

Restaurant Automation System

TEST SUITE DESIGN AND TEST RESULTS

Group - 13

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1. Introduction

This document is a high-level overview defining testing strategy for the Restaurant Automation System (RAS).

1.1 Description

System testing was important to a project, testing is to validate the system whether meet the requirement of the system. Software testing is used to test the functionality of each application. Software testing enables to investigate the quality of the system. Software testing able to verify whether does the system meets the business and technical requirements has been request in the objective. Software testing can be also stated as a process to validate and verify the software programs. The software testing is being carried out by using a testing methodology.

1.2 Related Documents

- 1.2.1 LIS SRS
- 1.2.2 LIS SA-SD
- 1.2.3 LIS UML diagrams

1.3 Hardware requirements

The software has been tested on machine with a minimum of the following specifications:

RAM: preferably over 1GB

Processor: 64 bit

1.4 Software Requirements

The LIS has the following software dependencies:

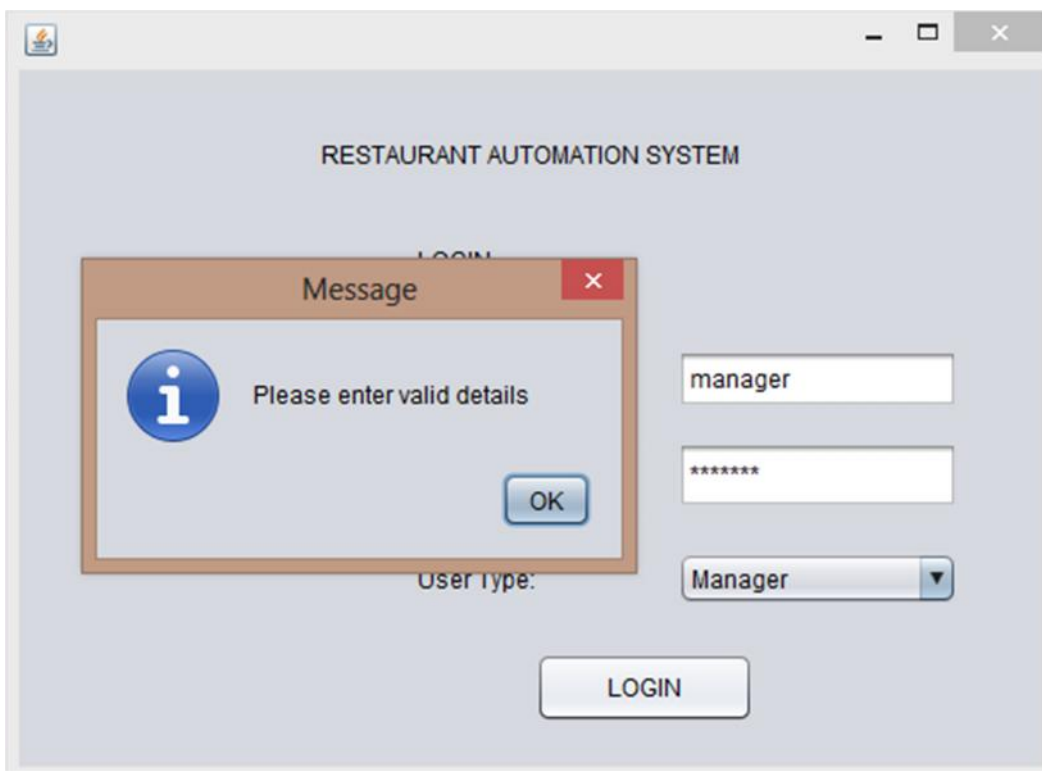
Operating System: Any Windows or Linux based operating System

SQL Client: MySQL

2.Validation and Verification

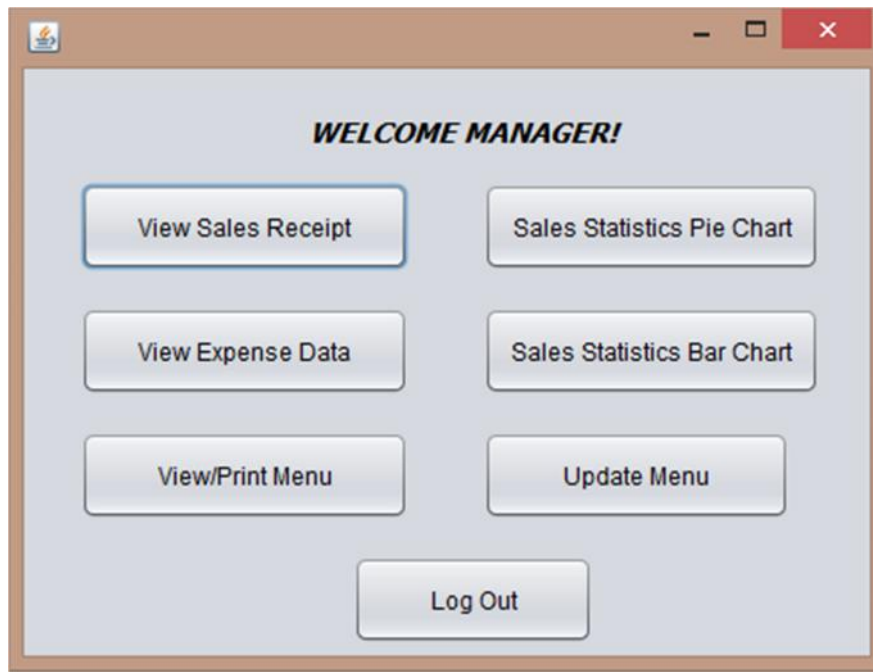
2.1 Manager

2.1.1 Login Validation



This is the login validation for the front-end system. The system will validate the Username and Password key in by the manager. Unauthorized user is not allow to the login into the system either Username or password is incorrect.

2.1.2 Manager's Home Screen



This is the manger's Home Screen which appears when manager entered the correct login username and password. This window contains the various function which manager can do.

2.1.3 View Sales Receipt

S.No	Date	Sales
1	2015-04-01	0.0
2	2015-04-02	0.0
3	2015-04-03	0.0
4	2015-04-04	150.0
5	2015-04-05	0.0
6	2015-04-06	0.0
7	2015-04-07	0.0
8	2015-04-08	0.0
9	2015-04-09	0.0
10	2015-04-10	0.0
11	2015-04-11	0.0
12	2015-04-12	460.0
13	2015-04-13	0.0

DISPLAY GO BACK Detailed Sales Receipt

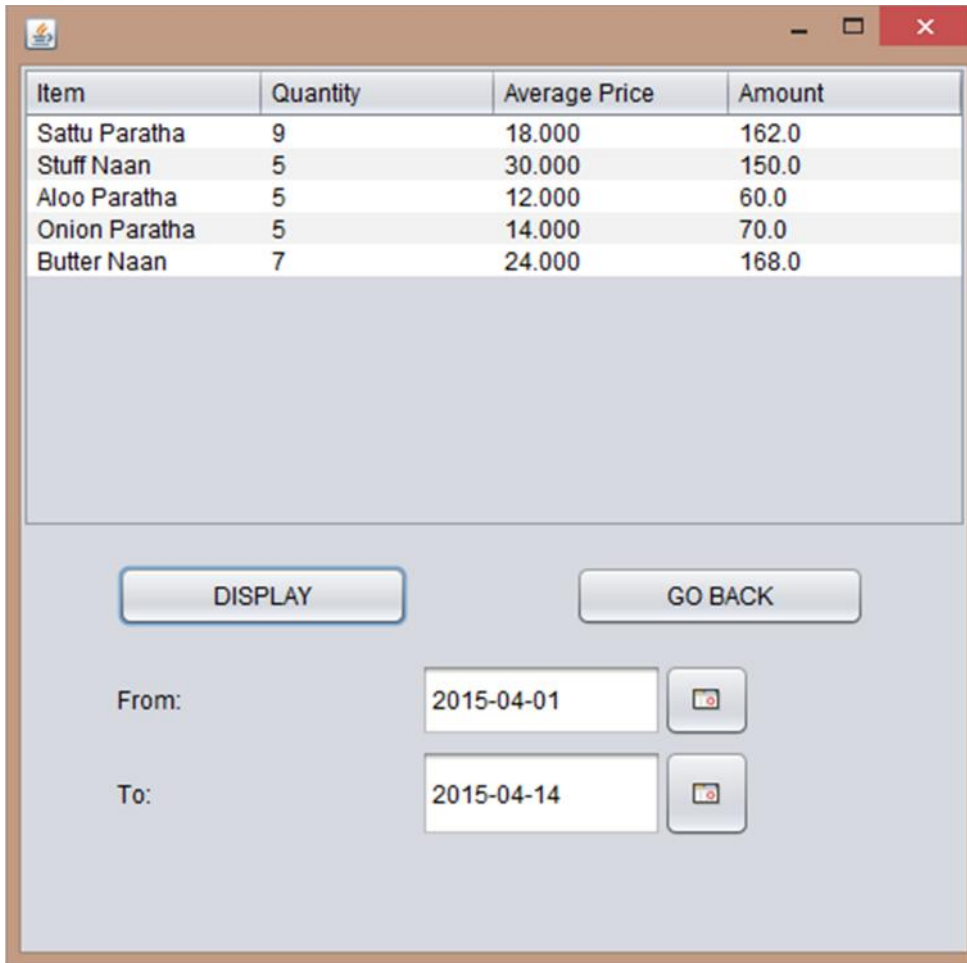
From : 2015-04-01

April 2015

	Sun	Mon	Tue	Wed	Thu	Fri	Sat
14				1	2	3	4
15	5	6	7	8	9	10	11
16	12	13	14	15	16	17	18
17	19	20	21	22	23	24	25
18	26	27	28	29	30		

This is the window for viewing Sales Receipts. This window can be open only by Manager. In this window we select the range of date for which we want to see the sales receipts (only the total sale of that day). After clicking the display button all the sales receipts from the selected range displayed in the window.

