "Order Input". The main title bar is red with the text "Order Input". Below it, the window has a white background with a red border around the input fields. The form contains four text input fields labeled "Order ID", "Product ID", "Total Order Quantity", and "Product Buy Price". To the right of the "Order ID" field is a button labeled "(NEW)". Below these fields are three large buttons: "Back" (blue), "Update" (green), and "Log Out And Exit" (black).

### Test

- There's only one test and that is to find out if the order is recorded and the stock level is updated in the products table

RESULT: PASS

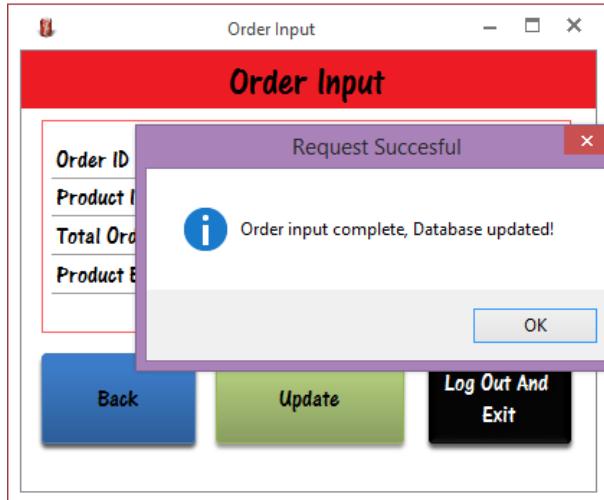
### Test Evidence

#### 1. The Fanta grape details before reorder

Product									
Product ID	Product Description	Manufacturer ID	Product Type	Product Quantity	Product Selling Price	Product Reorder Level	Product Buy Price	Product Image	Picture
1	Fanta Grape (2 Ltrs)	Coca Cola	Beverages	4	\$3.00	20	\$2.25		

#### 2. The input of information into the form and update button click

The screenshot shows the same "Order Input" window as before, but with different values entered into the fields. The "Order ID" field now contains "4", the "Product ID" dropdown menu shows "FANTA GRAPE (2 LTRS)", the "Total Order Quantity" field contains "10", and the "Product Buy Price" field contains "\$2.25". The "Update" button is highlighted in green.



### 3. The product table after the update (Below)(Fanta Grape now has 14 instances)

	Product ID	Product Description	Manufacturer ID	Product Type	Product Quantity	Product Selling Price	Product Reorder Level	Product Buy Price
[+]	1	Fanta Grape (2.Ltrs)	Coca Cola	Beverages	14	\$3.00	20	\$2.25
[+]	3	Coke(2 Ltrs)	Coca Cola	Beverages	6	\$3.00	20	\$2.40

### CHANGE PASSWORD FORM

- This is where the user can change both passwords, as you would expect the current password is asked for and then the permission to change password is granted.
- Changing passwords is an admin right.

ENTER OLD PASSWORD

ENTER NEW PASSWORD

ENTER NEW PASSWORD AGAIN

BACK      CHANGE PASSWORD      LOG OUT AND EXIT  
CHANGE ADMIN PASSWORD

Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/Fail
1	Correct Password Credentials	With everything correct we test to see if the password actually changes	The static values table should update and the new password should show	Static values table and change password form	Pass
2	Correct admin password credentials	The same test as test one but using the admin password	The static values table should update and the new admin password should show	Static values table and change password form	Pass
3	Incorrect current password	We put in an incorrect password but with a valid new password	An error message telling us that the password is incorrect should pop up	Static values table and change password form	pass
4	Inconsistent new passwords	We put different values for the new password but valid values for the current one	An error message telling us that the passwords are inconsistent should pop up	Static values table and change password form	Pass

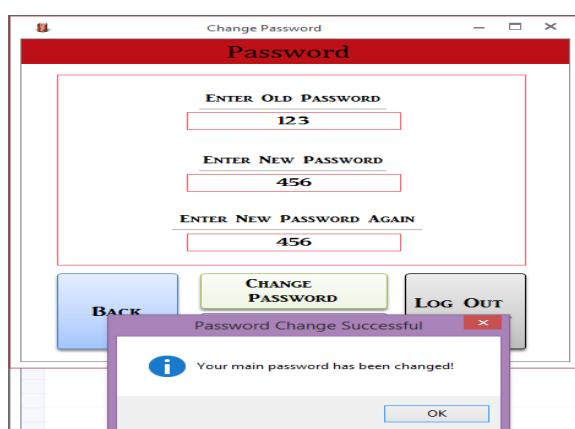
1. Correct main password test

a. The static value table before

---

Master Password	Main Password	Login Attempts	Data
master	123	0	

b. The correct change password credentials without an input mask and change button click outcome.



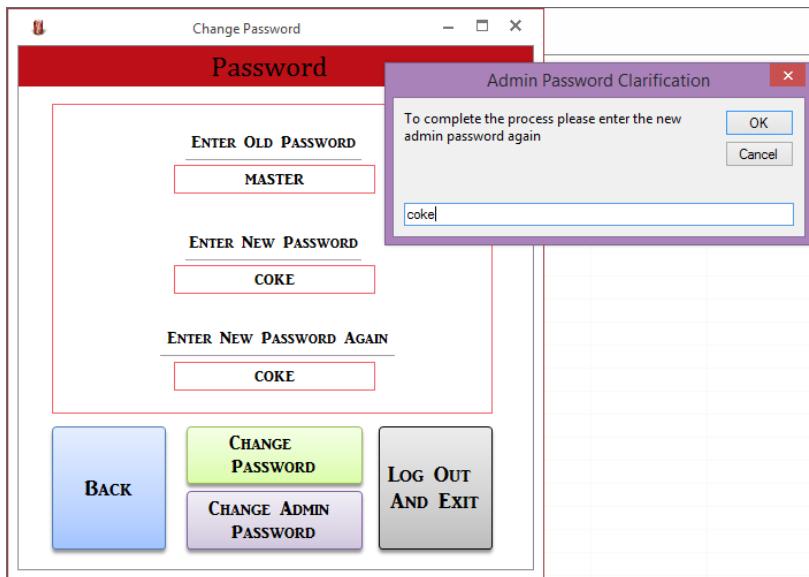
- c. The updated static value table.

---

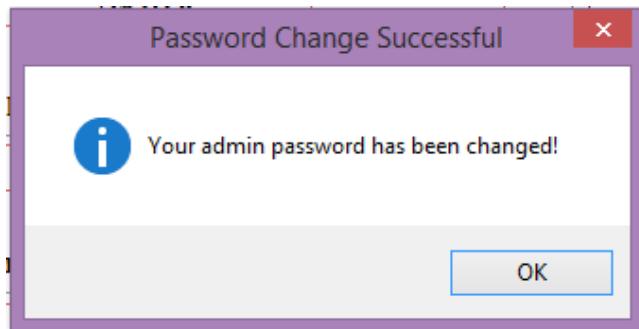
	Master Password	Main Password	Login Attempts	Data
	master	456	0	

2. Admin Password Update

- a. Using the same static values (Master Password).
- b. Inputting and changing of the password credentials with the change password form.



- c. Confirmation dialog.

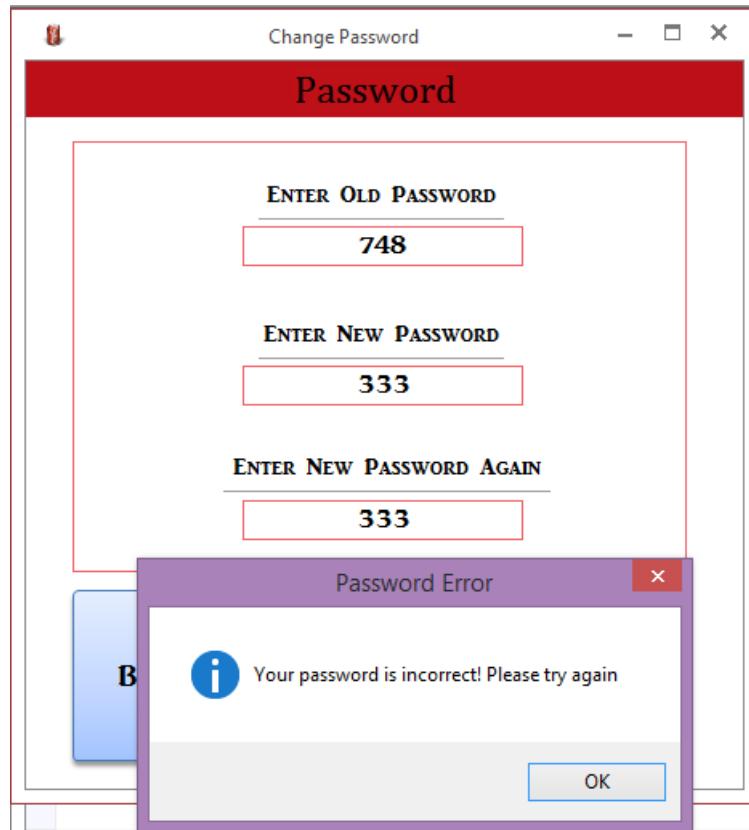


- d. Updated master password form.

