



City University of Hong Kong

2018-2019 Semester B

MS3111

**Quantitative Business Analysis with
Visual Basic for Applications
Final Report**

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1. Project Identification

PartyRock is an entertainment company which offers venues for events and parties. It has 3 branches in total and they are situated at Kwun Tong, Mong kok and Tsuen Wan respectively. All of them are equipped with playstation video games 4, karaoke and board games. Yet, with the rising demand for party room these days, many problems have occurred.

1. Inefficient operation system

When the scale of our company keeps rising, it is impossible for us to keep running the traditional manual operation without the involvement of VBA. Our staff need to input, delete and modify customer details through simple basic excel functions and therefore lower the efficiency of operation.

2. Inefficient analysis process

Our staff need to analyze our sales performance and profits through creating different charts and tables one by one. It is time-consuming for them to find data from worksheet and create such tables and charts.

3.Increasing production cost

Since the demand for party room is increasing, more labor need to be hired in order to handle those rising orders. In short, without the help of VBA, we need to pay more wages, which causes an increase in variable cost.

2. Tasks of the application

In broad terms, our application is designed to reduce the time for data inputting so as to improve the efficiency of E-operation. We will divide our application into two parts which are operation purpose and analysis purpose. Operation related pages allow staffs to get the customer information and sales data. Analysis related pages allow only managers to check sales or customer report in order to do corresponding adjustment. Our application tasks are as follows:

1. Customer information

- Get customers' information from sign up page
- Once a new customer is signed up, the worksheet which comprises customer details will automatically updated.

2. Sales data

- Get order details from order page
- Once an order is received, the worksheet which comprises related order details will automatically updated.

3. Sales analysis

- Generate three types of sales report, they are:

Total sales for each stores

Revenue of each theme

Customized range for total

4. Customer analysis

- Generate customer report based on three analysis variables, they are:

Gender

Income distribution

Favorite theme

3. Manual Excel Operation

The manual excel operation shows the process of running the application tasks without using Excel VBA.

-Update customer information

When there is a new customer, we have to enter all his/her personal information manually by typing them in relevant cells on the worksheet ‘CustomerDetails’. Also, whenever changes happened, we need to search for the right row and column in order to correct or modify customer information.

A	B	C	D	E	F	G	H	I	J
1	Login Nv12+A,J Password	Name	Gender	Contact No.	DOB	Address	Email	Favorite Theme	Income Level
2	Olivia olivia220	Olivia Stone	M	24814838	20/2/1978	Rm 3 4 9 / F,Vanta Ind.Centre 21-33 Tai Lin Pai Rd, Kwai Chung	ho123@gmail.com	Marvel	HK\$25,000.00
3	Mia mia1111	Mia Ramos	F	68246835	11/11/1972	Unit 802 8 / F,Apec Plaza 49 Hoi Yuen Rd, Kin	hi555@hotmail.com	Classroom	HK\$10,000.00
4	Isabela isabella1019	Hudson	M	61359688	19/10/1975	Room H15/F, Cheuk Nang 21st Century Plaza250 Hennessy Road Wanchai	fox102@gmail.com	Marvel	HK\$5,000.00
5	Rhonda rhonda12	Rhonda Griffith	M	64443678	2/1/1969	7a Wing Wah Industrial Building 31 Chong Yip St	tppodicei-9100@yopmail.com	Garden	HK\$8,000.00
6	Steven steven226	Steven Lucas	F	97382683	16/2/1970	Unit 805 Lemmi Centre 50 Hoi Yuen Road Kowloon	bthomas@outlook.com	England	HK\$7,500.00
7	Anderson elizabeth414	Anderson	F	90287467	14/4/1977	23 Sze Mei Street Lee Sum Fly Bldg 1/F Block D San Po Kong Kowloon	gavollink@gmail.com	Japanese	HK\$6,600.00
8	Montgomery jessica106	Montgomery	M	62673423	6/10/1969	607 Yen Sheng Centre84 Hoi Yuen Road Kowloon	kidehen@msn.com	Jail	HK\$5,400.00
9	Ella ella526	Ella West	F	60885433	26/5/1976	Fiat/Rm 1302 13/F,Cre Building303 Hennessy Road Wan Chai	froodian@gmail.com	Classroom	HK\$30,000.00
10	Joseph joseph819	Joseph Wallace	M	69738777	19/6/1986	B G/F, Parkers Court82-84 Fort Street North Point	ubergeeb@mac.com	England	HK\$15,867.00
11	1010 joshua512	Joshua Pierce	F	96006571	12/5/1969	Fiat/Rm B 13/F Nam Pak Hong Building 26-28 Bonham Strand West	lisshoy@yahoo.com	England	HK\$10,000.00

-Record sales

We need to type in each new order into each cell on the worksheet ‘Order’ manually. In calculating the party fee, we have to use mathematic formula for each sales record. Also, as the sequence of the record is followed by the party date. We have to extract all the sales data from different districts and sort them into one record according to party date.

A	B	C	D	E	F	G	H	I	J	K	L	M	
1	OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements	Payment Method
2	1	Olivia Stone	M	24814838	Classroom	5/2/2018	20	Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4	Credit Card
3	2	Joseph Wallace	M	69736777	Marvel	5/2/2018	15	Mong Kok	HK\$10,000.00	Yes	HK\$700.00	PS4,KTV	Credit Card
4	3	Jessica Montgomery	M	62673423	Jail	5/3/2018	10	Tsuen Wan	HK\$5,000.00	No	HK\$900.00	Boardgame	Cash
5	4	Ella West	F	60885433	Tatami	5/4/2018	13	Kwun Tong	HK\$8,000.00	Yes	HK\$940.00	PS4,KTV	Cash
6	5	Rhonda Griffith	M	64443678	Garden	5/5/2018	12	Kwun Tong	HK\$7,500.00	No	HK\$185.00	Boardgame	Credit Card
7	6	Zenith White	M	67709771	England	5/6/2018	8	Tsuen Wan	HK\$6,600.00	Yes	HK\$2,000.00	PS4,KTV	Credit Card
8	7	Mia Ramos	F	68246835	Classroom	5/7/2018	20	Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV	Credit Card
9	8	Stella Leung	F	53146513	Marvel	5/8/2018	15	Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boargame	Cash
10	9	Olivia Stone	M	24814838	Marvel	5/9/2018	15	Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4	Cash

-Sales Analysis

Our sales reports are generated based on three topics, they are total sales of each store, revenue of each theme and customized range for total sales.

For total sales of each store and revenue of each theme, we have to extract all sales data from same district for the former and all sales data from same theme for the latter to generate a new sales report by using the Excel SUM function. In order to making a chart to analyze data easily, we can insert a pivot chart and select relevant ranges to evaluate our sales.

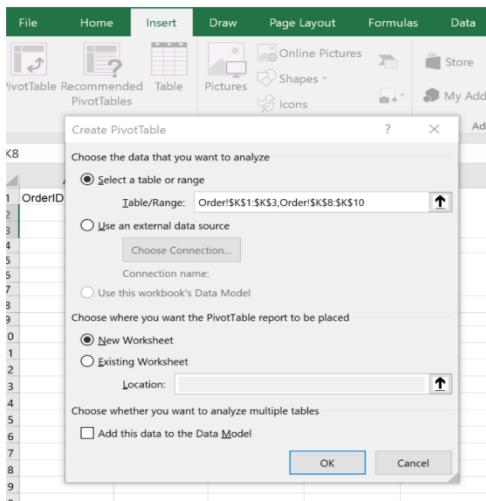
Extract from same district:

A	B	C	D	E	F	G	H	I	J	K	L	M	
1	OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements	Payment Method
2	1	Olivia Stone	M	24814838 Classroom	5/2/2018	20 Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4	Credit Card		
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4	3	Jessica Montgomery	M	62673423 Jail	5/3/2018	10 Tsuen Wan	HK\$5,000.00	No	HK\$900.00	Boardgame	Cash		
5	4	Ella West	F	60865433 Tatami	5/4/2018	13 Kwan Tong	HK\$8,000.00	Yes	HK\$940.00	PS4,KTV	Cash		
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10	9	Olivia Stone	M	24814838 Marvel	5/9/2018	15 Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4	Cash		
11													

Extract from same theme:

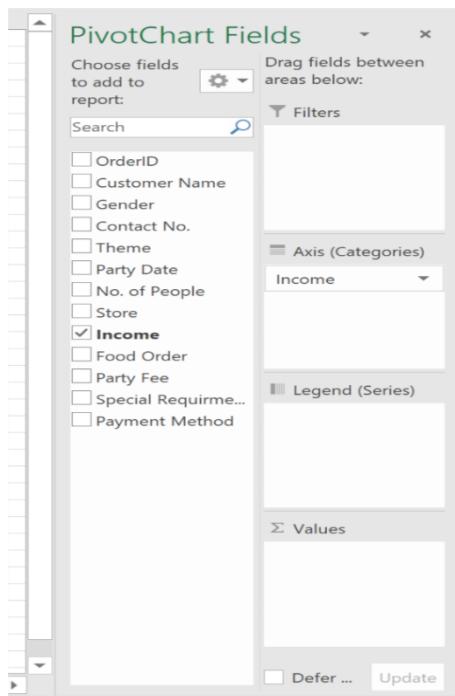
A	B	C	D	E	F	G	H	I	J	K	L	M	
1	OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements	Payment Method
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6	5	Rhonda Griffith	M	64443678 Garden	5/5/2018	12 Kwan Tong	HK\$7,500.00	No	HK\$185.00	Boardgame	Credit Card		
7	6	Zenith White	M	67709771 England	5/6/2018	8 Tsuen Wan	HK\$6,600.00	Yes	HK\$2,000.00	PS4,KTV	Credit Card		
8	7	Mia Ramos	F	68246835 Classroom	5/7/2018	20 Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV	Credit Card		
9	8	Stella Leung	F	53146513 Marvel	5/8/2018	15 Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boargame	Cash		
10	9	Olivia Stone	M	24814838 Marvel	5/9/2018	15 Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4	Cash		

Insert pivot table:



-Customer Analysis

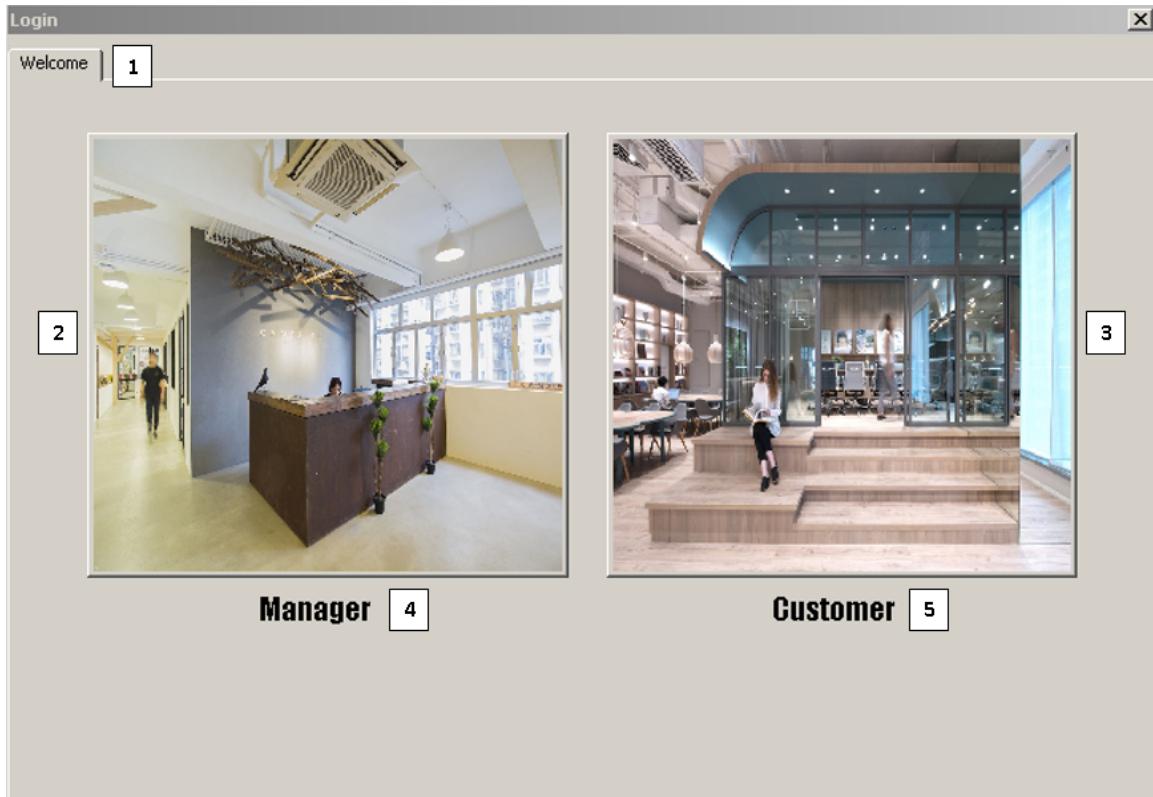
We have to generate customer report by using pivot chart or table to analyze the characteristics of our customers like gender, income distribution and preferred theme. A chart and table can be created through dragging the wanted variables to appropriate fields manually.



4. Application Flow

Login Userform

Component 1: Welcome

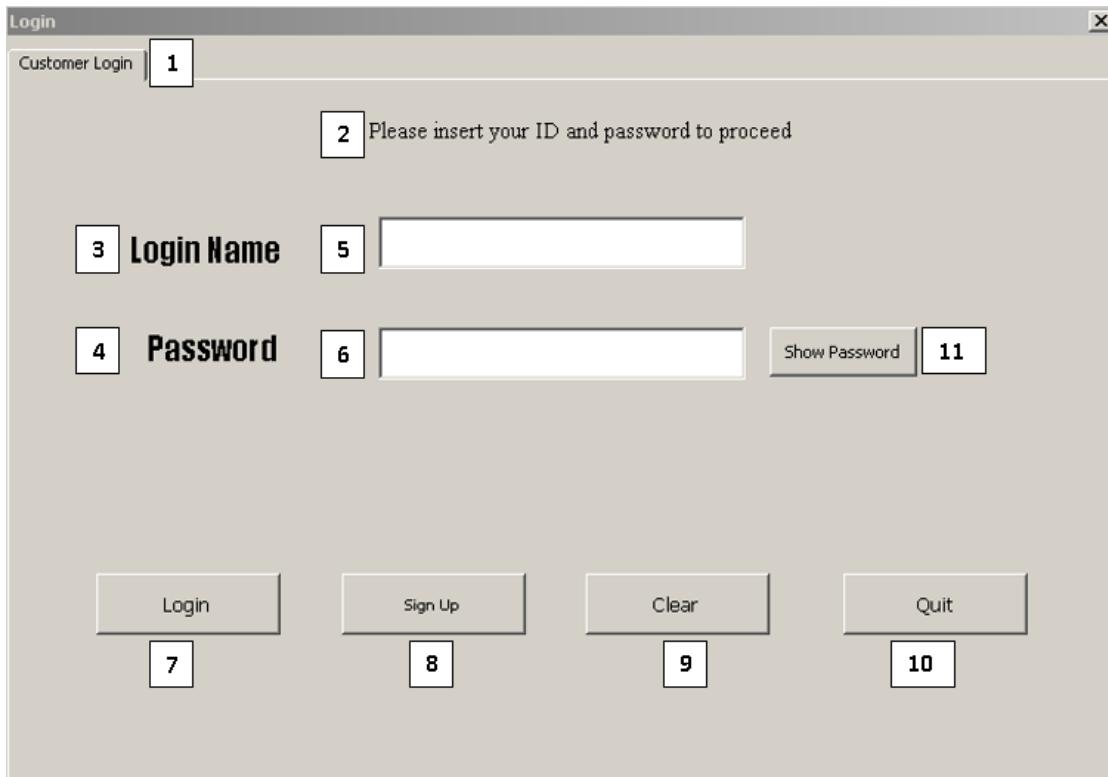


Object	Property	Function
1	Multipage	Multipage with tab function
2	CommandButton	Proceed to customer login page
3	CommandButton	Proceed to manager login page
4	Label	Indicate which button is for manager login
5	Label	Indicate which button is for customer login

Event 1: Login page userform appears

When user click the command button above the customer or manager label, the respective customer/ manager login page will appear. It is a multipage with two command buttons that link to either manager or customer login page and there are two labels indicating which command button is for customer or manager.

Component 2: Customer Login

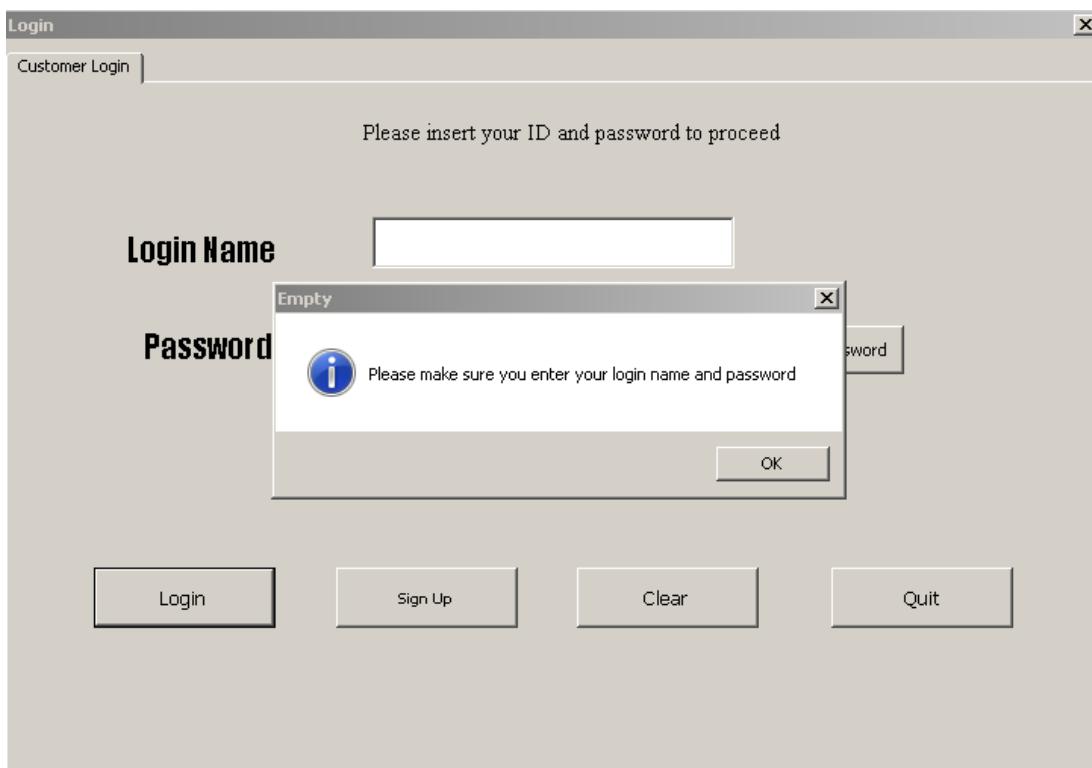


Object	Property	Function
1	Multipage	Multipage with tab function
2	Label	Show the guideline for user to enter their login name and password
3	Label	Show the description of login name
4	Label	Show the description of password
5	TextBox	Allow user to input their login name
6	TextBox	Allow user to input their password
7	CommandButton	Proceed to booking page if all information entered are correct
8	CommandButton	Proceed to sign up page
9	CommandButton	Clear all entered information
10	CommandButton	Quit the application
11	CommandButton	Allow user to show password or hide password

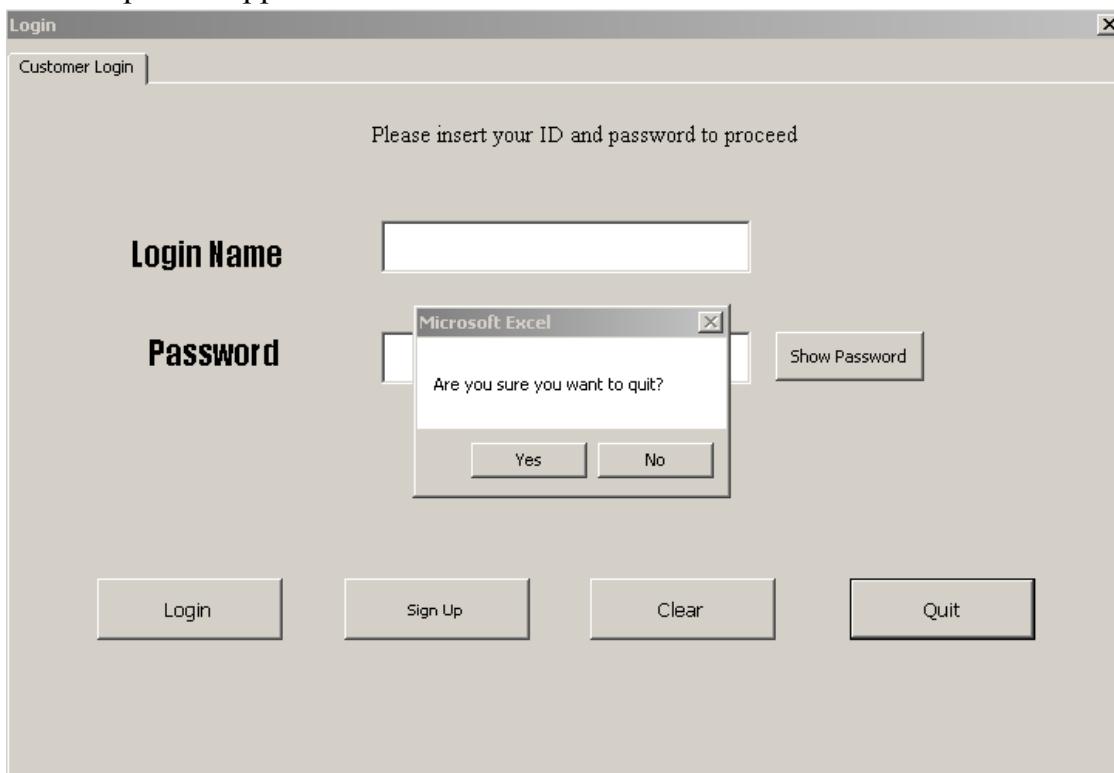
Event1: Activate the second page of the Multipage

User can enter their login name and password to access the booking userform. Users can click show password button, if they are not sure whether the password they have entered is correct or not/ There are total of 4 buttons at the bottom, which are for login, sign up, clear and quit respectively.

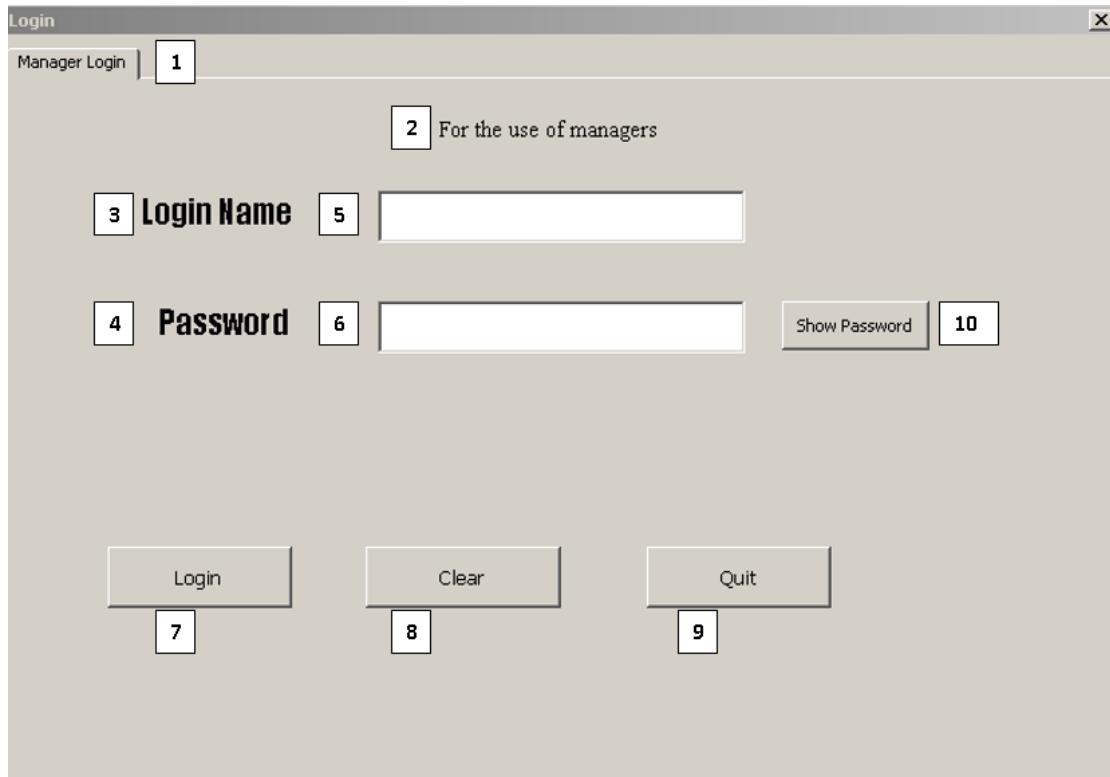
If user did not enter or did not completely enter the required information, a message box will appear to remind the user.



A message box will appear after the user clicked the quit bottom to ensure the user really want to quit the application.



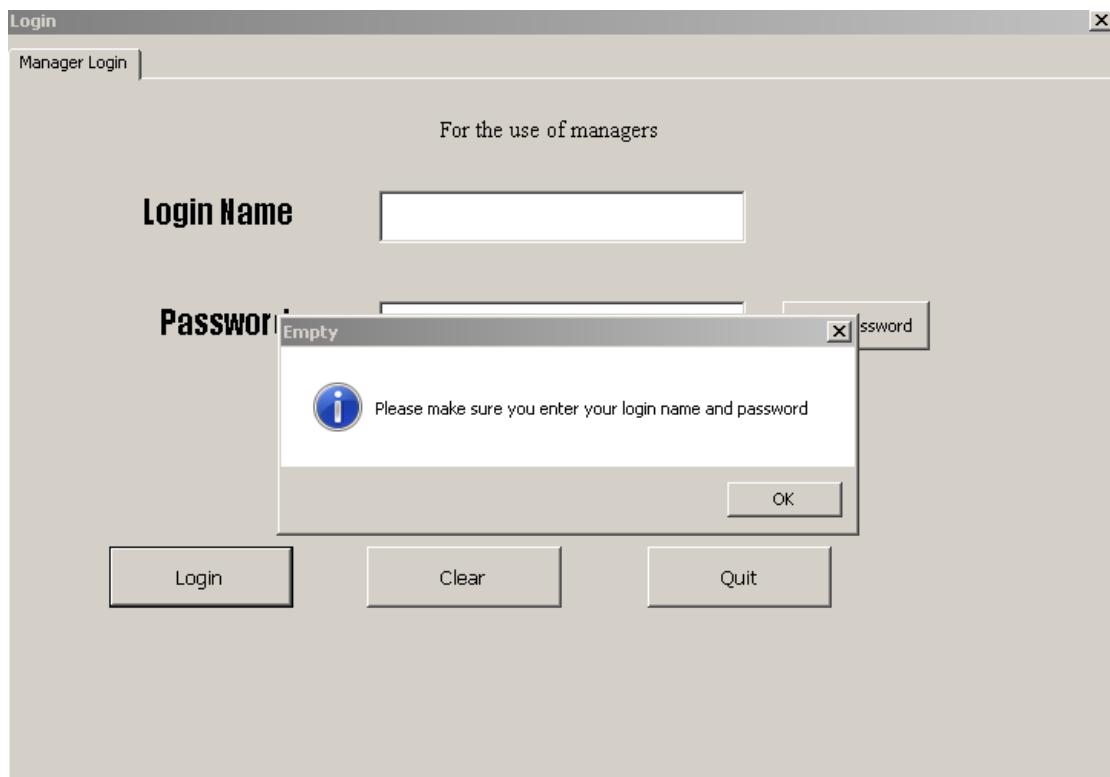
Component 3: Manager Login



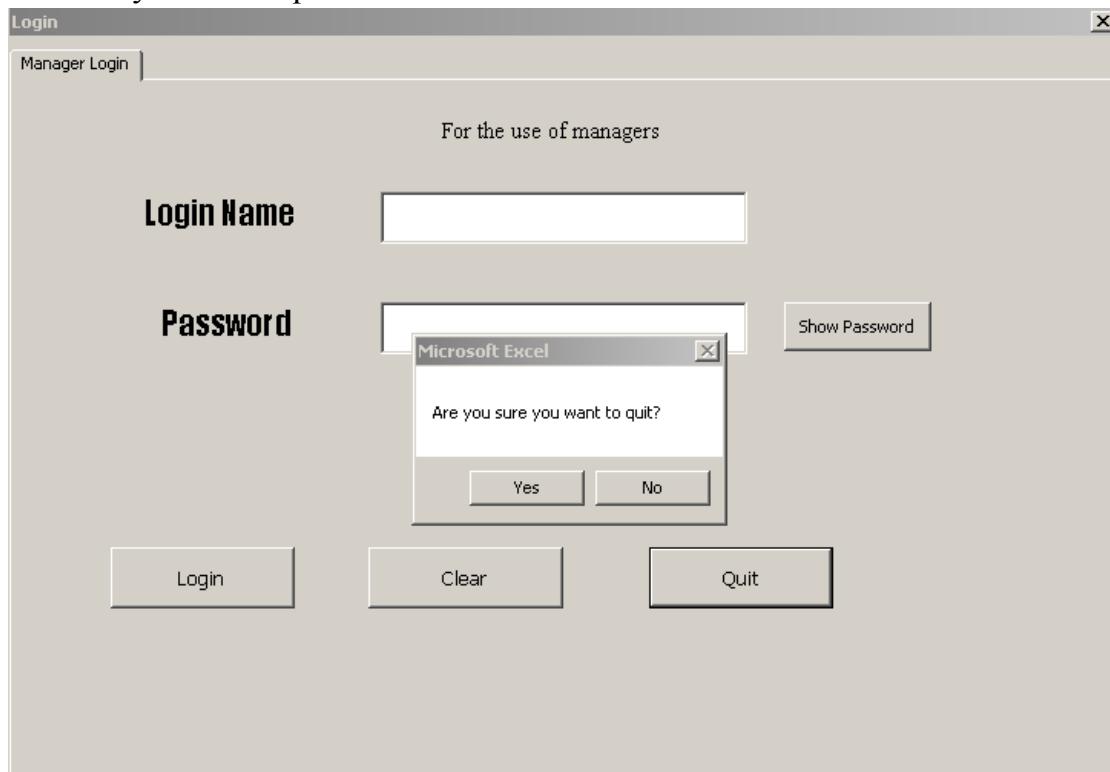
Object	Property	Function
1	Multipage	Multipage with tab function
2	Label	Indicate that this page is for managerial use
3	Label	Show description of login name
4	Label	Show description of password
5	TextBox	Allow users to type in login name
6	TextBox	Allow users to type in password
7	CommandButton	Proceed to the analysis report page
8	CommandButton	Enable users to clear all the information entered
9	CommandButton	Allow user to quit the application
10	CommandButton	Enable users to show password or hide password

Event1: Third page of multipage appears

Managers are required to enter their login name and password in order to access the analysis report userform. If managers were not sure about whether their passwords are correct or not, they can show password button to view their typed in password. There are a total of 3 buttons at the bottom, which are login, clear and quit respectively. If manager did not enter or did not enter all the required information, a message box will appear to remind the manager.



A message box will appear after the manager clicked the quit bottom to make sure if the user really wants to quit.



Sign Up Userform (joey)

Assigned name of this userform: frmSignup

Userform Layout:

The screenshot shows a Microsoft Excel UserForm titled "UserForm1". The title bar has a blue header with the text "UserForm1" and a close button. In the top right corner, there is handwritten text "Co-Working Space" next to a small user icon. The main area of the form is orange and contains the text "Sign Up Now!" in white. Below this, there are several input fields and controls:

- Name: A text input field.
- Login Name: A text input field.
- Password: A text input field.
- Confirm Password: A text input field positioned to the right of the Password field.
- Email: A text input field.
- Contact Number: A text input field.
- Age Group: A dropdown menu.
- Gender: Radio buttons for Male and Female.
- Industry: A dropdown menu.
- Living Area: A dropdown menu.
- Buttons at the bottom: "Exit", "Clear", and "Submit".

Event 1: Initialize userform

In this part, it focuses on adding selection items to the combobox (i.e. Age Group (cbxAge), Industry (cbxIndustry), Living Area (cbxArea)). The available items will show up for the user to select when the userform is initialize.

```

Private Sub UserForm_Initialize()

Dim iage As Integer, iindustry As Integer, iliving As Integer

cbxAge.clear
cbxIndustry.clear
cbxArea.clear

'Add items for combobox selection
With ThisWorkbook.Worksheets("config")

For iage = 1 To .Range("a1", .Range("a1048576").End(xlUp)).Rows.Count - 1
    cbxAge.AddItem .Range("a1").Offset(iage, 0).Value
Next iage

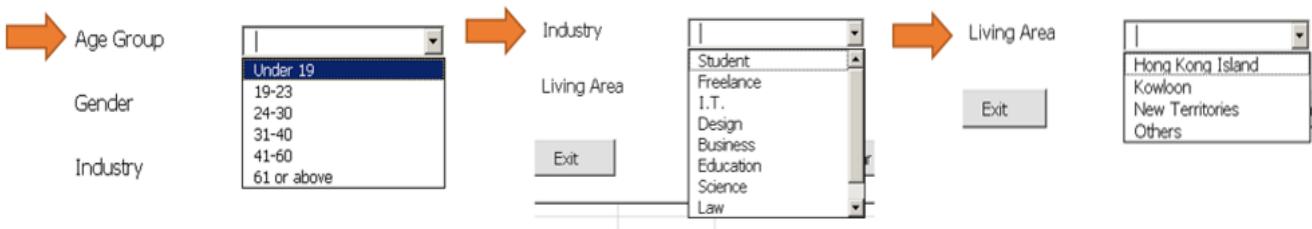
For iindustry = 1 To .Range("b1", .Range("b1048576").End(xlUp)).Rows.Count - 1
    cbxIndustry.AddItem .Range("b1").Offset(iindustry, 0).Value
Next iindustry

For iliving = 1 To .Range("c1", .Range("c1048576").End(xlUp)).Rows.Count - 1
    cbxArea.AddItem .Range("c1").Offset(iliving, 0).Value
Next iliving

End With

End Sub

```



Event 2: Confirm password

If the password (txtPassword) and confirm password (txtConfirm) are not identical, a message box will be displayed to remind the user to input the same password. After showing the message box, both the password and confirm password textbox will be clear for new input.



Event 3: Set requirements for contact number input

To check the validity of the contact number, we have set the requirements of the contact number input (txtContact) to be 1) a maximum of 8 digits, and 2) all numeric numbers. Otherwise, a message box will be displayed to ask the user to re-enter this information and clear the textbox.

```
Private Sub txtContact_Change()

'Limit the length to 8-digit
txtContact.MaxLength = 8

'Check if the contact number is valid (all numeric)
If IsNumeric(txtContact.Value) = False Then
    MsgBox "Invalid contact number. Please enter an 8-digit contact number"
    txtContact.Value = ""
    txtContact.SetFocus
End If

End Sub
```



Event 4a: Submit input - Check completeness

When the Submit Command Button (cmbSubmit) is clicked, the application will first check if the user has entered all information in the userform. If the user has missed out something, a message box will be displayed to prompt the user to fill in all information.

```
Private Sub cmbSubmit_Click()

Dim loginameequal As Boolean
Dim lastrow As Long
Dim i As Integer
Dim UserName As String
Dim wsCustomerDetails As Worksheet

'set worksheet object
Set wsCustomerDetails = ThisWorkbook.Worksheets("CustomerDetails")

'Check if the customer entered all information
If txtName.Value = "" Or txtLoginid.Value = "" Or txtPassword.Value = "" Or txtConfirm.Value = "" Or txtEmail.Value = "" Or _
    txtContact.Value = "" Or cbxAge.Value = "" Or _
    (optMale.Value = False And optFemale.Value = False) Or cbxIndustry.Value = "" Or cbxArea.Value = "" Then

    'If missing information, display message box warning
    MsgBox "Please fill in all the information."

    Else

        'Check if the login name already existed
        lastrow = Cells(Rows.Count, 1).End(xlUp).Row


```

Password	<input type="text"/>	Confirm Password	<input type="text"/>
Email	<input type="text"/>		
Contact Number	<input type="text"/>		
Age Group	<input type="text"/>		

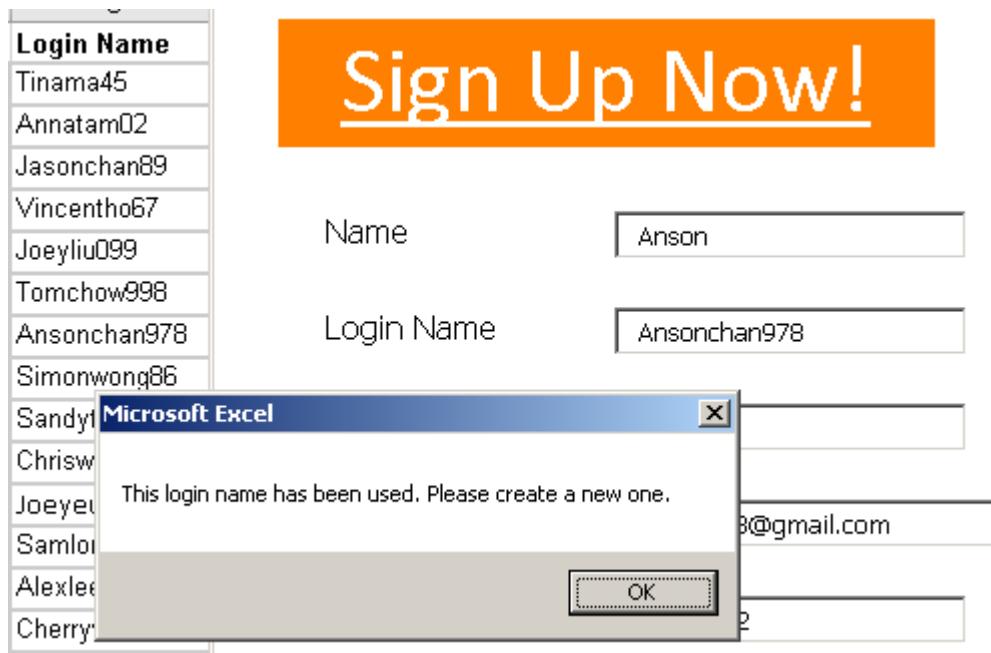
Event 4b: Submit input - Check Login Name

The application will also help to check the availability of the login name. If the Login Name entered by the user (txtLoginid) is identical to the existing login name in the database, a message box will show up to prompt the user to create a new login name.

```
'Check if the login name already existed
lastrow = Cells(Rows.Count, 1).End(xlUp).Row
loginnameequal = False

With wsCustomerDetails
    For i = 0 To lastrow - 1
        UserName = .Range("C1").Offset(i, 0).Value
        If LCase(txtLoginid.Value) = LCase(UserName) Then
            loginnameequal = True
        End If
    Next i

'If there is identical login name
If loginnameequal = True Then
    MsgBox "This login name has been used. Please create a new one."
    txtLoginid.SetFocus
    Exit Sub
End If
End With
```



Event 4c: Submit input - Add record to Excel Worksheet

Once there is no more error on the user information, the input will be added to the corresponding fields in the CustomerDetails Worksheet for record. A message box will show up upon successful

registration.

```
'Add the new customer information to the corresponding columns in the CustomerDetails Worksheet
With wsCustomerDetails.Range("B1048576").End(xlUp)
    .Offset(1, 0).Value = txtName.Value
    .Offset(1, 1).Value = txtLoginid.Value
    .Offset(1, 2).Value = txtPassword.Value

    If optMale.Value = True Then
        .Offset(1, 3).Value = "Male"
    Else
        .Offset(1, 3).Value = "Female"
    End If

    .Offset(1, 4).Value = cbxAge.Value
    .Offset(1, 5).Value = txtContact.Value
    .Offset(1, 6).Value = txtEmail.Value
    .Offset(1, 7).Value = cbxIndustry.Value
    .Offset(1, 8).Value = cbxArea.Value
End With

'Display message box if the account is successfully created
MsgBox "Your account is created!"

Unload Me

End If
End Sub
```

UserForm1 X

Co-Working Space

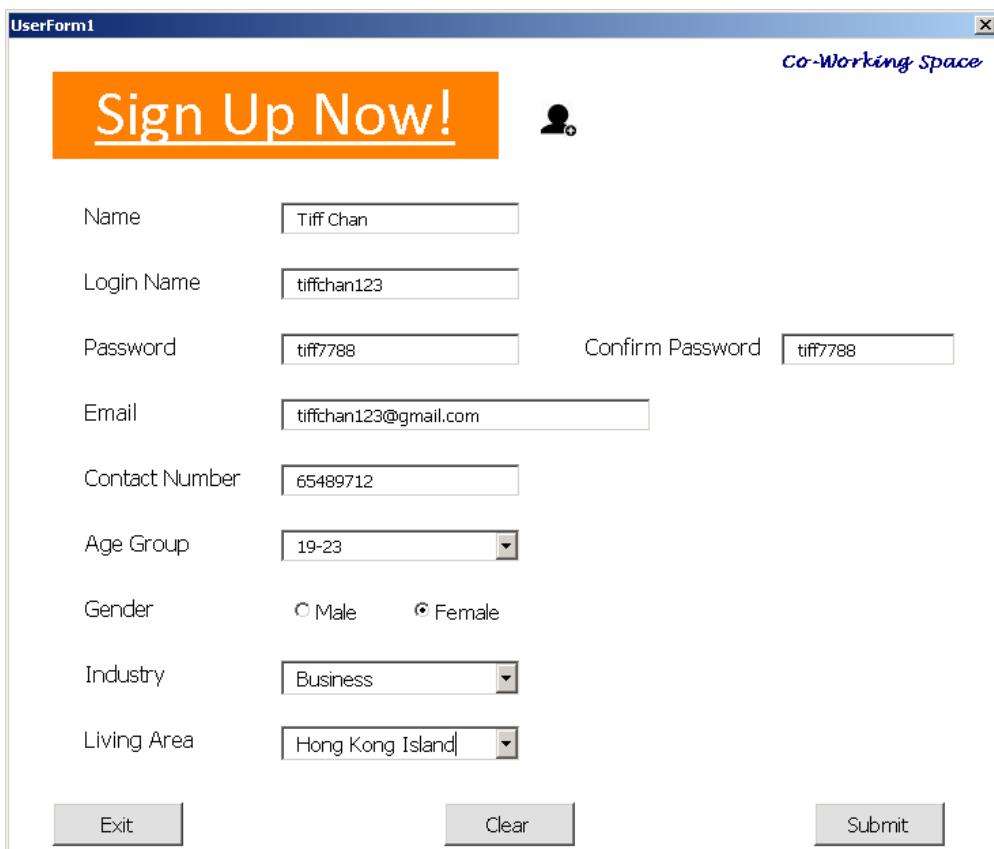
Sign Up Now!