2.1.4 Detailed Sales Receipt



The screenshot shows a software window titled "Detailed Sales Receipt". It contains a table with the following data:

Item	Quantity	Average Price	Amount
Sattu Paratha	9	18.000	162.0
Stuff Naan	5	30.000	150.0
Aloo Paratha	5	12.000	60.0
Onion Paratha	5	14.000	70.0
Butter Naan	7	24.000	168.0

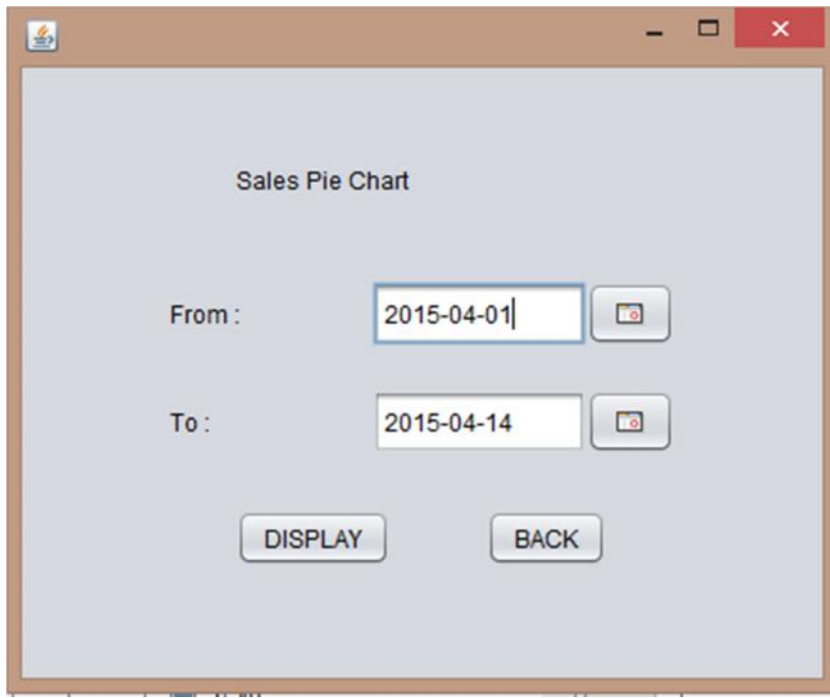
Below the table, there are two buttons: "DISPLAY" and "GO BACK". At the bottom, there are date range filters:

From: 2015-04-01

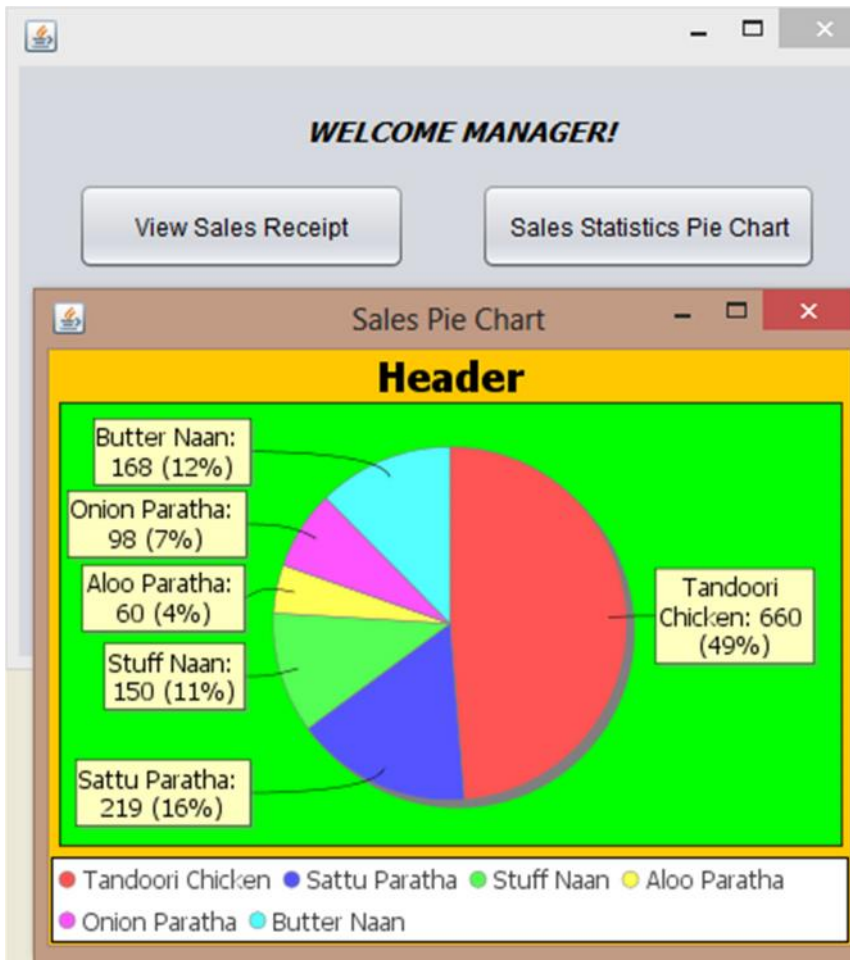
To: 2015-04-14

This window is for the detailed sales receipt. In this window we just select the range of data for which we want to see the sales receipts in detail. Detailed Sales receipts means per item's quantity sold and their price in selected date range. Average price is the cost of an item for a quantity.

2.1.5 Sales Statistics pie chart

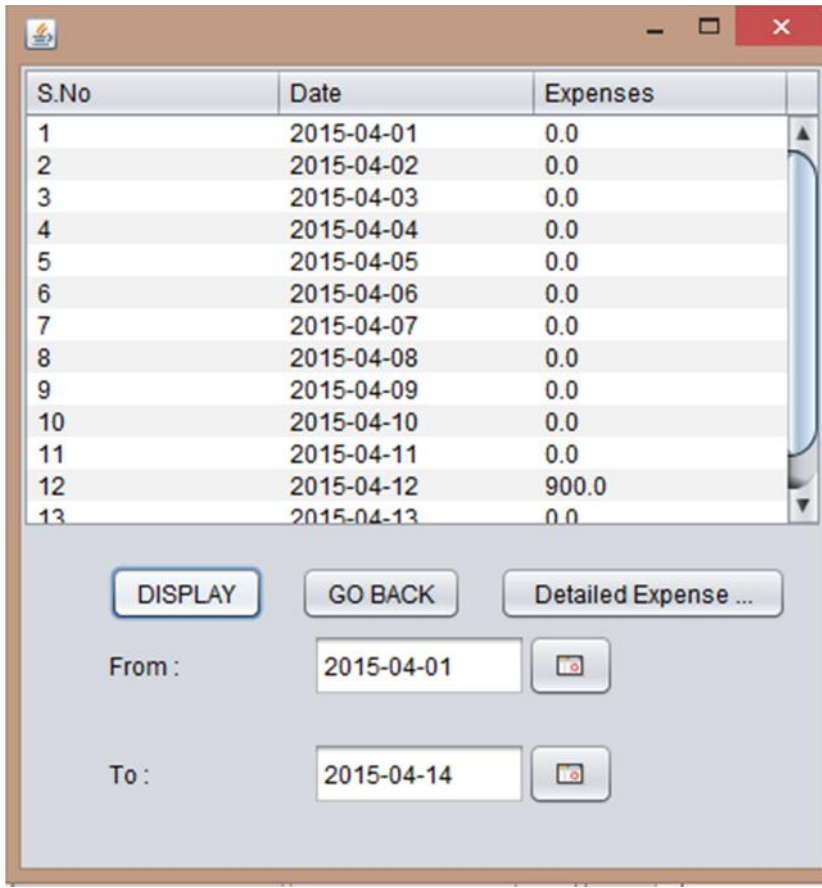


A screenshot of a software window titled "Sales Pie Chart". The window has a standard Windows-style title bar with a minimize button, a maximize button, and a close button (red X). The main content area is light gray. At the top, the title "Sales Pie Chart" is centered. Below the title, there are two rows of input fields. The first row is labeled "From :" and contains a text box with the date "2015-04-01" and a small calendar icon button to its right. The second row is labeled "To :" and contains a text box with the date "2015-04-14" and a small calendar icon button to its right. At the bottom of the window, there are two buttons: "DISPLAY" and "BACK".