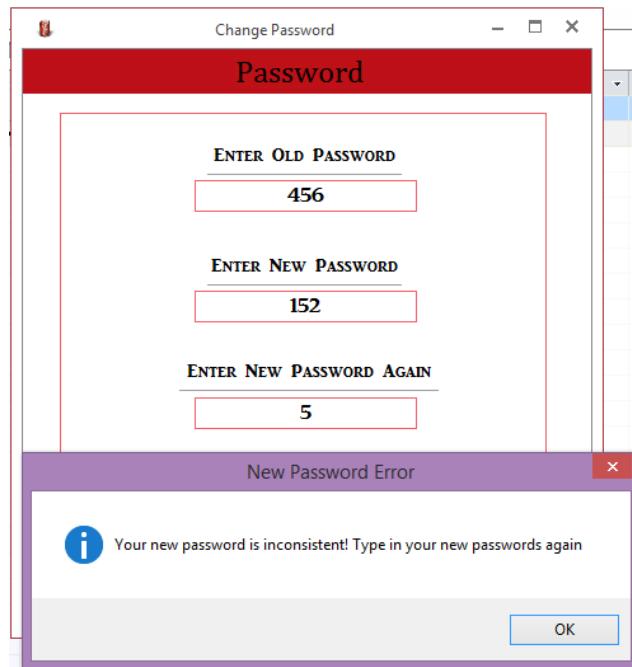
---

	Master Password	Main Password	Login Attempts	Data
	coke	456	0	

3. Incorrect Current password.
- Data input with wrong “old” password and Error message popping up.

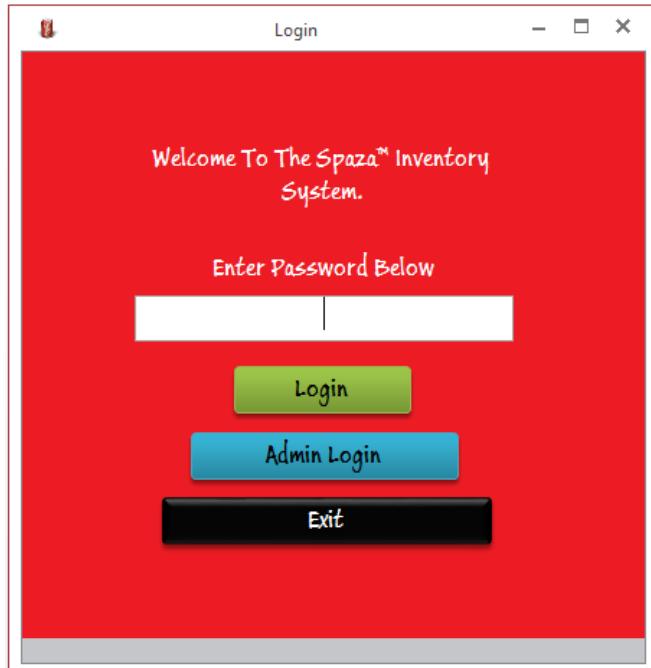


4. Inconsistent new password checks but correct old password.
- Inputting of data, button click and error box.

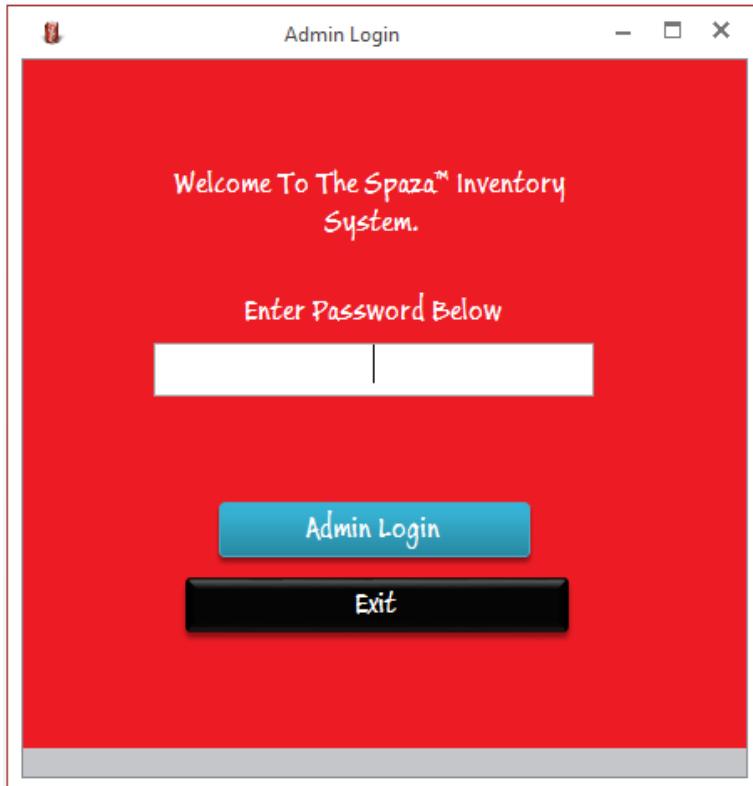


## LOGIN FORM

- This is the form that grants the user access to the system.



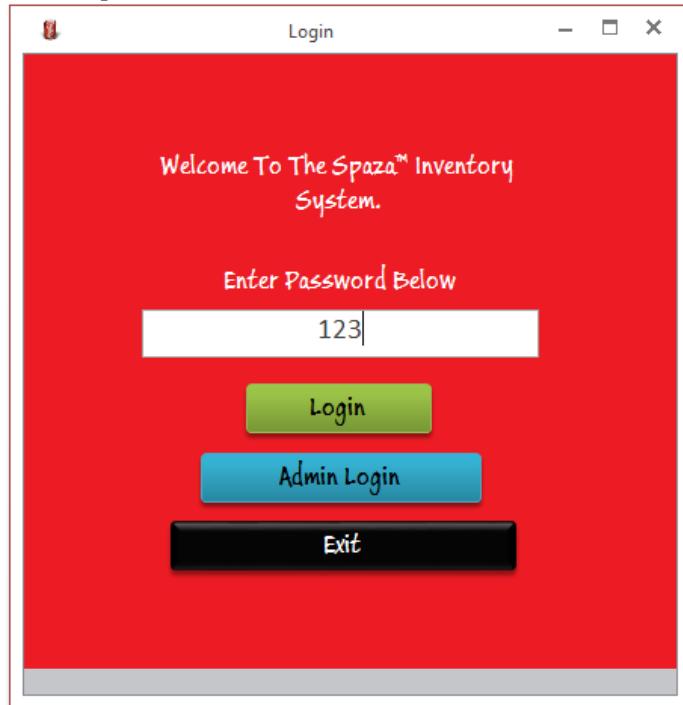
- (Featured The admin login form)



Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/ Fail
1	Correct credentials	The correct main password and admin password are entered and the login buttons are clicked respectively	The form will close and the main menu form will open, if it is admin the disable login button will appear	Static values and login form	Pass
2	Incorrect Credentials	The wrong password is input	An error message pops up with the attempts left when it's the main password	Static values and login form	pass
3	Locked Database	When the password is input into main password incorrectly 10 time the system locks and switches to the strict admin password	The database can't be opened using normal login and should force admin login	Admin login form, statics value table and login form	Pass
4	Database Unlock	After Inputting the correct admin credentials after the database as locked it should be unlocked and restarted in the sense of resetting counts	The database should unlock and everything should be normal	Admin login form, statics value table and login form	Pass