Name	Tiff Chan		
Login Name	tiffchan123		
Password	tiff7788	Confirm Password	tiff7788
Email	tiffchan123@gmail.com		
Contact Number	65489712		
Age Group	19-23		
Gender	<input type="radio"/> Male <input checked="" type="radio"/> Female		
Industry	Business		
Living Area	Hong Kong Island		

Buttons:

Exit | Clear | Submit





Cherry Wan	Cherrywan67	cherry586	Female	24-30	30242916	cherrywan456@gmail.com	Engineer	New Territories
Morris Chow	Morrischow78	morris65	Male	19-23	89897644	morrischow65@gmail.com	Engineer	New Territories
Alan Cheung	Alancheung89	alan78	Male	31-40	90375982	alancheung34@gmail.com	Freelances	New Territories
Tiffany Wong	Tiffanywong78	tiffany57	Female	41-60	61153411	tiffanywong57@gmail.com	Designer	Hong Kong Island
Bosco Lai	Boscolaia487	bosco47	Male	61 or above	50922318	boscolaia47@gmail.com	Freelances	New Territories
Kathy Chan	Kathychan423	kathy423	Female	19-23	54187940	kathy423@yahoo.com	Freelances	Kowloon
Jimmy Yip	Jimmyyip688	jimmy68	Male	24-30	93556975	jimmy68@gmail.com	I.T.	New Territories
Tiff Chan	tiffchan123	tiff7788	Female	19-23	65489712	tiffchan123@gmail.com	Business	Hong Kong Island

Event 5: Clear input

When the Clear Command Button (cmbClear) is clicked, all values will be set to blank ("") or false to clear the userform input.

```
Private Sub cmbClear_Click()

    'clear sign up form
    txtName = ""
    txtLoginid = ""
    txtPassword = ""
    txtConfirm = ""
    txtEmail = ""
    txtContact = ""
    cbxAge = ""
    optMale = False
    optFemale = False
    cbxIndustry = ""
    cbxArea = ""

End Sub
```

Event 6: Quit the application

When the Exit Command Button (cmbexit) is clicked, a message box will show up and ask the user if they really want to quit the form. This can prevent losing all user input if the user click the exit button accidentally. If the user answer Yes, the userform will be unloaded.

```

Private Sub cmbExit_Click()
Dim Quit As Variant

'Display message box warning
If MsgBox("Do you want to exit?", vbYesNo) = vbYes Then

'Exit sign up form
Unload frmSignup
End If

End Sub

```

UserForm1 Co-Working Space

Sign Up Now!



Name

Login Name

Password Confirm Password

Email Microsoft Excel

Contact Number

Age Group

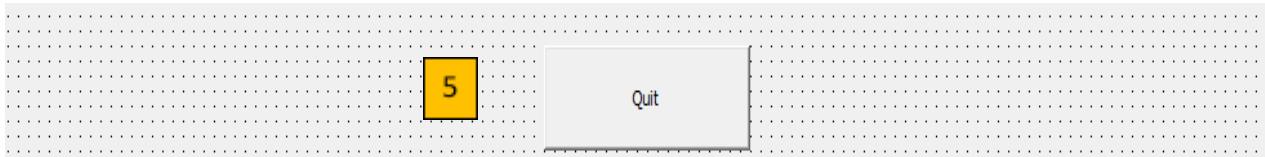
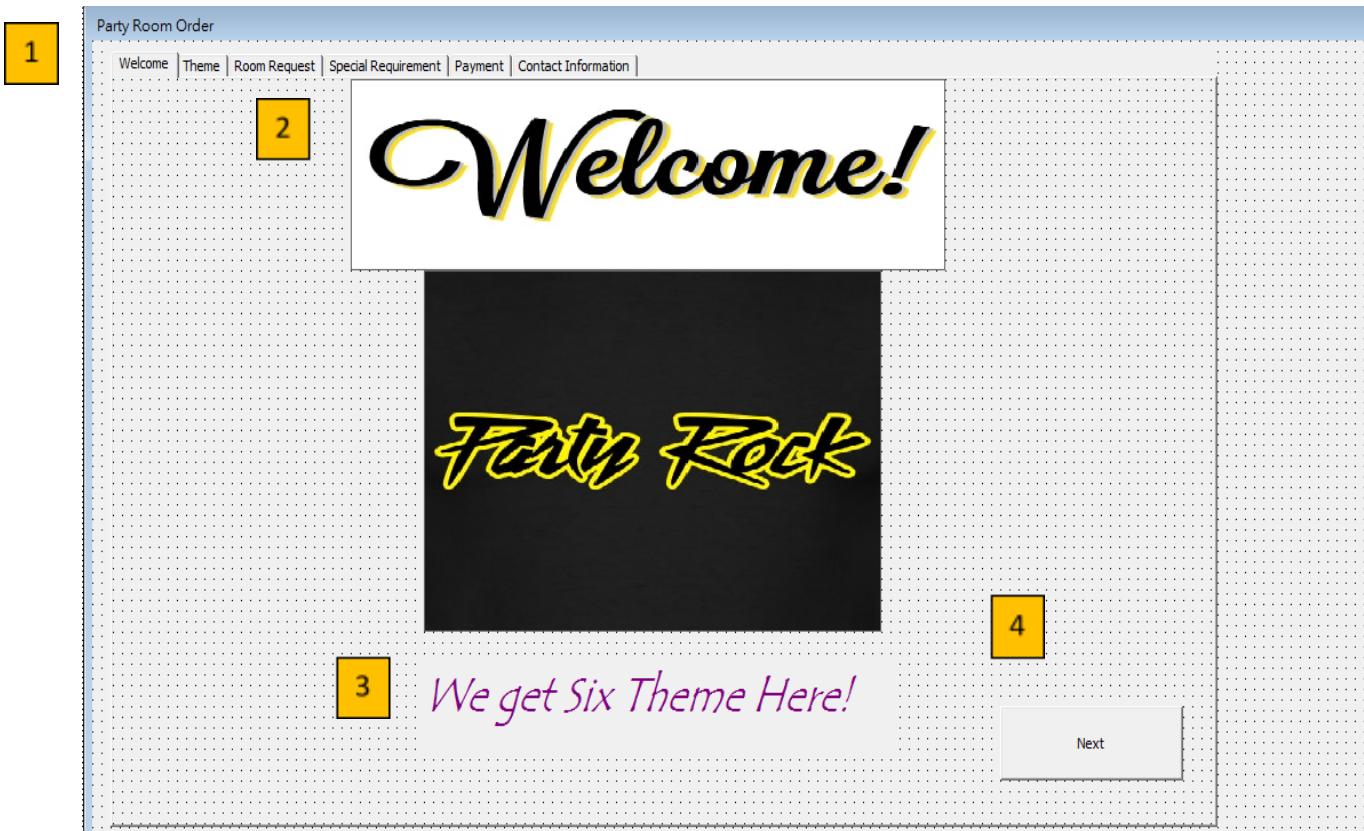
Gender Male Female

Industry

Living Area

Party Room Order Userform

Component 1: Whole layout



Object	Name	Property	Function
1	MultiPage1	MultiPage	<ol style="list-style-type: none"> 1. Multipage with tab function 2. There is a total of 6 pages and each page is shown while using
2	ImgWel ImgPartyRock	Image	Display the welcome message and company name
3	lblTheme	Label	Show no.of theme we will provide
4	cmdWelNext	CommandButton	Go into the next page of the Multipage
5	Cmdquit	CommandButton	Quit the application

Event 1: Party Room Order userform appears

When the “Login” button in customer login page of the login userform is clicked, the menu page in party room order userform will show up. There is a multipage at the left-hand side with tag. Around the bottom, there have “Next” button and “Quit” button.

The screenshot shows a userform titled "Customer Login". It contains two text input fields: "Login ID" with the value "mia" and "Password" with the value "*****". Below the password field is a "Show Password" button. A instruction message "Please insert your ID and password to proceed!" is displayed. At the bottom are four buttons: "Login", "Sign Up", "Clear", and "Quit".

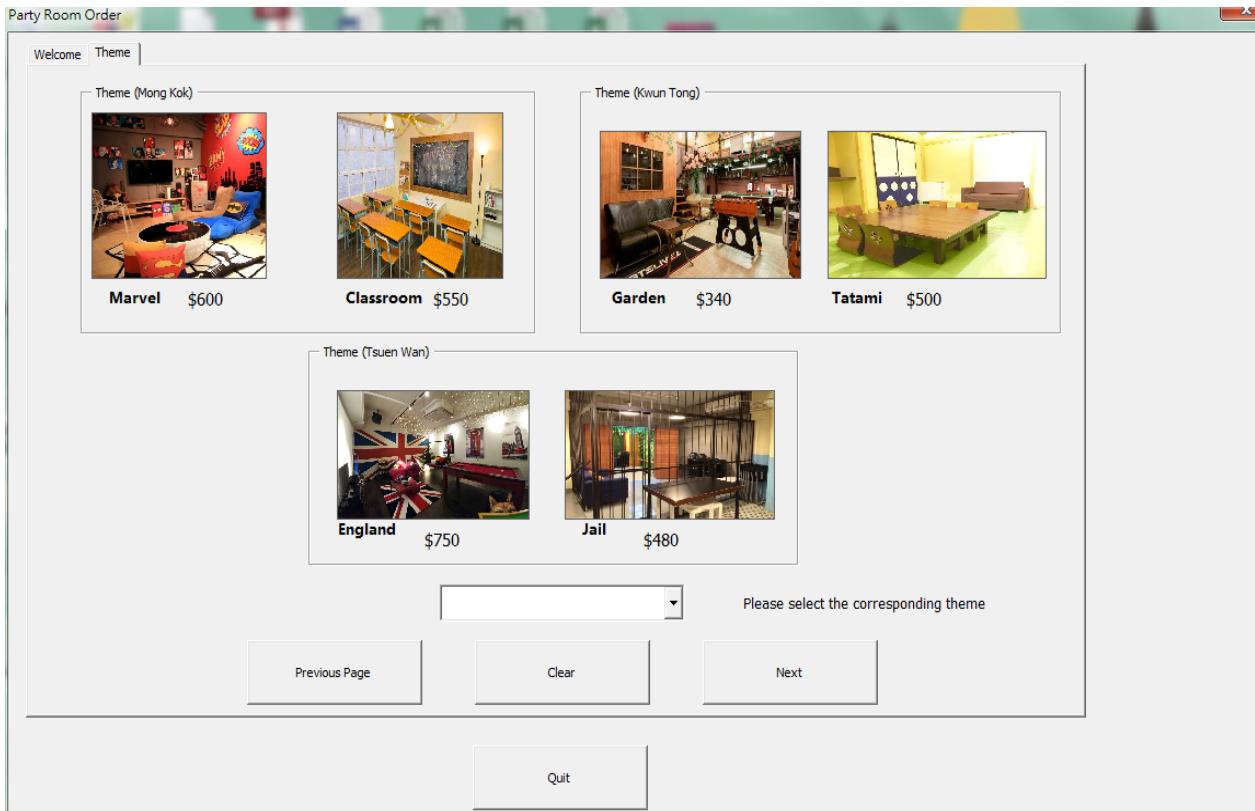
Event 2: Quit the userform

User can quit the application by clicking Quit button in any page. When the Quit button is clicked, the system will prompt the message to ask whether the user want to exit or not, and the application will be quitted by clicking the “Yes” button.



Event 3: Show the next page

When the “Next” button in welcome page is clicked, the theme page will show up. There are 3 frames, each frame contains two images and 4 labels to show the theme information to user. Under the frame, a combo box is provided to select one of the theme from one special location.

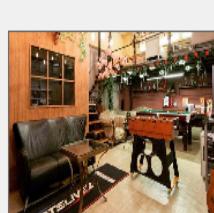


Component 2: Second page of multipage: Theme Page

Party Room Order

Theme | Theme (Mong Kok) | Theme (Kwun Tong) | Theme (Tsuen Wan)

1

Theme (Mong Kok)	Theme (Kwun Tong)
 Marvel \$600	 Classroom \$550
 Garden \$340	 Tatami \$500

2

Theme (Tsuen Wan)
 England \$750
 Jail \$480

3

Previous Page | Clear | Next

4

Please select the corresponding theme

5

Quit

Previous Page

Marvel
Classroom
Jail
Garden
England
Tatami

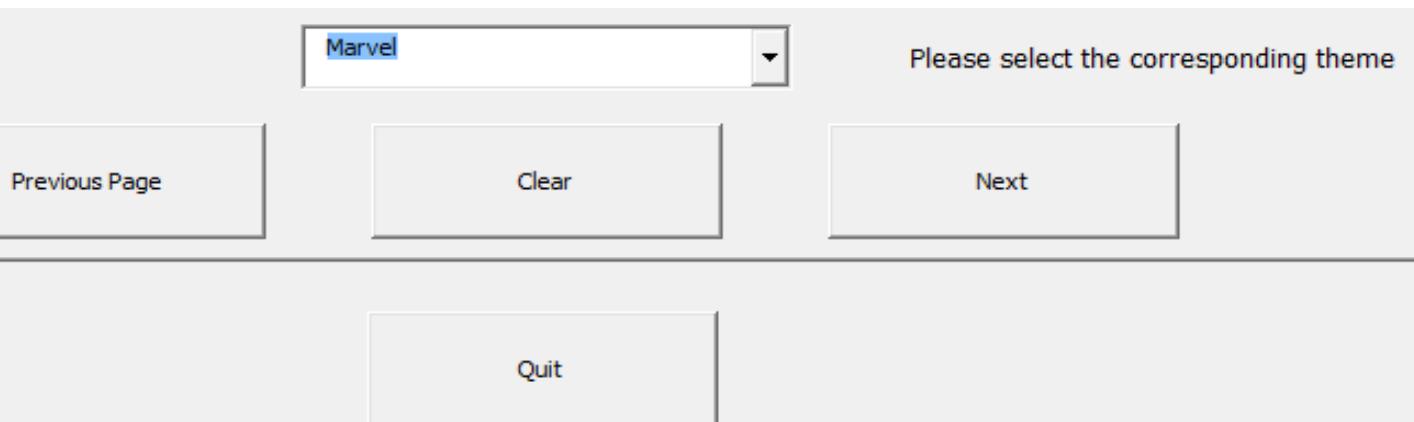
Please select the corresponding theme

Next

Object	Name	Property	Function
1	1. fraMKtheme 2. fraKTtheme 3. fraTWtheme	Frame	Contain different information by distinct store location
2	cmdThemeprevious	CommandButton	Back to the welcome page
3	cmdThemeclear	CommandButton	Clear the value is selected in the combo box
4	cmdThemenext	CommandButton	1. Go to next page of the multipage 2. Check whether the user fill in the information
5	cboTheme	Combo box	Display a drop-down list that can select one by user

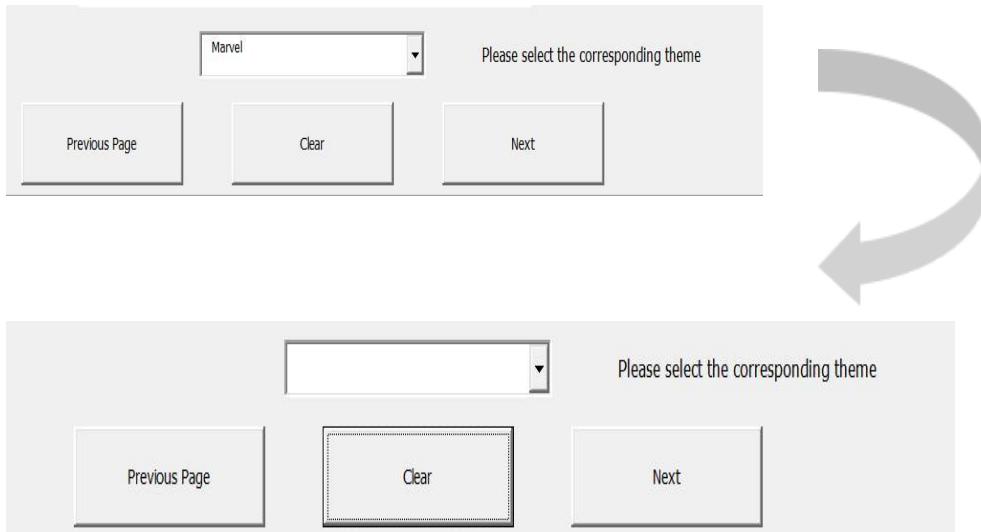
Event 1: Choose the theme in Combo box

In the combo box, it lists out all the theme. Two themes are from the same location that it is showed in the relative frame. User can choose one of the theme from the combo box. For example, choose Marvel as the theme.



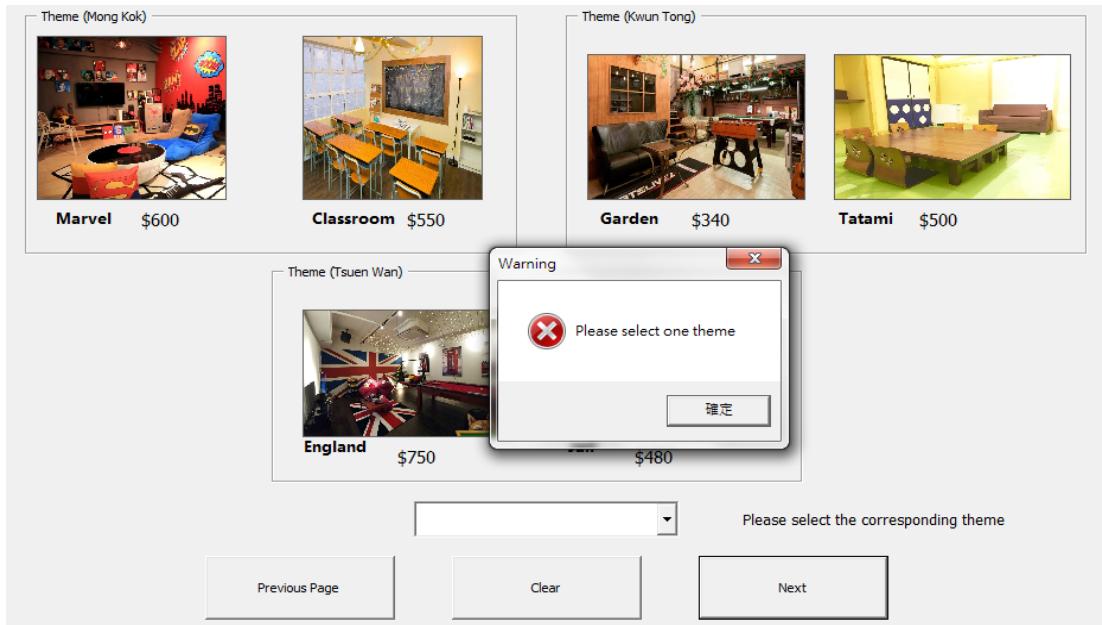
Event 2: Clear the selected Item in combo box

When the users want to change their preference, they can clear the item that they selected before, then the combo box return to missing like initialize setting.



Event 3: Process to Room Request page

After select the preferred theme, user can process to the next page by clicking the Next button. If the user does not select any one of the themes, the system will display a Warning message to tell user to select a theme first and stop processing to next page.



Component 3: Third page of multipage: Room Request

Welcome | Theme | Room Request |

Party Date

1 only provide 3 days later booking

2 Date Option

3 Please specify the no. of people will come

4

5

6

7

8

9 Previous Page

10 Clear

11 Next

1 only provide 3 days later booking

2 Date Option

3 Please specify the no. of people will come

4

5

6

7

8

9 Previous Page

10 Clear

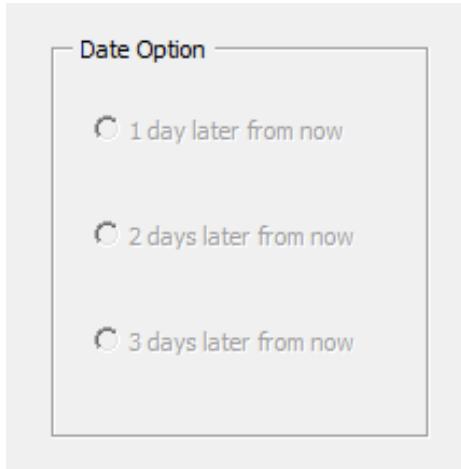
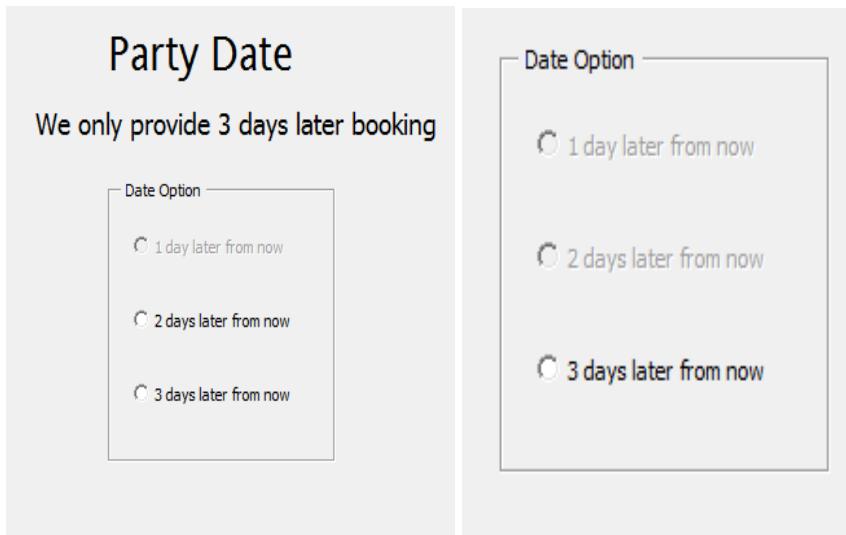
11 Next

Object	Name	Property	Function
1	lblPartyDate	Label	A title shows to user
2	lblBooking	Label	Tell the user what they can choose below
3	lblParticipants	Label	A title shows to user
4	lblPeople	Label	Tell the function of spin button to user
5	fraDateoption	Frame	1. Contain 3 different options inside
6	<ul style="list-style-type: none"> ● optDate1 ● optDate2 ● optDate3 	Option Button	<p>1. Store the Party Date that users want to use later.</p> <p>2. Only one option can be selected, if user want to deselect one option, they need to select another option.</p>
7	spnPeople	Spin Button	<p>1. Indicate the People by clicking the up or down button</p> <p>2. Maximum is 20 people, Minimum is 1 person.</p>
8	txtPeople	Text box	<p>1. show the no. of people/person</p> <p>2. Store the value of people going to attend</p> <p>3. Use the no. of people to multiply a fee</p>
9	cmdRRprevious	Command Button	Back to Theme page
10	cmdRRClear	Command Button	Clear the option button and text box value
11	cmdRRNext	Command Button	<p>1. Process to next page</p> <p>2. Check whether user fill in all information</p> <p>3. If user exit the maximum no., it will show a Message box.</p>

Event 1: Choose the booking day

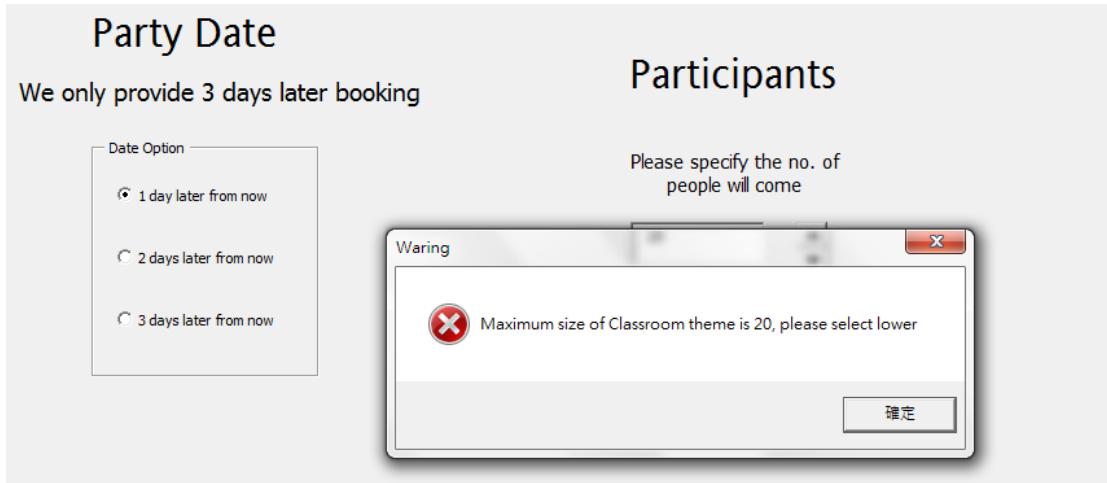
Assumption: Each theme only has one room, there are six room in total. In addition, there is no timeslot during the party time. The booking time is whole day. For example, if “Marvel” is booked on 30/4/2018. After that, user only has two options. The 1 days later from now option will be disabled.

Customers will know that which date is available for booking after they select the theme. If the preferred theme is fully booking, they can back to Theme page and select another theme.



Event 2: Indicate no. of people

Customers can indicate how many people will come to the party room. The spin button value is changed by 1, when the user is click on up or down button. However, each theme has different maximum size. If the no. of people exceeds the limited size, the application will show a message to users indicate again and stop process to the next page.



Event 3: Process to Special Requirement page

If the user fills in all the information in that page properly, it will jump into Special Requirement page. However, if nothing is indicated inside this page, a message will show and stop processing.

Party Date

We only provide 3 days later booking

Date Option

1 day later from now

2 days later from now

3 days later from now

Participants

Please specify the no. of people will come

Warning

 Please fill in all the necessary information

確定

[Previous Page](#) [Clear](#) [Next](#)

Event 4: Clear the option button value and text box value

When the user clicks on the clear button, the booking date selected before will be deselected and turn three options into unselected status. Also, the text box value will turn into missing.

Component 4: Fourth page of multipage: Special Requirement

Welcome | Theme | Room Request | Special Requirement |

PS4 KTV Boardgame

Please indicate no.of entertainment that you want

PS4	0
PS4	1
PS4	2
PS4	3
PS4	4
PS4	5

KTV	0
KTV	1
KTV	2
KTV	3

Board Game	0
Board Game	1
Board Game	2
Board Game	3
Board Game	4
Board Game	5

Previous Page Clear Next

1 2 3 4 5 6

Object	Name	Property	Function
1	1.lblPS4 2.lblKTV 3.lblBoardgame	Label	Give a title to separate different entertainment
2	1.imgPS4 2.imgKTV 3.imgBoardgame	Image	Show the entertainment clearly
3	1.lbxPS4 2.lbxKTv 3.lbxBoardgame	List Box	1.Let users to select no. of entertainment they want 2.store their preference 3Disallow multiselect
4	cmdSRprevious	Command Button	Back to the Room Request page
5	cmdSRclear	Command Button	Clear all the selected value in 3 list boxes
6	cmdSRnext	Command Button	Process to payment page

Event 1: Select the entertainment

In the list box, the first column is the type of entertainment. Second column is the no. of entertainment that the users want. Only one selection is allowed in each list box.

PS4		KTV		Boardgame	
	KTV		Boardgame		
Please indicate no.of entertainment that you want					
PS4	0	KTV	0	Board Game	0
PS4	1	KTV	1	Board Game	1
PS4	2	KTV	2	Board Game	2
PS4	3	KTV	3	Board Game	3
PS4	4			Board Game	4
PS4	5			Board Game	5
< >		< >		< >	
Previous Page		Clear		Next	

PS4	0	KTV	0	Board Game	0
PS4	1	KTV	1	Board Game	1
PS4	2	KTV	2	Board Game	2
PS4	3	KTV	3	Board Game	3
PS4	4			Board Game	4
PS4	5			Board Game	5
< >		< >		< >	
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"><p style="color: red;">Warning</p><p style="text-align: center;"> Please indicate your preference</p><p style="text-align: right; margin-top: 10px;">確定</p></div>					
Previous Page		Clear		Next	

Event 2: Process to Payment page

It will stop user to process if they did not indicate their requirement properly. A message box will prompt to user. Otherwise, payment page will appear.

Component 5: Fifth page of multipage: Payment

1 e | Theme | Room Request | Special Requirement | Payment | Contact Information |

Step1

Food Order
Do you have food order from outside Yes No

5 Total Amount

Total Amount:

4

Step2

Total Amount Click here!

3

Step3

Mode

Payment Mode: Cash Credit Card

6

7

Credit Card No:

8

Previous Page

Clear

Next

Object	Name	Property	Function
1	1.lblstep1 2.lblstep2 3.lblstep3 4.lblfoodorder 5.lbltotalamount 6.lblpaymode 7.lblcreditcard	Label	show the information clearly, the tell the users what they need to fill in
2	1.optYes 2.optNo 3.optCash 4.optCreditcard	Option button	-let user to choose -Food order option will affect the total amount calculation -if the credit card option is clicked, the credit card frame will appear
3	cmdTotalamount	Command Button	When the button is clicked, the total amount frame will appear and show the total amount in dollar.
4	1.txtTotalamount 2.txtCreditcard	Text box	1.Show the total amount 2.let user to type in number
5	1.fraFoodorder 2.fraTotalamount 3.framode 4.fraCreditcard	Frame	1.contain yes/no option 2.Total amount will pop up when Total amount button is clicked 3.contain cash/credit card option 4.The frame will pop up when credit card option is chosen
6	cmdPayprevious	Command Button	Back to special requirement page
7	cmdPayclear	Command Button	Clear all the value in option button and text box
8	cmdPaynext	Command Button	Process to the final page-Contact information

Event 1: Select option in food order frame

User can choose yes/no in the Food Order's frame, we set the food order charge is \$200 each. If the user chooses yes, the total amount will add \$200 more.

Step1

Food Order	Do you have food order from outside	<input checked="" type="radio"/> Yes	<input type="radio"/> No
------------	-------------------------------------	--------------------------------------	--------------------------

Food Order Charge is \$200

Step2

Total Amount Click here!

Event 2: Click the Total Amount Button

Step2, when the button is clicked. A frame will pop up immediately and the total amount also appear according to what you choose before.

Food Order	Do you have food order from outside	<input checked="" type="radio"/> Yes	<input type="radio"/> No
------------	-------------------------------------	--------------------------------------	--------------------------

Food Order Charge is \$200

Total Amount

Total Amount:

HK\$1,350.00

Step2

Total Amount Click here!

Food Order	Do you have food order from outside	<input type="radio"/> Yes	<input checked="" type="radio"/> No
------------	-------------------------------------	---------------------------	-------------------------------------

Food Order Charge is \$200

Total Amount

Total Amount:

HK\$1,150.00

Step2

Total Amount Click here!

Event 3: Select the Payment mode

If the user selects credit card option, a frame will pop up. It contains a text box inside the frame and allow user to type in number. Otherwise, the frame will not show.

Step3

Mode

Payment Mode:	<input checked="" type="radio"/> Cash	<input type="radio"/> Credit Card
---------------	---------------------------------------	-----------------------------------

Step3

Mode

Payment Mode:	<input type="radio"/> Cash	<input checked="" type="radio"/> Credit Card
---------------	----------------------------	--

Credit Card No :

Event 4: Process to Contact Information page

In this page, there are some difference on the Next button. If the user did not fill all the information properly, the next button's function will be disabled even though user can click on it.

Component 6: Final Page of Party Room Order userform

Welcome | Theme | Room Request | Special Requirement | Payment | Contact Information |

1  **2** *Contact Information*

Customer's Name **3**

Gender Male Female **4**

Contact No. **5**

Address **6**

7 Previous Page **8** Clear **9** Submit

Object	Name	Property	Function
1	imgWant	Image	Interact with users
2	1.lblContactInfor 2.lblContactname 3.lblGender 4.lblcontactno 5.lbladdress	Label	Clearly state that what information we are needed
3	txtcontactname	Text box	-Store the name value -disallow user type in numeric value
4	1.optMale 2.optFemale	Option button	-Store the sex value into M/F
5	txtcontactno	Text box	-save the contact number for follow up service
6	txtaddress	Text box	-Save the address
7	cmdCIprevious	Command Button	Back to Payment page
8	cmdCIconfirm	Command Button	Clear all the value in text box and option button
9	cmdCInext	Command Button	1.Submit the order 2.Successful Message will show 3.Transfer the all value into a new book ("Party Room Order") 4.Unload the Party Room Order user form

Event 1: Fill in all the information

All the blanket should not be empty in this page. User must fill in all the information correctly. For example, we disallow to type numeric value in the Name text box.



Contact Information

Customer's Name

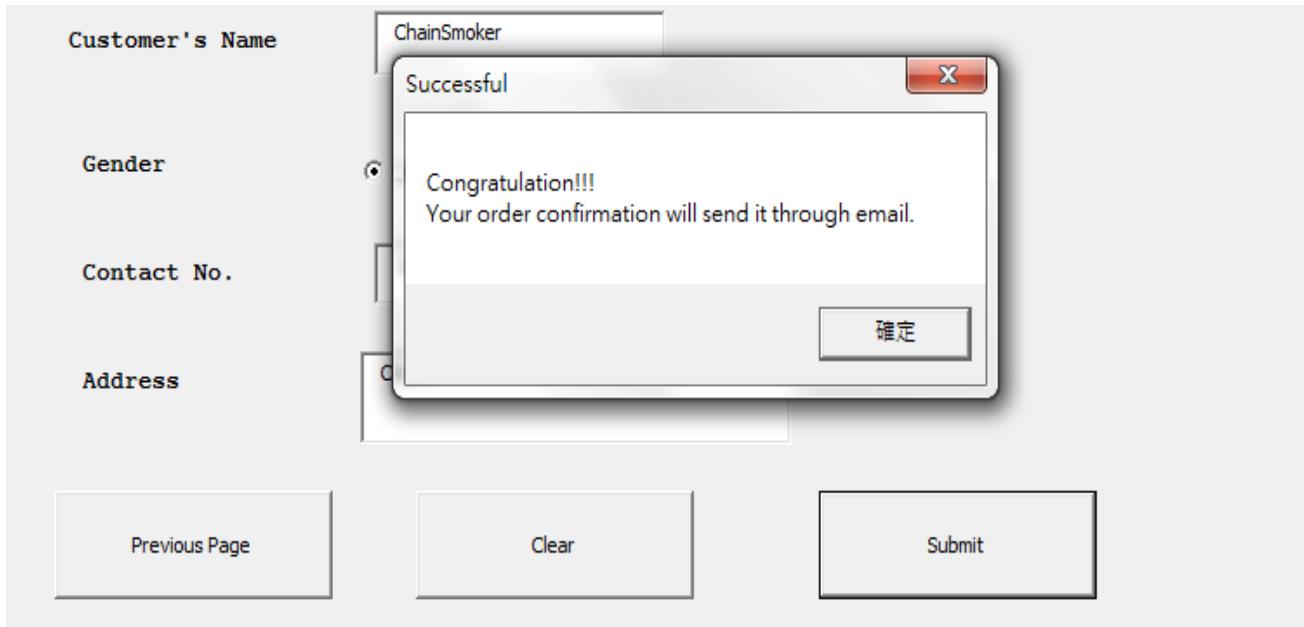
Gender Male Female

Contact No.