After clicking on the "Sales Statistics Pie chart" button in the Manager's home Screen, a window appears in which we have to select the date range for which we want to see the pie chart. After selecting the date range a window is prompt out having a pie chart which shows how much quantity of each item sold in that particular range of date. Pie chart also contains percentage sale of each item.

2.1.6 View Expense Data



The screenshot shows a software window titled "View Expense Data". It contains a table with three columns: "S.No", "Date", and "Expenses". The table lists 13 rows of data. Below the table, there are three buttons: "DISPLAY", "GO BACK", and "Detailed Expense ...". At the bottom, there are two date selection fields: "From :" with the value "2015-04-01" and "To :" with the value "2015-04-14". Each date field has a small calendar icon to its right.

S.No	Date	Expenses
1	2015-04-01	0.0
2	2015-04-02	0.0
3	2015-04-03	0.0
4	2015-04-04	0.0
5	2015-04-05	0.0
6	2015-04-06	0.0
7	2015-04-07	0.0
8	2015-04-08	0.0
9	2015-04-09	0.0
10	2015-04-10	0.0
11	2015-04-11	0.0
12	2015-04-12	900.0
13	2015-04-13	0.0

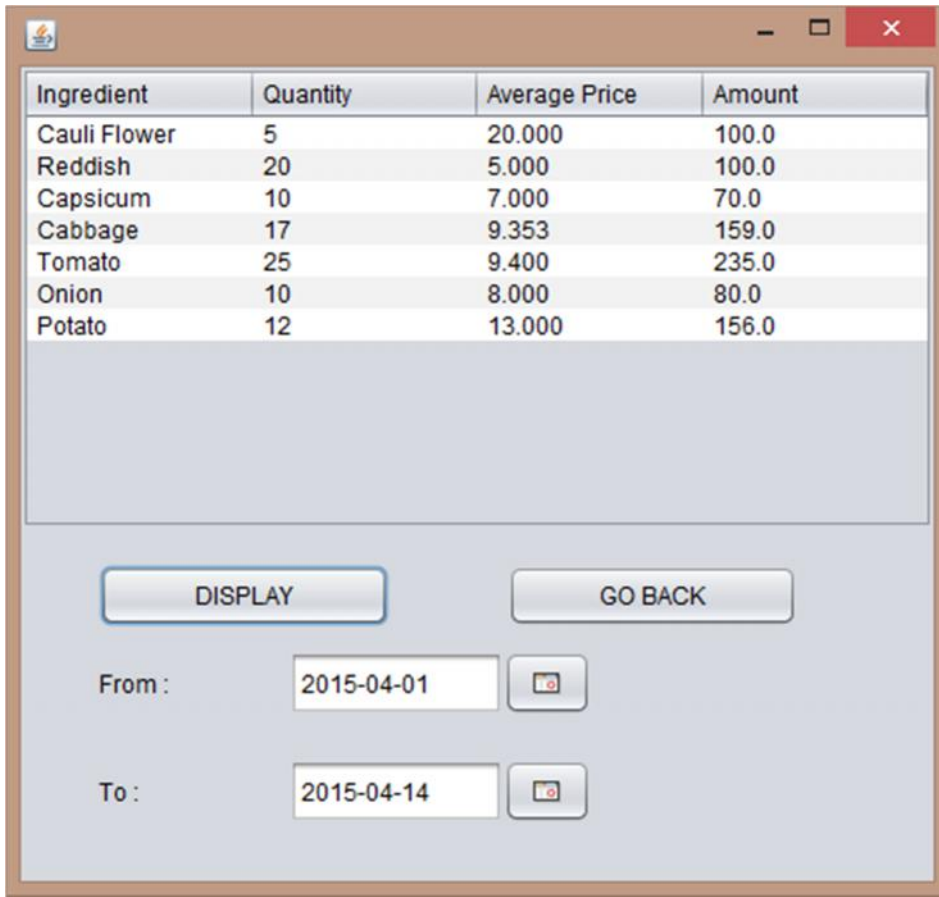
Buttons: DISPLAY, GO BACK, Detailed Expense ...

From : 2015-04-01

To : 2015-04-14

This is the window for viewing Sales Expense Data. This window can be open only by Manager. Sales Expenses Data means the total ingredient purchased by the restaurant for making the food. In this window we select the range of date for which we want to see the Sales Expenses (only the total expenses of that day). After clicking the display button all the expenses from the selected range displayed in the window.

2.1.7 Detailed Expense Data



Ingredient	Quantity	Average Price	Amount
Cauli Flower	5	20.000	100.0
Reddish	20	5.000	100.0
Capsicum	10	7.000	70.0
Cabbage	17	9.353	159.0
Tomato	25	9.400	235.0
Onion	10	8.000	80.0
Potato	12	13.000	156.0

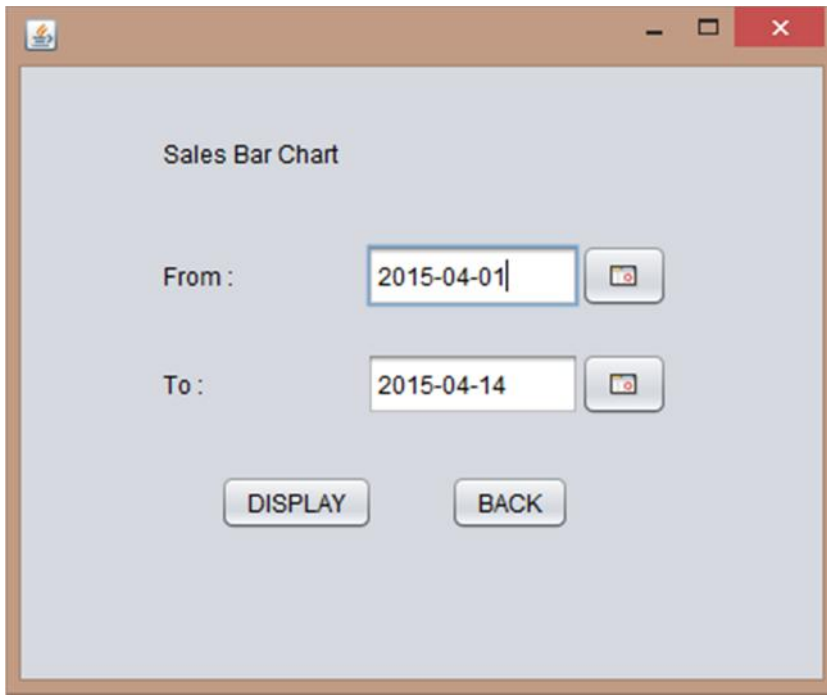
DISPLAY GO BACK

From : 2015-04-01

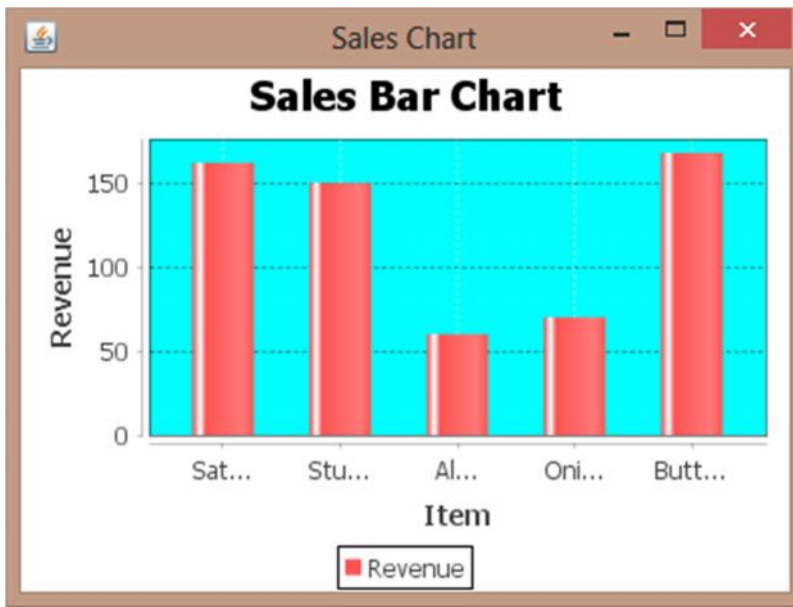
To : 2015-04-14

This window is for the detailed expenses data. In this window we just select the range of data for which we want to see the expense in detail. Detailed Expenses data means per ingredient purchased quantity and their price in selected date range. Average price is the cost of an ingredient for a quantity.