## Test Evidence

1. Correct test.
  - a. Inputting of the correct password.
  - b. Main Menu Open.

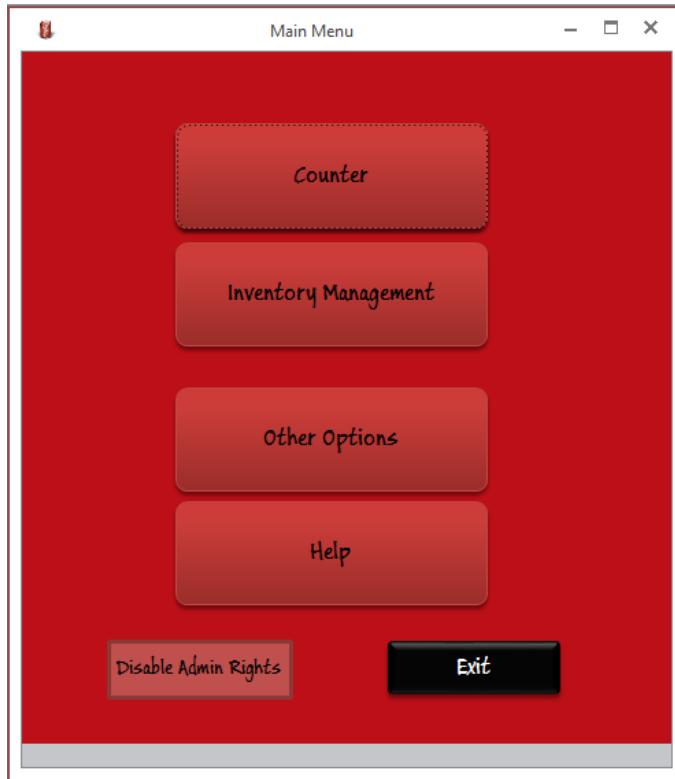


The screenshot shows a "Main Menu" window with a red background. A smaller window titled "Products Needing Attention" is overlaid. This sub-menu has a purple border and a title bar "Products Needing Attention". Inside, a table titled "ReOrder Products" is displayed:

Product Name	Product Quantity	Product Reorder Level
Fanta Grape (2 Ltrs)	14	20
Coke(2 Ltrs)	6	20
Fanta Orange (2 LTR)	10	20
Stoney Ginger Beer (2 LTR)	19	25
Pampers	8	12

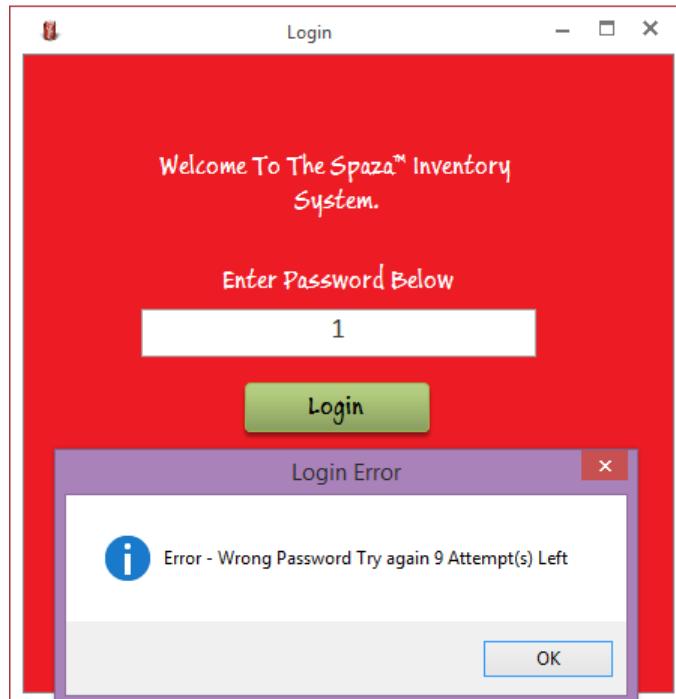
At the bottom of the sub-menu is a blue "Okay" button.

c. After admin login.

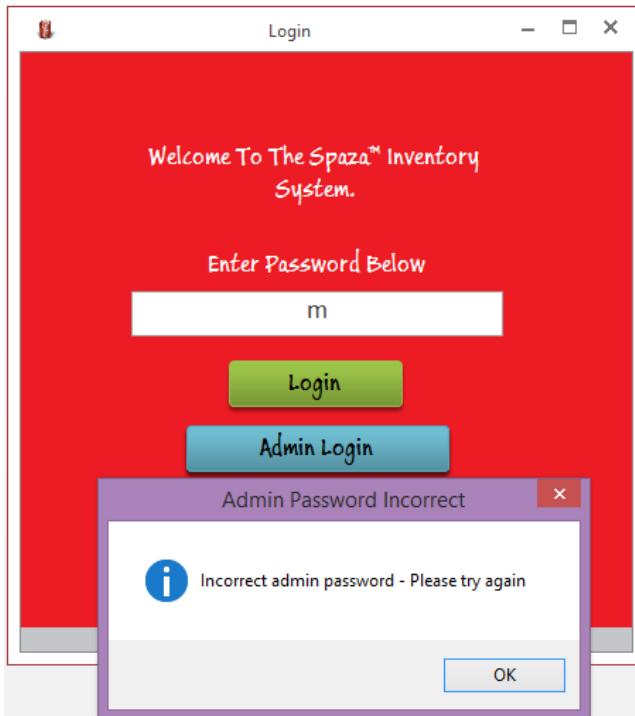


2. Incorrect password.

a. Incorrect password input and button press.

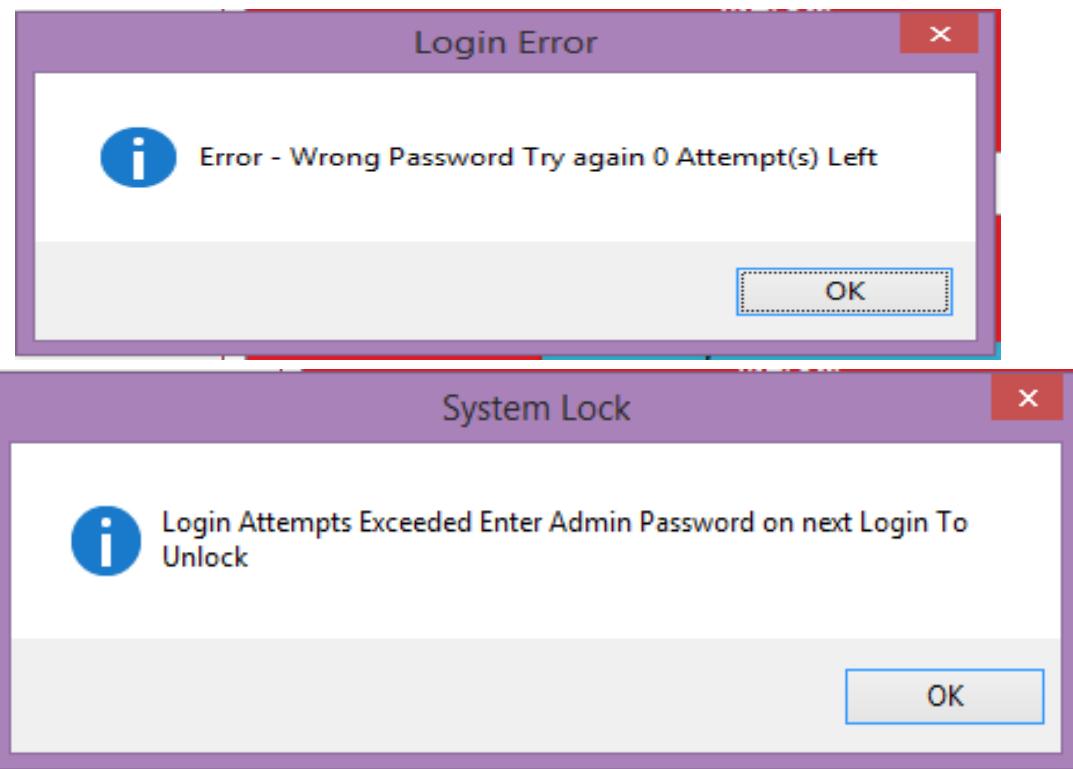


- b. Incorrect Admin password and button press.