Address

Event 2: Submit the Order form

When there is no error created, the application will show a message box to the user and close the Party Room Order userform. Behind the application, it will automatically store the value into another workbook for analysis purpose.



OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements	Payment Method
1	Olivia Stone	M	24814838	Classroom	10/4/2018	20	Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4	Credit Card
2	Joseph Wallace	M	69736777	Marvel	1/4/2018	15	Mong Kok	HK\$10,000.00	Yes	HK\$700.00	PS4,KTV	Credit Card
3	Jessica Montgo	M	62673423	Jail	23/3/2018	10	Tsuen Wan	HK\$5,000.00	No	HK\$900.00	Boardgame	Cash
4	Ella West	F	60865433	Tatami	14/3/2018	13	Kwun Tong	HK\$8,000.00	Yes	HK\$940.00	PS4,KTV	Cash
5	Rhonda Griffith	M	64443678	Garden	5/3/2018	12	Kwun Tong	HK\$7,500.00	No	HK\$185.00	Boardgame	Credit Card
6	Zenith White	M	67709771	England	24/2/2018	8	Tsuen Wan	HK\$6,600.00	Yes	HK\$2,000.00	PS4,KTV	Credit Card
7	Mia Ramos	F	68246835	Classroom	15/2/2018	20	Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV	Credit Card
8	Stella Leung	F	53146513	Marvel	6/2/2018	15	Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boargame	Cash
9	Olivia Stone	M	24814838	Marvel	28/1/2018	15	Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4	Cash
10	ChainSmoker	M	12341234	Marvel	1/5/2018	10	Mong Kok		Yes	HK\$1,600.00	PS4,KTV,Board Game	Cash

The information is same as what the users type and choose in the Party Room Order userform.

Event 3: Submit the form without filling information

It will show a message box to user and stop process until all the information is collected.

Contact Information

Customer's Name

Gender

Contact No.

Address

Previous Page

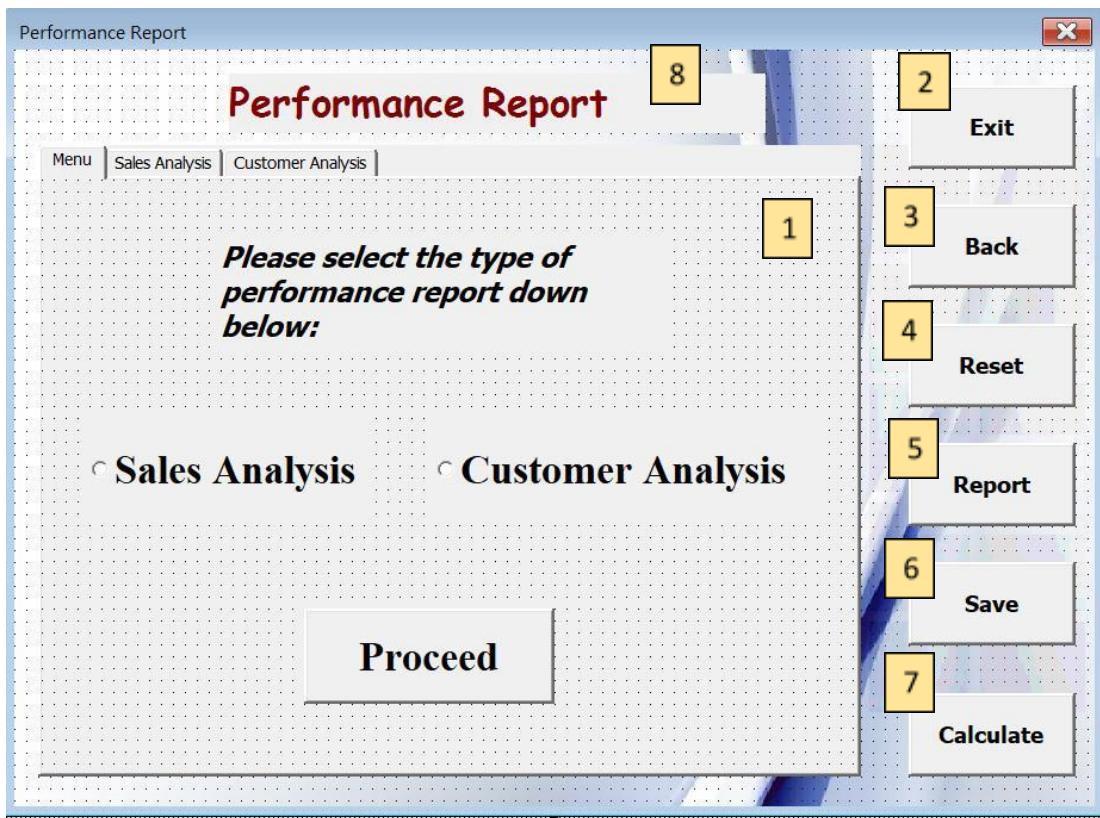
Clear

Submit

Please fill in all the information

Performance Report Userform

Component 1: Whole layout



Object	Name	Property	Function
1	MultiPage1	MultiPage	1. Multipage with tab disabled 2. Enable the display of different pages 3. There is a total of 3 pages and each page is shown while using the back and proceed buttons
2	cmdExit	CommandButton	Quit the application
3	cmdBack	CommandButton	Back to the first page of the multipage.
4	cmdReset	CommandButton	Clear all information in current page
5	cmdReport	CommandButton	Generate Sales/Customer report in new workbook*
6	cmdSave	CommandButton	Save and close the report workbook*
7	cmdCalculate	CommandButton	Compute the total sales statistics
8	lblPerformance	Label	Display the title of the userform

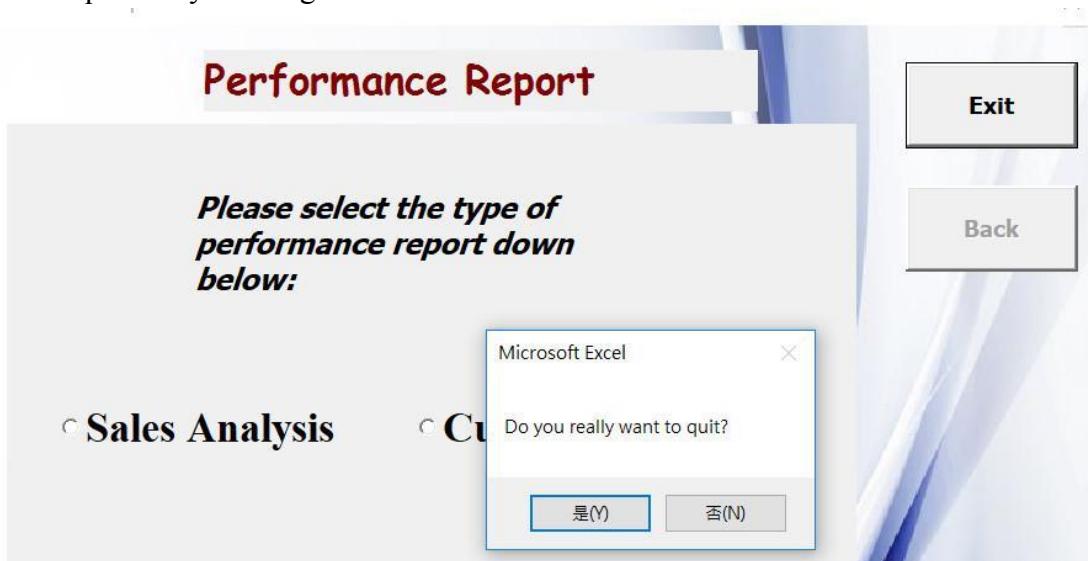
*Some of the command buttons has a specific function in different pages, those buttons will be mentioned again in other component with explanation.

Event 1: Performance Report userform appears

When the “Login” button in manager login page of the login userform is clicked, the menu page in performance report userform will show up. There is a multipage at the left-hand side with no tag. The right-hand side are the event buttons that show up separately in accordance with different pages.

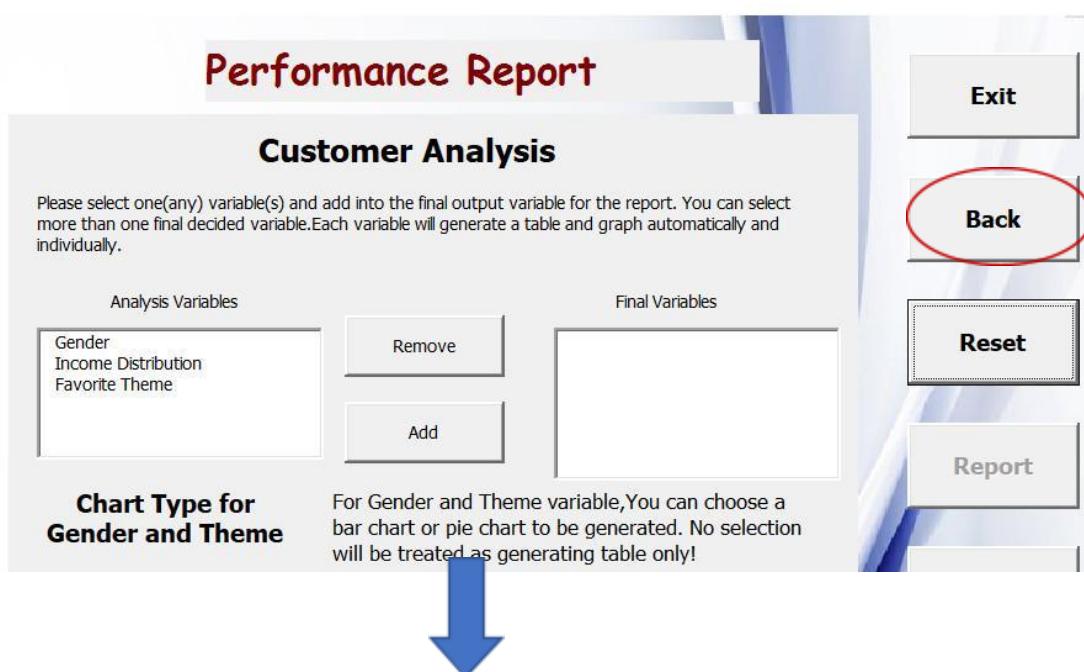
Event 2: Exit the userform

User can quit the application by clicking Quit button in any page. When the Quit button is clicked, the system will prompt the message to ask whether the user want to exit or not, and the application will be quitted by clicking the “Yes” button.



Event 3: Back to menu page

Whenever the back button is clicked, the pages will return the first page of the multipage: Menu pages. Also, all the option buttons in Menu page is deselected.



Performance Report

Please select the type of performance report down below:

Sales Analysis

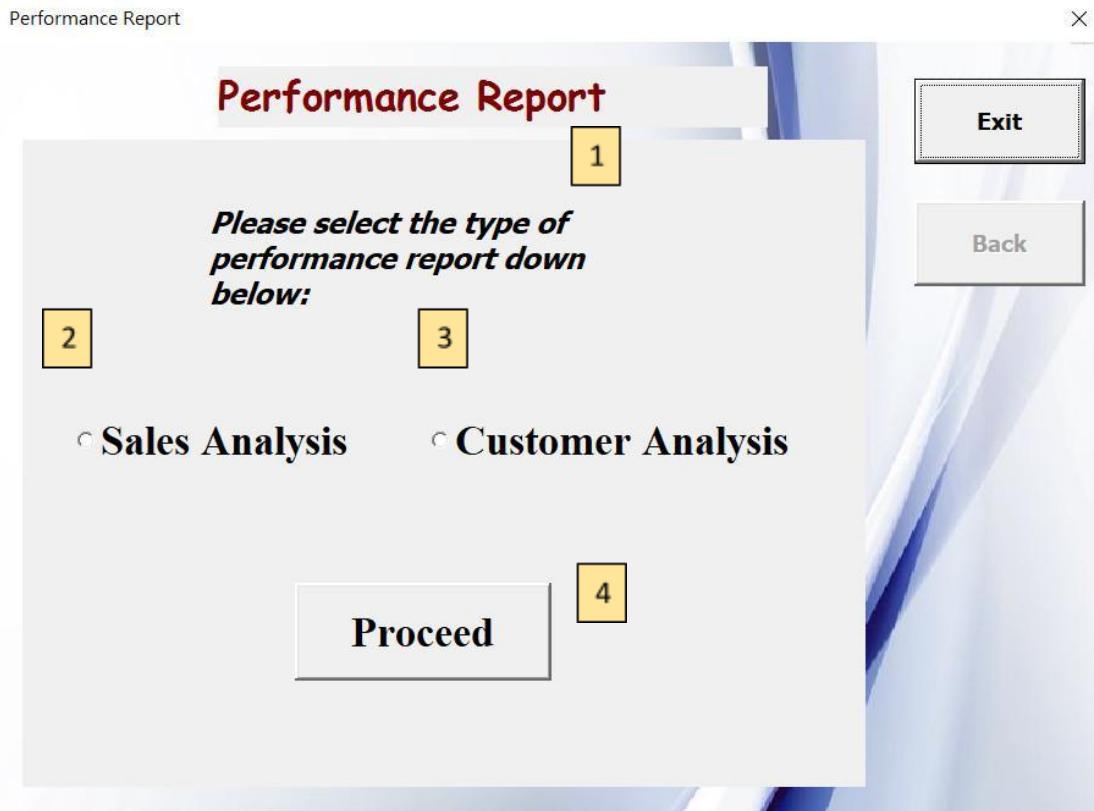
Customer Analysis

Proceed

Exit

Back

Component 2: First page of multipage: Menu page



Object	Name	Property	Function
1	lblChoose	label	Display the instruction of selecting performance report type.
2	optSalesSelect	OptionButton	Select the type of analysis tools, and show the userform we have selected
3	optCustomerSelect	OptionButton	Select the type of analysis tools, and show the userform we have selected
4	cmdProceed	CommandButton	Go to the page that select from the option buttons “optSalesSelect” or “optCustomerSelect”

Event 1:Select the type of analysis tools

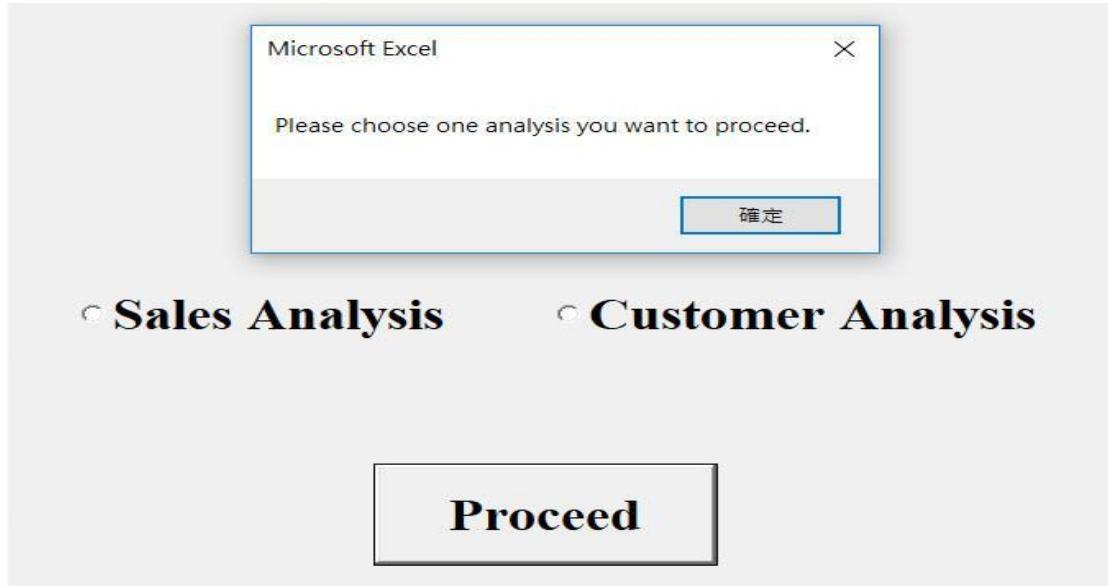
By choosing the option "Sales Analysis"(optSalesSelect) or option "Customer Report"(optCustSelect), the Sales Analysis page or Customer Analysis page is selected respectively.

Sales Analysis Customer Analysis Sales Analysis Customer Analysis

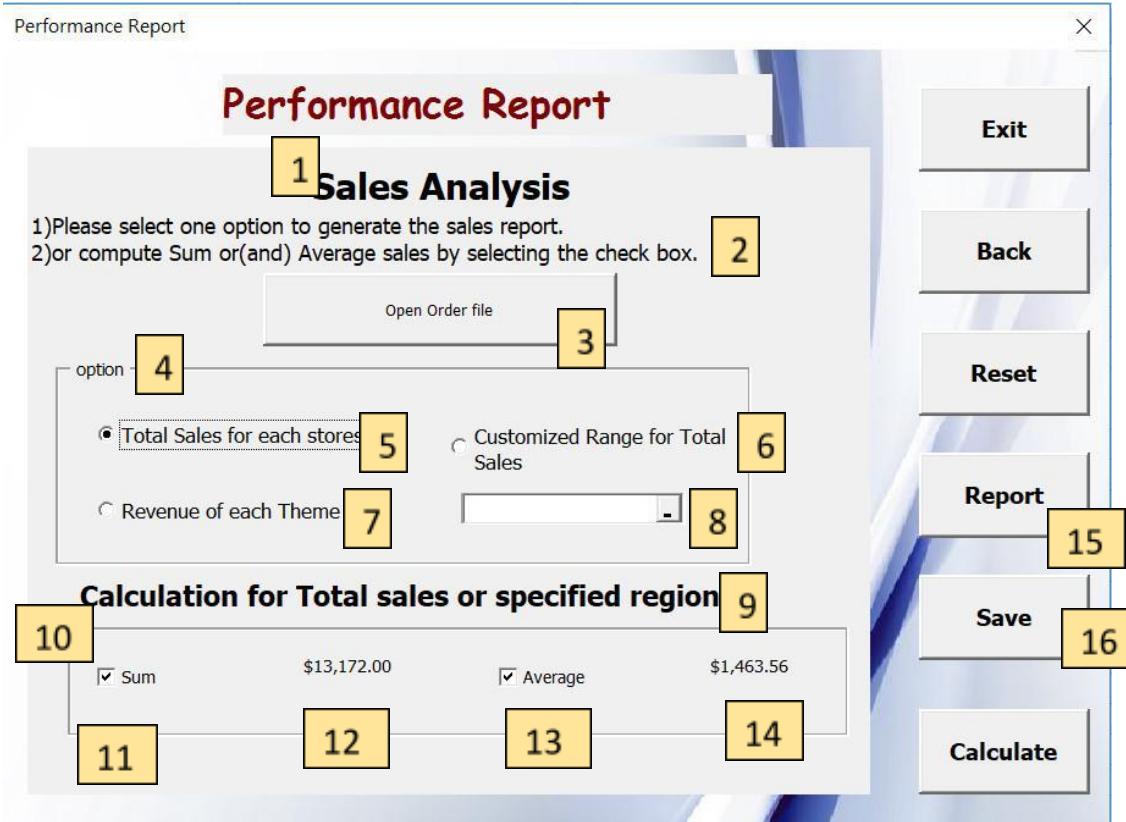
Event 2:Proceed to other pages

After choosing the option "Sales Analysis"(optSalesSelect) or option "Customer

Report"(optCustSelect),By clicking the proceed button , the application will go to the corresponding page . If the user did not choose any option, a message box will be prompted to tell the user to choose one analysis to proceed.



Component 3: Second page of multipage: Sales Analysis page

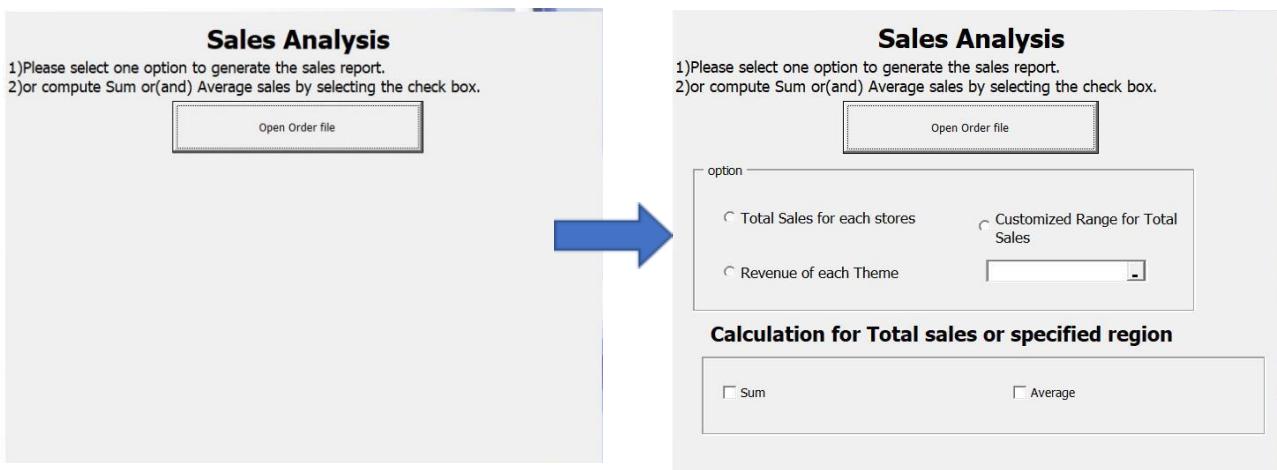


Object	Name	Property	Function
1	lblSalesAnal	label	Display the title of Sales Analysis
2	lblSalesInst	label	Display the instruction of Sales Analysis
3	cmdOpenOrder	CommandButton	Open the party room order.xlsx if not.
4	FrameOption	Frame	Contain the sales report option
5	optTotalEachStore	OptionButton	Select the type of sales report - Total Sales for each store and calculation
6	optCustom	OptionButton	Select the type of sales report - Customized Range for Total Sales and calculation
7	optEachTheme	OptionButton	Select the type of sales report - Revenue of each Theme
8	RefData	Refedit	Select ranges for optCustom to calculate statistics and generate report.
9	lblCalculateOption	label	Display the instruction of calculation
10	FrameCalculate	Frame	Contain the calculation option
11	chkSum	CheckBox	Provide a box for user to select sum analysis
12	lblSum	Label	Display the sum value
13	chkAvg	CheckBox	Provide a box for user to select average analysis

14	lblAvg	Label	Display the average value
15	cmdReport	CommandButton	Generate a sales report in a new workbook
16	cmdSave	CommandButton	Save and close the sales report

Event 1: Open the order file

Before the analysis begin, the user must open the “party room order” .xlsx file first in order to retrieve the data to make any calculation or report. If the file is not opened, it will open it for user. After clicking the “open Order file” button, the option and calculation frame and the label for calculating will become visible. Also the application will open the party room order file at the background.



Event 2: Choosing the option and checkbox for report and calculation

The user can choose one of the option and each option will generate different Sales report in accordance with its caption. The user can select the sum or(and) avg checkbox in order to calculate the sum or(and) average value of the total sales or the customized range of total sales.

Event 3: Select data by RefEdit

If the user has chosen the optcustom button, they should also select the range of data from RefData.

For calculation:

User should select the range in “Party Fee” column only for calculation.

K	L	M	N	O
Party Fee	Special Requirements	Payment Method		
HK\$534.00 PS4		Credit Card		
HK\$700.00 PS4 KTV		Credit Card		
HK\$900.00 Boardgame		Cash		
HK\$940.00 PS4 KTV		Cash		
HK\$185.00 Boardgame		Credit Card		
HK\$2,000.00 PS4 KTV		Credit Card		
HK\$2,346.00 KTV		Credit Card		
HK\$4,000.00 PS4 KTV Boardgame		Cash		
HK\$1,567.00 PS4		Cash		
HK\$1,000.00 PS4		Cash		

For report:

User should select the range with all column for report.

Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements	Payment Method
24814838	Classroom	2/5/2018	20	Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4	Credit Card
69736777	Marvel	2/5/2018	15	Mong Kok	HK\$10,000.00	Yes	HK\$700.00	PS4,KTV	Credit Card
62673423	Jail	3/5/2018	10	Tsuen Wan	HK\$5,000.00	No	HK\$300.00	Boardgame	Cash
60885433	Tatami	4/5/2018	13	Kwun Tong	HK\$8,000.00	Yes	HK\$340.00	PS4,KTV	Cash
64443678	Garden	5/5/2018	12	Kwun Tong	HK\$7,500.00	No	HK\$185.00	Boardgame	Credit Card
67709771	England	6/5/2018	8	Tsuen Wan	HK\$9,600.00	Yes	HK\$2,000.00	PS4,KTV	Credit Card
68246835	Classroom	7/5/2018	20	Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV	Credit Card
53146513	Marvel	8/5/2018	15	Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boardgame	Cash
24814838	Marvel	9/5/2018	15	Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4	Cash

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales

Revenue of each Theme

Calculation for Total sales or specified region

Sum Average

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales

Revenue of each Theme

Calculation for Total sales or specified region

Sum \$13,172.00 Average \$1,463.56

Event 4: Reset all variables/captions

when the reset button is clicked, all the option button and checkbox will be deselected. Also, both label captions and refedit.value will be reset to blank.

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales

Revenue of each Theme

Calculation for Total sales or specified region

Sum \$13,172.00 Average \$1,463.56

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales

Revenue of each Theme

Calculation for Total sales or specified region

Sum Average

Event 5: Generate a sales report

When the one of the option is selected and the Report button is clicked, a sales report will be created in a new workbook. The user can generate 3 different report which is the total sale for each store, revenue for each theme and the customized range for total sales. The report will consist of a flat

table and a bar chart.

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales
 Revenue of each Theme

Sum Average

Open Order file

EXIT

Back

Reset

Report

Save

Calculate

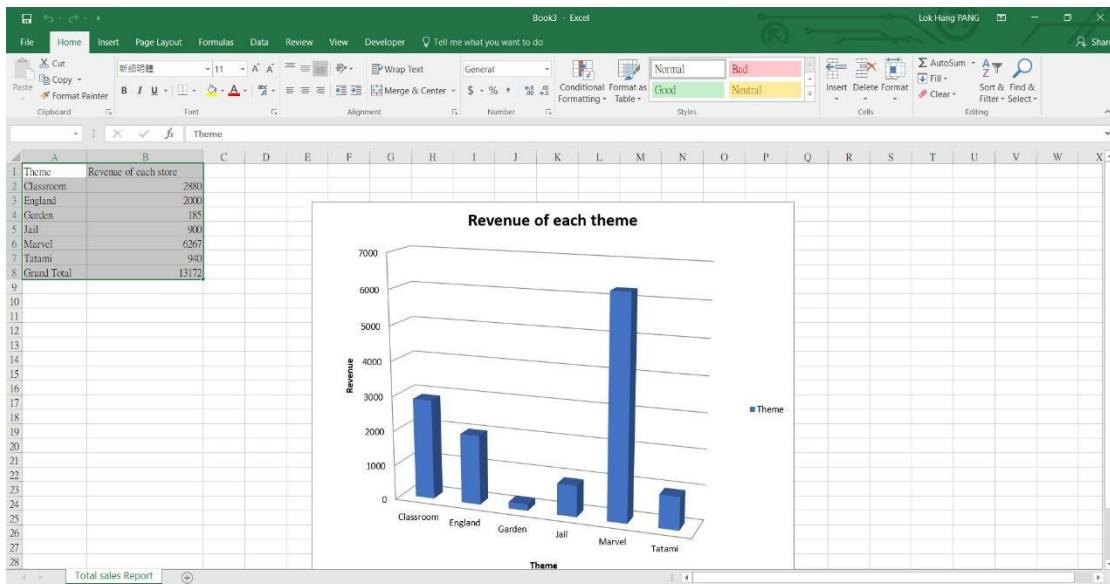


Figure 1: revenue for each theme

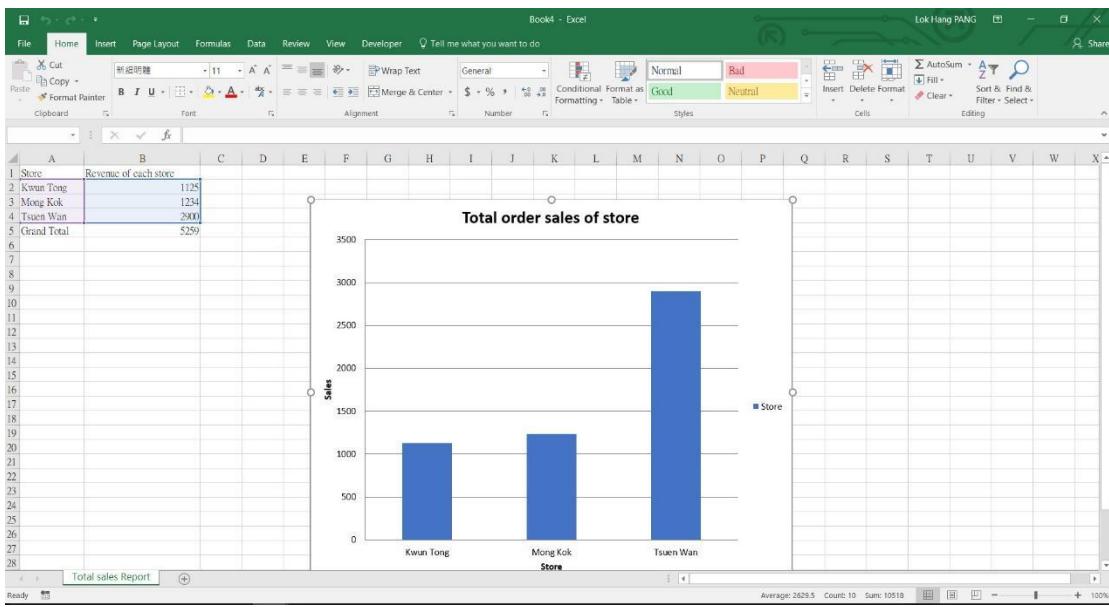


Figure 2: customized range for total sales

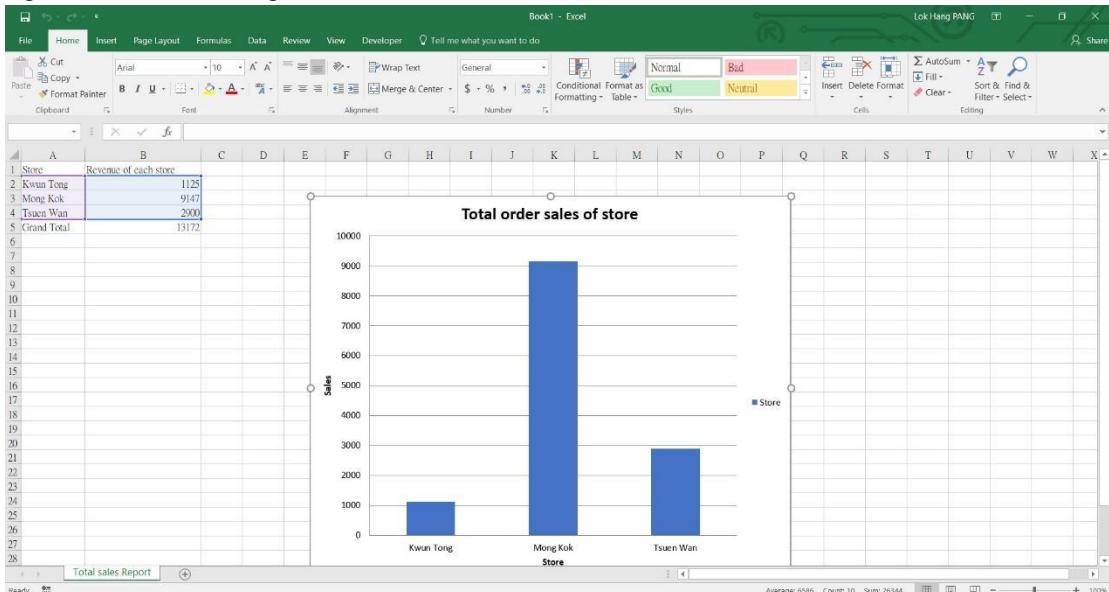
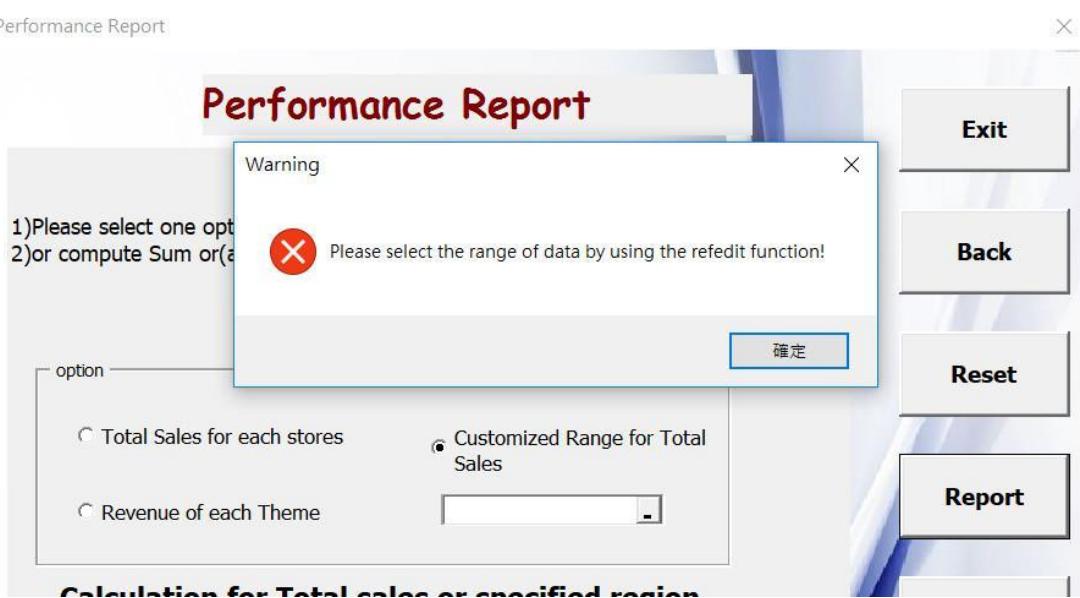


Figure 3: total sale for each store

If the user has chosen the optcustom button, they should also select the range of data from RefData. If not, a message box will be prompted if the value of refedit is missing to tell the user to select the range of data.



Event 6: Calculate the total sales statistic

After the option of different sales data is selected and the checkbox of “sum” or(and) “average” is(are) checked, the sum sales and the average sales will show in the label lblSum and lblAvg ‘s caption respectively. Noted that if the “revenue of each Theme” button is selected it will still return the sum or average of total sales since the event will only calculate the total sales of all order or chosen order.