2.1.8 Sales Statistics Bar chart

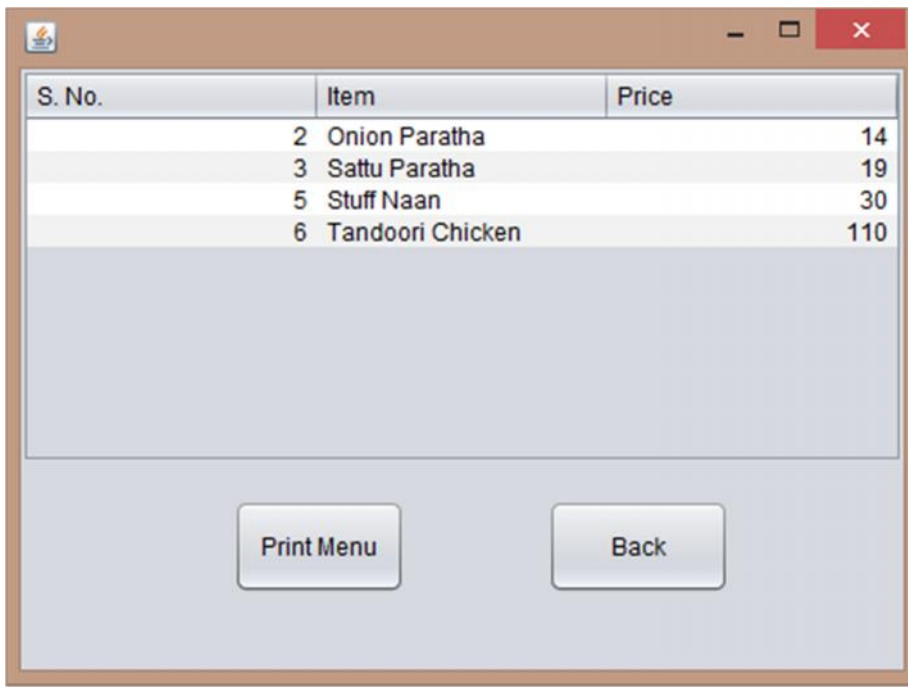


A screenshot of a software window titled "Sales Bar Chart". The window has a light blue background and a brown border. It contains two date input fields: "From :" with the value "2015-04-01" and "To :" with the value "2015-04-14". Each field has a small calendar icon to its right. Below the date fields are two buttons: "DISPLAY" and "BACK".



After clicking on the "Sales Statistics Bar chart" button in the Manager's home Screen, a window appears in which we have to select the date range for which we want to see the bar chart. After selecting the date range a window is prompt out having a bar chart which shows how much quantity of each item sold in that particular range of date. Pie chart also contains percentage sale of each item.

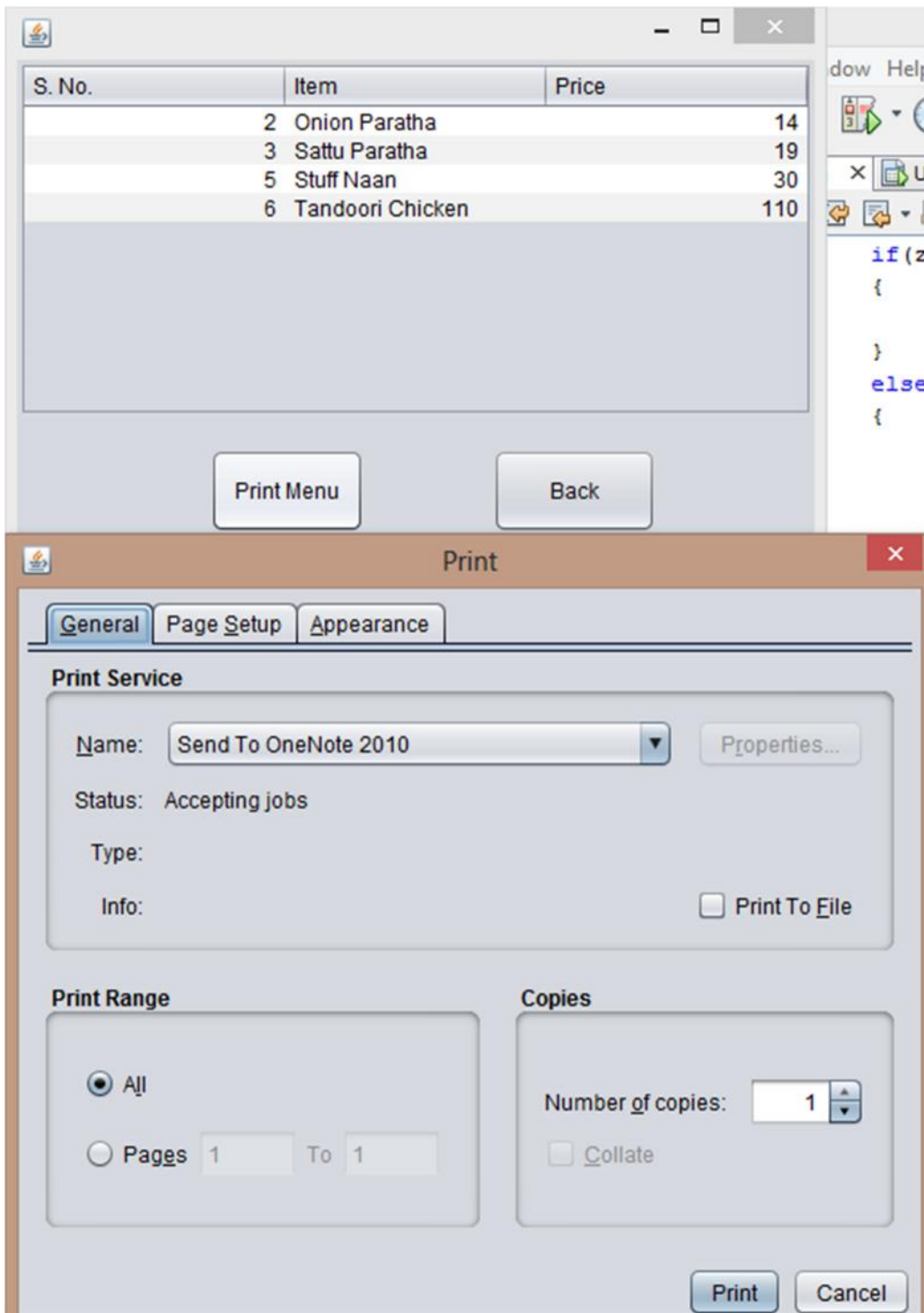
2.1.9 View/Print Menu



The screenshot shows a software window titled 'View/Print Menu'. It contains a table with three columns: 'S. No.', 'Item', and 'Price'. The table lists four items: Onion Paratha (S. No. 2, Price 14), Sattu Paratha (S. No. 3, Price 19), Stuff Naan (S. No. 5, Price 30), and Tandoori Chicken (S. No. 6, Price 110). Below the table, there are two buttons: 'Print Menu' and 'Back'.