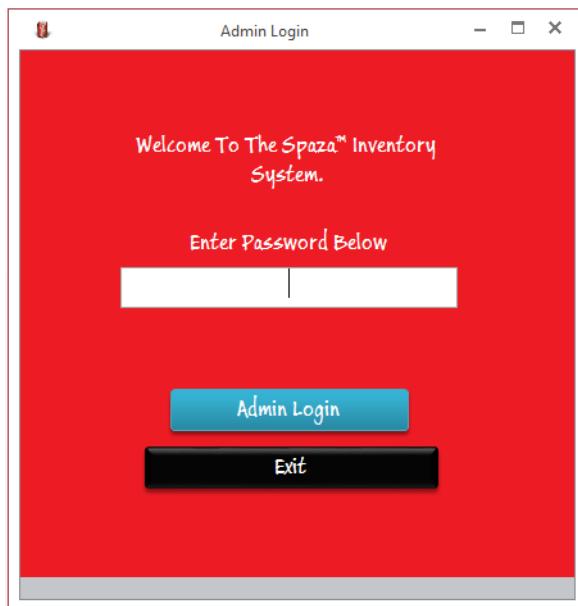
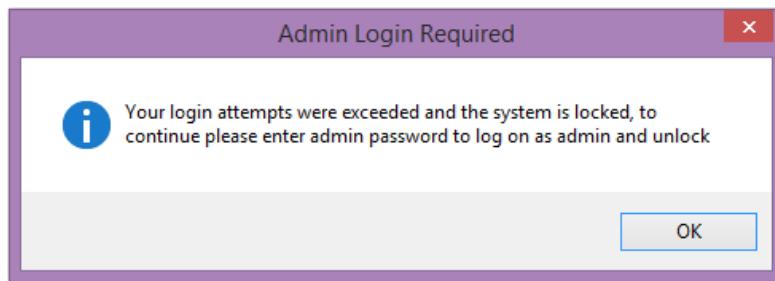


3. Locking database after 10 attempts.

- a. Errors after 10 attempts.



b. Admin login forced form

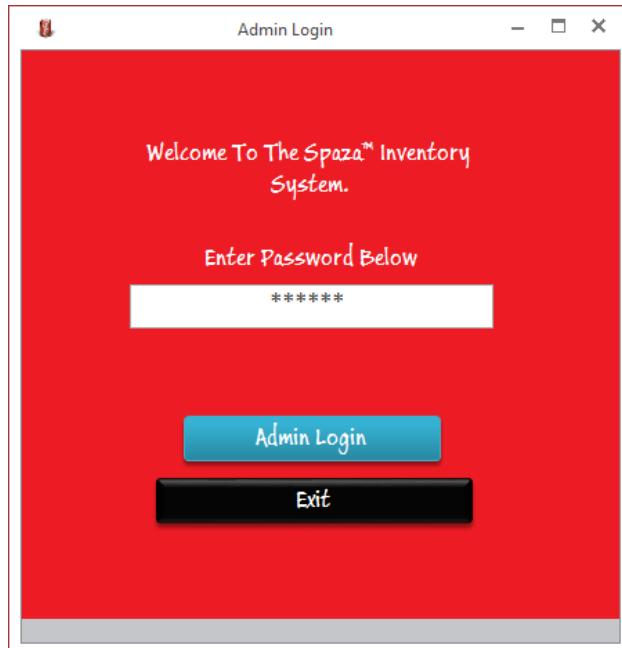


c. Static value table(Above)

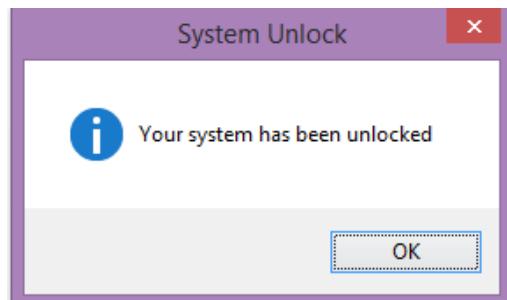
Static Values

Login Attempts	Database Lock	Admin Right	CurrentProd
10	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Coke (1 Ltr)

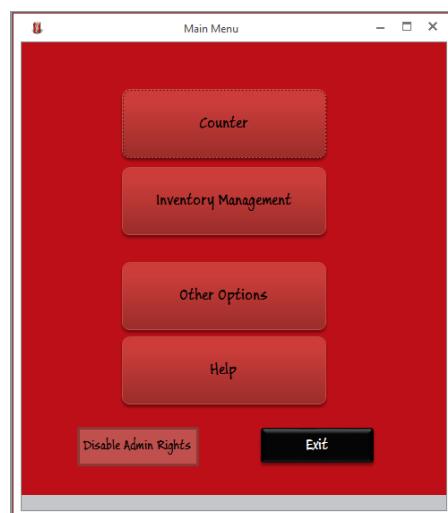
4. Unlocking of the database.
  - a. Inputting of correct admin password.



- b. Dialog box confirmation.



- c. Main menu with admin login credentials.

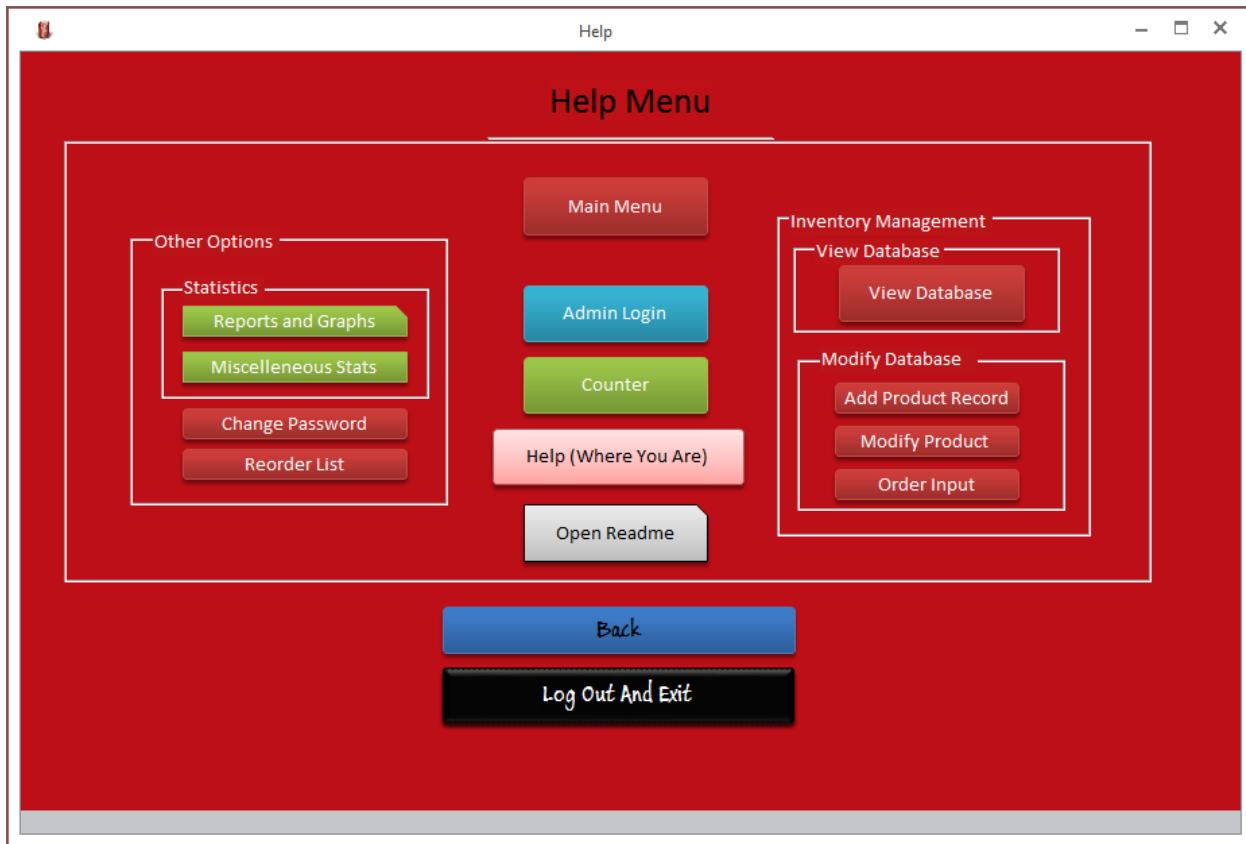


## HELP MENU

The help menu will contain a link to the user documentation with hyperlinks to the suggested forms.

It will contain a graphical representation of the whole system with buttons to take the user to any position they want in the system and to the readme.

On button hover the information about the particular form is displayed.