Performance Report

×

Performance Report

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales
 Revenue of each Theme

Calculation for Total sales or specified region

<input checked="" type="checkbox"/> Sum	\$13,172.00	<input checked="" type="checkbox"/> Average	\$1,463.56
---	-------------	---	------------

Performance Report

×

Performance Report

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales
 Revenue of each Theme

Calculation for Total sales or specified region

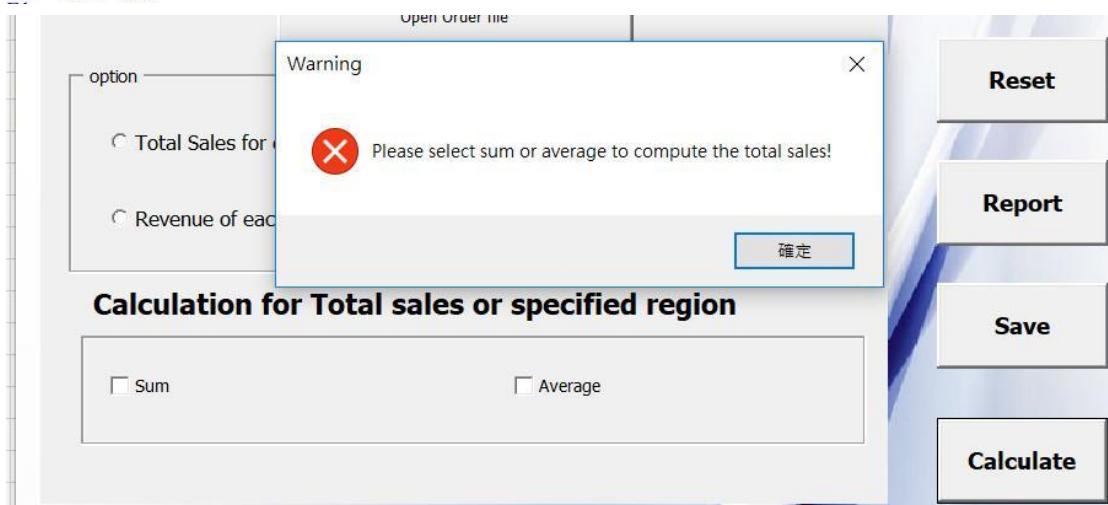
<input checked="" type="checkbox"/> Sum	\$7,605.00	<input checked="" type="checkbox"/> Average	\$1,086.43
---	------------	---	------------

A message box will be prompted if the sum and average checkbox are both deselected to tell the user to select at least one function to compute the sales statistic.

```

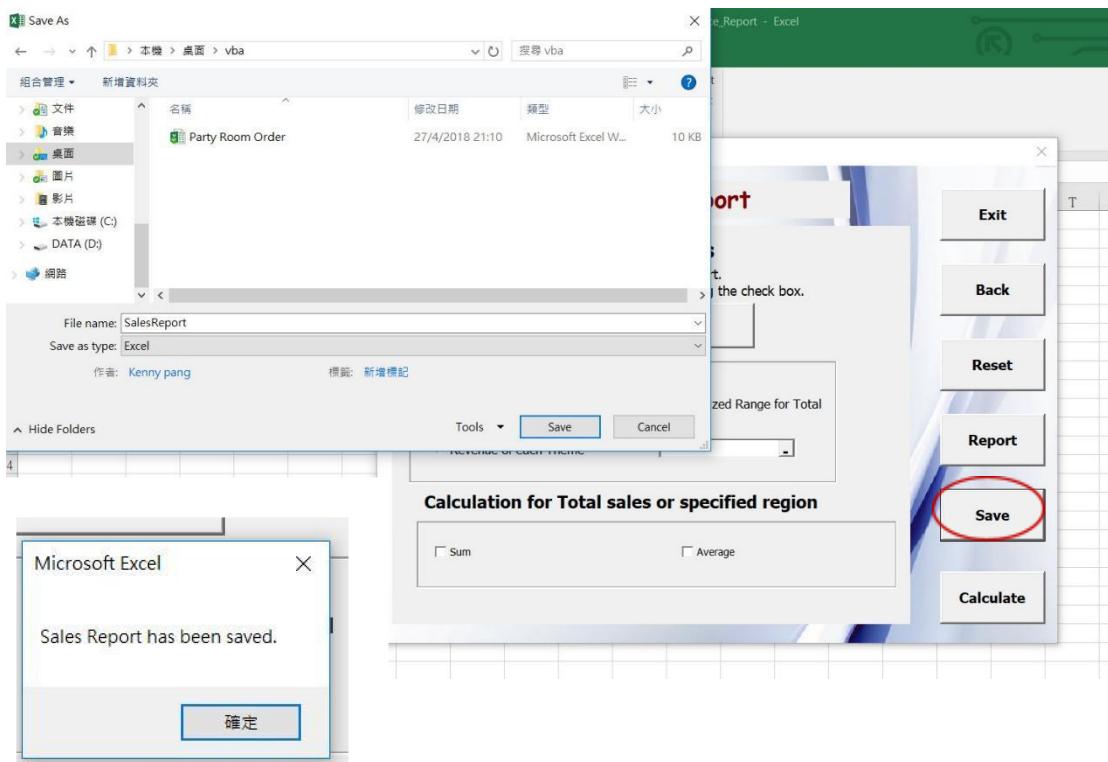
If chkAvg.Value = False And chkSum.Value = False Then
    MsgBox "Please select sum or average to compute the total sales!", 16, "Warning"
    Exit Sub

```



Event 7: Save the generated sales report

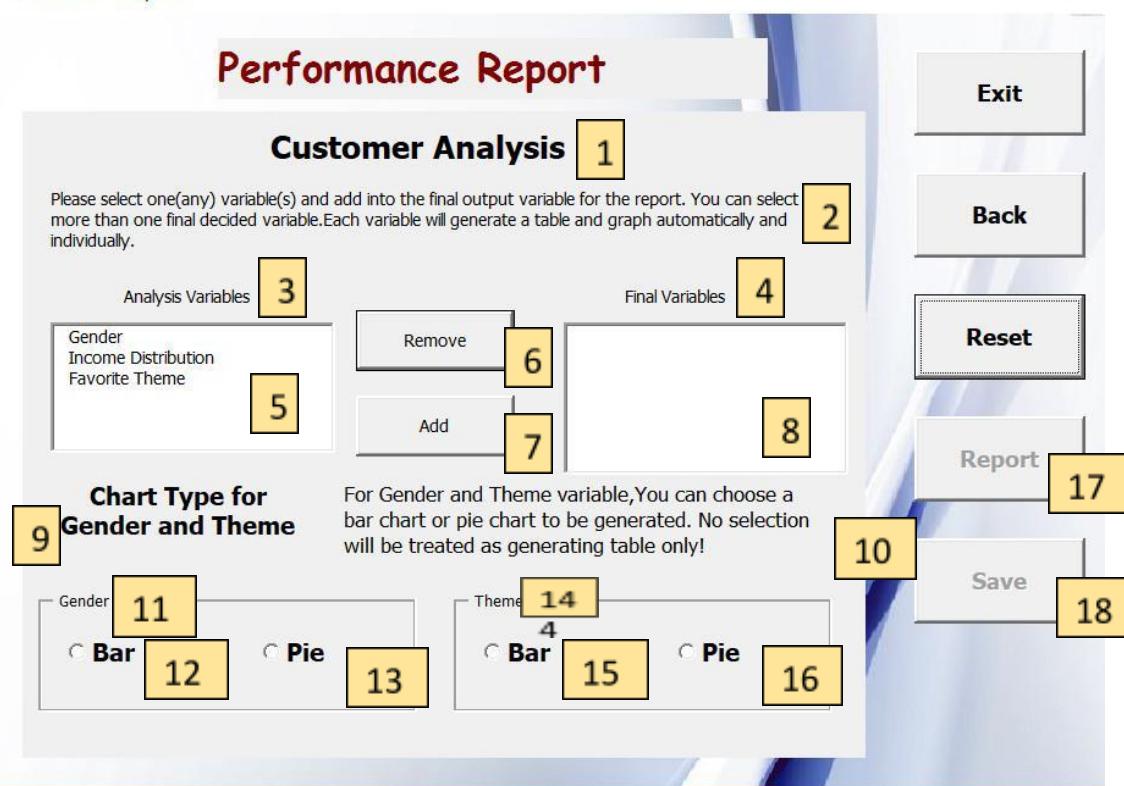
After generating the sales report, the sales report will be saved when the save button is clicked. A dialog window for saving file will show up and the initial file name will be SalesReport. The workbook will be closed after saving and a message box will prompt out to give a save notice.



End page of multipage: Customer Analysis

page

Performance Report



Object	Name	Property	Function
1	lblCustAnal	label	Display the title of Customer Analysis
2	lblInstruct	label	Display the instruction of Customer Analysis
3	lblDecision	label	Display the name of lstVar
4	lblFinal	label	Display the name of lstDecided
5	lstVar	listbox	A listbox to store the items of the variables for analysis
6	cmdRemove	CommandButton	Remove the selected variable(s) in lstDecided and add it back to lstVar
7	cmdAdd	CommandButton	Add the selected variable(s) in lstvar and add it to lstDecided
8	lstDecided	listbox	A listbox to store the variable(s) that used to generate a analysis report
9	lblChartType	label	Display the title of chart type selection
10	lblTypeChoice	label	Display the instruction of chart type selection
11	FrameGender	Frame	Contain the chart type options for "gender" variable
12	optBarChartGender	OptionButton	Select the bar chart type for "gender" variable

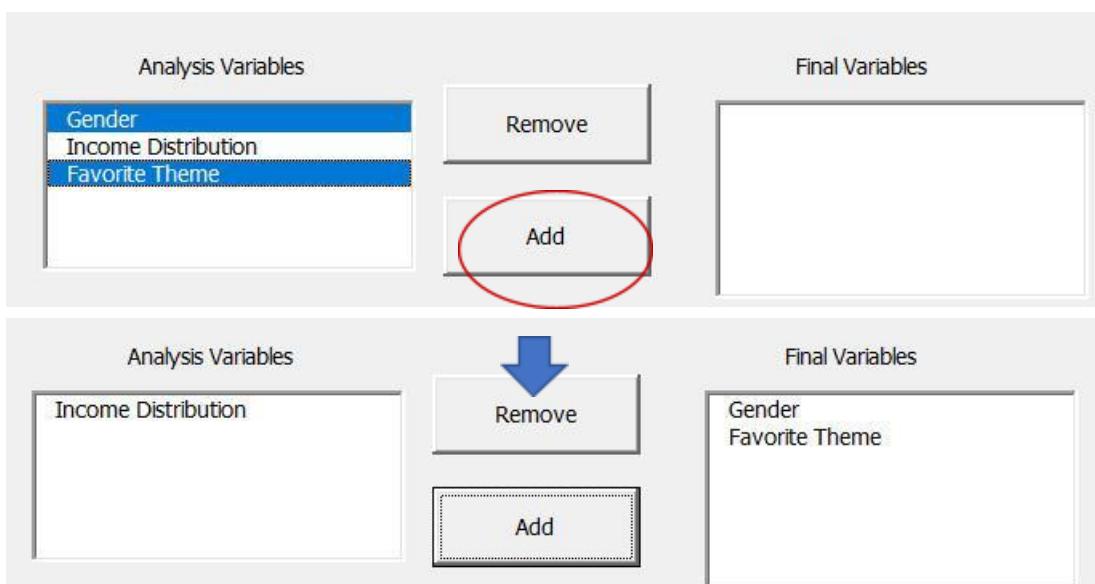
13	optPieChartGender	OptionButton	Select the pie chart type for “gender” variable
14	FrameTheme	FrameTheme	Contain the chart type options for “Favorite Theme” variable
15	optBarChartTheme	OptionButton	Select the bar chart type for “Favorite Theme” variable
16	optPieChartTheme	OptionButton	Select the pie chart type for “Favorite Theme” variable
17	cmdReport	CommandButton	Generate a customer analysis report in a new workbook
18	cmdSave	CommandButton	Save and close the customer analysis report

Event 2: Select analysis variable to generate the customer report

User can select one or more variable(s) from two listbox “lstvar” (Final Variables) and “lstdecided” (Analysis Variables).

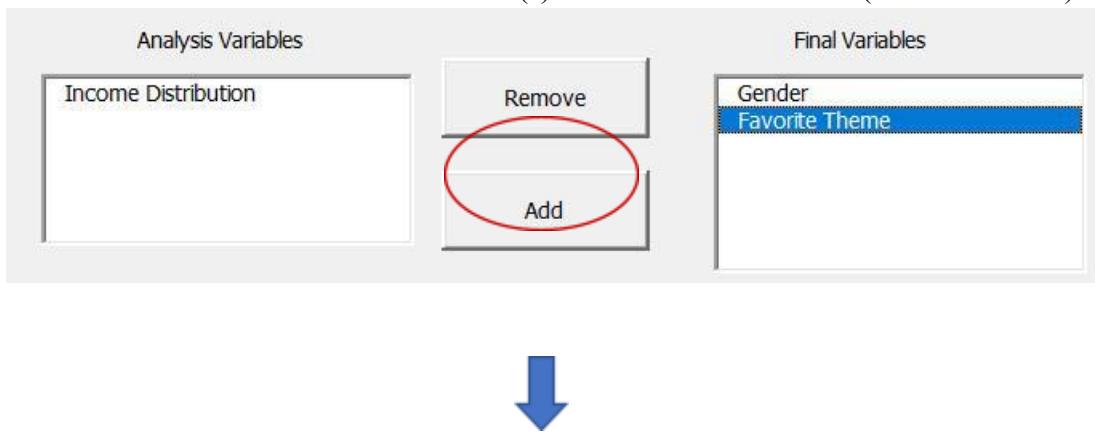
By clicking “add” Button:

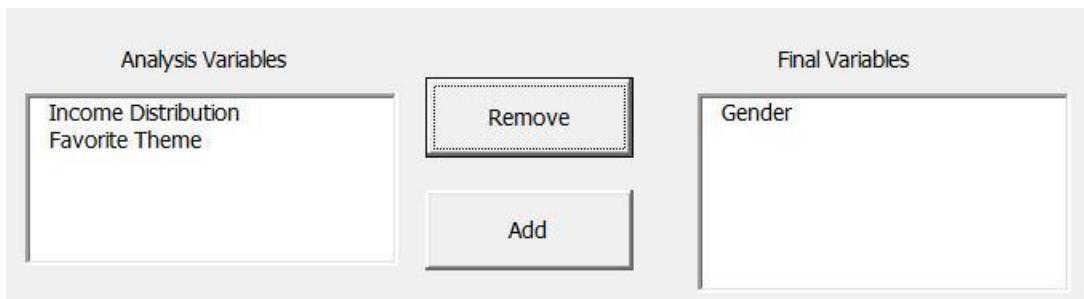
The selected variable(s) in listbox “lstvar” (Analysis Variables) will add to the listbox “lstDecided” (Final Variables) and delete from the listbox “lstvar” (Analysis Variables).



By clicking “Remove” button:

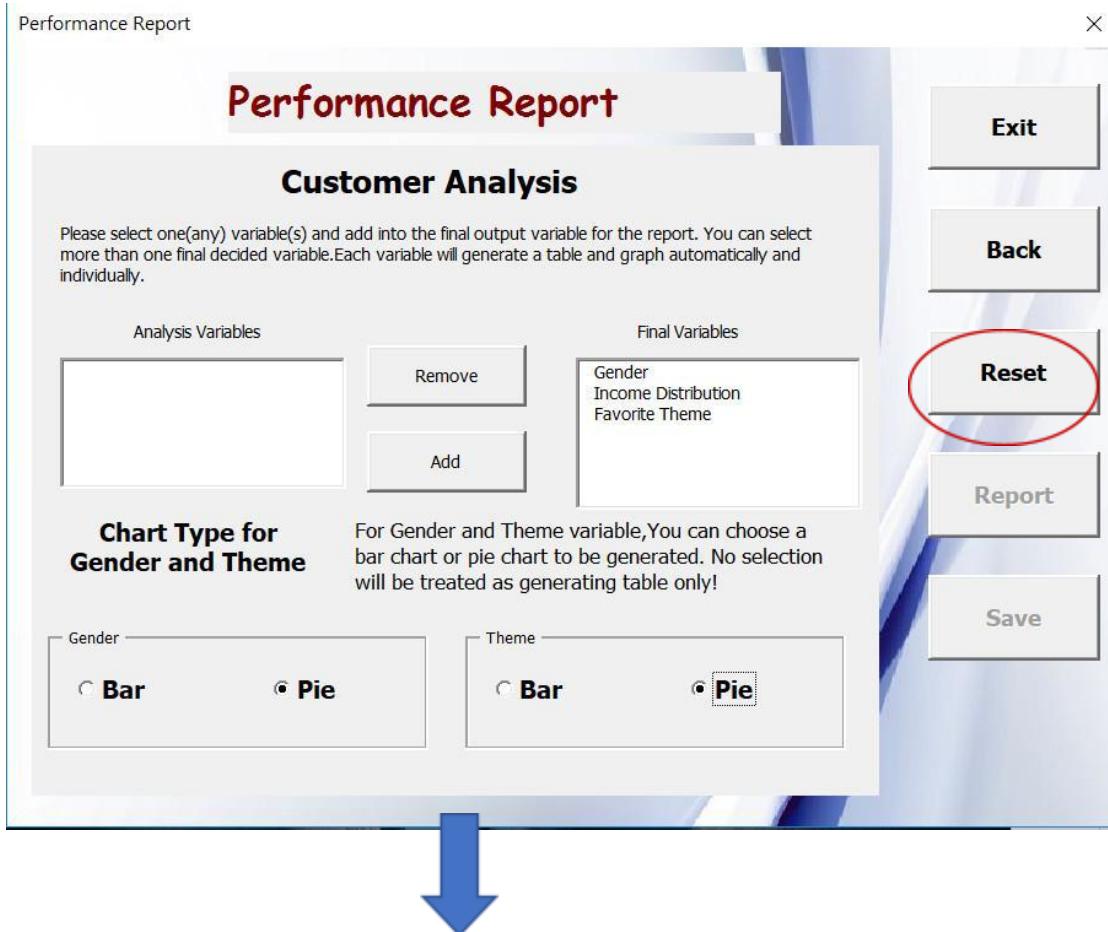
The selected variable(s) in listbox “lstDecided” (Final Variables) will add to the listbox “lstvar” (Analysis Variables) and delete from the listbox “lstDecided” (Final Variables). Also, the report and save button is disabled until the variable(s) in listbox “lstDecided” (Final Variables) is selected.





Event 3: Reset all the variables and listbox items

When the Reset button is clicked, all option button will be deselected, all listbox will be cleared and the save and report button will be disabled. Afterward the items in listbox “lstvar” (Analysis Variables) will be added.



Performance Report

Customer Analysis

Please select one(any) variable(s) and add into the final output variable for the report. You can select more than one final decided variable. Each variable will generate a table and graph automatically and individually.

Analysis Variables

- Gender
- Income Distribution
- Favorite Theme

Final Variables

Remove

Add

Chart Type for Gender and Theme

For Gender and Theme variable, You can choose a bar chart or pie chart to be generated. No selection will be treated as generating table only!

Gender

Bar Pie

Theme

Bar Pie

Exit

Back

Reset

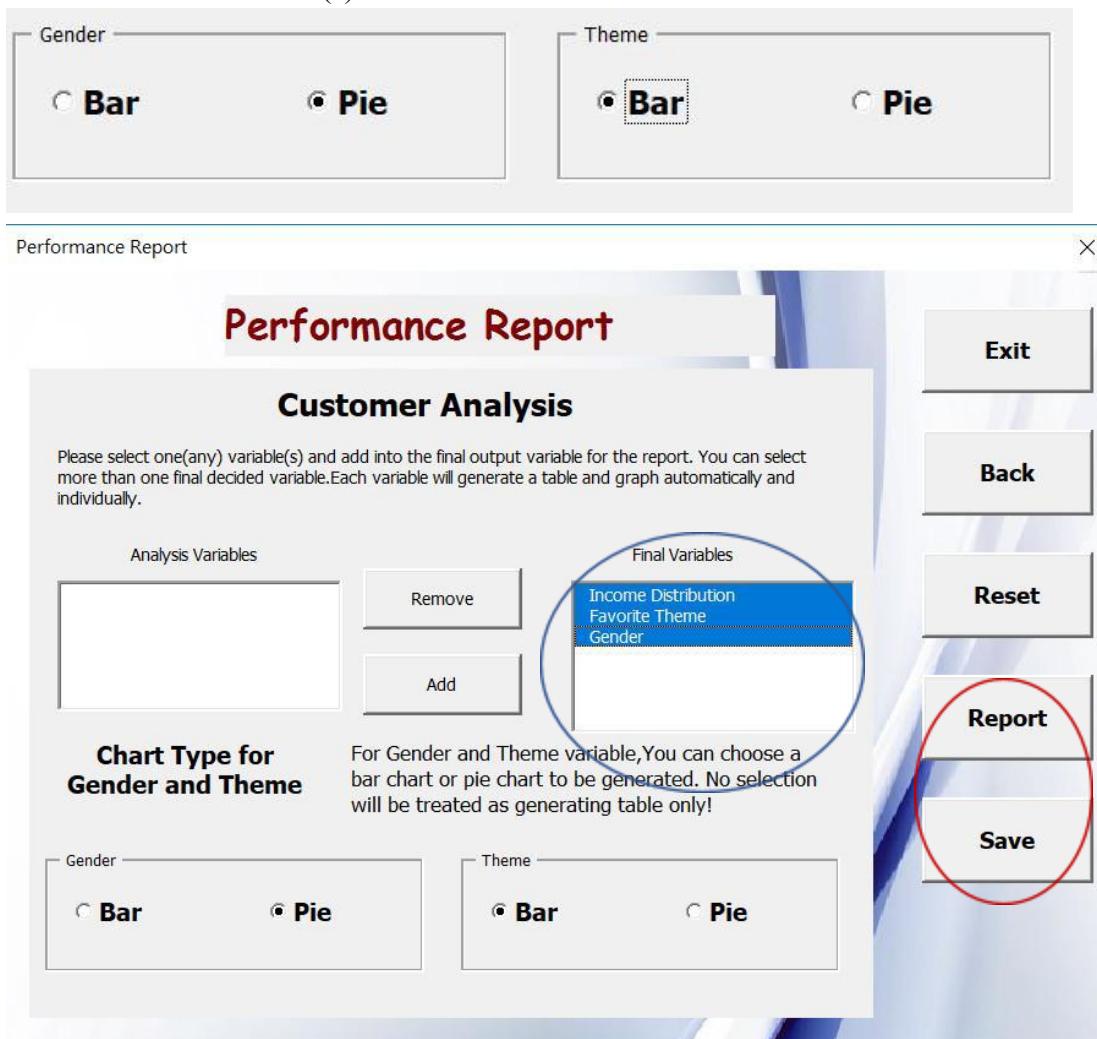
Report

Save

The screenshot shows a software application window titled "Performance Report". At the top, there's a header "Customer Analysis". Below it, a note says: "Please select one(any) variable(s) and add into the final output variable for the report. You can select more than one final decided variable. Each variable will generate a table and graph automatically and individually." On the left, under "Analysis Variables", there's a list: "Gender", "Income Distribution", and "Favorite Theme". To the right of this list are two buttons: "Remove" and "Add". To the right of "Remove" is a large empty rectangular box labeled "Final Variables". On the far right, there's a vertical stack of buttons: "Exit", "Back", "Reset" (which has a dotted border), "Report", and "Save". At the bottom left, there are two sets of radio buttons for "Gender" and "Theme", each with two options: "Bar" and "Pie". The "Pie" option is selected for both. A note above these buttons says: "For Gender and Theme variable, You can choose a bar chart or pie chart to be generated. No selection will be treated as generating table only!"

Event 4: Generate the customer report

A customer report with the selected variable(s) will be generated after the report button is clicked. In addition, a new workbook “CustomerReport” will be created no matter how many variables are selected. If there is more than one variable selected, the report of each variable will store in each separated worksheet in one single workbook that contain a flat table and a corresponding chart. For Gender and Theme variable, the user can choose a bar chart or pie chart to be generated. No selection will be treated as generating table only. Also, the report and save button will become enable when the variable(s) in lstDecided is once selected.



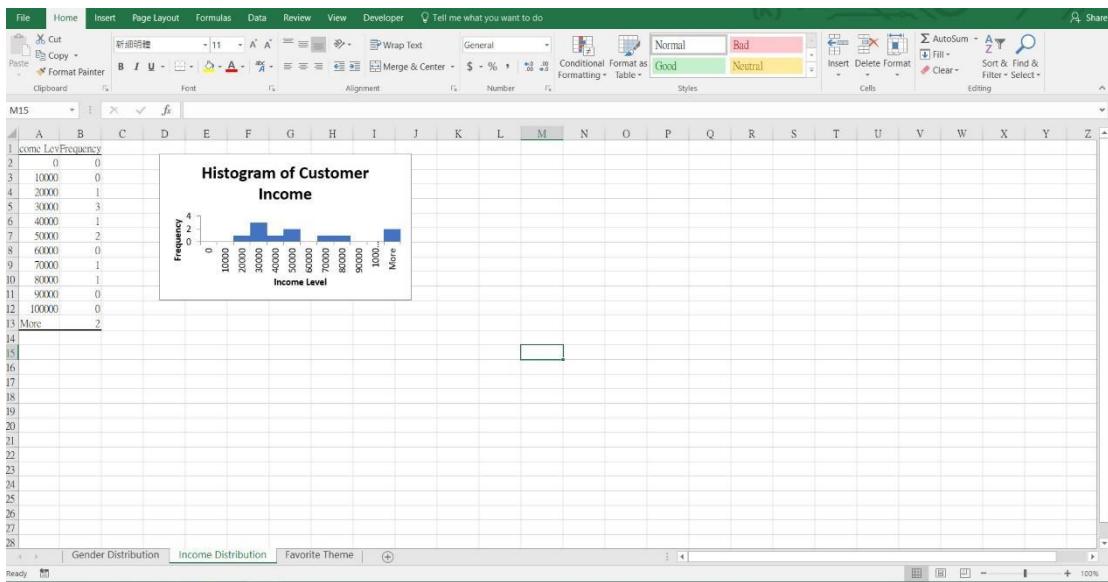


Figure 4: Histogram of Income distribution

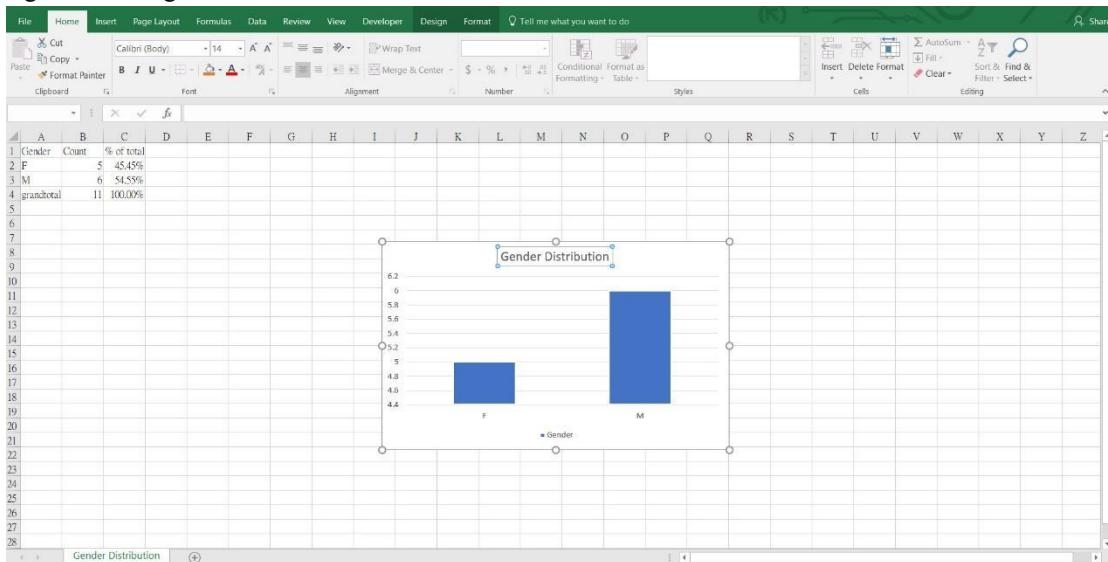


Figure 5: Bar chart of Gender Distribution

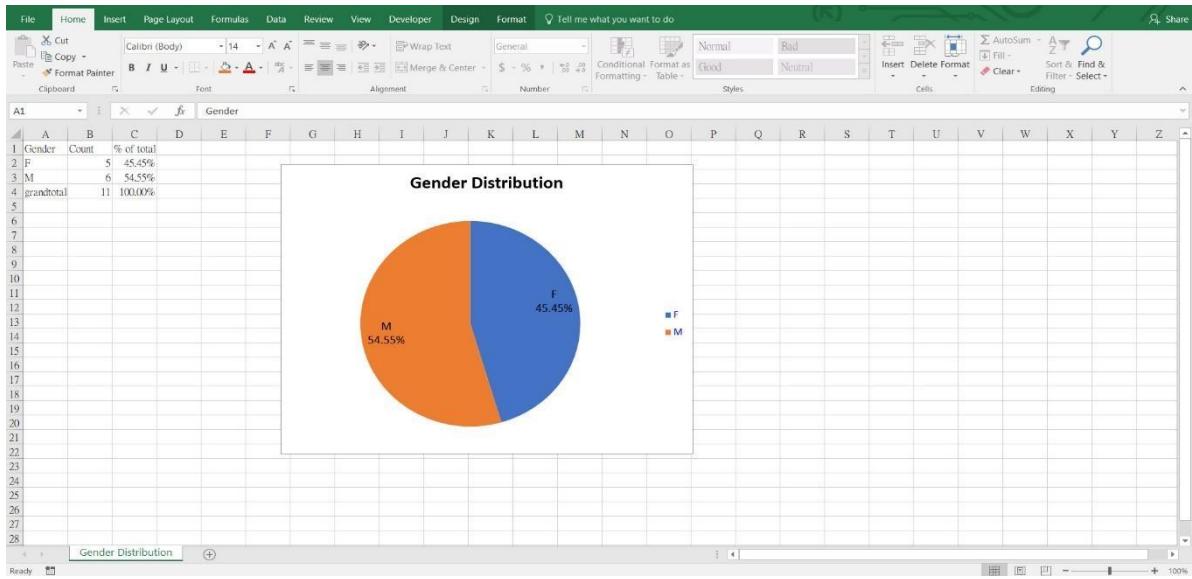


Figure 6: Pie Chart for Gender Distribution

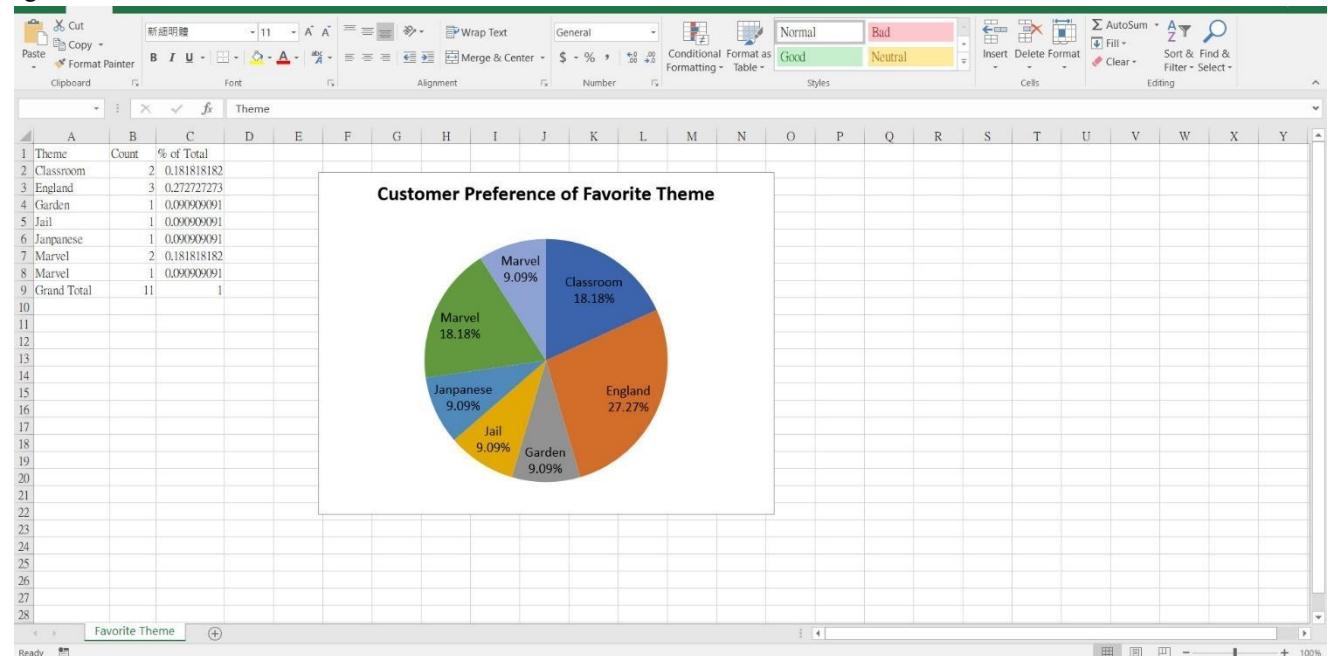


Figure 7: Pie Chart of Favorite Theme

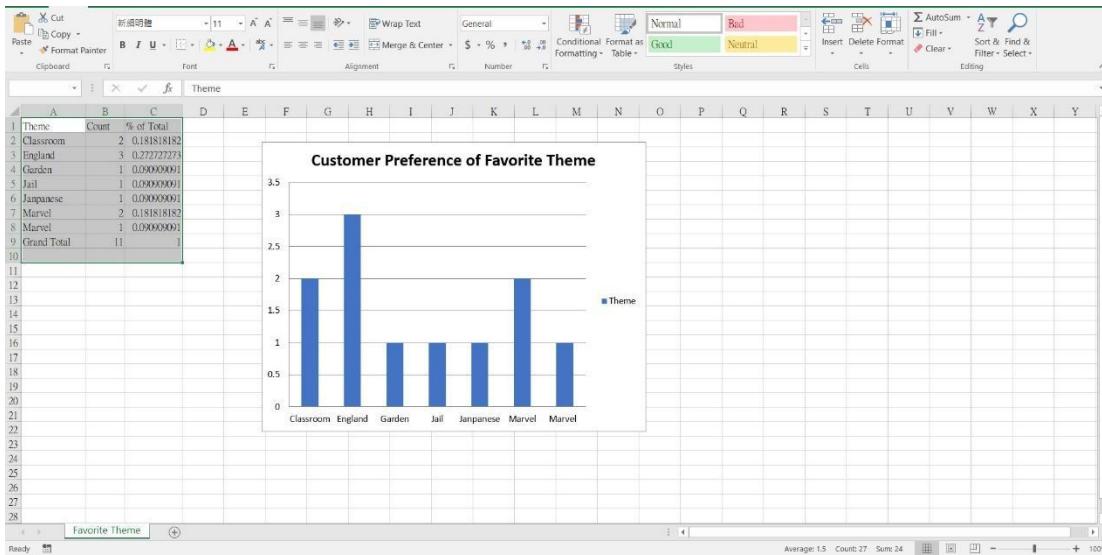


Figure 8: Bar chart of Favorite Theme

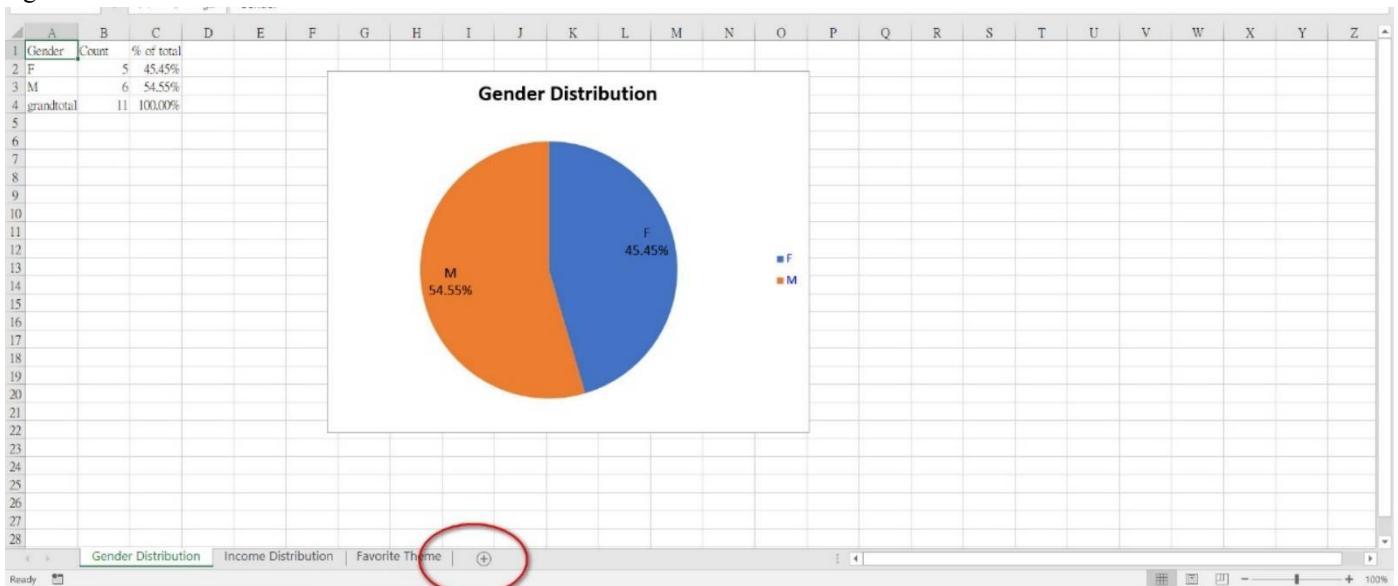
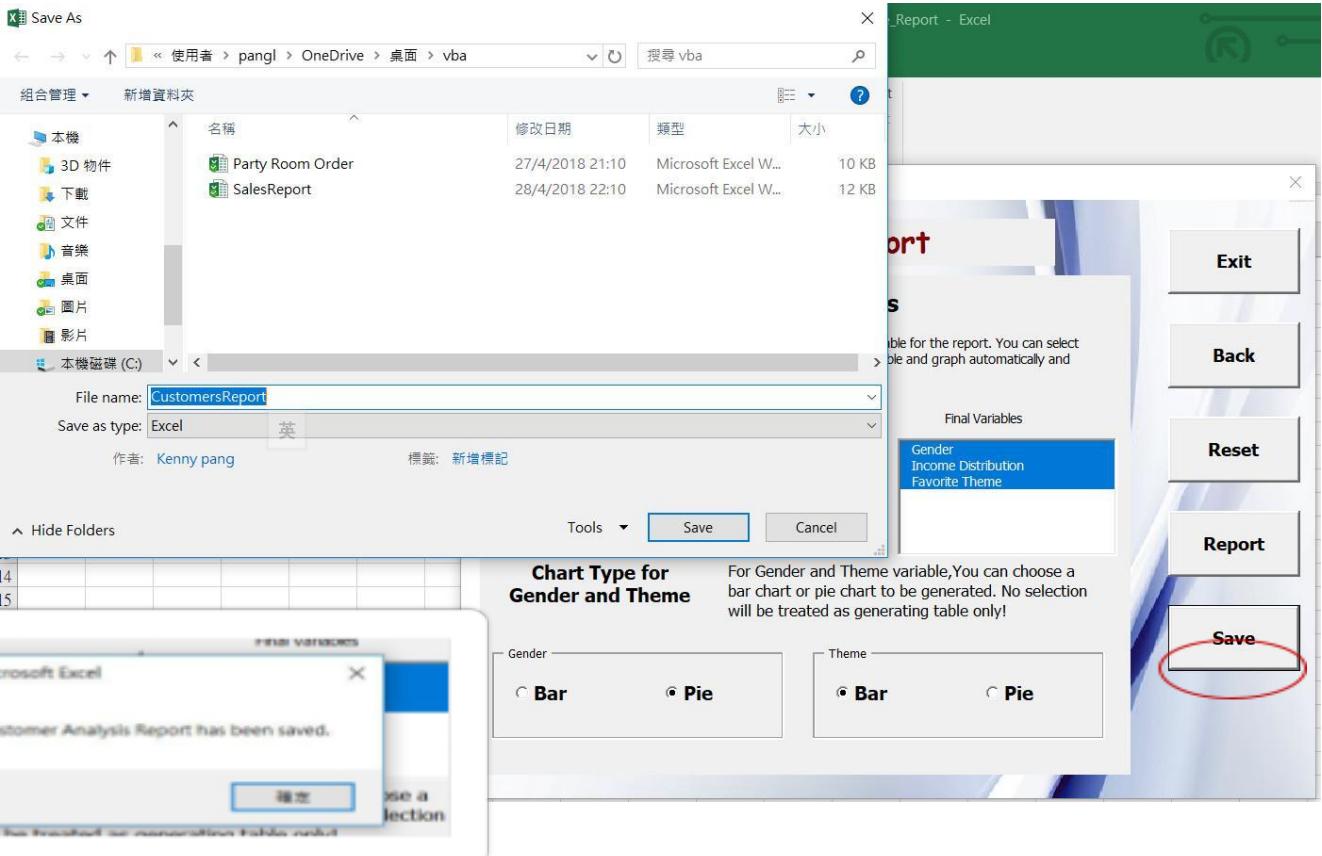


Figure 9:Three variables report in one workbook (without sheet1)

Event 5: Save the CustomerReport workbook

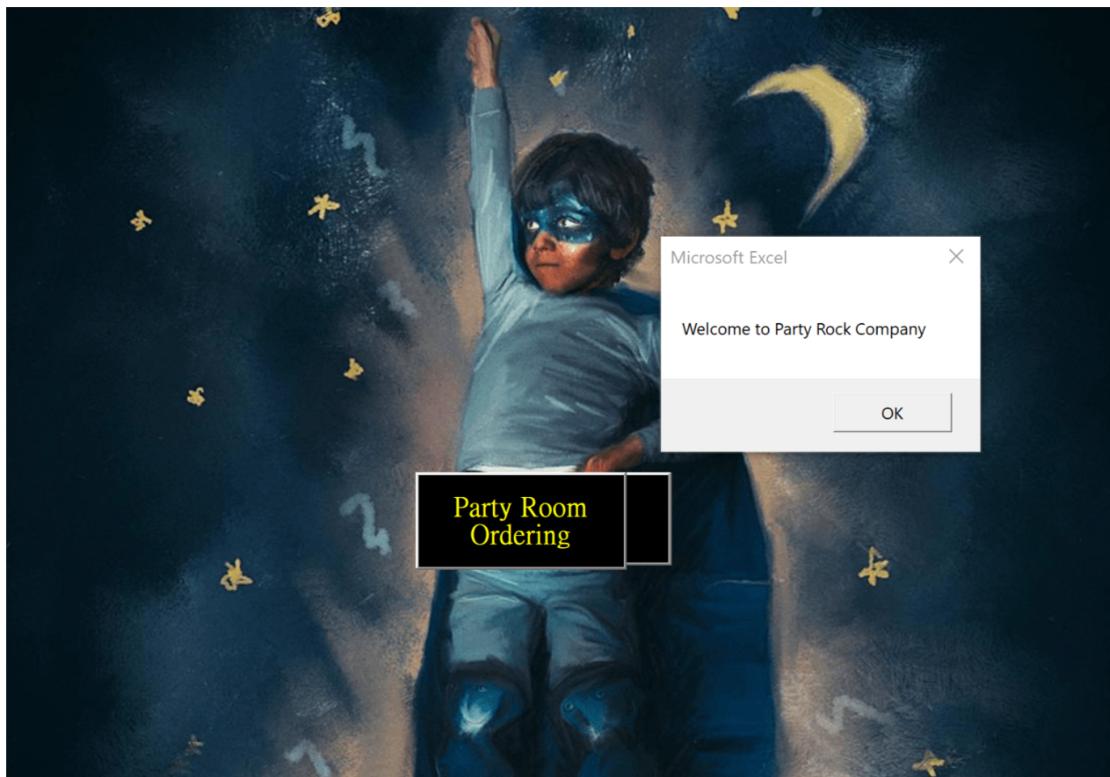
After generating the customer report, the customer report will be saved when the save button is clicked. A dialog window for saving file will show up and the initial file name will be CustomerReport. The workbook will be closed after saving and a message box will prompt out to give a save notice.