S. No.	Item	Price
2	Onion Paratha	14
3	Sattu Paratha	19
5	Stuff Naan	30
6	Tandoori Chicken	110

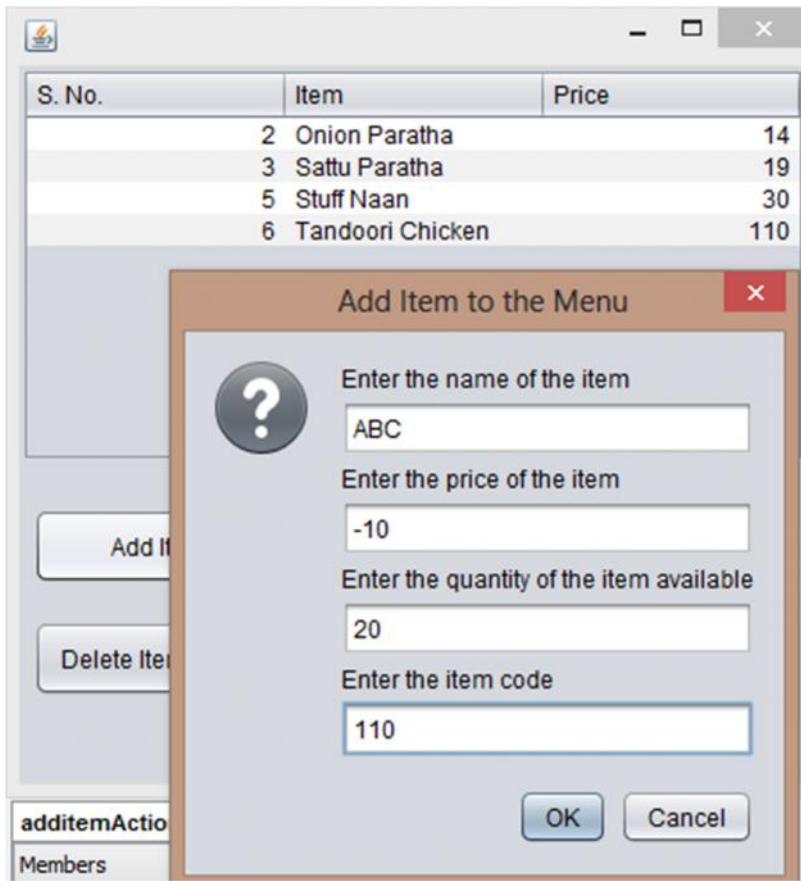
This window is open when manager clicked on the View/Print menu option. This window displays all the items which are present in the restaurant with their price.



After clicking on Print Menu button in view/menu window, a new window is prompt out which contains all the necessary regarding print. After clicking the print button in the new window, bill will be printed.

2.1.10 Update Menu

2.1.10.1 Add Item



S. No.	Item	Price
2	Onion Paratha	14
3	Sattu Paratha	19
5	Stuff Naan	30
6	Tandoori Chicken	110

Add Item to the Menu

Enter the name of the item
ABC

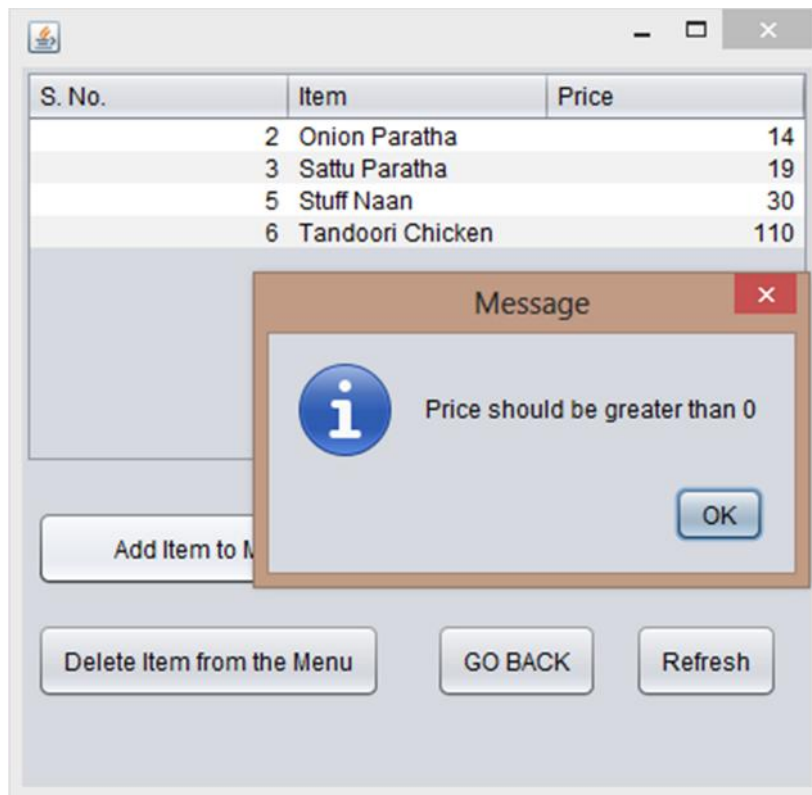
Enter the price of the item
-10

Enter the quantity of the item available
20

Enter the item code
110

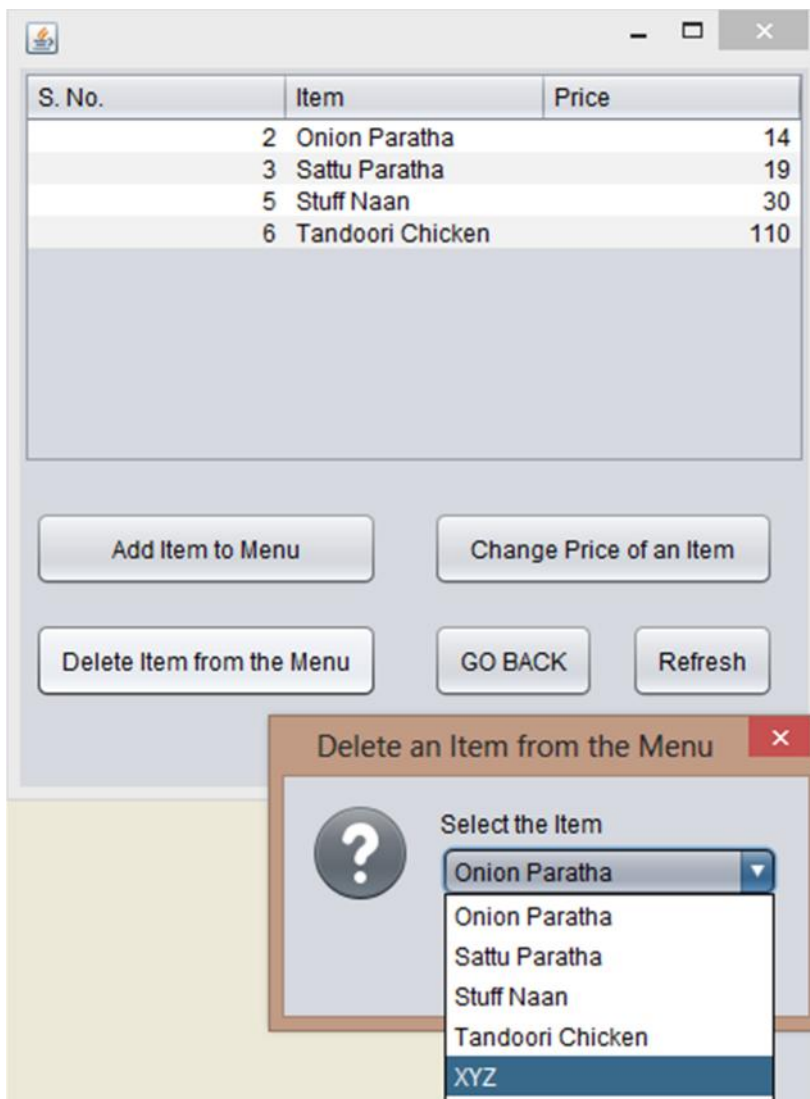
OK Cancel

This window will prompt out when manager click on the "Add Item to Menu" button in the *Modify Menu* window. Now, manager can fill the details of the item he wants to add in the menu.

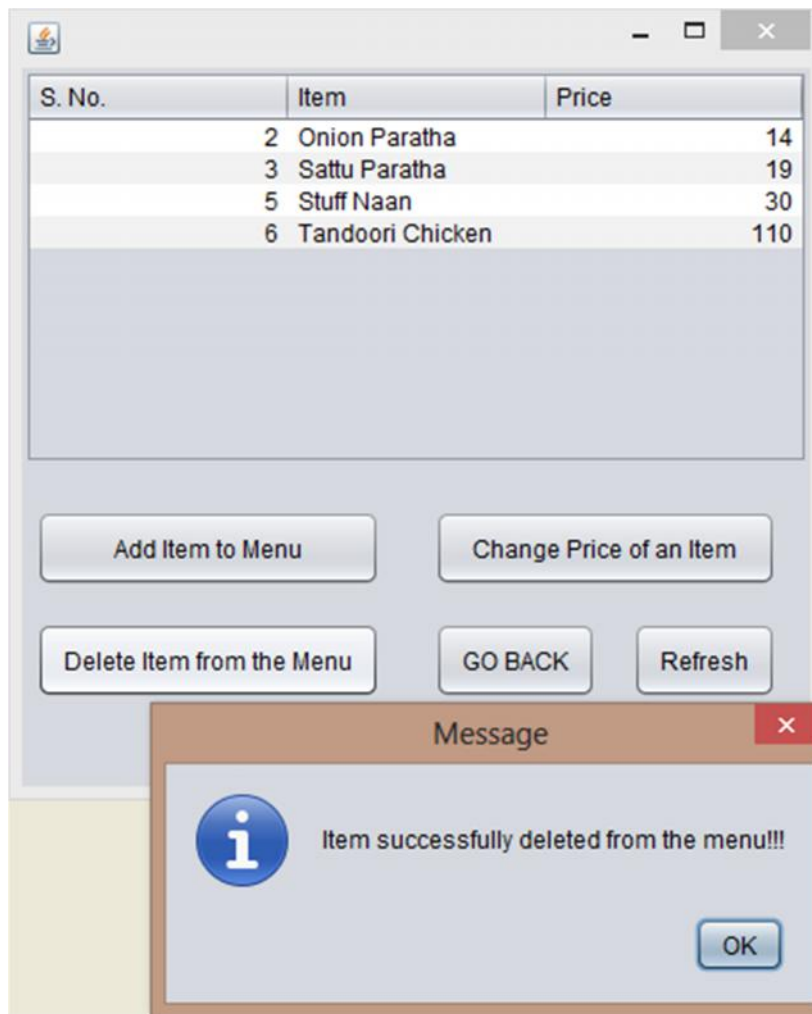


After filling all the details in the "Add menu" window, a confirmation message is displayed which ensure that the item is added successfully in the menu.