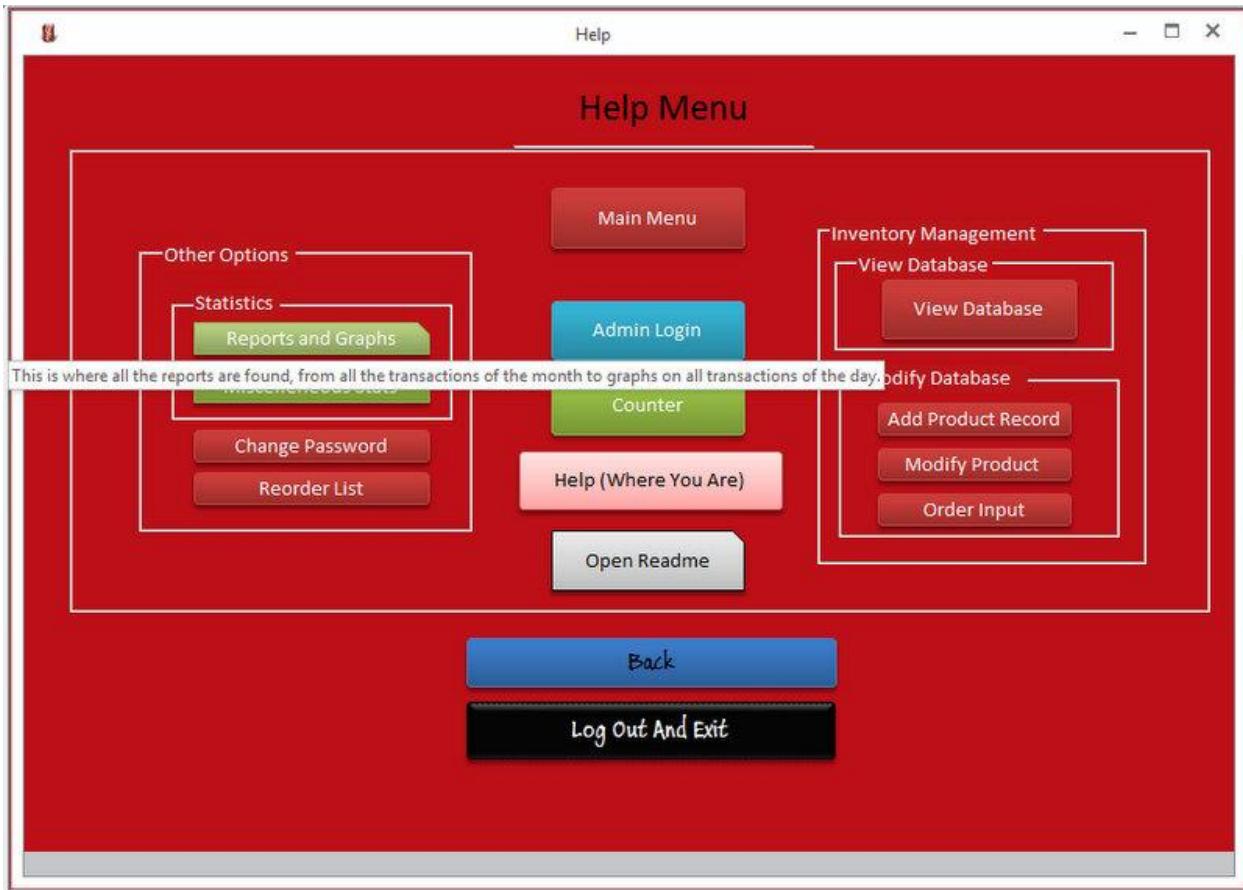


There are only two tests.

The button test to see if the buttons take the user to where they are supposed to go

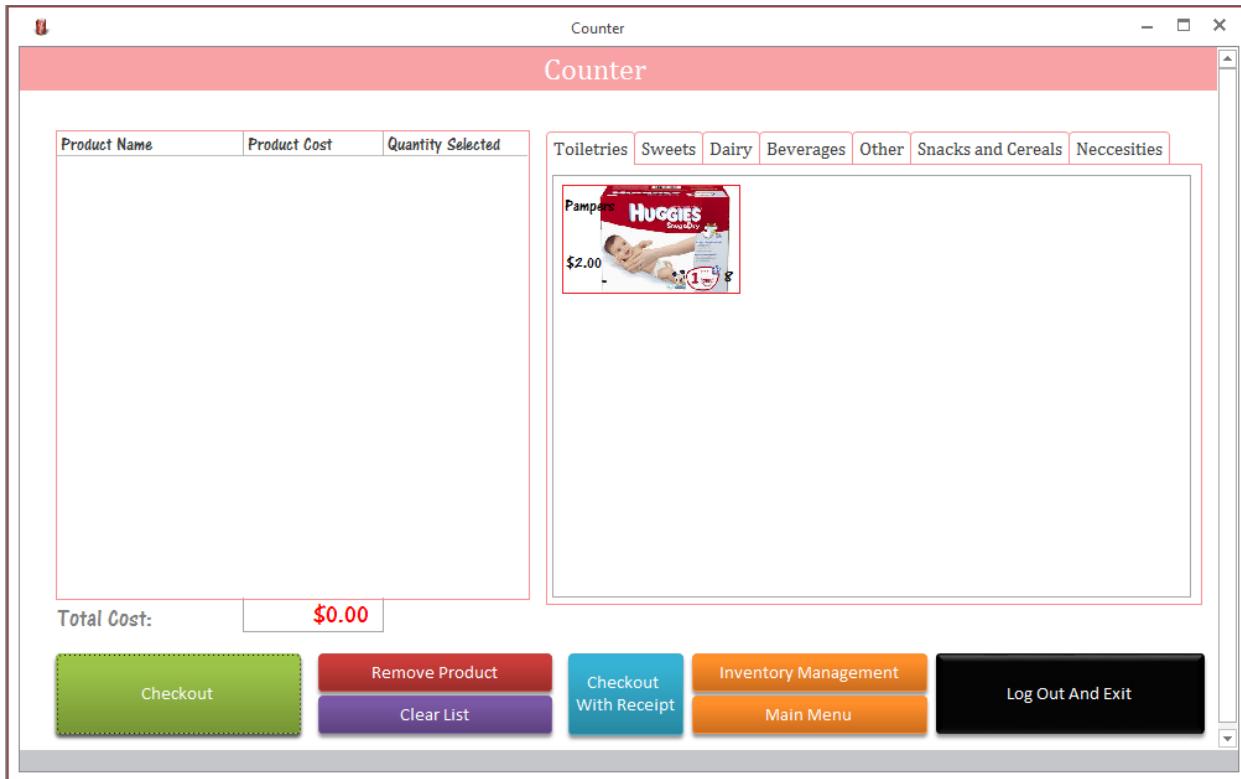
The hover text that appears when the user hovers over a button

## Results and evidence



## **COUNTER MENU (TRANSACTION)**

- This is the main transaction screen where all transactions are recorded and transaction receipts are produced when requested.



## Test

Test No	Test Subject	Test Description	Changes Expected	Forms/ Table data involved	Pass/ Fail
1	Adding to list	The product icon is clicked on and the product should be added to the list, if clicked again the quantity changes	The list should have product details added	Counter form, product table	pass
2	Deleting from list	When an item on the list is selected and the delete button is pressed its row is removed	The selected product is removed from the list	Counter form	Pass
3	Clearing the list	When the clear button is pressed everything on the list should be removed	Everything on the list excluding the headings should be removed	Counter form	Pass
4	Checkout process	When the checkout button is pressed the transaction processes should take place	An input box helping the user calculate change pops up, The quantity of the products should update, the transaction and individual sales should be recorded in respected table and the list should be cleared	Counter form, Transaction table, Sales table and product table	Pass
5	Checkout with receipt	The checkout process in test number 4 with an auto printed receipt	Every expectation in test number 4 with auto printed receipts	Counter form, Transaction table, Sales table and product table	Pass

## Test Evidence

1. ADDING AN ITEM
  - CLICKING ON THE ICON ADDED THE PRODUCT TO THE LIST

Counter

Counter

Product Name	Product Cost	Quantity Selected
Pampers	\$2.00	1

Total Cost: **\$2.00**

Toiletries Sweets Dairy Beverage



2. REMOVING AN ITEM FROM THE LIST
  - SELECTING THE PRODUCT

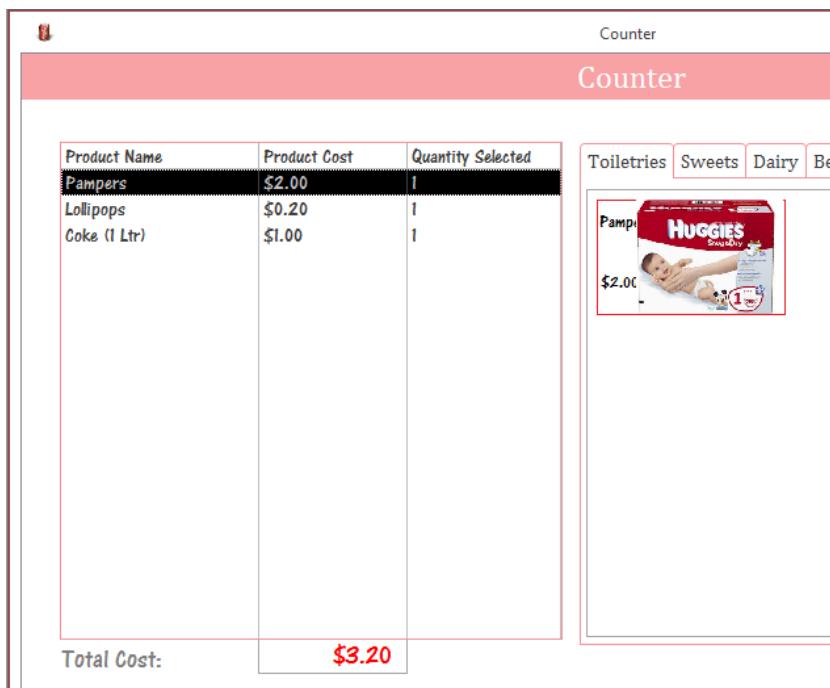
Counter

Counter

Product Name	Product Cost	Quantity Selected
Pampers	\$2.00	1
Lollipops	\$0.20	1
Coke (1 Ltr)	\$1.00	1