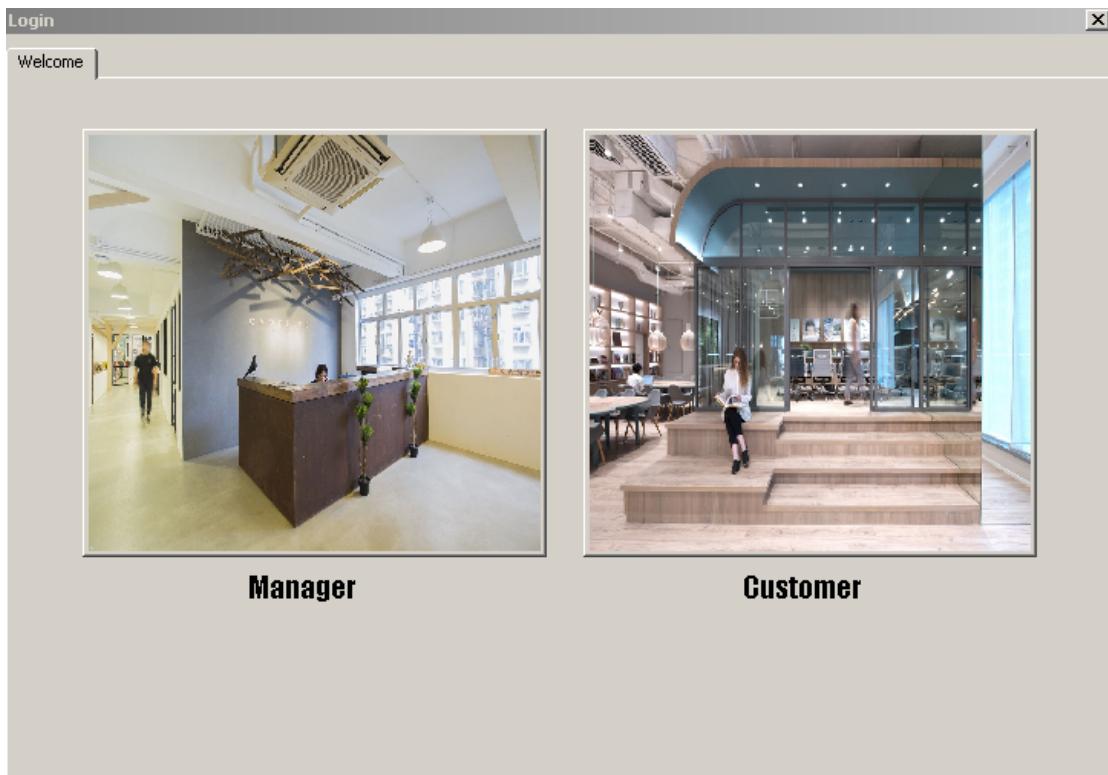


5. Application development

Login Userform

Component1: Welcome page of Multipage





Event 1: Login ID userform appears

When the “Party Room Ordering” button in worksheet “order” is clicked, a welcome message will appear and once we click ok, the login userform will pop up. There is a multipage at the left-hand side with tag. In the middle, we have two buttons with a photo on it and below there are two labels indicating which photo representing customer or manager.

When the userform is initialized:

```

Private Sub UserForm_Initialize()
    'Page1 is visible at the beginning
    MultiPage1.Value = 0

    'Other pages are set to invisible
    MultiPage1(1).Visible = False
    MultiPage1(2).Visible = False
End Sub

```

The user can only see the first page Welcome.

Event 2: Go to second multipage

When the customer photo button is clicked, customer login page which is the second page will show up.

```
Private Sub cmdCustomer_Click()
'Only open the customer login page
MultiPage1(1).Visible = True

'Hide other pages
MultiPage1(0).Visible = False
MultiPage1(2).Visible = False
End Sub
```

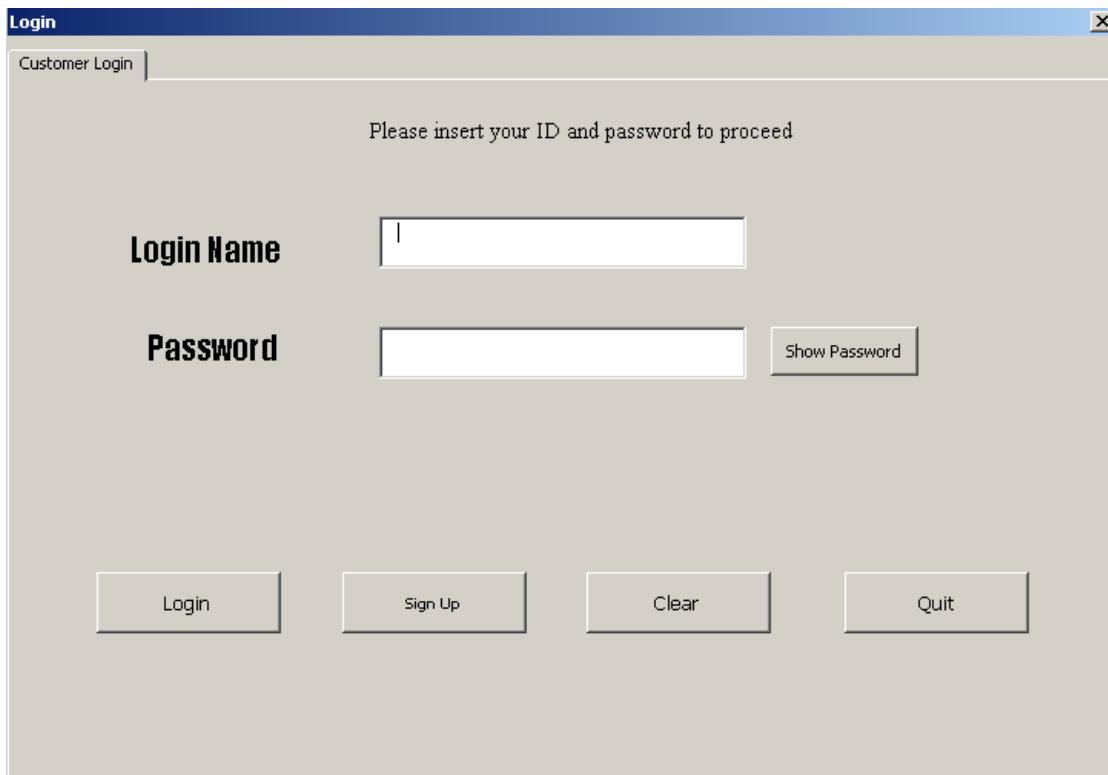
Event3 : Go to third multipage

When the manager photo button is clicked, manager login page will show up.

```
Private Sub cmdManager_Click()
'Only open the manager login page
MultiPage1(2).Visible = True

'Hide other pages
MultiPage1(0).Visible = False
MultiPage1(1).Visible = False
End Sub
```

Component 2: Customer login page



Event1: Login to access order page

Once the user clicks the login button, the application will check if the worksheet("CustomerDetails") consists the login Name and password that the user

has entered. In the “CustomerDetails” worksheet, it contains personal information of the customers who have signed up.

```
Private Sub cmbClogin_Click()
Dim i As Integer, ID As String, PW As Variant, clastrow As Long

clastrow = ThisWorkbook.Worksheets("CustomerDetails").Cells(Rows.Count, "A").End(xlUp).Row - 1

For i = 0 To clastrow

    'Assign the login name and password found in worksheets("CustomerDetails") respectively

    ID = ThisWorkbook.Worksheets("CustomerDetails").Range("C1").Offset(i, 0).Value
    PW = ThisWorkbook.Worksheets("CustomerDetails").Range("D1").Offset(i, 0).Value

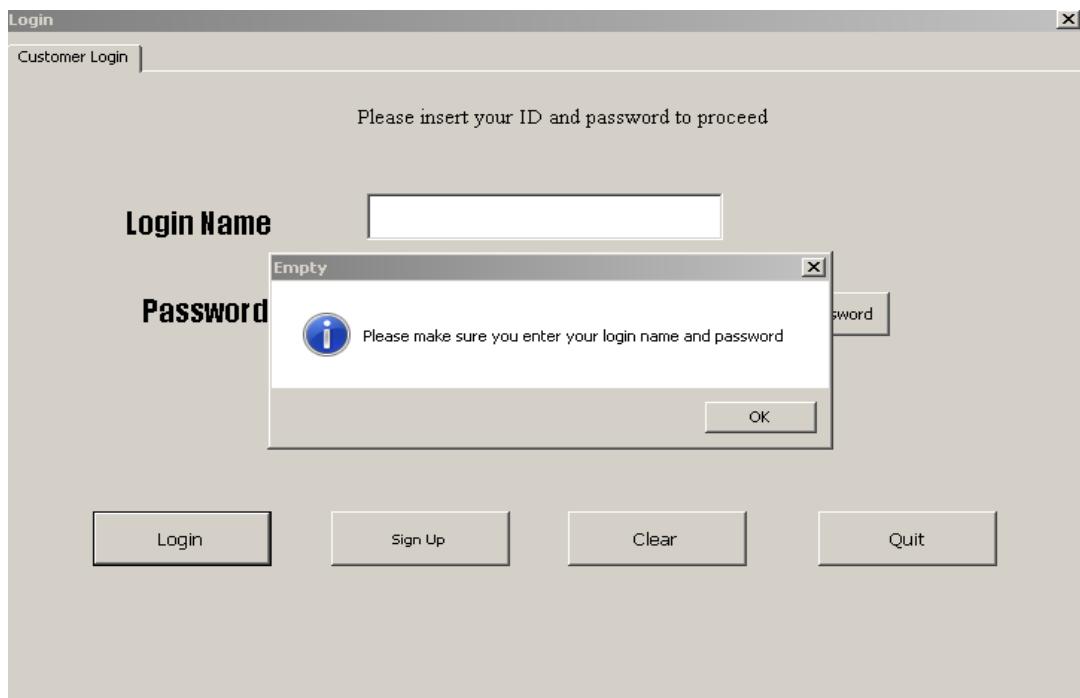
    'prompt the message of warning if customer did not type in ID or password

    If UCase(txtCName.Value) = "" Or UCase(txtCPW.Value) = "" Then
        MsgBox "Please make sure you enter your login name and password", vbInformation, "Empty"
        txtCName.SetFocus
        Exit Sub
    End If

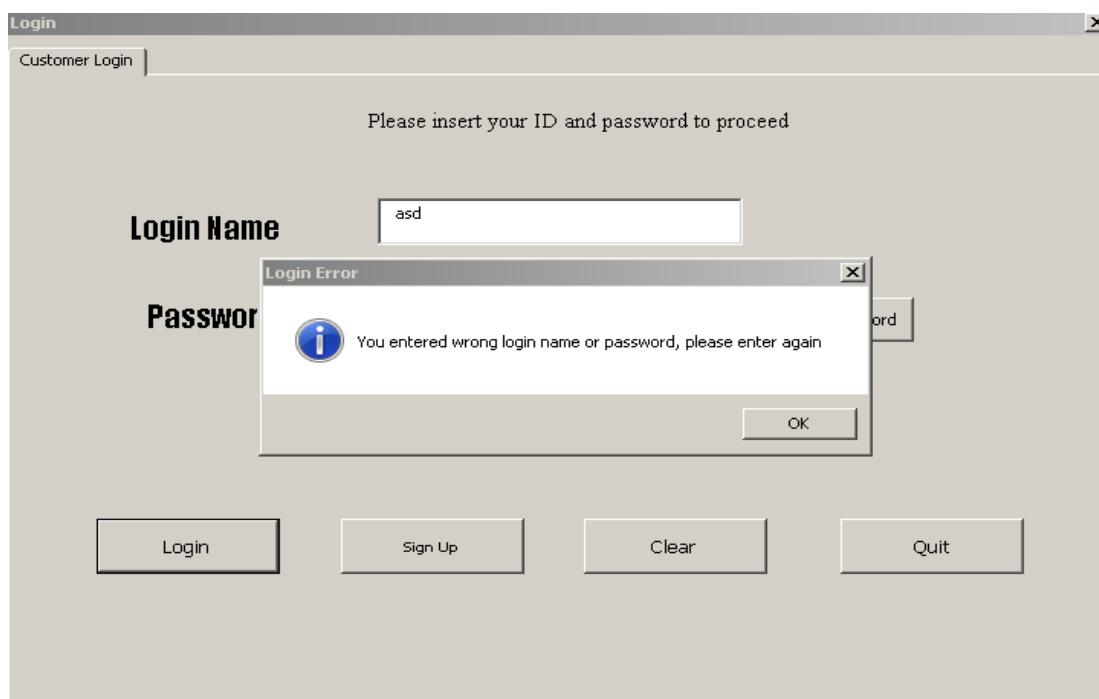
    'Check whether customer has type the correct ID and password
    If UCase(txtCName.Value) = UCase(ID) And UCase(txtCPW.Value) = UCase(PW) Then
        'If yes, order page will be showed
        Unload Me
        frmOrder.Show
        Exit Sub
    End If

Next i
'If not, prompt the warning message
MsgBox "You entered wrong login name or password, please enter again", vbInformation, "Login Error"
txtCName.Value = ""
txtCPW.Value = ""
txtCName.SetFocus
End Sub
```

If customer leave the login name or password empty, a warning will pop up.



If customer has entered password or Login name that does not match the record in worksheet “CustomerDetails”, a warning will pop up.



Event2: Clear the information entered

When clear button is clicked, the value of the Login name and password will be clear and the focus will then be set at Login name.

```
Private Sub cmbCclear_Click()
'Clear all the information entered
txtCName.Value = ""
txtCPW.Value = ""
txtCName.SetFocus

End Sub
```

Event3: Go to sign up page

For users who have not signed up, they can click the sign up button for registration.

After that, the sign up userform will show up.

```
Private Sub cmbSignup_Click()
'Quit the login page and show the sign up userform
Unload Me
frmSignup.Show

End Sub
```

Event4: Show the password

If customer clicked the show password button, the password will become visible and the caption of the button will become “hide password”. Otherwise, the password is shown as *.

```

Private Sub cmdShowCPW_Click()
'Choose either show or not to show the password
If cmdShowCPW.Caption = "Show Password" Then
txtCPW.PasswordChar = ""
cmdShowCPW.Caption = "Hide Password"
Else
txtCPW.PasswordChar = "*"
cmdShowCPW.Caption = "Show Password"
End If
End Sub

```

Event5: Quit the application

```

Private Sub cmbCquit_Click()

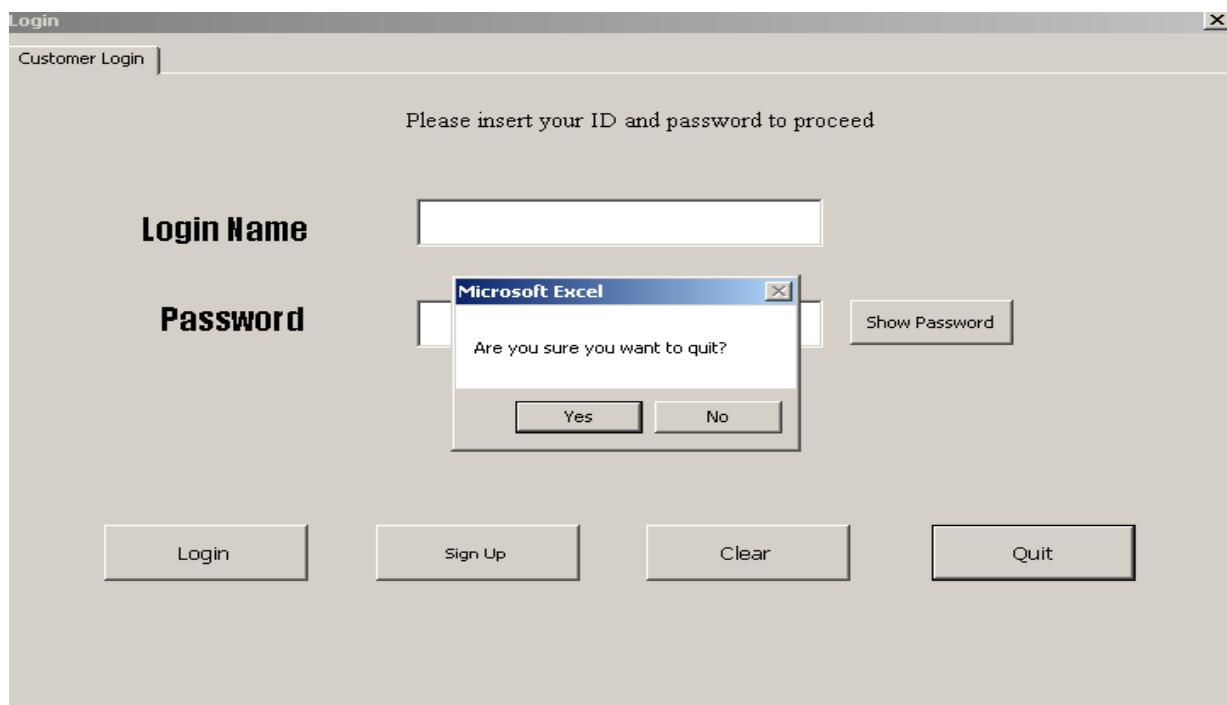
If MsgBox("Are you sure to quit?", vbYesNo) = vbYes Then

'Quit the login page
Unload frmLogin
End If

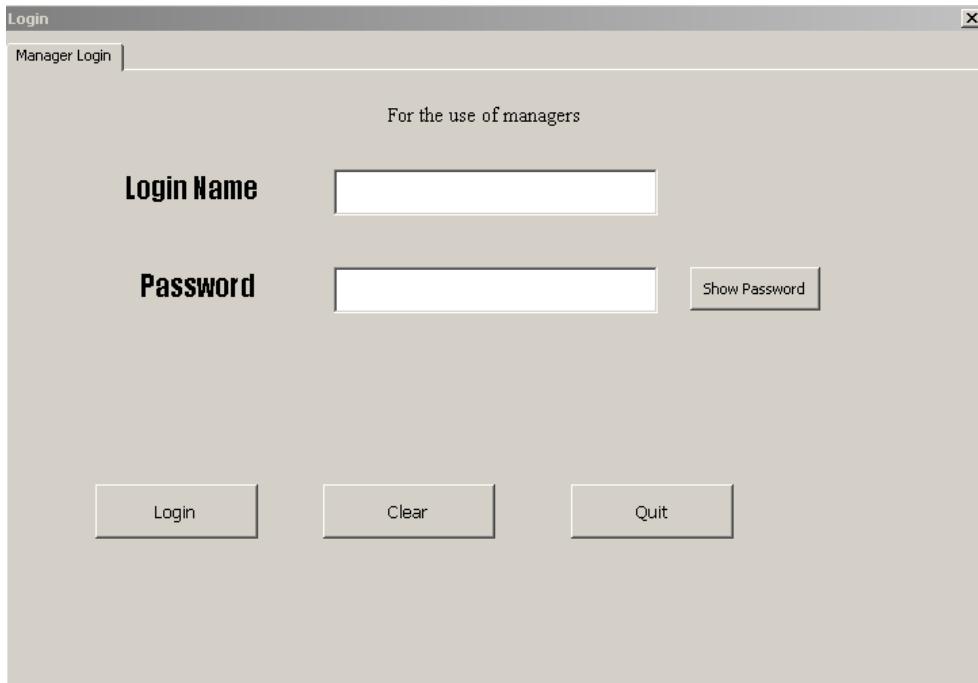
End Sub

```

Once the quit button is clicked, a message box will appear and require the user to click on either the Yes or No button, to ensure the user really want to quit.



Component 3: Manager login page



Event1: Login to access Analysis report

```
Private Sub cmbMlogin_Click()
Dim f As Integer

Dim MID As String
Dim MPW As Variant
Dim lastrow As Long
lastrow = Worksheets("ManagerInformation").Cells(Rows.Count, "A").End(xlUp).Row - 1

For f = 0 To lastrow
    'Assign the name of ID and password found in worksheets("customerinformation") respectively\
    MID = Worksheets("ManagerInformation").Range("A1").Offset(f, 0).Value
    MPW = Worksheets("ManagerInformation").Range("B1").Offset(f, 0).Value

    'prompt the message of warning if customer do not type in ID or password
    If UCASE(txtMID.Value) = "" Or UCASE(txtMPW.Value) = "" Then
        MsgBox "Please make sure you enter your ID and password", vbInformation, "Empty"
        txtMID.SetFocus
        Exit Sub
    End If

    'Check whether customer to type the correct ID and password
    If UCASE(txtMID.Value) = UCASE(MID) And UCASE(txtMPW.Value) = UCASE(MPW) Then
        'If yes, performance report will be showed
        Unload Me
        frmPerformanceReport.Show
        Exit Sub
    End If
Next f
'If no, prompt the message of warning
MsgBox "You entered wrong username or password, please enter again", vbInformation, "Login Error"
txtMID.Value = ""
txtMPW.Value = ""
txtMID.SetFocus
End Sub
```

Once the manager clicks the login button, the application will check if the worksheet("ManagerInformation") consists the login ID and password that the manager has entered. If the loginID and password is missing

Event2: Clear the information entered

The value of the Login name and password will be cleared and the focus will be set at login Name

```
Private Sub cmbMclear_Click()
'Clear all the information entered and set focus at MName
txtMName.Value = ""
txtMPW.Value = ""
txtMName.SetFocus

End Sub
```

Event3: Quit the application

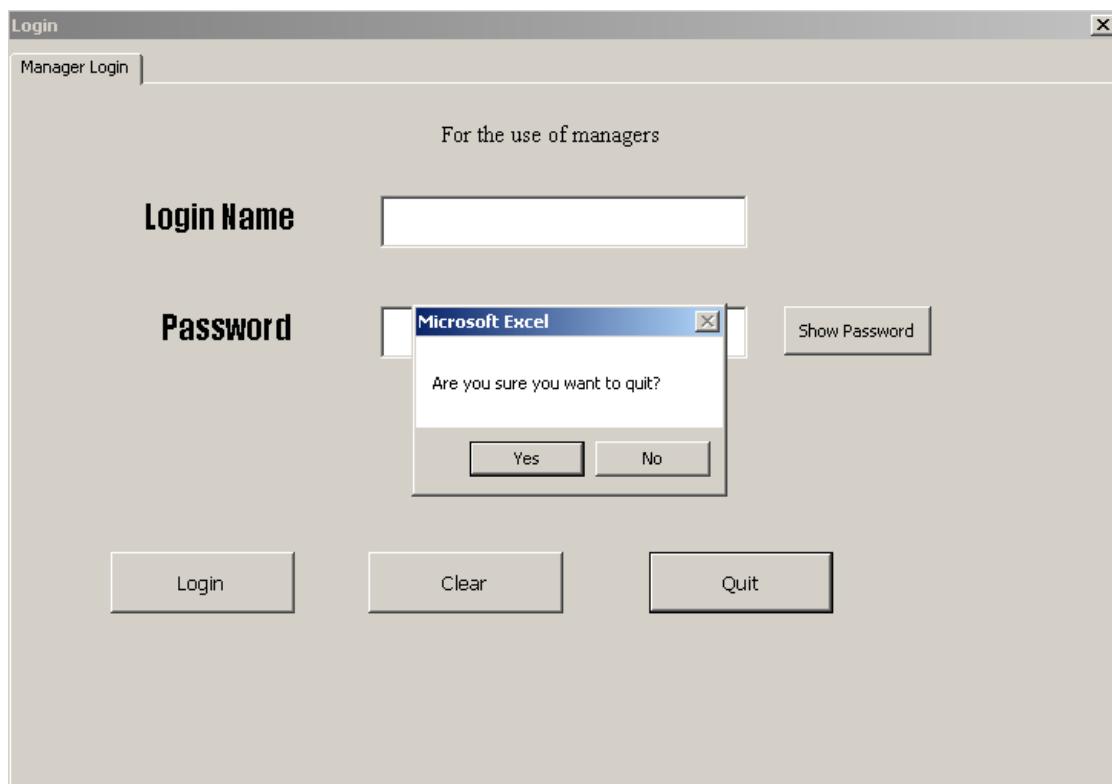
When the quick button is clicked, a message box will pop up to ask whether or not the users really want to quit and they are required to choose either Yes or No button in order to proceed

```
Private Sub cmbMquit_Click()
If MsgBox("Are you sure you want to quit?", vbYesNo) = vbYes Then

'Quit the login userform
Unload frmLogin

End If

End Sub
```

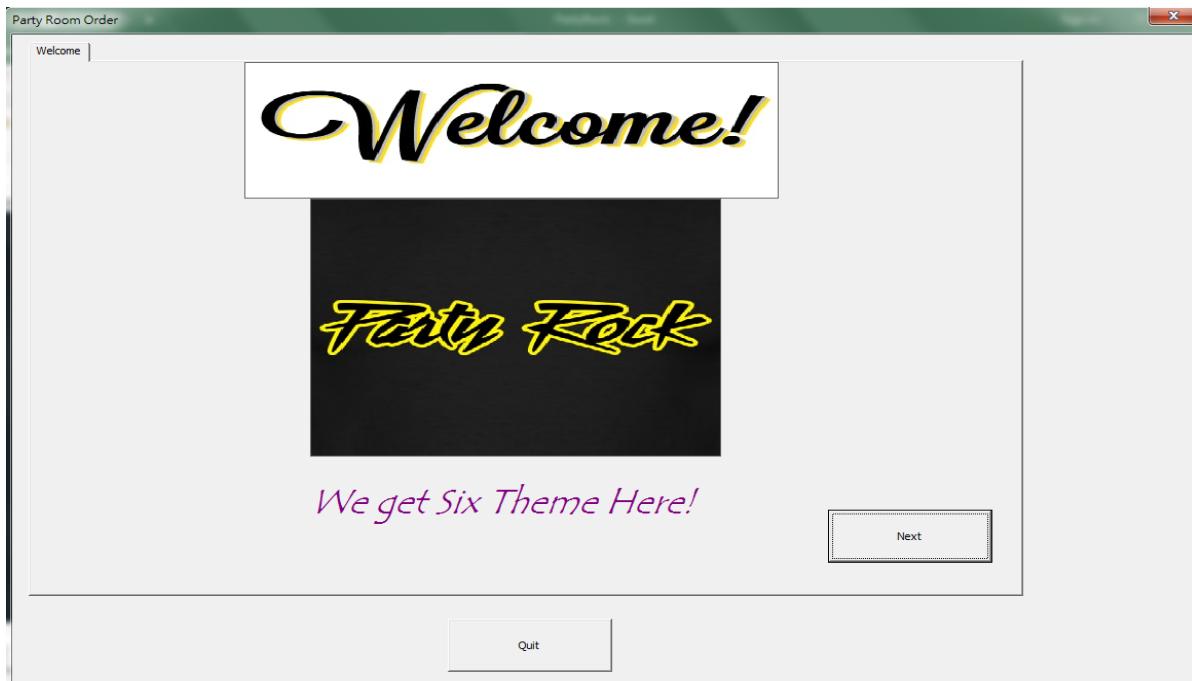


Party Room Order Userform

Variables used in module level:

```
Option Explicit  
Dim wkbkorder As Workbook  
Dim wksorder As Worksheet
```

Component 1: Welcome Page of Multipage



Event 1: Party Room Order userform appears

When the “Login” button in customer login page of the login userform is clicked, the menu page in party room order userform will show up. There is a multipage at the left-hand side with tag. Around the bottom, there have “Next” button and “Quit” button.

When the userform is initialized:

```
Private Sub UserForm_Initialize()
    'Only the first page is visible when open the page
    MultiPage1.Value = 0

    'hide other page
    MultiPage1(1).Visible = False
    MultiPage1(2).Visible = False
    MultiPage1(3).Visible = False
    MultiPage1(4).Visible = False
    MultiPage1(5).Visible = False

End Sub
```

As a result, the user can only see the first page Welcome in the initial time.

Event 2: Quit the userform

```
Private Sub cmdQuit_Click()
If (MsgBox("Are you sure to quit", vbYesNo, "Exit")) = vbYes Then
    'quit the order page
    Unload Me
End If
End Sub
```

Event 3: Process to Theme Page

Before process to the theme page, the application will check another workbook (“Party Room Order”) in worksheet(“Order”). In the “Order” worksheet, it contains some customer’s booking information inside. Those are the historical record.

A	B	C	D	E	F	G	H	I	J	K	L
OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements
1	Olivia Stone	M	24814838	Classroom	10/4/2018	20	Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4
2	Joseph Wallace	M	69736777	Marvel	1/4/2018	15	Mong Kok	HK\$10,000.00	Yes	HK\$700.00	PS4,KTV
3	Jessica Montgor	M	62673423	Jail	23/3/2018	10	Tsuen Wan	HK\$5,000.00	No	HK\$900.00	Boardgame
4	Ella West	F	60865433	Tatami	14/3/2018	13	Kwun Tong	HK\$8,000.00	Yes	HK\$940.00	PS4,KTV
5	Rhonda Griffith	M	64443678	Garden	5/3/2018	12	Kwun Tong	HK\$7,500.00	No	HK\$185.00	Boardgame
6	Zenith White	M	677109771	England	24/2/2018	8	Tsuen Wan	HK\$6,600.00	Yes	HK\$2,000.00	PS4,KTV
7	Mia Ramos	F	68246835	Classroom	15/2/2018	20	Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV
8	Stella Leung	F	53146513	Marvel	6/2/2018	15	Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boargame
9	Olivia Stone	M	24814838	Marvel	28/1/2018	15	Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4

The Assumption is mentioned above, we assume only has one Theme and whole day booking on the same day for that theme. As a result, the application must check whether the date is equal in the coming 3 days (i.e did the 1/5/2018 duplicate or not) and whether the theme is equal.

Pseudocode:

If (date value is equal to the value of coming 3 days) and theme equal to one of the six themes then

do not add item to combo box

else

add item

```
Private Sub cmdWetNext_Click()
Dim i As Integer
Dim lastrow As Long
Dim partydate As Variant
Dim theme As String
Dim equal As Boolean
Dim wsPartyRoom As Worksheet

'set the PartyRoom sheet as wsPartyRoom worksheet object
Set wsPartyRoom = ThisWorkbook.Worksheets("PartyRoom")

'open the Party Room Order workbook and set it as wkborder workbook object
Set wkborder = Workbooks.Open(Filename:=Application.ActiveWorkbook.Path & "\Party Room Order.xlsx")

'set the Order sheet as wkstorder worksheet object
Set wkstorder = wkborder.Worksheets("Order")

'set equal variable to false
equal = False

'find out the last row of Order worksheet in row A
lastrow = Worksheets("Order").Cells(Rows.Count, "A").End(xlUp).Row - 1
cboTheme.Clear

'Loop for 1 Day booking, PartyDate is the first condition
For i = 0 To lastrow

    'Assign the name of PartyDate in worksheets("Order")
    partydate = Worksheets("Order").Range("F1").Offset(i, 0).Value

    'check whether the PartyDate is the same in the coming 3 days
    If partydate = Date + 1 And partydate = Date + 2 And partydate = Date + 3 Then
        equal = True
    End If
Next i
```

Get the value from the Worksheet("Order") first:

It get the Party Date value here.

Get the theme value:

```
'Theme is the second condition
For i = 0 To lastrow
    'Assign the name of Theme in worksheets("Order")
    theme = Worksheets("Order").Range("E1").Offset(i, 0).Value
Next i
```

Set the two conditions to true and apply to six themes.

```
'check whether the Marvel is equal
If equal = True And theme = wsPartyRoom.Range("A2").Value Then
    Else
        'if not, then add the Marvel Theme
        cboTheme.AddItem wsPartyRoom.Range("A2").Value
End If
'-----
'Check whether the Classroom Theme is equal
If equal = True And theme = wsPartyRoom.Range("A3").Value Then
    Else
        'if not, then add the Classroom Theme
        cboTheme.AddItem wsPartyRoom.Range("A3").Value
End If
'-----
'Check whether the Jail Theme is equal
If equal = True And theme = wsPartyRoom.Range("A4").Value Then
    Else
        'if not, then add the Jail Theme
        cboTheme.AddItem wsPartyRoom.Range("A4").Value
End If
```

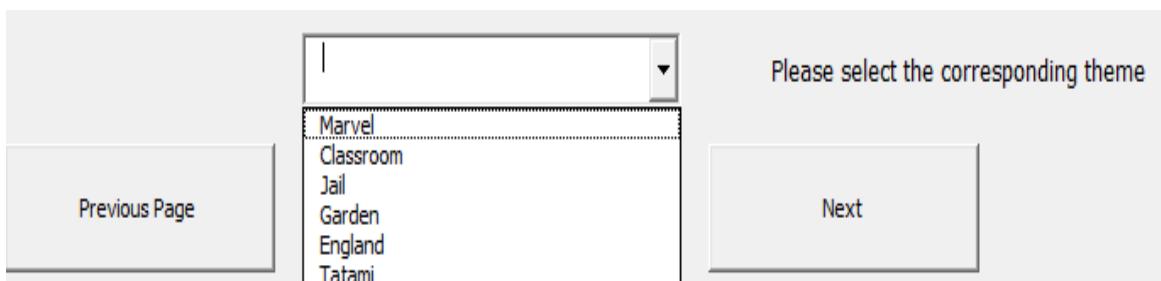
```

'Check whether the Garden Theme is equal
If equal = True And theme = wsPartyRoom.Range("A5").Value Then
    Else
        'if not, then add the Garden Theme
        cboTheme.AddItem wsPartyRoom.Range("A5").Value
End If
'
'Check whether the England Theme is equal
If equal = True And theme = wsPartyRoom.Range("A6").Value Then
    Else
        'if not, then add the England Theme
        cboTheme.AddItem wsPartyRoom.Range("A6").Value
End If
'
'Check whether the Tatami Theme is equal
If equal = True And theme = wsPartyRoom.Range("A7").Value Then
    Else
        'if not, then add the Tatami Theme
        cboTheme.AddItem wsPartyRoom.Range("A7").Value
End If
'
>Show the Theme page
MultiPage1(1).Visible = True
MultiPage1.Value = 1

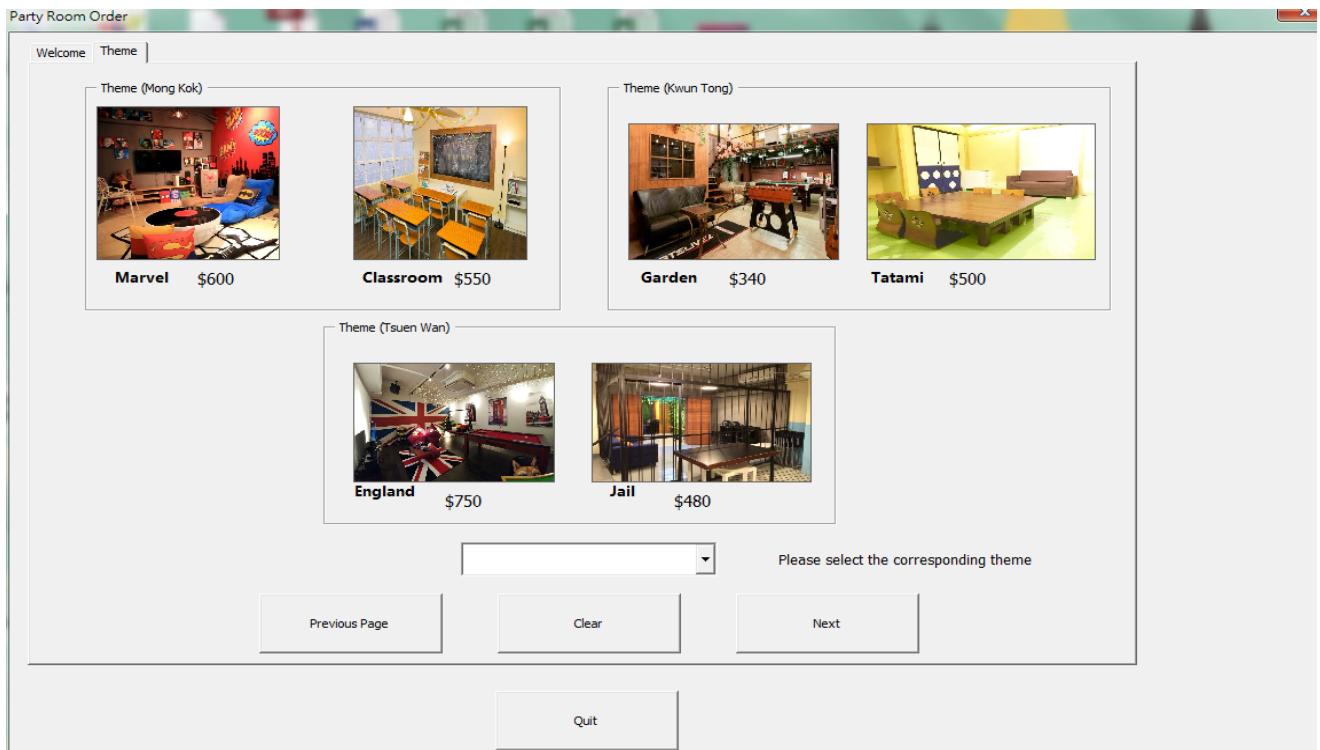
End Sub

```

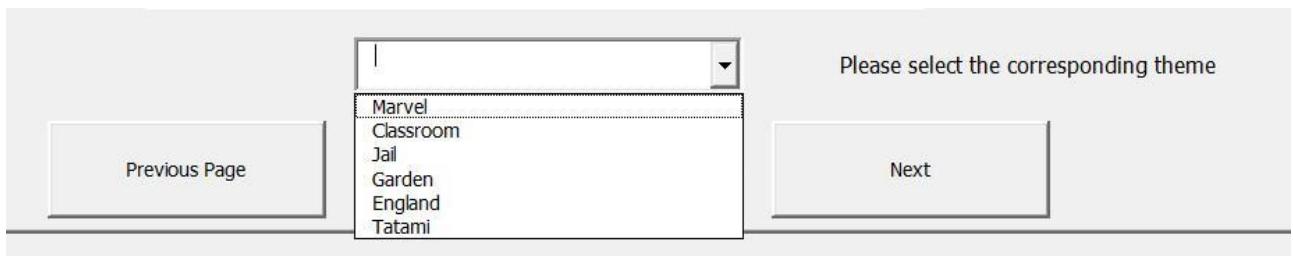
Finally, it will jump into next page and the combo box will contain themes.