2.1.10.2 Delete Item



This window will prompt out when manager click on the "Add Item to Menu" button in the Modify Menu window. Now, manager can choose the item from the combo box which he wants to delete.



This message is displayed when the manager selected the item from the combo box which he wants to delete. This message ensures that the item is deleted from the menu card.

2.1.10.3 Modify Price Validation

The screenshot displays a software application window with a table and a modal dialog box.

S. No.	Item	Price
2	Onion Paratha	14
3	Sattu Paratha	19
5	Stuff Naan	30
6	Tandoori Chicken	110

Buttons visible in the background window:

- Add Item to M
- Delete Item from

Change Price of an Item (Modal Dialog Box)

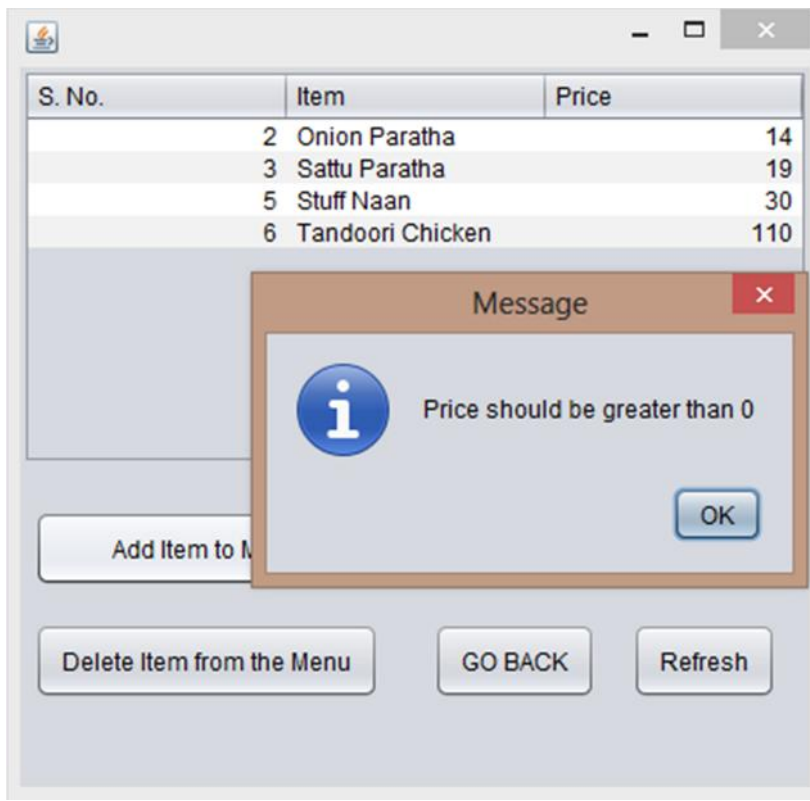
Select the Item

Stuff Naan

Enter the new Price of the Item

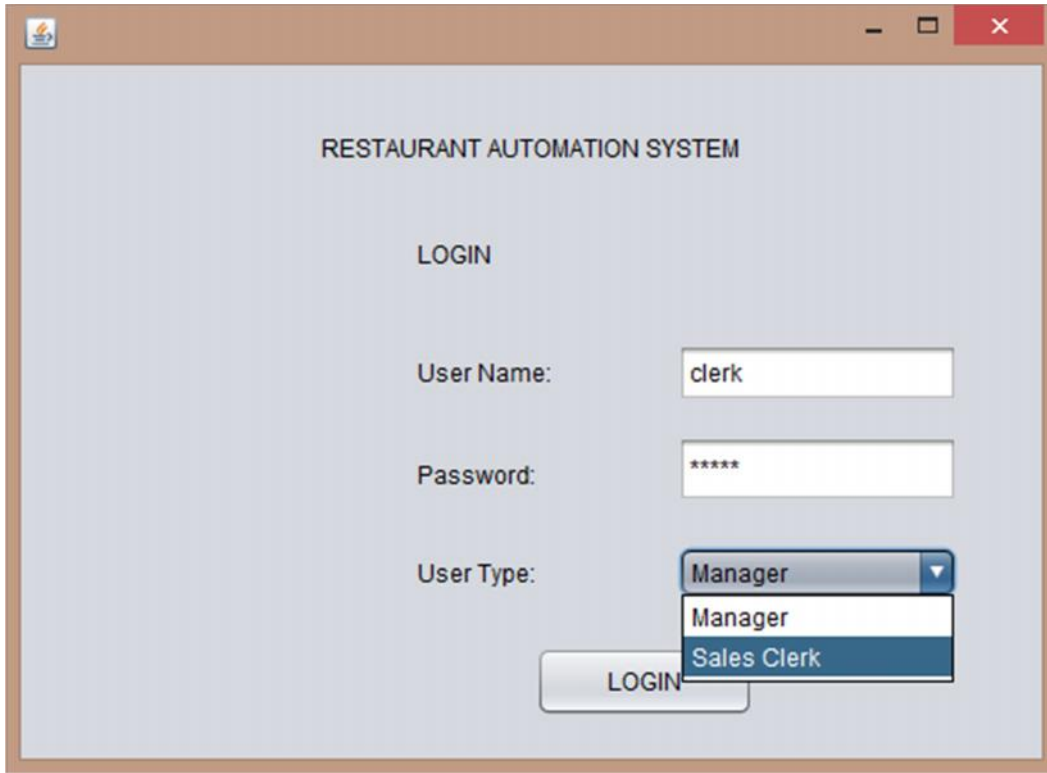
-10

Buttons: OK, Cancel



2.2 Sales Clerk

2.2.1 Login Validation

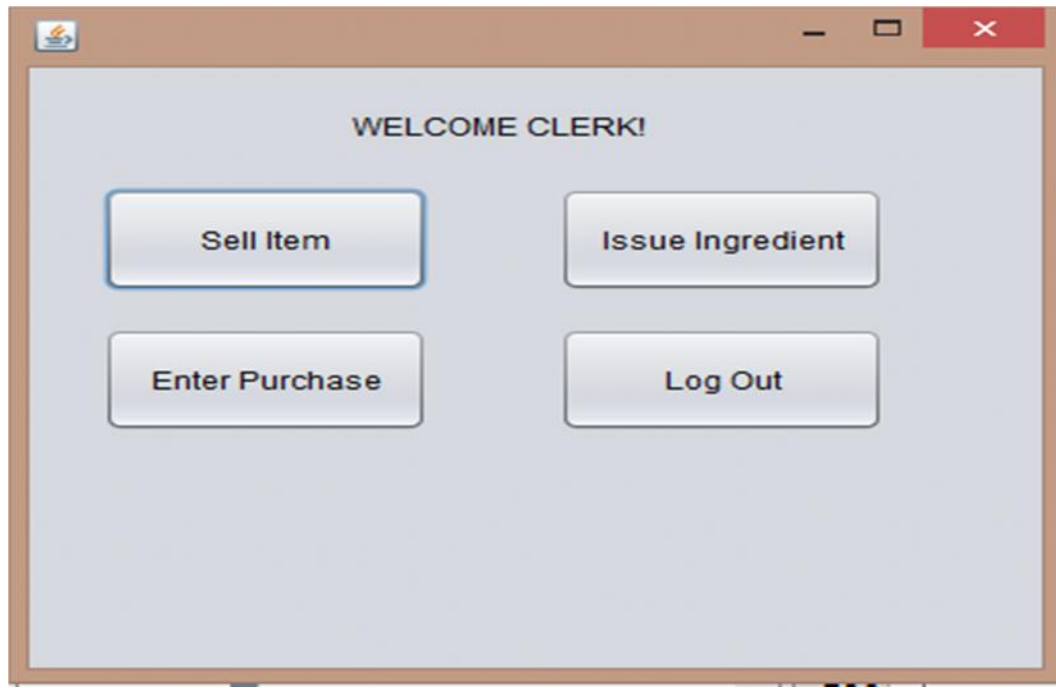


The screenshot shows a window titled "RESTAURANT AUTOMATION SYSTEM" with a "LOGIN" section. It contains three input fields: "User Name:" with the text "clerk", "Password:" with masked characters "*****", and "User Type:" with a dropdown menu. The dropdown menu is open, showing "Manager" (selected), "Manager", and "Sales Clerk". A "LOGIN" button is located below the "User Type" dropdown.