Total Cost: **\$3.20**

Toiletries Sweets Dairy Beverage



- CLICKING THE REMOVE BUTTON, REMOVES THE LIST AND UPDATES SUB

Counter

Counter

Product Name	Product Cost	Quantity Selected
Lollipops	\$0.20	1
Coke (1 Ltr)	\$1.00	1

Total Cost: **\$1.20**

**Checkout**   **Remove Product**   **Checkout**   **Invento**

TOTAL

### 3. CLEARING THE LIST

- CLICKING ON THE BUTTTON REMOVED EVERYTHNG FROM THE LIST

Counter

Counter

Product Name	Product Cost	Quantity Selected
--------------	--------------	-------------------

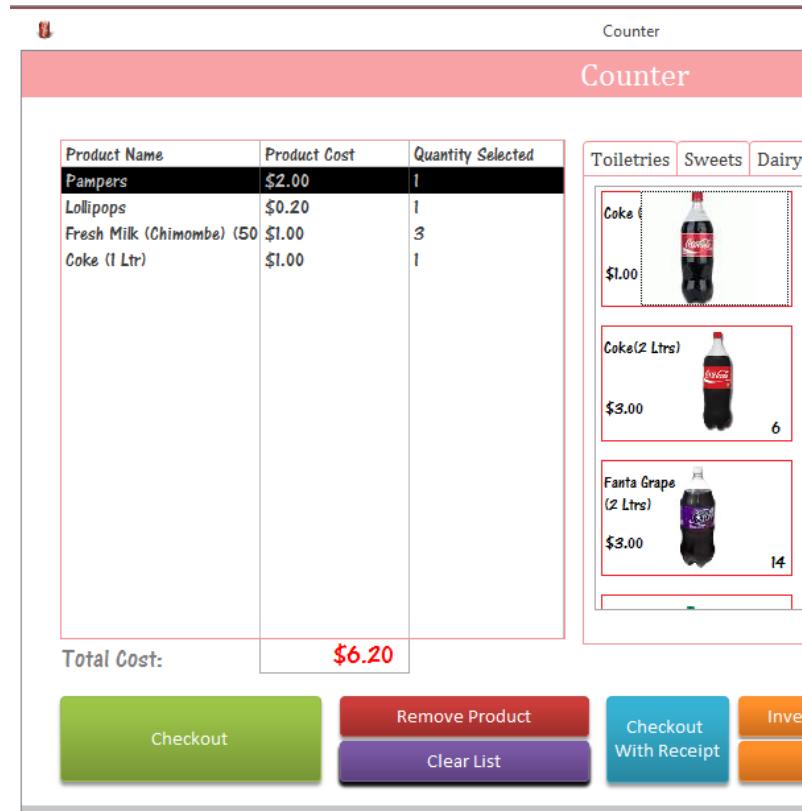
Total Cost: **\$0.00**

**Checkout**   **Remove Product**   **Checkout With Receipt**   **Invento**

**Clear List**

#### 4. CHECKOUT BUTTON

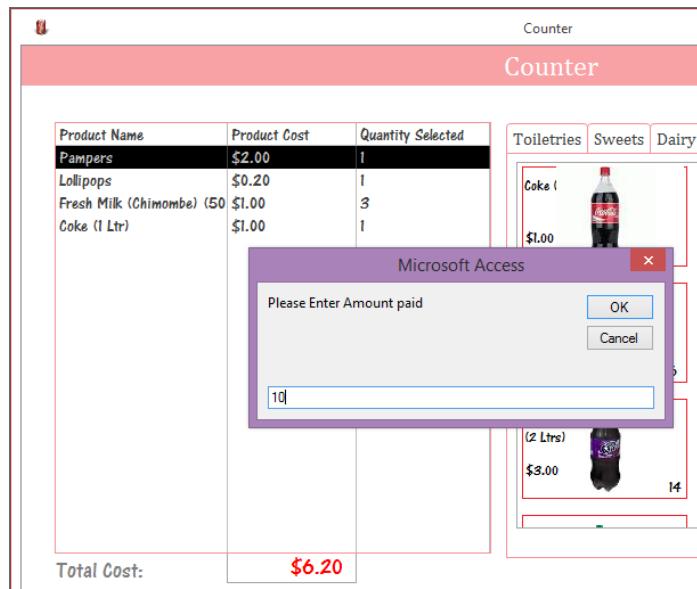
- CREATING A TRANSACTION



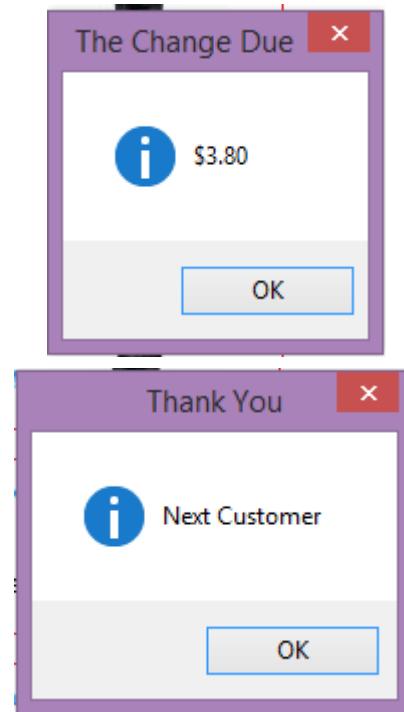
- CHECKING BEFORE PRODUCT DETAILS.

Product								
Product ID	Product Description	Manufacturer ID	Product Type	Product Quantity	Product Selling Price	Product Reorder Level	Product Buy Price	
1	Fanta Grape (2 Ltrs)	Coca Cola	Beverages	14	\$3.00	20	\$2.25	
3	Coke(2 Ltrs)	Coca Cola	Beverages	6	\$3.00	20	\$2.40	
4	Fanta Orange (2 LTR)	Coca Cola	Beverages	10	\$3.00	20	\$2.80	
5	Stoney Ginger Beer (2 LTR)	Coca Cola	Beverages	19	\$3.00	25	\$2.85	
6	Pampers	Huggies	Toiletries	8	\$2.00	12	\$1.80	
7	Lollipops	Amazon	Sweets	44	\$0.20	10	\$0.10	
8	Coke (1 Ltr)	Coca Cola	Beverages	17	\$1.00	15	\$0.80	
10	Madison	Madison	Other	19	\$1.00	15	\$0.80	
11	Cerevita (Corn And Banana's)	Nestle	Snacks & Cereals	19	\$3.60	5	\$3.40	
12	Green Bar Soap	Acacia	Necessities	45	\$1.60	15	\$1.40	
13	Matches	Lion	Necessities	29	\$0.20	20	\$0.10	
14								
15	Fresh Milk (Chimombe) (500ml)	Dairiboard	Dairy	18	\$1.00	10	\$0.80	
17	Sprite (1 Ltr)	Coca Cola	Beverages	25	\$1.00	10	\$0.80	
18	Cornflakes (1kg)	Kellogg	Snacks & Cereals	10	\$2.50	2	\$2.15	
20	Bath Soap (Family Bathsoap)	Geisha	Necessities	30	\$2.00	10	\$1.50	

- CLICKING ON THE CHECKOUT BUTTON AND ENTERING AMOUNT PAID.