Component 2: Theme Page of Multipage



Event 1: Choose theme in the combo box



Event 2: Clear the combo box value

```
Private Sub cmdThemeClear_Click()
    'Clear the selected item in combo box
    cboTheme.ListIndex = -1
End Sub
```

Event 3: Process to Room Request Page

The application will check whether the selected Theme in the coming 3 days have booking or not.

i.e If 1 day later Classroom has booking, then only two options will have enabled in the next page.

```
Private Sub cmdThemenext_Click()
Dim j As Integer
Dim theme As String
Dim lastrow As Long
Dim ThemeEqual As Boolean
Dim partydate As Variant
Dim date1 As Boolean
Dim date2 As Boolean
Dim date3 As Boolean

lastrow = Worksheets("Order").Cells(Rows.Count, "A").End(xlUp).Row - 1

'Enable all the optionbutton first
optDate1.Enabled = True
optDate2.Enabled = True
optDate3.Enabled = True

'-----
'Get the Theme value in worksheet("Order")
For j = 0 To lastrow

    'Assign the name of Theme in worksheets("Order")

    theme = Worksheets("Order").Range("E1").Offset(j, 0).Value
    If theme = cboTheme.Value Then

        'if user selected value equal to worksheet's theme value, set to equal
        ThemeEqual = True
        ElseIf theme <> cboTheme.Value Then
            ThemeEqual = False
        End If
    Next j
```

When Room Request page is opened, it will enable all option initially. If it meets some condition, it will turn to disable.

Using Boolean to set the date1, date2, date3 condition to be true:

```
'Get the date value in worksheet("Order")
For j = 0 To lastrow
    'Assign the name of PartyDate in worksheets("Order")
    partydate = Worksheets("Order").Range("F1").Offset(j, 0).Value
    'check whether the PartyDate is the same in the coming day
    If partydate = Date + 1 Then
        date1 = True
    End If
Next j

For j = 0 To lastrow
    'Assign the name of PartyDate in worksheets("Order")
    partydate = Worksheets("Order").Range("F1").Offset(j, 0).Value
    'check whether the PartyDate is the same in the coming 2days from now
    If partydate = Date + 2 Then
        date2 = True
    End If
Next j

For j = 0 To lastrow
    'Assign the name of PartyDate in worksheets("Order")
    partydate = Worksheets("Order").Range("F1").Offset(j, 0).Value
    'check whether the PartyDate is the same in the coming 3days from now
    If partydate = Date + 3 Then
        date3 = True
    End If
Next j
```

If two condition meet, set the option button to False.

```
'If the selected theme and date is 1 day later,disabled the optDate1 button
If ThemeEqual = True And date1 = True Then
    optDate1.Enabled = False
End If

'If the selected theme and date is 2 days later,disabled the optDate2 button
If ThemeEqual = True And date2 = True Then
    optDate2.Enabled = False
End If

'If the selected theme and date is 3 days later,disabled the optDate3 button
If ThemeEqual = True And date3 = True Then
    optDate3.Enabled = False
End If
```

Party Date

We only provide 3 days later booking

Date Option

- 1 day later from now
- 2 days later from now
- 3 days later from now

[Previous Page](#)

Date Option

- 1 day later from now
- 2 days later from now
- 3 days later from now

Date Option

- 1 day later from now
- 2 days later from now
- 3 days later from now

If nothing is selected in combo box, a message box will pop up.

```
If cboTheme.Value = "" Then
    MsgBox "Please select one theme", 16, "Warning"
Else
    MultiPage1(2).Visible = True
    MultiPage1.Value = 2
End If
End Sub
```

Theme (Mong Kok)

	
Marvel \$600	Classroom \$550

Theme (Kwun Tong)

	
Garden \$340	Tatami \$500

Theme (Tsuen Wan)


England \$750

Warning

Please select one theme

確定

Please select the corresponding theme

[Previous Page](#) [Clear](#) [Next](#)

Event 4: Back to Theme page

Only display the theme page, other page will not able to see until click on the previous /next button.

```
Private Sub cmdThemePrevious_Click()
    'set KT page to invisible and back to Location page
    MultiPage1.Value = 0
    MultiPage1(1).Visible = False
End Sub
```

Component 3: Room Request page

The screenshot shows a web-based application interface. At the top, there is a navigation bar with links: Welcome, Theme, and Room Request. The main content area is divided into two sections: "Party Date" on the left and "Participants" on the right.

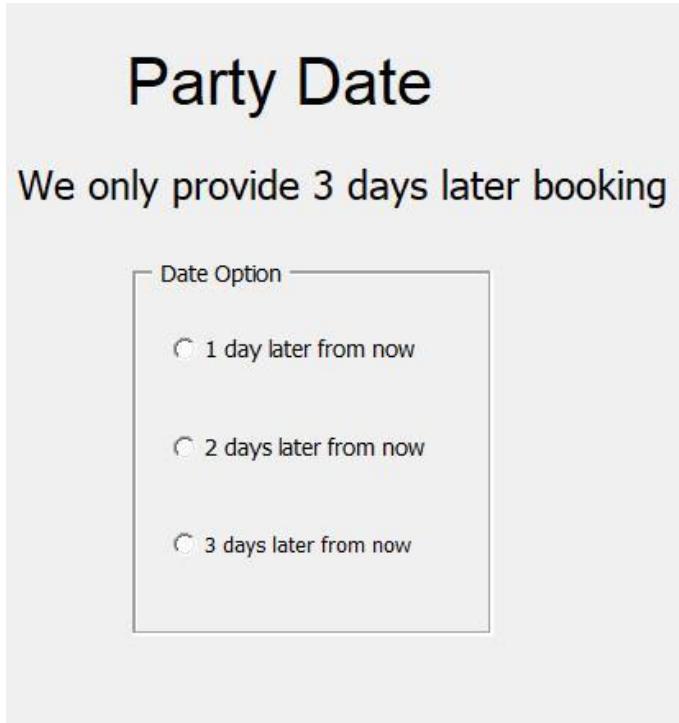
Party Date: This section contains a message: "We only provide 3 days later booking". Below this is a "Date Option" group box containing three radio buttons:

- 1 day later from now
- 2 days later from now
- 3 days later from now

Participants: This section has a label: "Please specify the no. of people will come". To its right is a numeric input field with up and down arrow buttons for adjusting the value.

At the bottom of the page are three buttons: "Previous Page" (highlighted with a dotted border), "Clear", and "Next".

Event 1: Choose the booking day



Event 2: Indicate no. of people

First, we should set some value to the spin button and then set the textbox value equal to spin button value:

```
Private Sub spnPeople_Change()
    'Set the Maximum amount to 20 in spinbutton
    With spnPeople
        .Max = 20
        .Min = 1
        .SmallChange = 1
    End With

    'assign textbox value equal to spinbutton value
    txtPeople.Value = spnPeople.Value

End Sub
```

Event 3: Clear the value in option button and text box

```
Private Sub cmdRRclear_Click()
|
'Clear all the option button
Dim ctrl As MSForms.Control
For Each ctrl In Me.MultiPage1.Pages(Me.MultiPage1.Value).Controls
    If TypeOf ctrl Is MSForms.OptionButton Then
        ctrl.Value = False
    End If
    Next ctrl
'
'clear the textbox value
txtPeople = ""
End Sub
```

Event 4: Back to previous

```
Private Sub cmdRRprevious_Click()
|
'back to the Theme Page
MultiPage1(1).Visible = True
MultiPage1.Value = 1
End Sub
```

Event 5: Process to Special Requirement page

Each theme has different size, if the selected theme exceed the maximum size, it will show a message to user and stop process the next button. The theme value are get from the application workbook in worksheet("PartyRoom").

Theme	Size	Price	Additional Charge per person	Food Order Charge	Store
Marvel	15	HK\$600.00	HK\$80.00	HK\$200.00	Mong Kok
Classroom	20	HK\$550.00	HK\$60.00	HK\$200.00	Mong Kok
Jail	10	HK\$480.00	HK\$50.00	HK\$200.00	Tsuen Wan
Garden	12	HK\$340.00	HK\$70.00	HK\$200.00	Kwun Tong
England	8	HK\$750.00	HK\$100.00	HK\$200.00	Tsuen Wan
Tatami	13	HK\$500.00	HK\$75.00	HK\$200.00	Kwun Tong

```

Private Sub cmdRRnext_Click()
    Dim wsPartyRoom As Worksheet
    Dim wsEntertainment As Worksheet
    Dim i As Integer
    Dim n As Integer

    'set the PartyRoom sheet as wsPartyRoom worksheet object
    Set wsPartyRoom = ThisWorkbook.Worksheets("PartyRoom")

    'set the Entertainment sheet as wsEntertainment worksheet object
    Set wsEntertainment = ThisWorkbook.Worksheets("Entertainment")

    If (optDate1.Value = False Or optDate2.Value = False Or optDate3.Value = False) And txtPeople.Value = "" Then
        MsgBox "Please fill in all the necessary information", 16, "Warning"
        Exit Sub
    End If

    'Mention the Marvel theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A2").Value And txtPeople.Value > 15 Then
        MsgBox "Maximum size of Marvel theme is 15, please select lower", 16, "Waring"
        Exit Sub
    End If

    'Mention the Classroom theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A3").Value And txtPeople.Value > 20 Then
        MsgBox "Maximum size of Classroom theme is 20, please select lower", 16, "Waring"
        Exit Sub
    End If

    'Mention the Jail theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A4").Value And txtPeople.Value > 10 Then
        MsgBox "Maximum size of Jail theme is 10, please select lower", 16, "Waring"
        Exit Sub
    End If

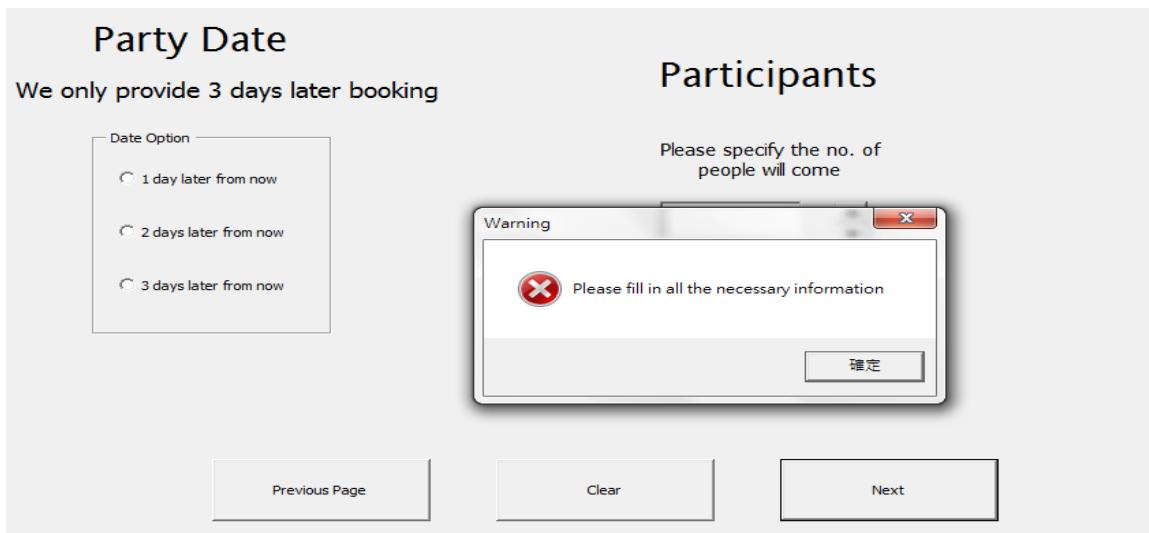
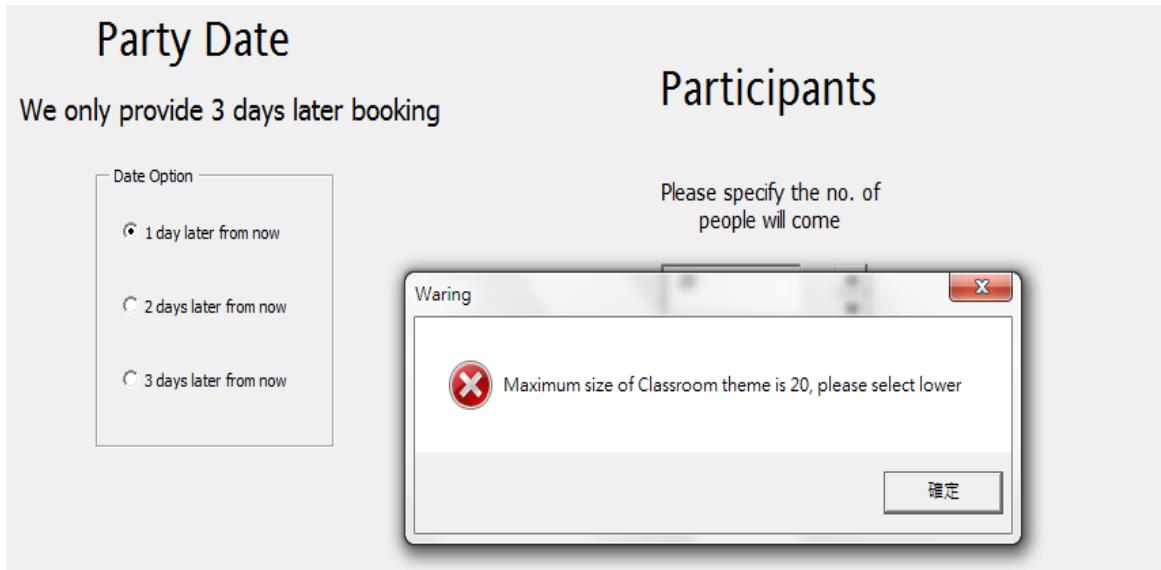
    'Mention the Garden theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A5").Value And txtPeople.Value > 12 Then
        MsgBox "Maximum size of Garden theme is 12, please select lower", 16, "Waring"
        Exit Sub
    End If

    'Mention the England theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A6").Value And txtPeople.Value > 8 Then
        MsgBox "Maximum size of England theme is 8, please select lower", 16, "Waring"
        Exit Sub
    End If

    'Mention the Tatami theme maximum size
    If cboTheme.Value = wsPartyRoom.Range("A7").Value And txtPeople.Value > 13 Then
        MsgBox "Maximum size of Tatami theme is 13, please select lower", 16, "Waring"
        Exit Sub
    End If

```

A warning will show up:



Before go into the page, the application will add item to the three different list boxes. Also, the list boxes have 2 columns and single selection. First column value can get from the application workbook in worksheet("Entertainment").

Theme	Size	Price	Additional Charge per person	Food Order Charge	Store
Marvel	15	HK\$600.00	HK\$80.00	HK\$200.00	Mong Kok
Classroom	20	HK\$550.00	HK\$60.00	HK\$200.00	Mong Kok
Jail	10	HK\$480.00	HK\$50.00	HK\$200.00	Tsuen Wan
Garden	12	HK\$340.00	HK\$70.00	HK\$200.00	Kwun Tong
England	8	HK\$750.00	HK\$100.00	HK\$200.00	Tsuen Wan
Tatami	13	HK\$500.00	HK\$75.00	HK\$200.00	Kwun Tong

All information collected will process to next page:

```
'Add items to PS4 listbox
With lbxPS4
For i = 0 To 5
    .ColumnCount = 2
    .AddItem
    .List(i, 0) = wsEntertainment.Range("A2").Value
    .List(i, 1) = i
Next i
End With

'Add items to KTV listbox
With lbxKTV
For i = 0 To 3
    .ColumnCount = 2
    .AddItem
    .List(i, 0) = wsEntertainment.Range("A3").Value
    .List(i, 1) = i
Next i
End With

'add items to Boardgame listbox
With lbxBoardgame
For i = 0 To 5
    .ColumnCount = 2
    .AddItem
    .List(i, 0) = wsEntertainment.Range("A4").Value
    .List(i, 1) = i
Next i
End With

If (optDate1.Value = True Or optDate2.Value = True Or optDate3.Value = True) And txtPeople.Value <> "" Then
MultiPage1(3).Visible = True
MultiPage1.Value = 3
Else
Exit Sub
End If

End Sub
```

Component 4: Special Requirement

Welcome | Theme | Room Request | Special Requirement |

PS4		KTV		Boardgame	
			Please indicate no.of entertainment that you want		
PS4	0	KTV	0	Board Game	0
PS4	1	KTV	1	Board Game	1
PS4	2	KTV	2	Board Game	2
PS4	3	KTV	3	Board Game	3
PS4	4			Board Game	4
PS4	5			Board Game	5
<input type="button" value="<"/> <input type="button" value=">"/>		<input type="button" value="<"/> <input type="button" value=">"/>		<input type="button" value="<"/> <input type="button" value=">"/>	
<input type="button" value="Previous Page"/>		<input type="button" value="Clear"/>		<input type="button" value="Next"/>	

Event 1: Select entertainment in three list box

PS4		KTV		Boardgame	
			Please indicate no.of entertainment that you want		
PS4	0	KTV	0	Board Game	0
PS4	1	KTV	1	Board Game	1
PS4	2	KTV	2	Board Game	2
PS4	3	KTV	3	Board Game	3
PS4	4			Board Game	4
PS4	5			Board Game	5
<input type="button" value="<"/> <input type="button" value=">"/>		<input type="button" value="<"/> <input type="button" value=">"/>		<input type="button" value="<"/> <input type="button" value=">"/>	
<input type="button" value="Previous Page"/>		<input type="button" value="Clear"/>		<input type="button" value="Next"/>	

Event 2: Clear the value

```
Private Sub cmdSRclear_Click()
Dim ctrl As MSForms.Control

For Each ctrl In Me.MultiPage1.Pages(Me.MultiPage1.Value).Controls

    'clear all the selected item in the 3 listbox
    If TypeOf ctrl Is MSForms.ListBox Then
        Me.lbxPS4.Value = ""
        Me.lbxKTV.Value = ""
        Me.lbxBoardgame = ""

    End If
    Next ctrl
End Sub
```

Event 3: Back to Room Request page

```
Private Sub cmdSRprevious_Click()
|
'Back to the Room request page
MultiPage1(2).Visible = True
MultiPage1.Value = 2

End Sub
```

Event 4: Process to Payment page

Before process to payment page, the application will check whether user indicate their preference, if not a warning will show. In addition, Total frame and credit card frame will turn into invisible initially.

```
Private Sub cmdSRnext_Click()
If lbxPS4.ListIndex = -1 Or lbxKTV.ListIndex = -1 Or lbxBoardgame.ListIndex = -1 Then
    'Prompt to user, Tell them must indicate their preference
    MsgBox "Please indicate your preference", 16, "Warning"
Else
    'Show the Payment page
    MultiPage1(4).Visible = True
    MultiPage1.Value = 4
End If

'Set the Total frame and Credit into invisible first,it will be visible when the corresponding event happen
fraTotal.Visible = False
fraCredit.Visible = False
End Sub
```

Component 5: Payment Page

Step1

Food Order

Do you have food order from outside Yes No

Food Order Charge is \$200

Step2

Total Amount Click here!

Step3

Mode

Payment Mode: Cash Credit Card

Previous Page Clear Next

Event 1: Choose options in Food Order frame

Step1

Food Order

Do you have food order from outside Yes No

Event 2: Show the total amount by clicking the button

In the application's worksheet ("PartyRoom"), it contains the theme's price, additional charge per person and food order charge. To calculate the total amount, the application will get the origin value from the worksheet and build up a formula to return a total amount. Each theme has a unique price and person charge fee. As a result, we should get the value selected by user in the combo box first.



	A	B	C	D	E	F
1	Theme	Size	Price	Additional Charge per person	Food Order Charge	Store
2	Marvel	15	HK\$600.00	HK\$80.00	HK\$200.00	Mong Kok
3	Classroom	20	HK\$550.00	HK\$60.00	HK\$200.00	Mong Kok
4	Jail	10	HK\$480.00	HK\$50.00	HK\$200.00	Tsuen Wan
5	Garden	12	HK\$340.00	HK\$70.00	HK\$200.00	Kwun Tong
6	England	8	HK\$750.00	HK\$100.00	HK\$200.00	Tsuen Wan
7	Tatami	13	HK\$500.00	HK\$75.00	HK\$200.00	Kwun Tong
8						
9						
10						

```

Private Sub cmbTotal_Click()
    Dim wsPartyRoom As Worksheet
    'set the PartyRoom sheet as wsPartyRoom worksheet object
    Set wsPartyRoom = ThisWorkbook.Worksheets("PartyRoom")

    'Calculate the total price of Marvel Theme
    If cboTheme.Value = wsPartyRoom.Range("A2").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C2").Value + txtPeople.Value * wsPartyRoom.Range("D2").Value + wsPartyRoom.Range("E2").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A2").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C2").Value + txtPeople.Value * wsPartyRoom.Range("D2").Value), "Currency")
    End If

    'Calculate the total price of Classroom Theme
    If cboTheme.Value = wsPartyRoom.Range("A3").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C3").Value + txtPeople.Value * wsPartyRoom.Range("D3").Value + wsPartyRoom.Range("E3").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A3").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C3").Value + txtPeople.Value * wsPartyRoom.Range("D3").Value), "Currency")
    End If

    'Calculate the total price of Jail Theme
    If cboTheme.Value = wsPartyRoom.Range("A4").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C4").Value + txtPeople.Value * wsPartyRoom.Range("D4").Value + wsPartyRoom.Range("E4").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A4").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C4").Value + txtPeople.Value * wsPartyRoom.Range("D4").Value), "Currency")
    End If

    'Calculate the total price of Garden Theme
    If cboTheme.Value = wsPartyRoom.Range("A5").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C5").Value + txtPeople.Value * wsPartyRoom.Range("D5").Value + wsPartyRoom.Range("E5").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A5").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C5").Value + txtPeople.Value * wsPartyRoom.Range("D5").Value), "Currency")
    End If

    'Calculate the total price of England Theme
    If cboTheme.Value = wsPartyRoom.Range("A6").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C6").Value + txtPeople.Value * wsPartyRoom.Range("D6").Value + wsPartyRoom.Range("E6").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A6").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C6").Value + txtPeople.Value * wsPartyRoom.Range("D6").Value), "Currency")
    End If

    'Calculate the total price of Tatami Theme
    If cboTheme.Value = wsPartyRoom.Range("A7").Value And optYes.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C7").Value + txtPeople.Value * wsPartyRoom.Range("D7").Value + wsPartyRoom.Range("E7").Value), "Currency")
    ElseIf cboTheme.Value = wsPartyRoom.Range("A7").Value And optNo.Value = True Then
        txtTotal.Value = Format((wsPartyRoom.Range("C7").Value + txtPeople.Value * wsPartyRoom.Range("D7").Value), "Currency")
    End If

    'Show the Total frame and the total amount within the frame
    fraTotal.Visible = True

```

The Total frame will also appear and show the Total amount.

Event 3: Choose the payment mode

If the user is chosen credit card, then the Credit card frame will appear. In the frame, a text box is to collect the credit card no. from user.

```
Private Sub optCreditcard_Click()
    'When Credit Card option selected, turn the Credit frame into visible
    If optCreditcard.Value = True Then
        fraCredit.Visible = True
    End If
End Sub
```

Event 4: Back to Special Requirement page

```
Private Sub CmdPayprevious_Click()
    'Back to the Special Requirement page
    MultiPage1.Value = 3
    MultiPage1(3).Visible = True
End Sub
```

Event 5: Clear all the value

```
Private Sub cmdPayclear_Click()
    'Clear the value of option button and textbox
    Dim ctrl As MSForms.Control
    For Each ctrl In Me.MultiPage1.Pages(Me.MultiPage1.Value).Controls
        If TypeOf ctrl Is MSForms.TextBox Then
            ctrl.Value = ""
        ElseIf TypeOf ctrl Is MSForms.OptionButton Then
            ctrl.Value = False
        End If
    Next ctrl
End Sub
```

Event 6: Process to Contact Information page

In this page, there are many difference types of control. For convenience, the next button will process only when all the value equal to true and make use of Boolean to state out the condition.

```
Private Sub cmdPayNext_Click()
Dim food As Boolean
Dim credit As Boolean
Dim cash As Boolean

'Assign true value to Food Order frame if selected
With fraFood
    If optYes.Value = True Or optNo.Value = True Then
        food = True
    End If
End With

'Assign true value to Payment Mode frame if cash selected
With fraMode
    If optCash.Value = True Then
        cash = True
    End If
End With

'Assign true value to Credit frame if creditcard option is choose and credit card no is not missing and not a character
With fraCredit
    If optCreditcard.Value = True And txtCredit <> "" And IsNumeric(txtCredit) = True Then
        credit = True
    End If
End With

'if anything is true,show the last page
If food = True And (cash = True Or credit = True) Then
    MultiPage1(5).Visible = True
    MultiPage1.Value = 5

Else
    'if no, stop processing the next event
    Exit Sub
End If

End Sub
```

Component 6: Contact Information page

The screenshot shows a web-based contact information form. At the top, there is a navigation bar with links: Welcome, Theme, Room Request, Special Requirement, Payment, Contact Information, and a separator. Below the navigation is a graphic of Uncle Sam pointing with the words "I WANT YOU". The main title "Contact Information" is centered above the form fields. The form consists of several input fields: "Customer's Name" with a text input box containing a placeholder "I"; "Gender" with two radio buttons labeled "Male" and "Female"; "Contact No." with a text input box; and "Address" with a larger text input box. At the bottom are three buttons: "Previous Page", "Clear", and "Submit".

Event 1: Fill in all the information

All information in this page will store to a new workbook.

In Name's text box, data validation has been done. It disallows user to type in numeric value:

```
Private Sub txtcontactName_Change()  
    'Disable user to type numeric in the first character  
    If IsNumeric(txtcontactName.Value) And txtcontactName <> vbNullString Then  
        txtcontactName.Value = vbNullString  
    End If  
End Sub
```

Contact Number Date validation: Disallow type in character value

```
Private Sub txtcontactNo_Change()
'Disable user to type character in the text box
If Not IsNumeric(txtcontactNo.Value) And txtcontactNo.Value <> vbNullString Then
    txtcontactNo.Value = vbNullString
End If
End Sub
```

Event 2: Back to previous page

```
Private Sub cmdCIprevious_Click()
'Back to payment page
MultiPage1.Value = 4
MultiPage1(4).Visible = True
End Sub
```

Event 3: Clear all the value

```
Private Sub cmdCIClear_Click()
'Clear the value of option button and textbox
Dim ctrl As MSForms.Control
For Each ctrl In Me.MultiPage1.Pages(Me.MultiPage1.Value).Controls
    If TypeOf ctrl Is MSForms.TextBox Then
        ctrl.Value = " "
    ElseIf TypeOf ctrl Is MSForms.OptionButton Then
        ctrl.Value = False
    End If
    Next ctrl
End Sub
```

Event 4: Submit the Order and unload userform

After user clicks the submit button, it will show the message box first. Behind that, it will transfer all the value to Workbook (“Party Room Order”) in Worksheet (“Order”).

OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	No. of People	Store	Income	Food Order	Party Fee	Special Requirements
1	Olivia Stone	M	24814838	Classroom	10/4/2018	20	Mong Kok	HK\$25,000.00	No	HK\$534.00	PS4
2	Joseph Wallace	M	69736777	Marvel	1/4/2018	15	Mong Kok	HK\$10,000.00	Yes	HK\$700.00	PS4,KTV
3	Jessica Montgor	M	62673423	Jail	23/3/2018	10	Tsuen Wan	HK\$5,000.00	No	HK\$900.00	Boardgame
4	Ella West	F	60865433	Tatami	14/3/2018	13	Kwun Tong	HK\$8,000.00	Yes	HK\$940.00	PS4,KTV
5	Rhonda Griffith	M	64443678	Garden	5/3/2018	12	Kwun Tong	HK\$7,500.00	No	HK\$185.00	Boardgame
6	Zenith White	M	67709771	England	24/2/2018	8	Tsuen Wan	HK\$6,600.00	Yes	HK\$2,000.00	PS4
7	Mia Ramos	F	68246835	Classroom	15/2/2018	20	Mong Kok	HK\$5,400.00	Yes	HK\$2,346.00	KTV
8	Stella Leung	F	53146513	Marvel	6/2/2018	15	Mong Kok	HK\$30,000.00	No	HK\$4,000.00	PS4,KTV,Boargame
9	Olivia Stone	M	24814838	Marvel	28/1/2018	15	Mong Kok	HK\$15,867.00	Yes	HK\$1,567.00	PS4

```

Private Sub cmdCISubmit_Click()
Dim wsPartyRoom As Worksheet
'set the PartyRoom sheet as wsPartyRoom worksheet object
Set wsPartyRoom = ThisWorkbook.Worksheets("PartyRoom")

'Prompt to user if something is missing
If txtContactName = "" Or (optMale.Value = False And optFemale.Value = False) Or txtContactNo.Value = "" _ 
Or txtAddress.Value = "" Then
MsgBox "Please fill in all the information", 16, "Warning"
Exit Sub

Else
MsgBox "Congratulation!!! " & vbCrLf & "Your order confirmation will send it through email. ", , "Successful"
End If

'Transfer the value into the WorkBook("Party Room Order") in worksheet("Order")
With wksOrder.Range("A1048576").End(xlUp)
.Offset(1, 0).Value = wksOrder.Range("A1048576").End(xlUp).Value + 1
.Offset(1, 1).Value = txtContactName.Value

If optMale.Value Then
.Offset(1, 2).Value = "M"
Else
.Offset(1, 2).Value = "F"
End If

.Offset(1, 3).Value = txtContactNo.Value
.Offset(1, 4).Value = cboTheme.Value

```

The store value is get from the application workbook in worksheet (“PartyRoom”):

```

If optDate1.Value = True Then
    .Offset(1, 5) = Date + 1
ElseIf optDate2.Value = True Then
    .Offset(1, 5) = Date + 2
ElseIf optDate3.Value = True Then
    .Offset(1, 5) = Date + 3
End If
.Offset(1, 6) = txtPeople.Value

If cboTheme.Value = wsPartyRoom.Range("A2").Value Or cboTheme.Value = wsPartyRoom.Range("A3").Value Then
    .Offset(1, 7).Value = wsPartyRoom.Range("F2").Value
ElseIf cboTheme.Value = wsPartyRoom.Range("A4").Value Or cboTheme.Value = wsPartyRoom.Range("A6").Value Then
    .Offset(1, 7).Value = wsPartyRoom.Range("F4").Value
ElseIf cboTheme.Value = wsPartyRoom.Range("A5").Value Or cboTheme.Value = wsPartyRoom.Range("A7").Value Then
    .Offset(1, 7).Value = wsPartyRoom.Range("F5").Value
End If

If optYes.Value = True Then
    .Offset(1, 9).Value = optYes.Caption
ElseIf optNo.Value = True Then
    .Offset(1, 9).Value = optNo.Caption
End If
.Offset(1, 10).Value = txtTotal.Value
.Offset(1, 11).Value = lbxPS4.Value & "," & lbxKTV.Value & "," & lbxBoardgame.Value

If optCash.Value = True Then
    .Offset(1, 12).Value = optCash.Caption
ElseIf optCreditcard.Value = True Then
    .Offset(1, 12).Value = optCreditcard.Caption
End If

End With

Unload frmOrder
End Sub

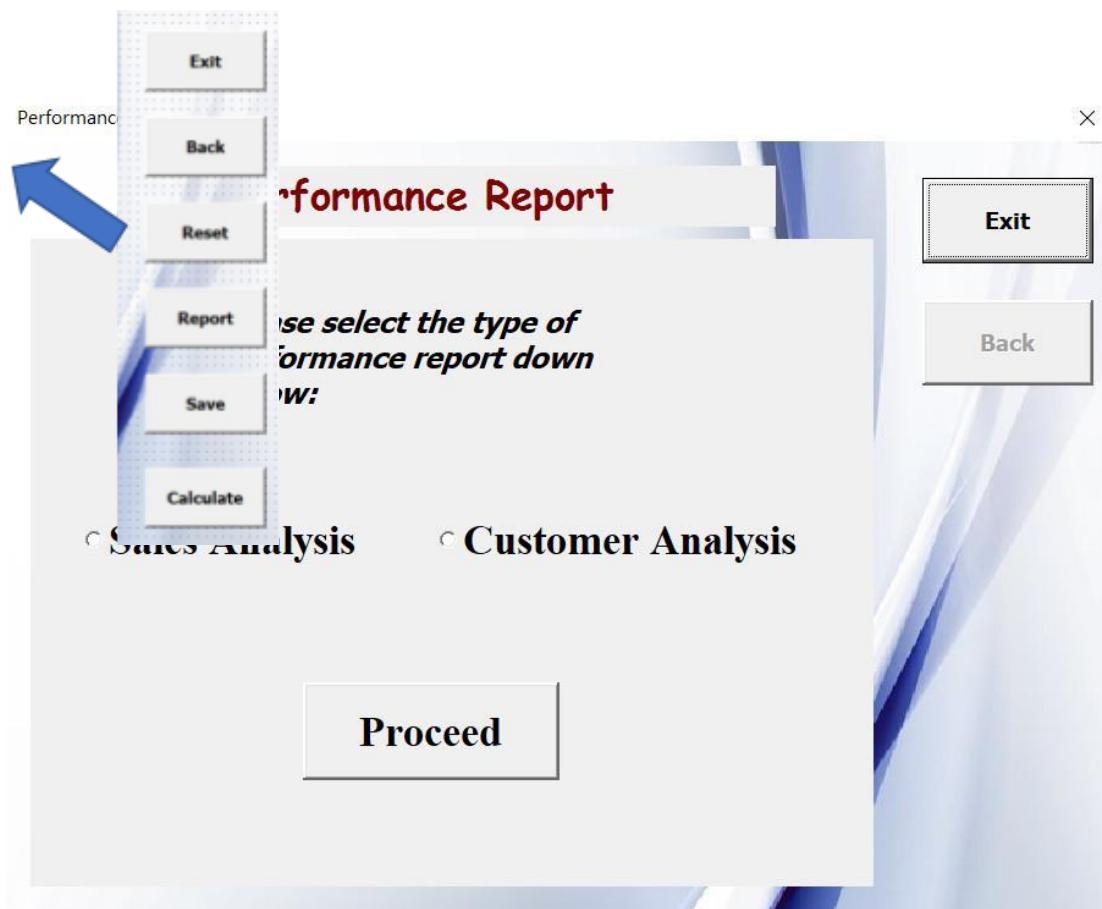
```

Performance Report Userform

Variables used in module level:

```
Option Explicit  
Dim wkcUSTOMER As Workbook  
Dim bksALES As Workbook  
Dim wsTHEME As Worksheet  
Dim wkbKORDER As Workbook, wkstORDER As Worksheet
```

Component 1: First page of multipage: Menu page



Event 1: Performance Report userform appears

When the “Login” button in manager login page of the login userform is clicked, the menu page in performance report userform will show up. There is a multipage at the left-hand side with no tag. This menu page will appear by default and the tag is set as none. The right-hand side are the event buttons that show up separately in accordance with different pages.

```

'Set the first page as default
MultiPage1.Value = 0

'hide the tab of the multipage
MultiPage1.Style = fmTabStyleNone

```

When the userform is initialized:

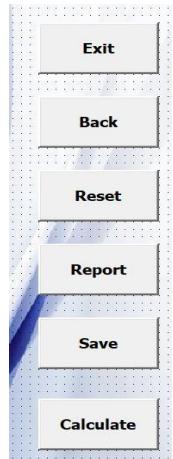
Event 2: Initial setting of the function buttons when initialized

When the userform is initialized, the back button is disabled and the reset, report, save and calculate button are hided.

```

'Report, save,reset and calculate button are invisible
cmdCalculate.Visible = False
cmdReport.Visible = False
cmdSave.Visible = False
cmdReset.Visible = False
'back button is disabled
cmdBack.Enabled = False

```



Event 3 : Page change to Menu page

Whenever the page is changed to the menu page, the "menu" pages will apply the Initial setting rule(event 2) when the pages has show.