This is the login validation for the front-end system. The system will validate the Username and Password key in by the Sales Clerk. Unauthorized user is not allow to the login into the system either Username or password is incorrect.

Here the Sales-Clerk provides the correct username and password.

2.2.2 Sales-Clerk Home Screen



This is the Sales-Clerk's Home Screen which appears when Sales-Clerk entered the correct login username and password. This window shows the various function which Sales-Clerk can do.

2.2.3 Sell Item

2.2.3.1 Input Validation

The screenshot displays a software application for selling items. At the top, there is a table with the following headers: S.No, Item Name, Quantity, Rate, and Amount. Below the table, the interface includes several input fields and buttons. On the left, there are two input fields labeled 'Enter the Item Code:' and 'Enter the quantity Sold:'. To the right of these is a 'Bill Amount' field displaying '0.0'. Below the input fields are four buttons: 'Add the above Item to Bill', 'GO BACK', 'Made a Mistake?Click here to Delete the selected row', and 'Confirm/Print the Bill'. A 'Message' dialog box is overlaid on the bottom right of the application window. The dialog box has a title bar with a close button (X) and contains an information icon (i) followed by the text 'Please Enter valid inputs'. An 'OK' button is located at the bottom right of the dialog box.

S.No	Item Name	Quantity	Rate	Amount
------	-----------	----------	------	--------

Enter the Item Code:

Enter the quantity Sold:

Bill Amount

Message


 Please Enter valid inputs

S.No	Item Name	Quantity	Rate	Amount

Enter the Item Code: Bill Amount

Enter the quantity Sold:

Message

 Quantity should be greater than 0

2.2.3.2 Delete the Selected Item from bill

The screenshot displays a software interface for managing a bill. At the top, there is a table with five columns: S.No, Item Name, Quantity, Rate, and Amount. The table contains three rows of data. The third row, which includes 'Tandoori Chicken' with a quantity of 2 and a rate of 110.0, is highlighted in blue. Below the table, there are input fields for 'Enter the Item Code:' (containing '104') and 'Enter the quantity Sold:' (containing '2'). To the right of these fields, the 'Bill Amount' is displayed as '468.0'. Below the input fields are three buttons: 'Add the above Item to Bill', 'GO BACK', and 'Made a Mistake?Click here to Delete the selected row'. At the bottom of the main window is a button labeled 'Confirm/Print the Bill'. A modal dialog box titled 'Select an Option' is open in the foreground. It features a question mark icon and the text 'Are you sure you want to remove the selected row?'. At the bottom of the dialog are three buttons: 'Yes', 'No', and 'Cancel'.

S.No	Item Name	Quantity	Rate	Amount
1	Tandoori Chicken	2	110.0	220.0
2	Onion Paratha	2	14.0	28.0
3	Tandoori Chicken	2	110.0	220.0

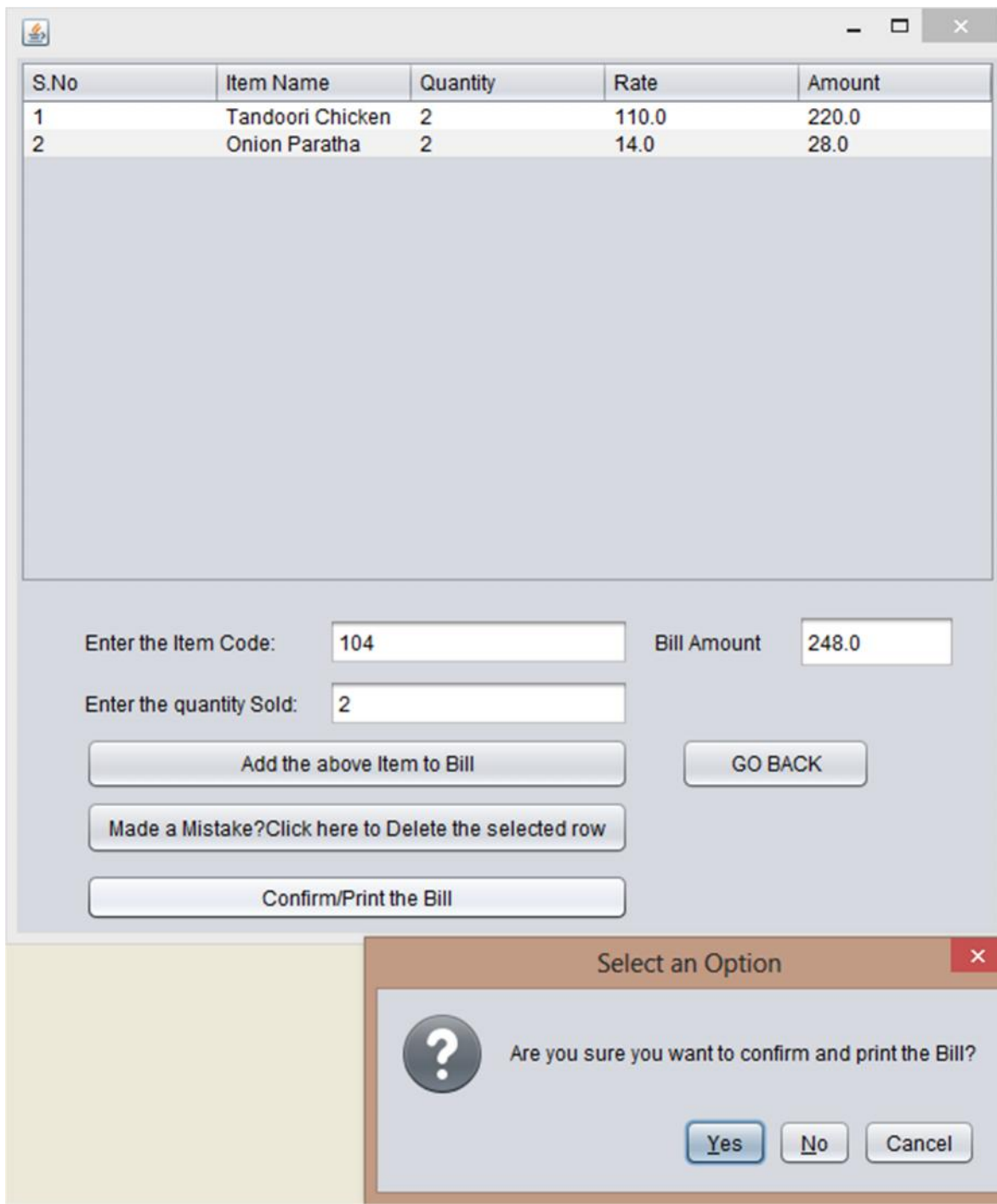
Enter the Item Code: Bill Amount

Enter the quantity Sold:

Select an Option

Are you sure you want to remove the selected row?

2.2.3.3 Print Bill Confirmation



S.No	Item Name	Quantity	Rate	Amount
1	Tandoori Chicken	2	110.0	220.0
2	Onion Paratha	2	14.0	28.0

Enter the Item Code:

Bill Amount

Enter the quantity Sold:


[Add the above Item to Bill](#)

[GO BACK](#)

[Made a Mistake?Click here to Delete the selected row](#)

[Confirm/Print the Bill](#)

Select an Option

 Are you sure you want to confirm and print the Bill?

[Yes](#) [No](#) [Cancel](#)

2.2.4 Enter Purchase

2.2.4.1 Add Ingredient Validation

The screenshot displays a software window titled "Enter Purchase" with a standard Windows-style title bar (minimize, maximize, close buttons). The main area contains a table with five columns: "S.No", "Ingredient Name", "Quantity", "Rate", and "Amount". Below the table, there are two radio buttons: "Select an Ingredient from the existing list" (which is selected) and "Add a New Ingredient to the list". To the right of these buttons are five stacked buttons: "Print Purchase Order", "Add the Ingredient", "Delete Selected Row", "Confirm Purchase Order", and "GO BACK". On the left side, there are three input fields with labels: "Quantity:", "Enter Rate:", and "Total Puchase Amount:". The "Total Puchase Amount" field displays the value "0.0". A yellow rectangular area is visible at the bottom left of the window. Overlaid on the bottom right is a "Message" dialog box with a blue information icon and the text "Please select an option". The dialog box has an "OK" button.