- CONFIRMATION NOTICE



- TRANSACTION TABLE PROOF

	Transaction ID	Transaction Date	Transaction Time	Sub Total	Click to Add
145	21/09/2015	01:13:28	\$6.20		

○ SALES TABLE PROOF

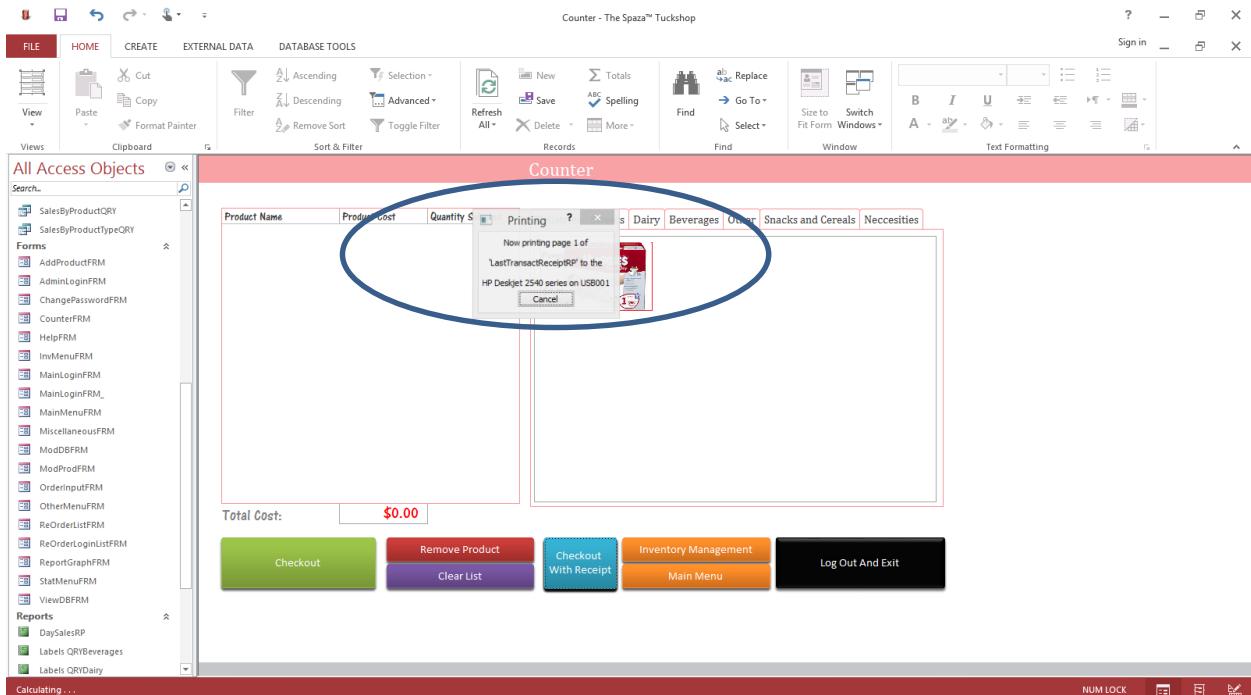
SalesID	TransactionID	ProdID	QuantityBought
182	145 Coke (1 Ltr)		1
181	145 Fresh Milk (Chimombe)		3
180	145 Lollipops		1
179	145 Pampers		1

○ PRODUCT TABLE PROOF

Product ID	Product Description	Manufacturer ID	Product Type	Product Quantity	Product Selling Price	Product Reorder Level	Product Buy Price
1	Fanta Grape (2 Ltrs)	Coca Cola	Beverages	14	\$3.00	20	\$2.25
3	Coke(2 Ltrs)	Coca Cola	Beverages	6	\$3.00	20	\$2.40
4	Fanta Orange (2 LTR)	Coca Cola	Beverages	10	\$3.00	20	\$2.80
5	Stoney Ginger Beer (2 LTR)	Coca Cola	Beverages	19	\$3.00	25	\$2.85
6	Pampers	Huggies	Toiletries	7	\$2.00	12	\$1.80
7	Lollipops	Amazon	Sweets	43	\$0.20	10	\$0.10
8	Coke (1 Ltr)	Coca Cola	Beverages	16	\$1.00	15	\$0.80
10	Madison	Madison	Other	19	\$1.00	15	\$0.80
11	Cerevita (Corn And Banana's)	Nestle	Snacks & Cereals	19	\$3.60	5	\$3.40
12	Green Bar Soap	Acacia	Necessities	45	\$1.60	15	\$1.40
13	Matches	Lion	Necessities	29	\$0.20	20	\$0.10
14							
15	Fresh Milk (Chimombe) (500ml)	Dairiboard	Dairy	15	\$1.00	10	\$0.80
17	Sprite (1Ltr)	Coca Cola	Beverages	25	\$1.00	10	\$0.80
18	Cornflakes (1kg)	Kellogs	Snacks & Cereals	10	\$2.50	2	\$2.15
20	Bath Soap (Family Bathsoap)	Geisha	Necessities	30	\$2.00	10	\$1.50

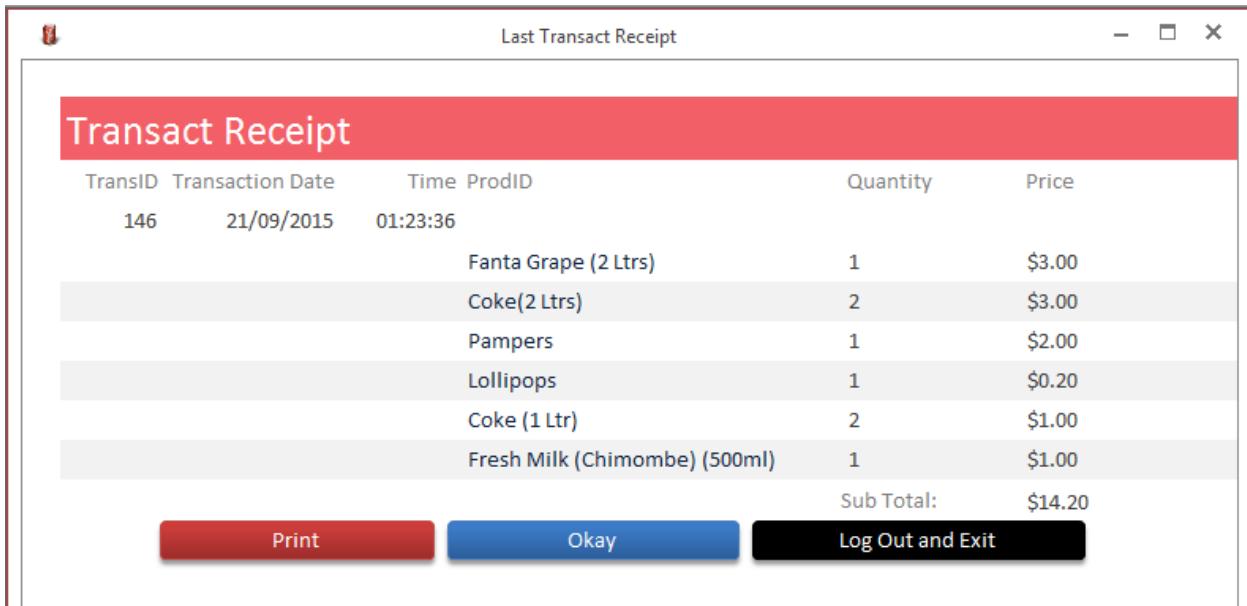
5. Checkout with a receipt

○ The print with receipt button click



○ Receipt sample

- *WHAT THE RECEIPT LOOKS LIKE*



### Query Testing

Query testing was hard to do as it would involve literally counting all the records appropriate to the query criteria. Proving that the counting was successful seemed to another story as a whole so general eye comparison was used to see if the query filtering was successful. Using the query codes (In criteria and grouping) provided in the user Documentation we can get a better testing understanding of how the correct/ expected values were derived.

---

## SALES QUERIES

---

There are 4 sales queries that keep track of the whole transaction sales records. It combines the two tables and then filters the out for a time period.

---

### DAY SALES QUERY

---

SalesID	Transaction Date	Transaction Time	TransactionID	ProdID	QuantityBought	Sub Total
*	(New)					

No sales were made on the particular testing day which makes it easier to see if it works correctly.

## MONTHLY SALES QUERY

SalesID	Transaction Date	Transaction Time	TransactionID	ProdID	SumOfQuantityBought	Sub Total	Month
1	11/09/2015	22:27:36		3 Coke(2 Ltrs)	0	\$1.00	9
2	11/09/2015	22:28:26	4		0	\$1.00	9
3	11/09/2015	22:29:52	5		1	\$1.00	9
4	11/09/2015	22:31:22	7		0	\$1.00	9
5	11/09/2015	22:32:05	9		0	\$1.00	9
6	11/09/2015	22:33:56	10		0	\$4.00	9
7	11/09/2015	22:33:56	10		0	\$4.00	9
8	11/09/2015	22:35:15	12		0	\$3.00	9
9	11/09/2015	22:36:04	13		0	\$1.00	9
10	11/09/2015	22:37:12	14		0	\$3.00	9
12	11/09/2015	22:53:01	16 Coke (1 Ltr)		1	\$1.00	9
13	11/09/2015	22:53:52	17 Coke (1 Ltr)		1	\$7.00	9
14	11/09/2015	22:53:52	17 Coke(2 Ltrs)		1	\$7.00	9
15	11/09/2015	22:53:52	17 Fanta Grape (2 Ltrs)		1	\$7.00	9
17	11/09/2015	23:23:23	19 Coke (1 Ltr)		1	\$1.00	9
20	11/09/2015	23:26:30	22 Coke (1 Ltr)		1	\$4.00	9
21	11/09/2015	23:26:30	22 Coke(2 Ltrs)		1	\$4.00	9
22	11/09/2015	23:29:29	23 Coke (1 Ltr)		1	\$7.00	9
23	11/09/2015	23:29:29	23 Coke(2 Ltrs)		1	\$7.00	9
24	11/09/2015	23:29:29	23 Fanta Grape (2 Ltrs)		1	\$7.00	9
25	11/09/2015	23:33:18	24 Coke (1 Ltr)		1	\$4.00	9
26	11/09/2015	23:33:18	24 Coke(2 Ltrs)		1	\$4.00	9
27	11/09/2015	23:39:02	25 Coke (1 Ltr)		1	\$7.00	9
28	11/09/2015	23:39:02	25 Coke(2 Ltrs)		1	\$7.00	9
29	11/09/2015	23:39:02	25 Fanta Grape (2 Ltrs)		1	\$7.00	9
30	11/09/2015	23:39:35	26 Fanta Grape (2 Ltrs)		1	\$10.00	9
31	11/09/2015	23:39:55	27 Coke (1 Ltr)		1	\$1.00	9
32	11/09/2015	23:46:43	28 Coke (1 Ltr)		1	\$1.00	9
33	11/09/2015	23:47:37	29 Coke(2 Ltrs)		1	\$3.00	9
34	11/09/2015	23:52:08	30 Coke (1 Ltr)		1	\$1.00	9

All the sales records for the month with an extra month field.