Pseudocode:

If the Menu page is shown then

Change the setting of the events button

End if

```

'"menu" pages will apply the following rule when the pages has show
If MultiPage1.Value| = 0 Then
    cmdReport.Visib[英]le = False
    cmdReset.Visib[英]le = False
    cmdCalculate.Visible = False
    cmdSave.Visible = False
    cmdBack.Enabled = False

```

Event 4:Proceed to other pages

After choosing the option "Sales Analysis"(optSalesSelect) or option "Customer Report"(optCustSelect),By clicking the proceed button , the application will go to the corresponding page . If the user did not choose any option, a message box will be prompted to tell

the user to choose one analysis to proceed.

```
Private Sub cmdProceed_Click()
    'if there is no selection output a warning message
    If optSalesSelect.Value = False And optCustomerSelect.Value = False Then
        MsgBox "Please choose one analysis you want to proceed."
    End If

    'The page will go to the Sales Report page if choosing the sales report button
    If optSalesSelect.Value = True Then
        MultiPage1.Value = 1
        MultiPage1(1).Visible = True
        MultiPage1(2).Visible = False
    End If

    'The page will go to the Customer Analysis page if choosing the Customer Analysis button
    If optCustomerSelect.Value = True Then
        MultiPage1.Value = 2
        MultiPage1(1).Visible = False
        MultiPage1(2).Visible = True
    End If

End Sub
```

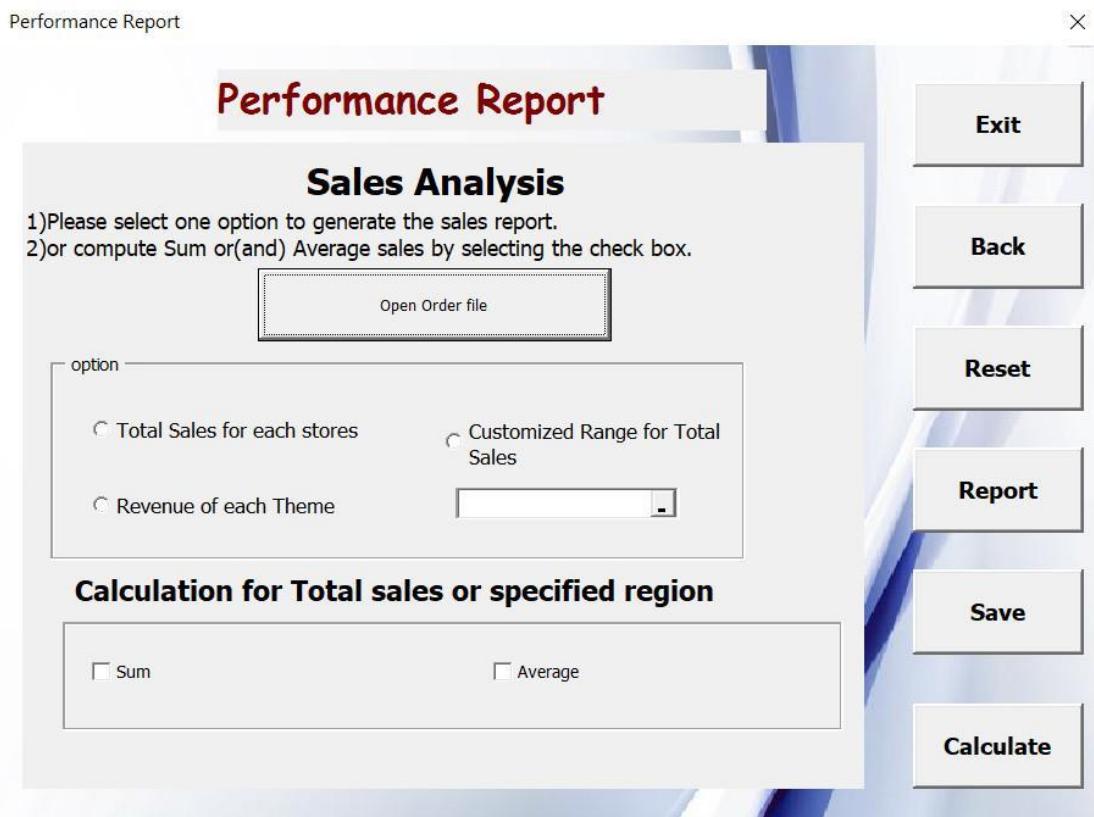


Sales Analysis

Customer Analysis

Proceed

Component 2: Second page of multipage: Sales Analysis page

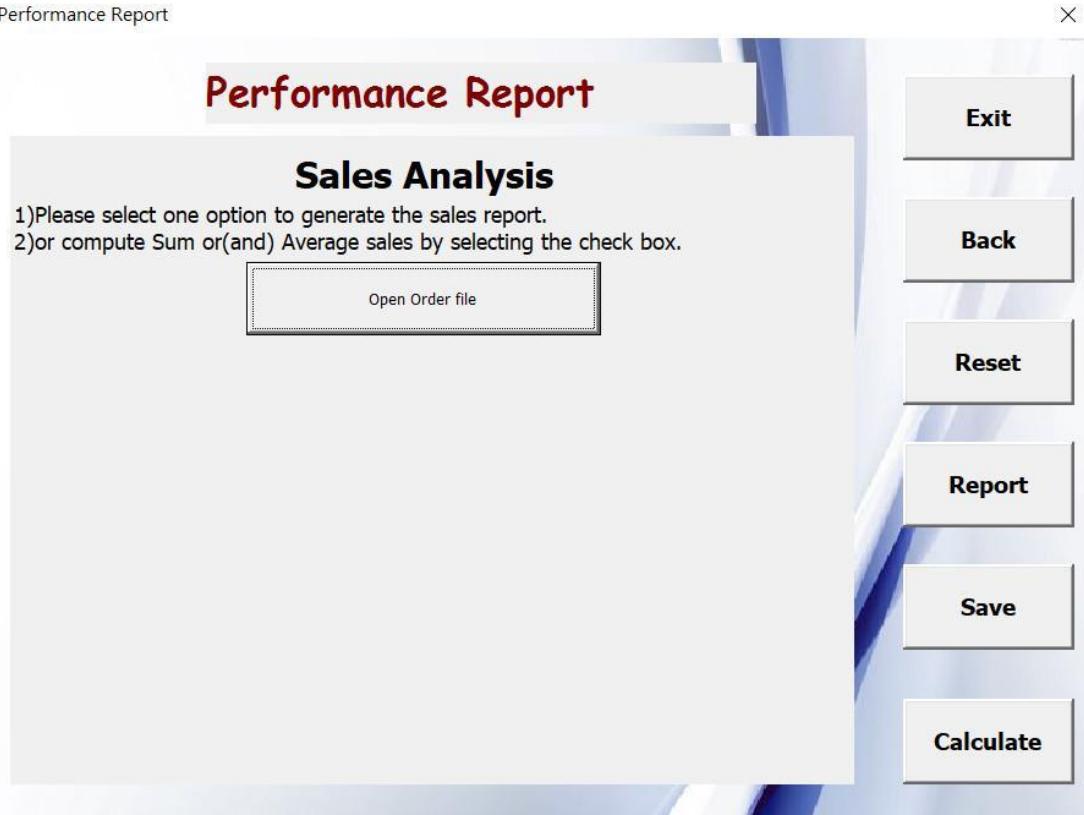


Event 1: Initialization of Sales Analysis page

Whenever the page is changed to the Sales Analysis page, the back ,report and save button is enabled and the reset, report, save and calculate button will become visible when the pages has shown. Also the option and calculation frame and the calculate option label is invisible.

```
"Sales Analysis" pages will apply the following rule when the pages has show
If MultiPage1.Value = 1 Then
    cmdCalculate.Visible = True
    cmdSave.Visible = True
    cmdReport.Visible = True
    cmdReset.Visible = True
    cmdSave.Visible = True
    cmdBack.Enabled = True
    cmdReport.Enabled = True
    cmdSave.Enabled = True
    FrameOption.Visible = False
    FrameCalculate.Visible = False
    lblCalculateOption.Visible = False

End If
```



Event 2 : Open the order file

Before the analysis begin, the user must open the “party room order”.xlsx file first in order to retrieve the data to make any calculation or report. If the file is not opened, it will open it for user. After clicking the “open Order file” button the option and calculation frame and the label for calculating will become visible. Also the application will open the party room order file at the background and set the that workbook into “wkbkorder” variable and the worksheet ”order” into “wsorder” variable and activate the “party room order ” workbook.

```

Private Sub cmdOpenOrder_Click()
    'open the Order workbook and set it as wkbkorder workbook object
    Set wkbkorder = Workbooks.Open(Filename:=Application.ActiveWorkbook.Path & "\Party Room Order.xlsx")
    'Set the Orders sheet as wkstorder worksheet object
    Set wkstorder = wkbkorder.Worksheets("Order")

    'Activate this workbook
    ThisWorkbook.Activate

    'unhide the label for calculation insturction, the option and calculate frame
    FrameOption.Visible = True
    FrameCalculate.Visible = True
    lblCalculateOption.Visible = True
End Sub

```

OrderID	Customer Name	Gender	Contact No.	Theme	Party Date	Party size	Store	Income	Food Order	Party Fee	Special Requirements	No. of Entertainers	Payment Method
1	Olivia Stone	M	24614636	Classroom	02/05/2018	10	Mong Kok	1	No	534	Credit Card		
2	Joseph Wallace	M	69730777	Marvel	02/05/2018	12	Mong Kok	1	Yes	700	Credit Card		
3	Jessica Montgo	M	62673423	Jeil	03/05/2018	12	Tsuen Wan	1	No	900	Cash		
4	Ella West	F	60895433	Tetami	04/05/2018	12	Kwun Tong	1	Yes	940	Cash		
5	Rhonda Griffith	M	64443678	Garden	05/05/2018	8	Kwun Tong	1	No	185	Credit Card		
6	Zenith White	M	67709771	England	06/05/2018	12	Tsuen Wan	1	Yes	2000	Credit Card		
7	Mia Ramos	F	68246835	Classroom	07/05/2018	8	Mong Kok	1	Yes	2348	Credit Card		
8	Stella Leung	F	53146513	Marvel	08/05/2018	13	Mong Kok	1	No	4000	Cash		
9	Olivia Stone	M	24614638	Marvel	09/05/2018	14	Mong Kok	1	Yes	1567	Cash		

Sales Analysis

- 1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores

Customized Range for Total Sales

Revenue of each Theme

Calculation for Total sales or specified region

Sum

Average

Event 3: Calculate the total sales statistic

After the option of different sales data is selected and the checkbox of “sum” or(and) “average” is(are) checked, the sum sales and the average sales will show in the label lblSum and lblAvg ‘s caption respectively. Noted that if the “revenue of each Theme” button is selected it will still return

the sum or average of total sales since the event will only calculate the total sales of all order or chosen order.

```
Private Sub cmdCalculate_Click()
Dim TotalSales As Range
If chkAvg.Value = False And chkSum.Value = False Then
    MsgBox "Please select sum or average to compute the total sales!", 16, "Warning"
    Exit Sub
Else
    'If Sum and total sale button are selected
    If chkSum.Value = True Then
        'Show the sum value of the total sale in label lblSum
        With wkborder.Worksheets("Order")
            Set TotalSales = .Range("k2", wkstorder.Range("k2").End(xlDown))
        End With
        lblSum.Caption = VBA.Format(Application.WorksheetFunction.Sum(Total), "$#,###.00")
    End If

    'Average and total sale button are selected
    If chkAvg.Value = True Then
        'Show the average value of the total sale in label lblAvg
        With wkborder.Worksheets("Order")
            Set TotalSales = .Range("k2", wkstorder.Range("k2").End(xlDown))
        End With
        lblAvg.Caption = VBA.Format(Application.WorksheetFunction.Average(Total), "$#,###.00")
    End If

    'Sum and customized range button are selected
    If chkSum.Value = True And optCustom.Value = True Then
        'Show the sum value of the total sale with customized range in label lblSum
        lblSum.Caption = VBA.Format(Application.WorksheetFunction.Sum(Range(RefData.Value)), "$#,###.00")
    End If
    'Average and customize button are selected
    If chkAvg.Value = True And optCustom.Value = True Then
        'Show the average value of the total sale with customized range in label lblAvg
        lblAvg.Caption = VBA.Format(Application.WorksheetFunction.Average(Range(RefData.Value)), "$#,###.00")
    End If
End If
End Sub
```

Performance Report

×

Performance Report

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales
 Revenue of each Theme

Calculation for Total sales or specified region

<input checked="" type="checkbox"/> Sum	\$13,172.00	<input checked="" type="checkbox"/> Average	\$1,463.56
---	-------------	---	------------

Performance Report

×

Performance Report

Sales Analysis

1)Please select one option to generate the sales report.
2)or compute Sum or(and) Average sales by selecting the check box.

option

Total Sales for each stores Customized Range for Total Sales
 Revenue of each Theme

Calculation for Total sales or specified region

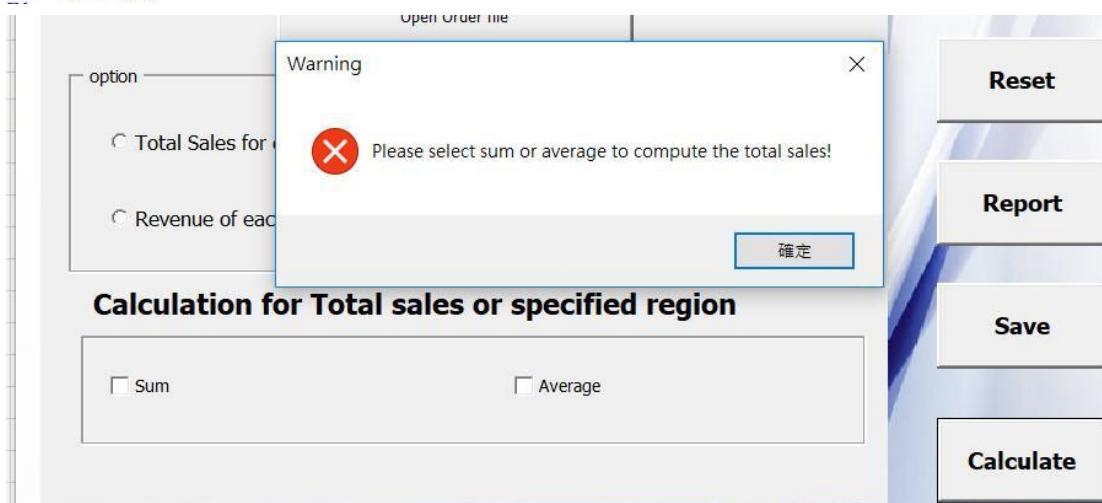
<input checked="" type="checkbox"/> Sum	\$7,605.00	<input checked="" type="checkbox"/> Average	\$1,086.43
---	------------	---	------------

A message box will be prompted if the sum and average checkbox are both deselected to tell the user to select at least one function to compute the sales statistic.

```

If chkAvg.Value = False And chkSum.Value = False Then
    MsgBox "Please select sum or average to compute the total sales!", 16, "Warning"
    Exit Sub

```



As the function is similar we will choose one sum and one average function of each option to illustrate.

Sum for total sales

When “total sales for each store” option and the sum checkbox is selected, the range of the party fee in “party room order” workbook is selected and set as “total” variable and the computed sum values will show in label “sum” ’s caption in currency format.

```

'Sum and total sale button is selected
If chkSum.Value = True Then
    'then sum of data is shown
    With wkbkorder.Worksheets("Order")
        Set Total = .Range("k2", wkstorder.Range("k2").End(xlDown))
    End With
    lblSum.Caption = VBA.Format(Application.WorksheetFunction.Sum(Total), "$#,###.00")
End If

```

Average for total sales with customized range

When the “customized range for total sales” option and average checkbox is selected, we will get the refedit value from the “RefData” as the data to be computed as the range and calculate the average value. The computed average values will show in label “average” ’s caption in currency format

```

'Average and customize button is selected
If chkAvg.Value = True And optCustom.Value = True Then
    'then average of data is shown
    lblAvg.Caption = VBA.Format(Application.WorksheetFunction.Average(Range(RefData.Value)), "$#,###.00")
End If

```

Event 4: Reset all variables/captions

when the reset button is clicked, all the option button and checkbox will be deselected. Also, both label captions and refedit.value will be reset to blank.

```
Private Sub cmdReset_Click()
|
'Reset all the value in to the default value in MultiPage1.page2
If MultiPage1.Value = 1 Then
    optTotalEachStore.Value = False
    optCustom.Value = False
    chkSum.Value = False
    chkAvg.Value = False
    lblSum.Caption = " "
    lblAvg.Caption = " "
    RefData.Value = ""
End If
```

Event 5: Generate a sales report

When the one of the option is selected and the Report button is clicked, a sales report will be created in a new workbook. The user can generate 3 different report which is the total sale for each store, revenue for each theme and the customized range for total sales. The report will consist a flat table and a bar chart

Variables used in cmdReport button:

```
Private Sub cmdCalculate_Click()
Dim TotalSales As Range
If chkAvg.Value = False And chkSum.Value = False Then
    MsgBox "Please select sum or average to compute the total sales!", 16, "Warning"
    Exit Sub
Else
    'If Sum and total sale button are selected
    If chkSum.Value = True Then
        'Show the sum value of the total sale in label lblSum
        With wkborder.Worksheets("Order")
            Set TotalSales = .Range("k2", wkstorder.Range("k2").End(xlDown))
        End With
        lblSum.Caption = VBA.Format(Application.WorksheetFunction.Sum(Total), "$#,###.00")
    End If
    'Average and total sale button are selected
    If chkAvg.Value = True Then
        'Show the average value of the total sale in label lblAvg
        With wkborder.Worksheets("Order")
            Set TotalSales = .Range("k2", wkstorder.Range("k2").End(xlDown))
        End With
        lblAvg.Caption = VBA.Format(Application.WorksheetFunction.Average(Total), "$#,###.00")
    End If
    'Sum and customized range button are selected
    If chkSum.Value = True And optCustom.Value = True Then
        'Show the sum value of the total sale with customized range in label lblSum
        lblSum.Caption = VBA.Format(Application.WorksheetFunction.Sum(Range(RefData.Value)), "$#,###.00")
    End If
    'Average and customize button are selected
    If chkAvg.Value = True And optCustom.Value = True Then
        'Show the average value of the total sale with customized range in label lblAvg
        lblAvg.Caption = VBA.Format(Application.WorksheetFunction.Average(Range(RefData.Value)), "$#,###.00")
    End If
End If
End Sub
```

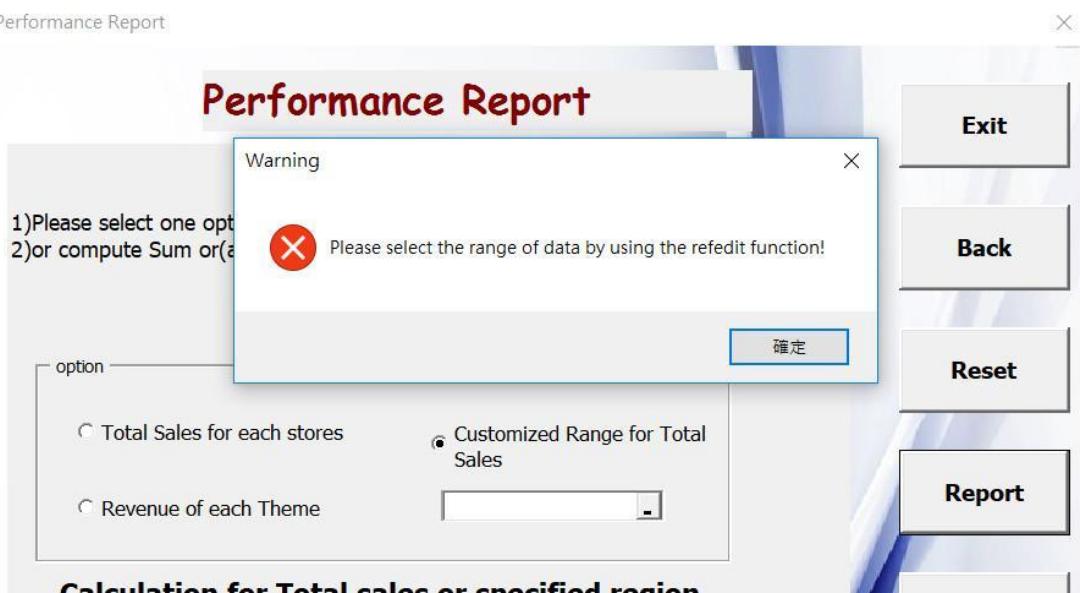
A message box will be prompted if the value of refedit is missing to tell the user to select the range of data.

```

'prompt out a warning message if the RefData value is missing
If optCustom.Value = True And RefData.Value = "" Then
    MsgBox "Please select the range of data by using the refedit function!", 16, "Warning"
    Exit Sub

```

Performance Report



As the code of those three reports are similar, we will choose the sales report of total sales for each store to explain the code for application development and mention to significantly different part of the remaining reports.

Sales report of Total Sales for each store

When the option “Total Sales for each store” is selected, we will get the data from the “order” worksheet in “party room order” workbook and set it into dataselect variable. Then a new workbook is created and add a new worksheet and define its name. Afterward, we will set up a pivot cache and pivot table object to create a pivot table. Also we will convert the pivot table into flat table and use the flat table to create a bar chart and set its element. Finally we will delete the automatically generated worksheet ”sheet 1” by excel.

```

If MultiPage1.Value = 1 Then
    'Total Sales for each stores button is selected
    If optTotalEachStore.Value = True Then
        'Disable the screenupdating function
        Application.ScreenUpdating = False

        'Define the variable name of data selection
        With wkborder.Worksheets("Order")
            Set dataselect = .Range(.Range("a1"), .Range("a1").End(xlDown).End(xlToRight))
        End With

        'Add a new workbook for generate sales report and define its name
        Set bksales = Workbooks.Add

        'Add new worksheet and define its name
        Set Sheetsales = bksales.Sheets.Add

        'Name the worksheet as total sales report
        Sheetsales.Name = "Total sales Report"

        'Create a PivotCache object for storing the source data in memory
        Set cachevar = bksales.PivotCaches.Create(SourceType:=xlDatabase, SourceData:=dataselect)

        'Create a PivotTable object based on the above PivotCache object
        Set object = cachevar.CreatePivotTable(TableDestination:=Sheetsales.Range("a1"), TableName:="Sales Table")

        'Add the store variable to the row area of the pivot table
        object.PivotFields("Store").Orientation = xlRowField

        'Add the Party Fee variable to the value area of the pivot table and calculate the sum
        With object.PivotFields("Party Fee")
            .Orientation = xlDataField
            .Function = xlSum
            .Caption = "Revenue of each store"
        End With

        'Name the title of row
        object.CompactLayoutRowHeader = "Store"

        'Convert the pivot table to flat table
        object.TableRange2.Copy
        Sheetsales.Range("a1").PasteSpecial Paste:=xlPasteValuesAndNumberFormats

        'Add the chartobject and name it
        Set salesobj = Sheetsales.ChartObjects.Add(Left:=300, Top:=40, Width:=500, Height:=400)

        'Define the name of the chart of saleschrt
        Set saleschrt = salesobj.Chart

        'To ensure the chart is completely blank
        Do Until saleschrt.SeriesCollection.Count = 0
            saleschrt.SeriesCollection(1).Delete
        Loop

        'Specify the chart type
        saleschrt.ChartType = xlColumnClustered

        'Specify the source for row and column
        saleschrt.SeriesCollection.NewSeries
        saleschrt.SeriesCollection(1).Name = "Store"
        With Sheetsales
            saleschrt.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
            saleschrt.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
        End With
    End If
End If

```

```

'Specify the layout
saleschrt.ApplyLayout (1)

'Specify the name of chart
saleschrt.HasTitle = True
saleschrt.ChartTitle.Text = "Total order sales of store"
'Specify the axes name of chart
saleschrt.Axes(xlCategory, xlPrimary).HasTitle = True
saleschrt.Axes(xlCategory, xlPrimary).AxisTitle.Text = "Store"
saleschrt.Axes(xlValue, xlPrimary).HasTitle = True
saleschrt.Axes(xlValue, xlPrimary).AxisTitle.Text = "Sales"

'Able the screenupdating function
Application.ScreenUpdating = True

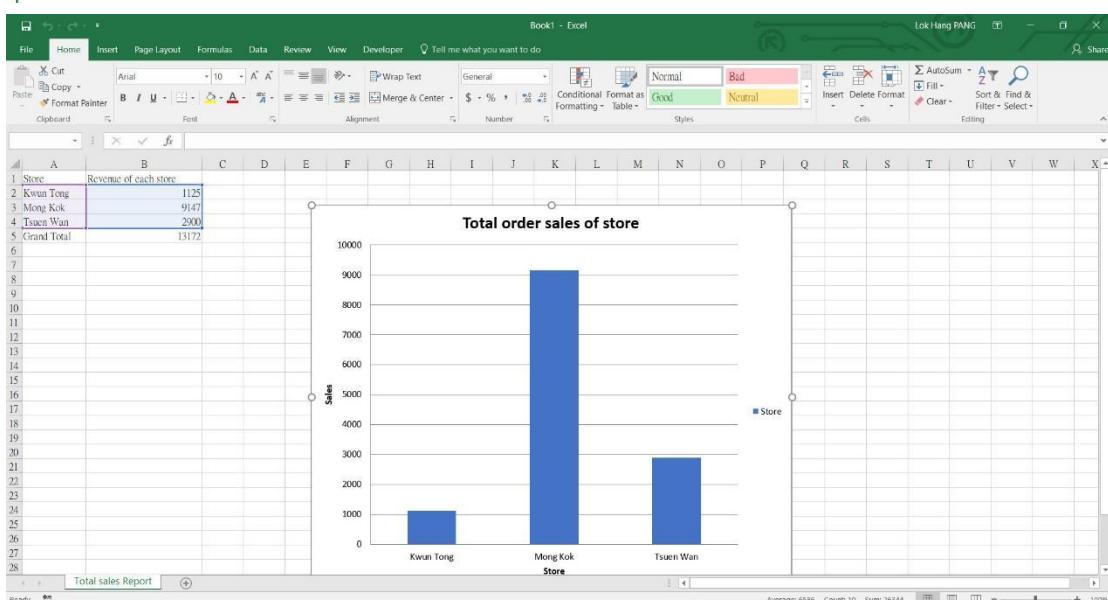
'turn off delete alert
Application.DisplayAlerts = False

'delete Sheet1 in the workbook
bksales.Worksheets("Sheet1").Delete

'turn on delete alert
Application.DisplayAlerts = True

End If

```



Different coding in others two sales reports.:

Sale report of the customized range for total sales

The range of data is selected form the refedit function.

```

'Define the variable name of data selection
With wkbkorder.Worksheets("Order")
    Set dataselect = .Range(RefData.Value)
End With

```

The programming code to generate other two sales reports :

Revenue for each theme

```
If optEachTheme.Value = True Then
    'Disable the screenupdating function
    Application.ScreenUpdating = False

    'Define the variable name of data selection
    With wbkorder.Worksheets("Order")
        Set dset = .Range(.Range("a1"), .Range("a1").End(xlDown).End(xlToRight))
    End With

    'Add a new workbook for generate sales report and define its name
    Set bksales = Workbooks.Add

    'Add new worksheet and define its name
    Set Sheetsales = bksales.Sheets.Add

    'Name the worksheet as total sales report
    Sheetsales.Name = "Total sales Report"

    'Create a PivotCache object for storing the source data in memory
    Set cachevar = bksales.PivotCaches.Create(SourceType:=xlDatabase, SourceData:=dset)

    'Create a PivotTable object based on the above PivotCache object
    Set object = cachevar.CreatePivotTable(TableDestination:=Sheetsales.Range("a1"), TableName:="Sales Table")

    'Add the theme variable to the row area of the pivot table
    object.PivotFields("Theme").Orientation = xlRowField

    'Add the Party Fee variable to the value area of the pivot table and calculate the sum
    With object.PivotFields("Party Fee")
        .Orientation = xlDataField
        .Function = xlSum
        .Caption = "Revenue of each store"
    End With

    'Name the title of row
    object.CompactLayoutRowHeader = "Theme"

    'Convert the pivot table to flat table
    object.TableRange2.Copy
    Sheetsales.Range("a1").PasteSpecial Paste:=xlPasteValuesAndNumberFormats

    'Add the chartobject and name it
    Set salesobj = Sheetsales.ChartObjects.Add(Left:=300, Top:=40, Width:=500, Height:=400)

    'Define the name of the chart of saleschrt
    Set saleschrt = salesobj.Chart

    'To prevent the chart contains non-empty blank
    Do Until saleschrt.SeriesCollection.Count = 0
        saleschrt.SeriesCollection(1).Delete
    Loop

    'Specify the chart type
    saleschrt.ChartType = xl3DColumnClustered

    'Specify the source for row and column
    saleschrt.SeriesCollection.NewSeries
    saleschrt.SeriesCollection(1).Name = "Theme"

    With Sheetsales
        saleschrt.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
        saleschrt.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
    End With
```

```

'Specify the layout
saleschrt.ApplyLayout (1)

'Specify the name of chart
saleschrt.HasTitle = True
saleschrt.ChartTitle.Text = "Revenue of each theme"
Specify the axes name of chart
saleschrt.Axes(xlCategory, xlPrimary).HasTitle = True
saleschrt.Axes(xlCategory, xlPrimary).AxisTitle.Text = "Theme"
saleschrt.Axes(xlValue, xlPrimary).HasTitle = True
saleschrt.Axes(xlValue, xlPrimary).AxisTitle.Text = "Revenue"

'Able the screenupdating function
Application.ScreenUpdating = True

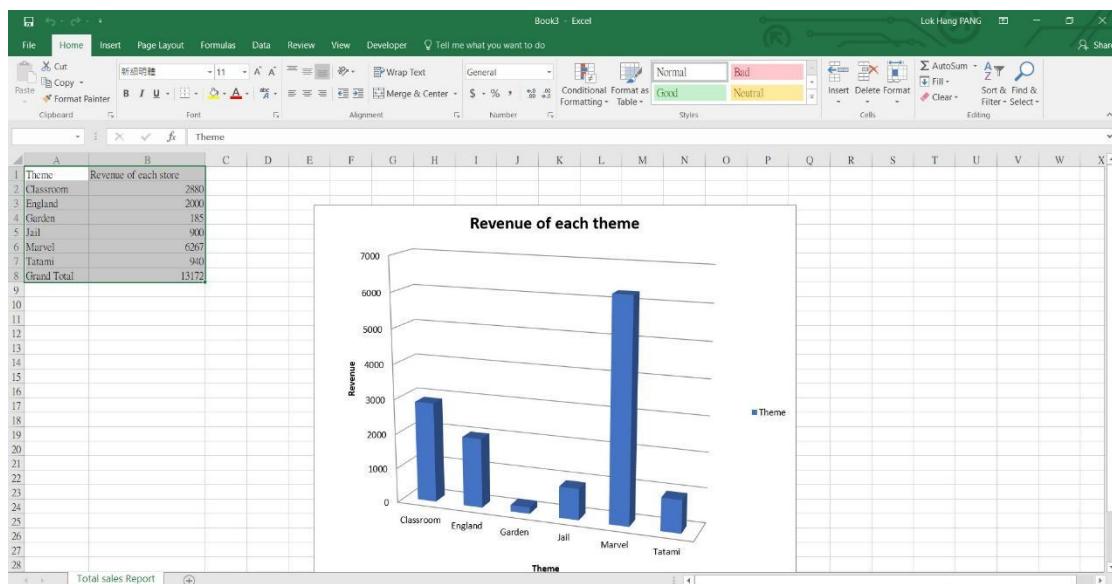
'turn off delete alert
Application.DisplayAlerts = False

'delete Sheet1 in the workbook
bksales.Worksheets("Sheet1").Delete

'turn on delete alert
Application.DisplayAlerts = True

End If
End If

```



Sale report of the customized range for total sales

```

If optCustom.Value = True Then
    'Disable the screenupdating function
    Application.ScreenUpdating = False

    'prompt out a warning message if the RefData value is missing
    If optCustom.Value = True And RefData.Value = "" Then
        MsgBox "Please select the range of data by using the refedit function!", 16, "Warning"
        Exit Sub

    Else
        'Define the variable name of data selection
        With wkborder.Worksheets("Order")
            Set dataselect = .Range(RefData.Value)
        End With

        'Add a new workbook for generate sales report and define its name
        Set bksales = Workbooks.Add

        'Add new worksheet and define its name
        Set Sheetsales = bksales.Sheets.Add

        'Name the worksheet as total sales report
        Sheetsales.Name = "Total sales Report"

        'Create a PivotCache object for storing the source data in memory
        Set cachevar = bksales.PivotCaches.Create(SourceType:=xlDatabase, SourceData:=dataselect)

        'Create a PivotTable object based on the above PivotCache object
        Set object = cachevar.CreatePivotTable(TableDestination:=Sheetsales.Range("a1"), TableName:="Sales Table")

        'Add the store variable to the row area of the pivot table
        object.PivotFields("Store").Orientation = xlRowField

        'Add the Party Fee variable to the value area of the pivot table and calculate the sum
        With object.PivotFields("Party Fee")
            .Orientation = xlDataField
            .Function = xlSum
            .Caption = "Revenue of each store"
        End With

        'Name the title of row
        object.CompactLayoutRowHeader = "Store"
        'Convert the pivot table to flat table
        object.TableRange2.Copy
        Sheetsales.Range("a1").PasteSpecial Paste:=xlPasteValuesAndNumberFormats

        'Add the chartobject and name it
        Set salesobj = Sheetsales.ChartObjects.Add(Left:=300, Top:=40, Width:=500, Height:=400)

        'Define the name of the chart of saleschrt
        Set saleschrt = salesobj.Chart

        'To ensure the chart is completely blank
        Do Until saleschrt.SeriesCollection.Count = 0
            saleschrt.SeriesCollection(1).Delete
        Loop

        'Specify the chart type
        saleschrt.ChartType = xlColumnClustered

        'Specify the source for row and column
        saleschrt.SeriesCollection.NewSeries
        saleschrt.SeriesCollection(1).Name = "Store"
        With Sheetsales
            saleschrt.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
            saleschrt.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
        End With
    End If
End If

```

```

'Specify the layout
saleschrt.ApplyLayout (1)

'Specify the name of chart
saleschrt.HasTitle = True
saleschrt.ChartTitle.Text = "Total order sales of store"
'Specify the axes name of chart
saleschrt.Axes(xlValue, xlPrimary).HasTitle = True
saleschrt.Axes(xlValue, xlPrimary).AxisTitle.Text = "Sales"
saleschrt.Axes(xlCategory, xlPrimary).HasTitle = True
saleschrt.Axes(xlCategory, xlPrimary).AxisTitle.Text = "Store"

'Able the screenupdating function
Application.ScreenUpdating = True

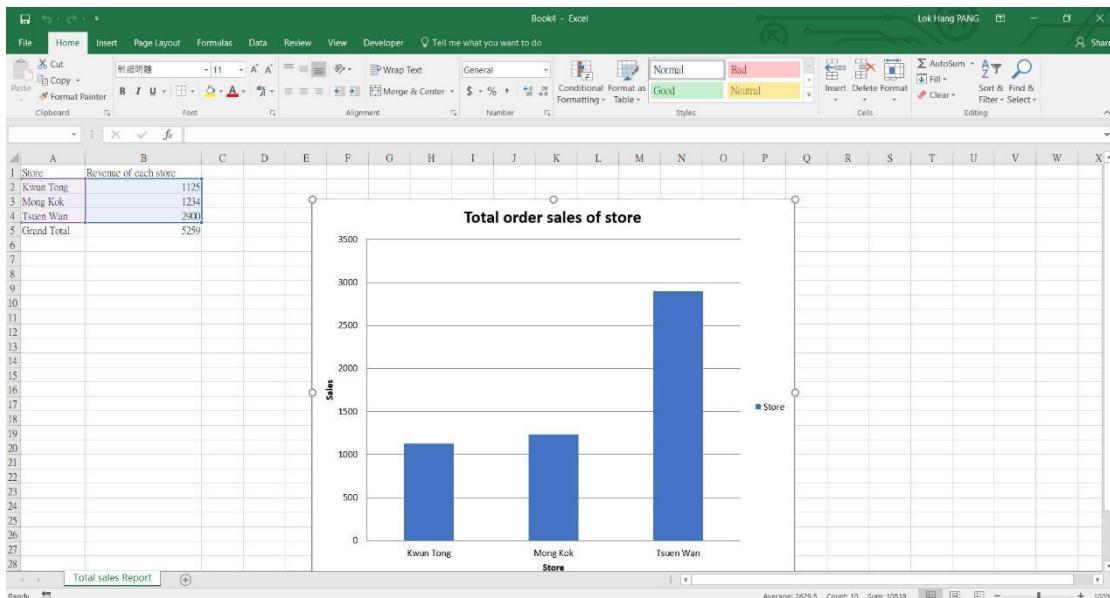
'turn off delete alert
Application.DisplayAlerts = False

'delete Sheet1 in the workbook
bksales.Worksheets("Sheet1").Delete

'turn on delete alert
Application.DisplayAlerts = True

```

End If
End If



Event 6: Save the generated sales report

After generating the sales report, the sales report will be saved when the save button is clicked. A dialog window for saving file will show up and the initial file name will be SalesReport. The workbook will be closed after saving and a message box will prompt out to give a save notice

Variable used in Save button:

```
Private Sub cmdsave_Click()
```

```
Dim savefile As String
```

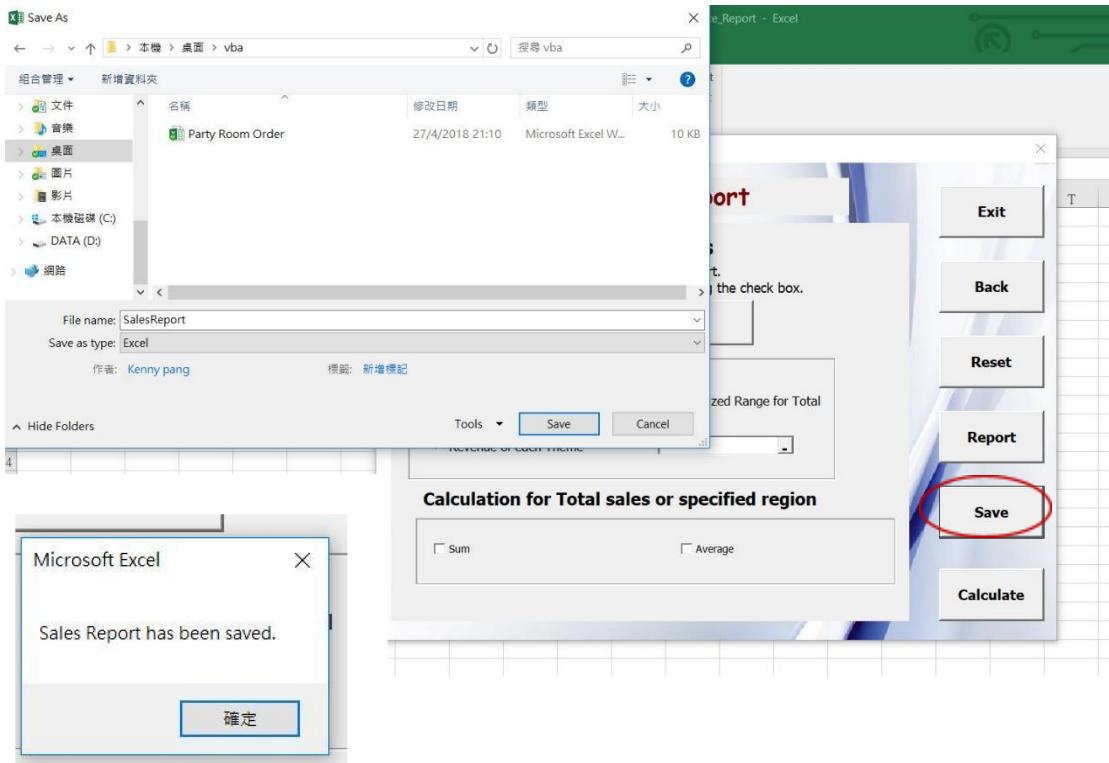
```

If MultiPage1.Value = 1 Then
    'enable the screenupdating function
    Application.ScreenUpdating = True

    'Ask the user to type the name and path they want to save
    savefile = Application.GetSaveAsFilename(InitialFileName:="SalesReport.xlsx", filefilter:="Excel (*.xlsx")
    'Change the name of Customer workbook into new name
    bksales.SaveAs Filename:=savefile
    'Close the sale report workbook
    bksales.Close
    'Pompt the message stated sales report is saved
    MsgBox "Sales Report has been saved."
    Exit Sub