S.No	Ingredient Name	Quantity	Rate	Amount
------	-----------------	----------	------	--------

☐ Select an Ingredient from the existing list ☐ Add a New Ingredient to the list

Quantity:

Enter Rate:

Total Puchase Amount:


Buttons: Print Purchase Order, Add the Ingredient, Delete Selected Row, Confirm Purchase Order, GO BACK

Message

Please select an option

OK

36 | Page


— □ ×

S.No	Ingredient Name	Quantity	Rate	Amount
1	ABC	10	25.0	250.0
2	DEF	10	20.0	200.0

☒ Select an Ingredient from the existing list
 ☐ Add a New Ingredient to the list

Select an Ingredient from existing list:

Tomato ▼

Quantity:

10

Enter Rate:

-15

Total Puchase Amount:

450.0

Print Purchase Order


Add the Ingredient

Delete Selected Row

Confirm Purchase Order

GO BACK

Message


 Please Enter valid inputs

OK

2.2.4.2 Delete Selected Row

S.No	Ingredient Name	Quantity	Rate	Amount
1	ABC	10	25.0	250.0
2	DEF	10	20.0	200.0

☐ Select an Ingredient from the existing list ☒ Add a New Ingredient to the list

Enter a New Ingredient Name:

Quantity:

Enter Rate:

Total Purchase Amount:

Buttons: Print Purchase Order, Add the Ingredient, Delete Selected Row, Confirm Purchase Order, GO BACK

Message

Please select a row to delete it
OK

2.2.4.3 Confirm Order

S.No	Ingredient Name	Quantity	Rate	Amount
1	ABC	10	25.0	250.0
2	DEF	10	20.0	200.0

☐ Select an Ingredient from the existing list
 ☒ Add a New Ingredient to the list


Enter a New Ingredient Name:

Quantity:

Enter Rate:

Total Purchase Amount:

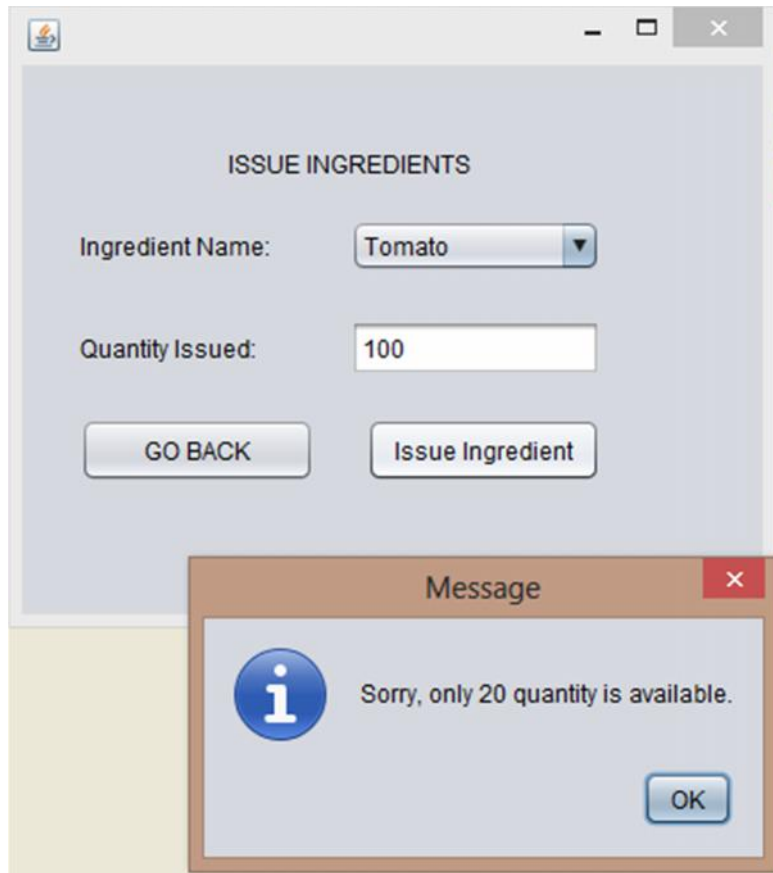
Message

 Purchase Order Confirmed!!

OK

2.2.5 Issue Ingredients

2.2.5.1 Quantity Validation



The screenshot shows a web application window titled "ISSUE INGREDIENTS". It contains two input fields: "Ingredient Name:" with a dropdown menu showing "Tomato", and "Quantity Issued:" with a text box containing "100". Below these fields are two buttons: "GO BACK" and "Issue Ingredient". A modal message box is overlaid on the bottom right, titled "Message", with a blue information icon and the text "Sorry, only 20 quantity is available." and an "OK" button.

ISSUE INGREDIENTS

Ingredient Name: Tomato


Quantity Issued: 100

GO BACK Issue Ingredient

Message

Sorry, only 20 quantity is available.

OK

— □ ×

ISSUE INGREDIENTS

Ingredient Name:

Tomato ▼

Quantity Issued:


-10

GO BACK

Issue Ingredient

Message

×

 Quantity to be issued should be greater than 0

OK

3. Test Plan

3.1 Manager and Clerk Login Page:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Validate user input : empty field	Leave text box blank	An error message display	An error message display	Successful
2.	Validate user input : password not match	Enter different password	An error message display	An error message display	Successful
3.	Validate user input: Enter correct details	Enter correct username and password	Login and redirect to respective pages	Same as expected	Successful

3.2 Manager

3.2.1 Update Menu:

3.2.1.1 Add an item to the menu:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid input	Valid price and quantity entered	Item to be added	Item added and a message displayed	Successful
2.	Invalid Input	Enter negative price or quantity	An error message display	An error message display	Successful
3.	Invalid input	Empty any of the required four fields	An error message display	Error message is displayed	Successful

3.2.1.2 Delete an Item from the menu:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid input	Select an item from the menu using combo box	Item is deleted from menu and a message is displayed	Same as expected	Successful

3.2.1.3 Change price of an item:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid input	Select an item from the menu using combo box and enter a price>0	Menu is updated and price is changed, message is displayed	Same as expected	Successful
2.	Invalid Input	Negative price is entered for the menu item	Error message is displayed	Same as expected	Successful

3.2.2 View Sales Receipt

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Sales is displayed (date wise)	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.2.3 View Detailed Sales Receipt

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Sales per item is displayed for the range of dates	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.2.4. View Expense Data

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Expense id displayed (date wise)	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.2.5. View Detailed Expense Data:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Expense per item is displayed for the range of dates	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.2.6. Sales Pie Chart

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Pie Chart is displayed showing percentage of each item in total revenue	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.2.7. Sales Bar Chart

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Enter the range of dates using calendar	Bar Chart is displayed showing sales of each item in the menu for the range of date	Same as expected	Successful
2.	Invalid Input	One or more of the dates is not selected	Error message displayed	Same as expected	Successful

3.3 For Clerk:

3.3.1. Sell Item:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Correct item code and quantity is entered	Item is added to the bill	Same as expected	Successful
2.	Invalid Input	Invalid item code entered or negative quantity is entered	Error message displayed	Same as expected	Successful

3.3.2. Issue Ingredient:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	Item is selected from the combo box and correct quantity is entered	Ingredient is issued and the same is subtracted from the inventory. If the level of ingredient falls below threshold level, alert message is displayed	Same as expected	Successful
2.	Invalid Input	Entered quantity is greater than available quantity or less than 0	Error message displayed	Same as expected	Successful

3.3.3. Enter Purchase:

No.	Test Domain	Test Data	Expected Output	Actual Output	Conclusion
1.	Valid Input	New item is added to the list, correct item price and quantity is entered and item name is not empty	Ingredient is added to the table	Same as expected	Successful
2.	Valid Input	Item is selected from the list and correct price and quantity is entered	Ingredient is added tot able	Same as expected	Successful
3.	Invalid Input	Quantity or price entered is less than 0	Error message is displayed	Same as expected	Successful

5.1 Chapter Summary

A well design system should able to provide an error free and well function for the user. If a system has well tested then the system may produce understandable output, not always terminate during run-time. Through the software testing, every modules and fields in the system had been tested carefully, otherwise the adequate message box will present to the user for each input. Though the message box or message display, the user can understand what the action is require to be taken by following the instruction of the system.