## ANNUAL QUERY

All sales during the year with extra year column. Accuracy justified by the fact that all test transaction happened in one month and the same records are in the annual query

SalesID	ProdID	QuantityBought	Transaction Date	Transaction Time	Sub Total	Year
1	Coke(2 Ltrs)	0	11/09/2015	22:27:36	\$1.00	2015
2		0	11/09/2015	22:28:26	\$1.00	2015
3		1	11/09/2015	22:29:52	\$1.00	2015
4		0	11/09/2015	22:31:22	\$1.00	2015
5		0	11/09/2015	22:32:05	\$1.00	2015
6		0	11/09/2015	22:33:56	\$4.00	2015
7		0	11/09/2015	22:33:56	\$4.00	2015
8		0	11/09/2015	22:35:15	\$3.00	2015
9		0	11/09/2015	22:36:04	\$1.00	2015
10		0	11/09/2015	22:37:12	\$3.00	2015
12	Coke (1 Ltr)	1	11/09/2015	22:53:01	\$1.00	2015
13	Coke (1 Ltr)	1	11/09/2015	22:53:52	\$7.00	2015
14	Coke(2 Ltrs)	1	11/09/2015	22:53:52	\$7.00	2015
15	Fanta Grape (2 Ltrs)	1	11/09/2015	22:53:52	\$7.00	2015
17	Coke (1 Ltr)	1	11/09/2015	23:23:23	\$1.00	2015
20	Coke (1 Ltr)	1	11/09/2015	23:26:30	\$4.00	2015
21	Coke(2 Ltrs)	1	11/09/2015	23:26:30	\$4.00	2015
22	Coke (1 Ltr)	1	11/09/2015	23:29:29	\$7.00	2015
23	Coke(2 Ltrs)	1	11/09/2015	23:29:29	\$7.00	2015
24	Fanta Grape (2 Ltrs)	1	11/09/2015	23:29:29	\$7.00	2015
25	Coke (1 Ltr)	1	11/09/2015	23:33:18	\$4.00	2015
26	Coke(2 Ltrs)	1	11/09/2015	23:33:18	\$4.00	2015
27	Coke (1 Ltr)	1	11/09/2015	23:39:02	\$7.00	2015
28	Coke(2 Ltrs)	1	11/09/2015	23:39:02	\$7.00	2015
29	Fanta Grape (2 Ltrs)	1	11/09/2015	23:39:02	\$7.00	2015
30	Fanta Grape (2 Ltrs)	1	11/09/2015	23:39:35	\$10.00	2015
31	Coke (1 Ltr)	1	11/09/2015	23:39:55	\$1.00	2015
32	Coke (1 Ltr)	1	11/09/2015	23:46:43	\$1.00	2015
33	Coke(2 Ltrs)	1	11/09/2015	23:47:37	\$3.00	2015
34	Coke (1 Ltr)	1	11/09/2015	23:52:08	\$1.00	2015

Record: 14 < 1 of 176 > ► ▶ No Filter Search

## LAST TRANSACTION QUERY

TransID	Transaction Date	Transaction Time	ProdID	QuantityBought	Product Selling Price	Sub Total
146	27/09/2015	14:47:12	Pampers	1	\$2.00	\$3.00
146	27/09/2015	14:47:12	Fresh Milk (Chimombe) (500ml)	1	\$1.00	\$3.00
*	(New)					

The last transaction was made involving these two products. This query is also used to make the receipt after a transaction.

## GROUPING QUERIES

These group their sales to a certain criteria

### SALES BY MANUFACTURER

Manufacturer ID	SumOfQuantityBought
Coca Cola	147
Huggies	55
Amazon	12
Madison	2
Nestle	1
Acacia	5
Lion	2
Dairiboard	7

All the sales by manufacturer

### SALES BY PRODUCT NAME

ProdID	SumOfQuantityBought
Fanta Grape (2 Ltrs)	27
Coke(2 Ltrs)	51
Fanta Orange (2 LTR)	2
Stoney Ginger Beer (2 LTR)	3
Pampers	55
Lollipops	12
Coke (1 Ltr)	64
Madison	2
Cerevita (Corn And Banana's)	1
Green Bar Soap	5
Matches	2
Fresh Milk (Chimombe) (500ml)	7

All sales Classified by name

### SALES BY PRODUCT TYPE

Total Quantity Bought	Product Type
147	Beverages
7	Dairy
7	Neccesities
2	Other
1	Snacks & Cereals
12	Sweets
55	Toiletries

All sales Classified by product type

### OTHER QUERIES

#### THE REORDER QUERY

Product ID	Product Description	Manufacturer ID	Product Quantity	Product Selling Price	Product Reorder Level
1	Fanta Grape (2 Ltrs)	Coca Cola	14	\$3.00	20
3	Coke(2 Ltrs)	Coca Cola	6	\$3.00	20
4	Fanta Orange (2 LTR)	Coca Cola	10	\$3.00	20
5	Stoney Ginger Beer (2 LTR)	Coca Cola	19	\$3.00	25
6	Pampers	Huggies	7	\$2.00	12
8	Coke (1 Ltr)	Coca Cola	14	\$1.00	15
*	(New)				

All products needing reorder.

## THE SALES QUERY

SalesID	Transaction Date	Transaction Time	TransactionID	ProdID	QuantityBought	Sub Total	Product Image	Product Type	Product Selling Price
15	11/09/2015	22:53:52	17	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
24	11/09/2015	23:29:29	23	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
29	11/09/2015	23:39:02	25	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
30	11/09/2015	23:39:35	26	Fanta Grape (2 Ltrs)	1	\$10.00	Picture Beverages		\$3.00
41	12/09/2015	00:16:08	35	Fanta Grape (2 Ltrs)	1	\$6.00	Picture Beverages		\$3.00
51	12/09/2015	00:41:22	44	Fanta Grape (2 Ltrs)	1	\$3.00	Picture Beverages		\$3.00
57	12/09/2015	00:58:46	47	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
63	12/09/2015	01:04:17	51	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
66	12/09/2015	01:06:16	52	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
69	12/09/2015	01:06:57	53	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
72	12/09/2015	01:07:39	54	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
90	12/09/2015	09:15:06	69	Fanta Grape (2 Ltrs)	1	\$7.00	Picture Beverages		\$3.00
97	12/09/2015	10:40:35	73	Fanta Grape (2 Ltrs)	2	\$14.00	Picture Beverages		\$3.00

All sales with their product and transaction details.

# **IMPLEMENTATION**

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## **REMARKS AND STRATEGIES**

### **REMARK**

After agreeing on the development and test plan with the user. It was time to then pick and introduce an implementation technique. After showing him the four options between a pilot changeover, phased changeover, direct changeover and parallel running it was no surprise to see that the end user picked the parallel running method which involves both the old method and the computerized method running side by side until the new “method” is deemed “worthy” to be a complete replacement for the old system.

### **STAFF TRAINING AND IMPLEMENTATION PROCESS**

Mr. Mafukidze and I agreed on a date (Saturday) where I could come over and teach him how to use the system. Staff training was simple at first as it was all in the days work but the user seemed to forget the next day and the decision to add the user documentation to the installation folder was made.



The parallel however would have to involve someone else to use the system while the user was at their books.

On another day Mr. Mafukidze asked me to be the one running the computerized system during the day to see how much easier it would be for me to keep up with him (Although he did most of the keeping up).

After a few test days Mr. Mafukidze was impressed with the system and how easy it was to use and decided to complete the changeover.

### USER USING THE SYSTEM