```

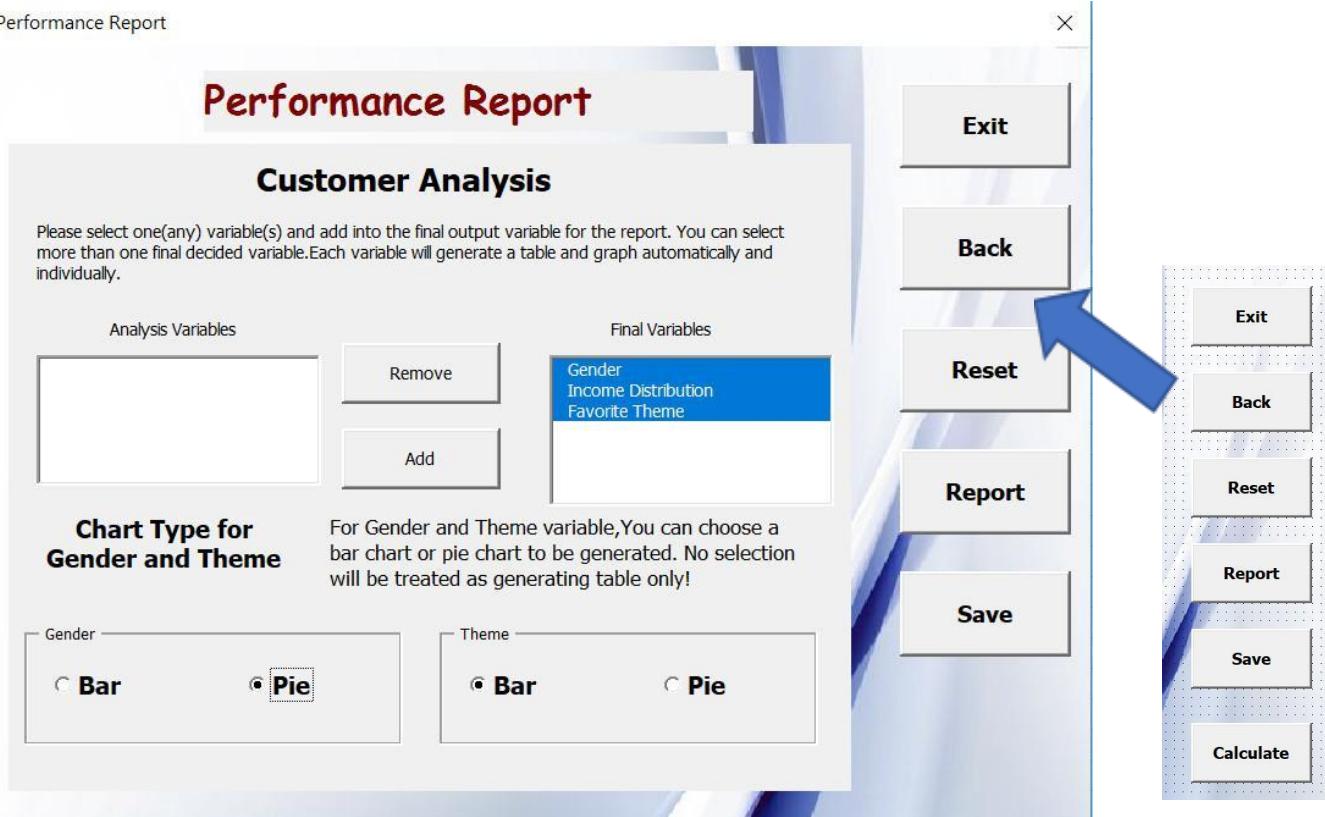
End If



Component 3: Third page of multipage: Customer Analysis

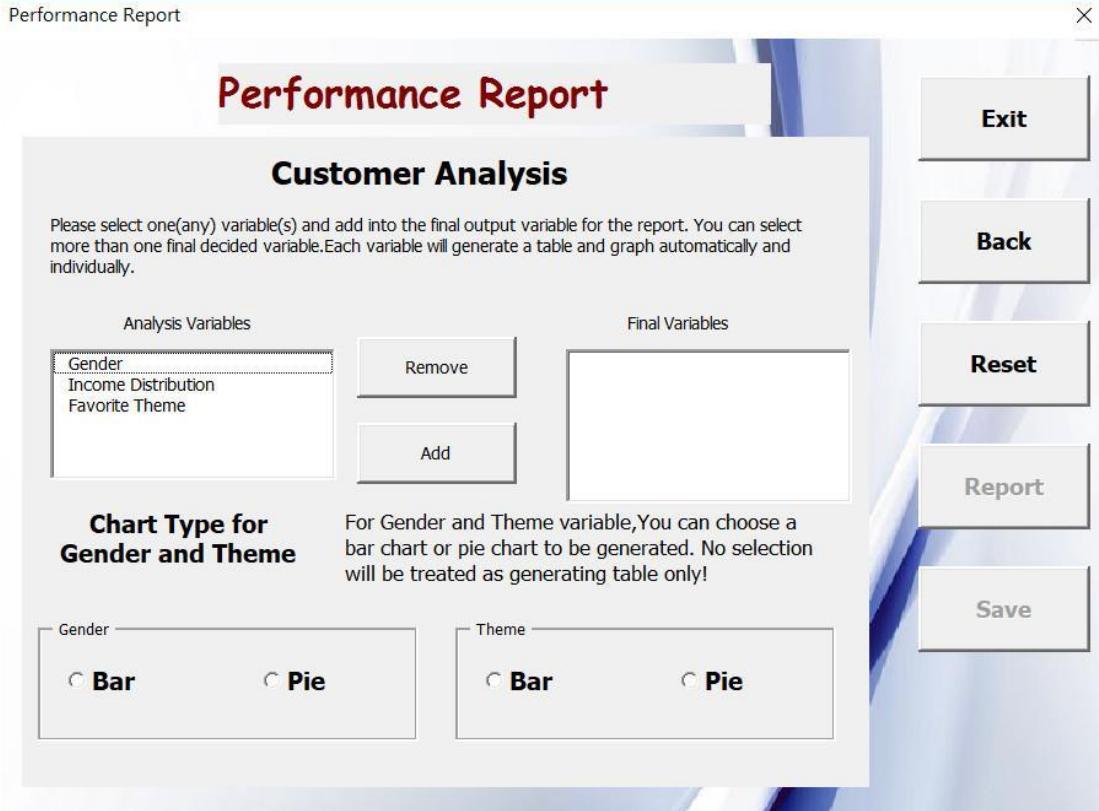
page

Performance Report



Event 1: Initialization of Customer Analysis page

Whenever the page is changed to the Customer Analysis page, the back button is enabled and the reset, report and save button will become visible when the pages has shown. Yet, the report and save button is disabled. Also, the list box of analysis variables will add items and the multiselect property of both list box is set to fmMultiSelectMulti when the performance report userform has



initialized.

```
'add variables to listbox "Analysis Variables"
With lstVar
    .AddItem "Gender"
    .AddItem "Income Distribution"
    .AddItem "Favorite Theme"
End With

'Set lstVar and lstDecided into multi select list box
lstVar.MultiSelect = 2
lstDecided.MultiSelect = 2
```

```
"Customer Analysis" pages will apply the following rule when the pages has show
If MultiPage1.Value = 2 Then
    cmdCalculate.Visible = False
    cmdSave.Visible = True
    cmdReport.Visible = True
    cmdReset.Visible = True
    cmdSave.Visible = True
    cmdBack.Enabled = True
    cmdReport.Enabled = False
    cmdSave.Enabled = False
End If
```

Event 2: Select analysis variable to generate the customer report

User can select one or more variable(s) from two listbox “lstvar” (Final Variables) and “lstdecided” (Analysis Variables).

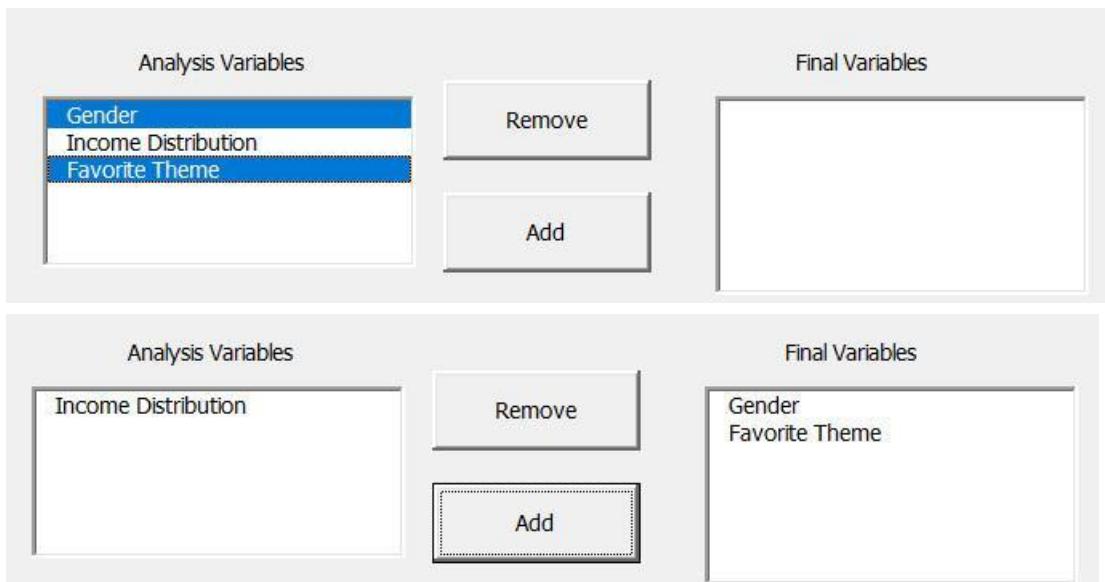
By clicking “add” Button:

The selected variable(s) in listbox “lstvar” (Analysis Variables) will add to the listbox “lstDecided” (Final Variables) and delete from the listbox “lstvar” (Analysis Variables).

```

Private Sub cmdadd_Click()
|
Dim j As Integer
'Copy selected items to Final Variables
For j = 0 To lstVar.ListCount - 1
    If lstVar.Selected(j) = True Then lstDecided.AddItem lstVar.List(j)
Next j
'Remove selected items from Analysis Variables
For j = lstVar.ListCount - 1 To 0 Step -1
    If lstVar.Selected(j) = True Then lstVar.RemoveItem j
Next j
End Sub

```



By clicking “Remove” button:

The selected variable(s) in listbox “lstDecided” (Final Variables) will add to the listbox “lstvar” (Analysis Variables) and delete from the listbox “lstDecided” (Final Variables). Also, the report and save button is disabled until the variable(s) in listbox “lstDecided” (Final Variables) is selected.

```

Private Sub cmdRemove_Click()
Dim i As Integer
'Copy selected items to Analysis Variables
For i = 0 To lstDecided.ListCount - 1
    If lstDecided.Selected(i) = True Then lstVar.AddItem lstDecided.List(i)
Next i
'Remove selected items from Final Variables
For i = lstDecided.ListCount - 1 To 0 Step -1
    If lstDecided.Selected(i) = True Then lstDecided.RemoveItem i
Next i
'disable the report and save button
cmdReport.Enabled = False
cmdSave.Enabled = False
End Sub

```

```

Private Sub lstDecided_Change()
Dim i As Integer

'Enable the report and save button when there is a selection in listbox
For i = 0 To lstDecided.ListCount - 1
    If lstDecided.Selected(i) = True Then
        cmdReport.Enabled = True
        cmdSave.Enabled = True
    End If
Next i
End Sub

```

Event 3: Reset all the variables and listbox items

When the Reset button is clicked, all option button will be deselected, all listbox will be cleared and the save and report button will be disabled. Afterward the items in listbox “lstvar” (Analysis Variables) will be added.

```

'Reset all the value in to the default value in MultiPage1.page3
If MultiPage1.Value = 2 Then
    lstDecided.Clear
    lstVar.Clear
    optBarChartTheme.Value = False
    optBarChartGender.Value = False
    optPieChartTheme.Value = False
    optPieChartGender.Value = False
    cmdSave.Enabled = False
    cmdReport.Enabled = False

    'add variables to listbox "Analysis Variables"
    With lstVar
        .AddItem "Gender"
        .AddItem "Income Distribution"
        .AddItem "Favorite Theme"
    End With
End If

```

Event 4: Generate the customer report

A customer report with the selected variable(s) will be generated after the report button is clicked. In addition, a new workbook “CustomerReport” will be created no matter how many variables are selected. If there is more than one variable selected, the report of each variable will store in each separated worksheet in one single workbook that contain a flat table and a corresponding chart. For Gender and Theme variable, the user can choose a bar chart or pie chart to be generated. No selection will be treated as generating table only. The raw data is retrieved from the worksheet “CustomerDetails” in the application’s work book “PartyRock”.

```

If MultiPage1.Value = 2 Then
'multipage1.page2

'set a new workbook to wkcusomer
Set wkcusomer = Workbooks.Add

'assign a variable to each selected items
For i = 0 To lstDecided.ListCount - 1
    If lstDecided.List(i) = "Gender" Then
        gender = True
    ElseIf lstDecided.List(i) = "Favorite Theme" Then
        Theme = True
    ElseIf lstDecided.List(i) = "Income Distribution" Then
        income = True
    End If
Next i

'set up the range of data and assign a range variable
With ThisWorkbook.Worksheets("CustomerDetails")
    Set rng = .Range(.Range("a1"), .Range("a1").End(xlDown).End(xlToRight))
End With

```

Customer Report for income distribution

if “income distribution” variable in listbox lstDecided(final variable) is selected, a new worksheet is created as wsincome. A one column is created to set up an income level table. Then the application will run the analysis toolpak to create a histogram with specified elements.

```

'If "income" variable is selected
If income = True Then

    'add a new worksheet to wsincome
    Set wsincome = wkcusomer.Worksheets.Add

    'name the worksheet
    wsincome.Name = "Income Distribution"

    'create a column for bin series
    With wsincome
        .Range("A1").Value = "Income Level"
        For y = 1 To 11
            .Range("A1").Offset(y, 0).Value = 0 + 10000 * (y - 1)
        Next y

        'Define the bin series including the column header
        Set rngBin = .Range("A1", .Range("A1").End(xlDown))
        'Define the data series including the column header
        Set rngSource = ThisWorkbook.Worksheets("CustomerDetails").Range("J1", ThisWorkbook.Worksheets("CustomerDetails").Range("J1").End(xlDown))

        Application.Run "ATPVBAEN.XLAM!Histogram", rngSource _
            , .Range("$A$1"), rngBin, False, False, True, True

        'Cannot use ActiveChart object to refer to the histogram as it is not activated
        Set chrtObject = .Shapes(.Shapes.Count).Chart
    End With

```

With chrtObject

```

    'Set the gapwidth of the bars to 0% of the bar width
    .ChartGroups(1).GapWidth = 0

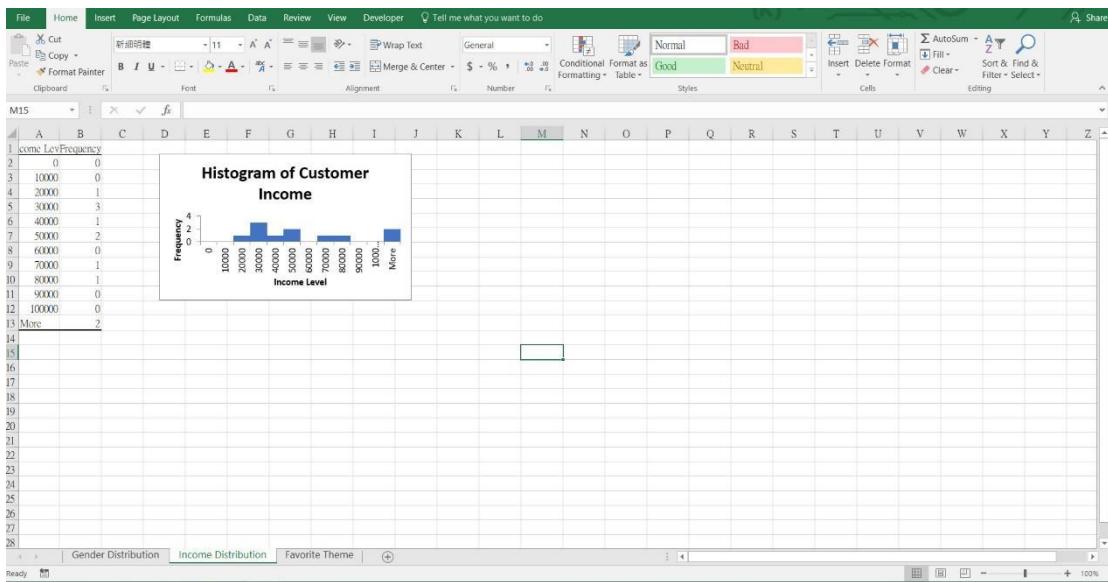
    'Turn off the legend
    .SetElement element:=msoElementLegendNone

    'Define the chart title text
    .ChartTitle.Caption = "Histogram of Customer Income"

```

End With

End With
End If



Customer Report for Gender distribution:

If “gender” variable in listbox lstDecided(final variable) is selected, a new worksheet will be generated as wsgender.

A flat table will be created with the count of gender, % of total of gender and the grand total.

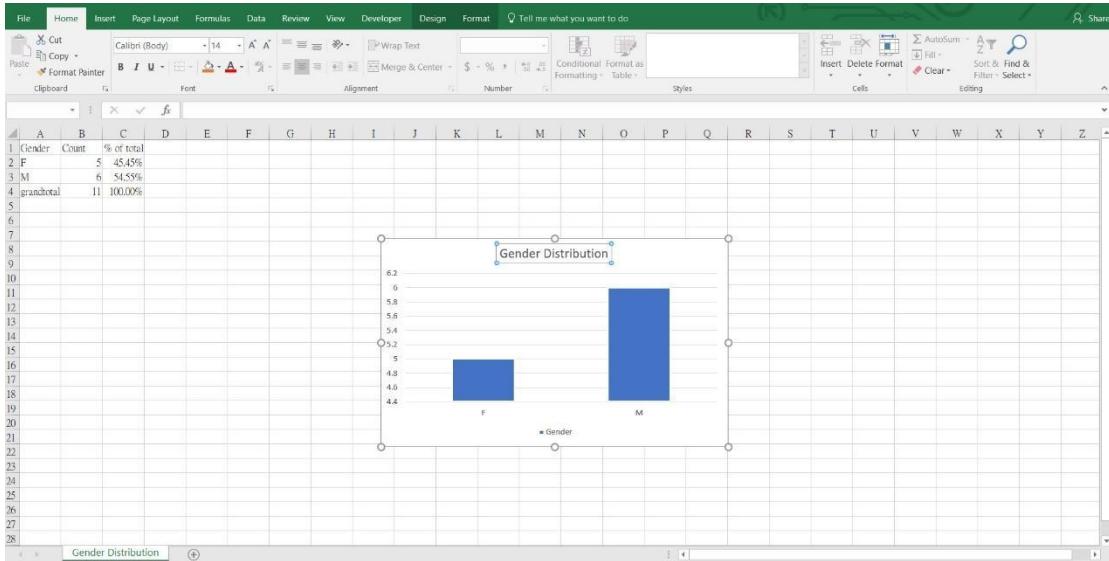
```
'If "gender" variable is selected
    If gender = True Then
        'Add a new worksheet to wsgender
        Set wsgender = wkcUSTOMER.Worksheets.Add

        wsgender.Name = "Gender Distribution"
        'create a flat table
        wsgender.Cells(1, 1).Value = "Gender"
        wsgender.Cells(2, 1).Value = "F"
        wsgender.Cells(3, 1).Value = "M"
        wsgender.Cells(4, 1).Value = "grandtotal"
        wsgender.Cells(1, 2).Value = "Count"
        wsgender.Cells(2, 2).Value = WorksheetFunction.CountIf(ThisWorkbook.Worksheets("CustomerDetails"),
            Range("D1", ThisWorkbook.Worksheets("CustomerDetails").Range("D1048576").End(xlUp)), "F")
        wsgender.Cells(3, 2).Value = WorksheetFunction.CountIf(ThisWorkbook.Worksheets("CustomerDetails"),
            Range("D1", ThisWorkbook.Worksheets("CustomerDetails").Range("D1048576").End(xlUp)), "M")
        wsgender.Cells(4, 2).Value = wsgender.Cells(2, 2).Value + wsgender.Cells(3, 2).Value
        wsgender.Cells(1, 3).Value = "% of total"
        wsgender.Cells(2, 3).Value = Format(wsgender.Cells(2, 2).Value * 100 / wsgender.Cells(4, 2).Value, "###.##")
        wsgender.Cells(3, 3).Value = Format(wsgender.Cells(3, 2).Value * 100 / wsgender.Cells(4, 2).Value, "###.##")
        wsgender.Cells(4, 3).Value = Format((wsgender.Cells(2, 3).Value + wsgender.Cells(3, 3).Value) * 100, "###.##")
```

If the optBarChartGender option button ”Bar” for gender chart type is selected, a bar chart will be created with the flat table. The bar chart will have a chart title “Gender Distribution”

```
'If the "Bar" button is selected,it will draw the bar chart for gender
    If optBarChartGender.Value = True Then
        'create a bar chart with the flat table
        Range("A2:B3").Select
        wsgender.Shapes.AddChart2(251, xlColumnClustered).Select
        'set data source
        ActiveChart.SetSourceData Source:=Range("$A$2:$B$3")
        'set the chart title
        ActiveChart.ChartTitle.Select
        ActiveChart.ChartTitle.Text = "Gender Distribution"
        ActiveChart.SeriesCollection(1).Name = "Gender"
        Selection.Format.TextFrame2.TextRange.Characters.Text = "Gender Distribution"

    End If
End If
```



If the optPieChartGender option button "Pie" for gender chart type is selected, a pie chart will be generated with the flat table. The pie chart will clear all existing series before adding the "gender" series with a percentage label.

```
'If the "Pie" button is selected, it will draw the pie chart for gender
If optPieChartGender.Value = True Then
    Set chrtEmbeddObj = wsgender.ChartObjects.Add(Left:=250, Top:=25, Width:=400, Height:=300)
    'Assign the embedded chart object to chrtEmbedd
    Set chrtEmbedd = chrtEmbeddObj.Chart

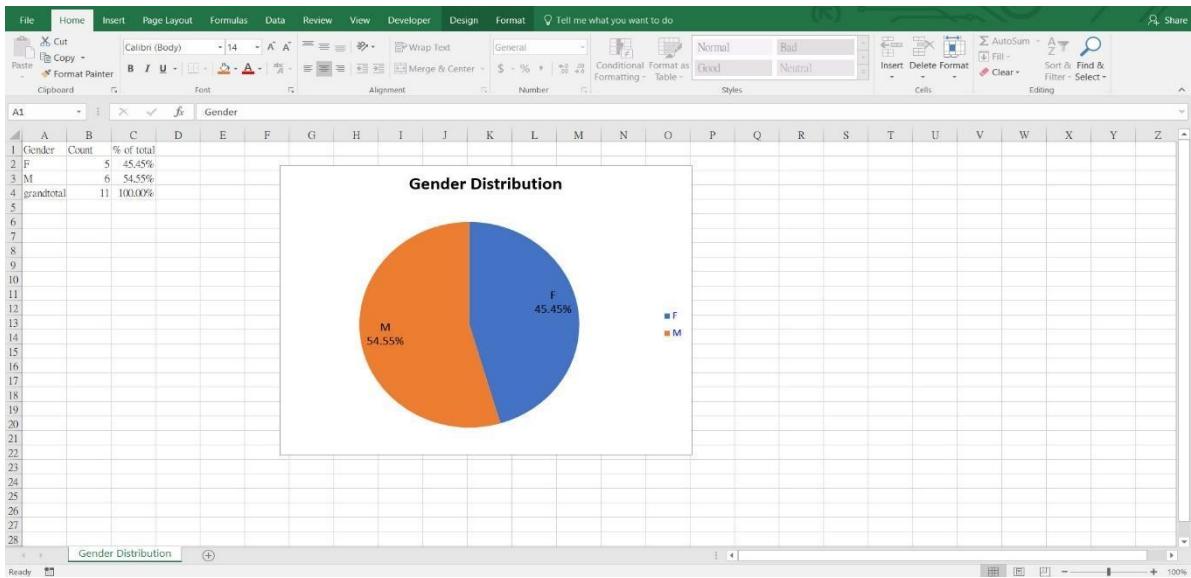
    'To ensure the chart is completely blank
    Do Until chrtEmbedd.SeriesCollection.Count = 0
        chrtEmbedd.SeriesCollection(1).Delete
    Loop

    'Specify the chart type
    chrtEmbedd.ChartType = xlPie
    'set data source
    chrtEmbedd.SetSourceData Source:=Range("$A$2:$B$3")

    'Specify the layout of the chart
    chrtEmbedd.ApplyLayout (1)

    'Specify the title of the chart
    chrtEmbedd.HasTitle = True
    chrtEmbedd.ChartTitle.Text = "Gender Distribution"

    'add a new series as gender
    chrtEmbedd.SeriesCollection.NewSeries
    chrtEmbedd.SeriesCollection(1).Name = "Gender"
    With wsgender
        chrtEmbedd.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
        chrtEmbedd.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
    End With
        'show the percentage label on the pie chart
        chrtEmbedd.SeriesCollection(1).DataLabels.NumberFormat = "0.00%"
        chrtEmbedd.SeriesCollection(1).DataLabels.Font.Size = 12
    'add legend into pie chart
    chrtEmbedd.HasLegend = True
    chrtEmbedd.Legend.Font.ColorIndex = 5
    End If
```



Customer Report for Favorite Theme:

If the “Favorite Theme” variable in listbox lstDecided(final variable) is selected, a new worksheet will be added as wstheme that named “Favorite Theme”. A pivot table will be created in wstheme with theme, count of each theme and a percentage total. The pivot table will turn into flat table after created.

```
'if theme variable is chosen
If Theme = True Then

'Disable the screenupdating function
Application.ScreenUpdating = True

'Add a new worksheet for district report
Set wstheme = wkcusomer.Worksheets.Add
'Name the worksheet as the name of the selected variable
wstheme.Name = "Favorite Theme"

'Create a PivotCache object for storing the source data in memory
Set pvtcache = wkcusomer.PivotCaches.Create(SourceType:=xlDatabase, SourceData:=rng)
'Create a PivotTable object based on the above PivotCache object
Set pvtvar = pvtcache.CreatePivotTable(TableDestination:=wstheme.Range("a1"), TableName:="Theme Pie Chart")

'Add the selected variable to the row area of the pivot table
pvtvar.PivotFields("Favorite Theme").Orientation = xlRowField
'Add the selected variable to the Value area of the pivot table for frequency
With pvtvar.PivotFields("Favorite Theme")
    .Orientation = xlDataField
    .Function = xlCount
    .Caption = "Count"
End With

'Add the selected variable to the Value area of the pivot table for relative frequency
With pvtvar.PivotFields("Favorite Theme")
    .Orientation = xlDataField
    .Function = xlCount
    .Calculation = xlPercentOfTotal
    .Caption = "% of Total"
    .NumberFormat = "0.00%"
End With

'Name the row header "Row Labels"
pvtvar.CompactLayoutRowHeader = "Theme"
'Convert the pivot table to a flat table
pvtvar.TableRange2.Copy
    wstheme.Range("a1").PasteSpecial Paste:=xlPasteValuesAndNumberFormats
        'Remove the first row of the table
        wstheme.Range("a1").EntireRow.Delete
```

If the option button “Pie” (optPieChartTheme) is selected, A procedure DrawPieChartForTheme is

called to create a pie chart. A chart is embedded and clean that all series is clear before adding the series “Theme”. The pie chart will have a specified title “Customer Preference of Favorite Theme” and a percentage label

```
'If the "Pie" button is selected,it will call a function to draw the pie chart
If optPieChartTheme.Value = True Then
    Call DrawPieChartForTheme
End If

'function to draw the pie chart for theme
Sub DrawPieChartForTheme()
    Dim embdchrtobj As ChartObject, embdchrt As Chart

    Set embdchrtobj = wstheme.ChartObjects.Add(Left:=250, Top:=25, Width:=400, Height:=300)
    'Assign the embedded chart object to chrtEmbedd
    Set embdchrt = embdchrtobj.Chart

    'To ensure the chart is completely blank
    Do Until embdchrt.SeriesCollection.Count = 0
        embdchrt.SeriesCollection(1).Delete
    Loop

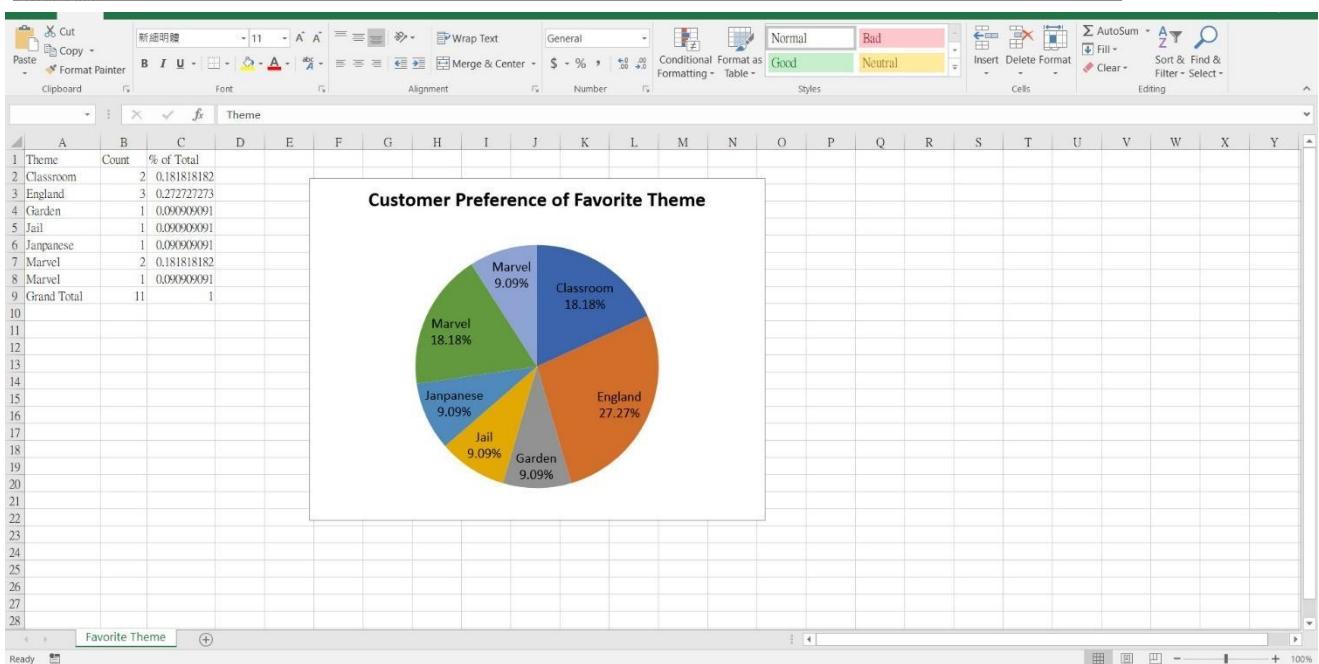
    'Specify the chart type
    embdchrt.ChartType = xlPie

    'Specify the data source
    embdchrt.SeriesCollection.NewSeries
    embdchrt.SeriesCollection(1).Name = "Theme"
    With wstheme
        embdchrt.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
        embdchrt.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
    End With

    'Specify the layout of the chart
    embdchrt.ApplyLayout (1)

    'Specify the title of the chart
    embdchrt.HasTitle = True
    embdchrt.ChartTitle.Text = "Customer Preference of Favorite Theme"

    'Specify the format and font of the labels
    embdchrt.SeriesCollection(1).DataLabels.NumberFormat = "0.00%"
    embdchrt.SeriesCollection(1).DataLabels.Font.Size = 12
End Sub
```



If the option button “Bar” (optBarChartTheme) is selected, A procedure DrawBarChartForTheme is called to create a bar chart. A chart is embedded and clean that all series is clear before adding the series “Theme”. The Bar chart will have a specified title “Customer Preference of Favorite Theme”.

```


    If the "Bar" button is selected, it will call a function to draw the bar chart
    optBarChartTheme.Value = True Then
        Call DrawBarChartForTheme
    End If

    'Create a Function to draw a bar chart for theme
    Sub DrawBarChartForTheme()

        Dim embdchrtobj As ChartObject, embdchrt As Chart

        Set embdchrtobj = wstheme.ChartObjects.Add(Left:=25, Top:=25, Width:=400, Height:=300)
        'Assign the embedded chart object to chrtEmbedd
        Set embdchrt = embdchrtobj.Chart

        'To ensure the chart is completely blank
        Do Until embdchrt.SeriesCollection.Count = 0
            embdchrt.SeriesCollection(1).Delete
        Loop

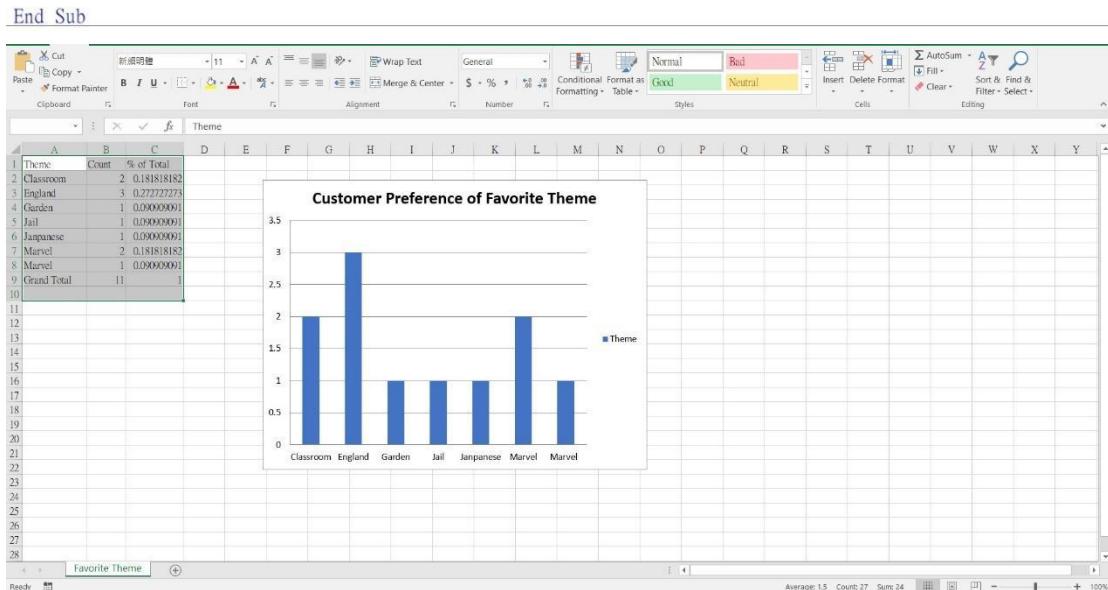
        'Specify the chart type
        embdchrt.ChartType = xlColumnClustered

        'Specify the data source
        embdchrt.SeriesCollection.NewSeries
        embdchrt.SeriesCollection(1).Name = "Theme"
        With wstheme
            embdchrt.SeriesCollection(1).XValues = .Range(.Range("a2"), .Range("a2").End(xlDown).Offset(-1, 0))
            embdchrt.SeriesCollection(1).Values = .Range(.Range("b2"), .Range("b2").End(xlDown).Offset(-1, 0))
        End With

        'Specify the layout of the chart
        embdchrt.ApplyLayout (1)

        'Specify the title of the chart
        embdchrt.HasTitle = True
        embdchrt.ChartTitle.Text = "Customer Preference of Favorite Theme"
    End Sub


```



After the workbook “CustomerReport” is created, the default worksheet ”sheet1” will be deleted without warning.

```

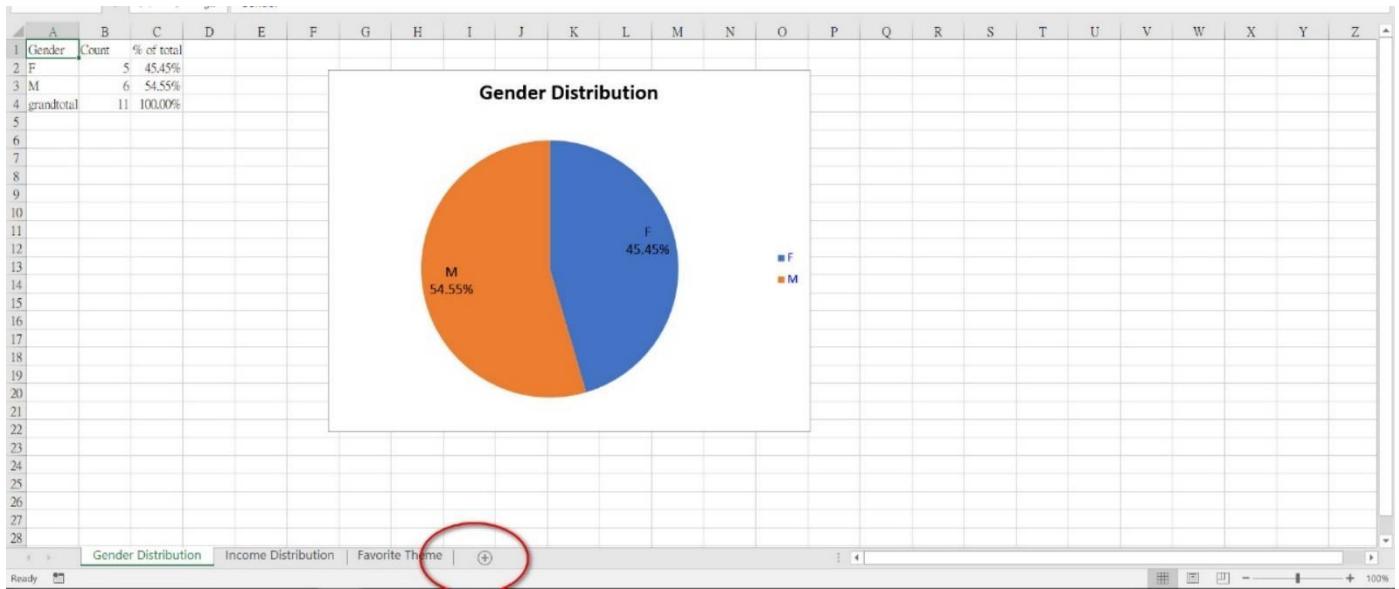
'turn off delete alert
Application.DisplayAlerts = False

'delete Sheet1 in the workbook
wkcUSTOMER.Worksheets("Sheet1").Delete

'turn on delete alert
Application.DisplayAlerts = True
End If

```

End Sub



Event 5: Save the CustomerReport workbook

After generating the customer report, the customer report will be saved when the save button is clicked. A dialog window for saving file will show up and the initial file name will be CustomerReport. The workbook will be closed after saving and a message box will prompt out to give a save notice.

Variable used in Save button:

```
Private Sub cmdSave_Click()
```

```
    Dim savefile As String
```

```

If MultiPage1.Value = 2 Then
    'Enable the screenupdating function
    Application.ScreenUpdating = True

    'Ask the new name for Customer workbook
    savefile = Application.GetSaveAsFilename(InitialFileName:="CustomersReport.xlsx", filefilter:="Excel (*.xlsx)")

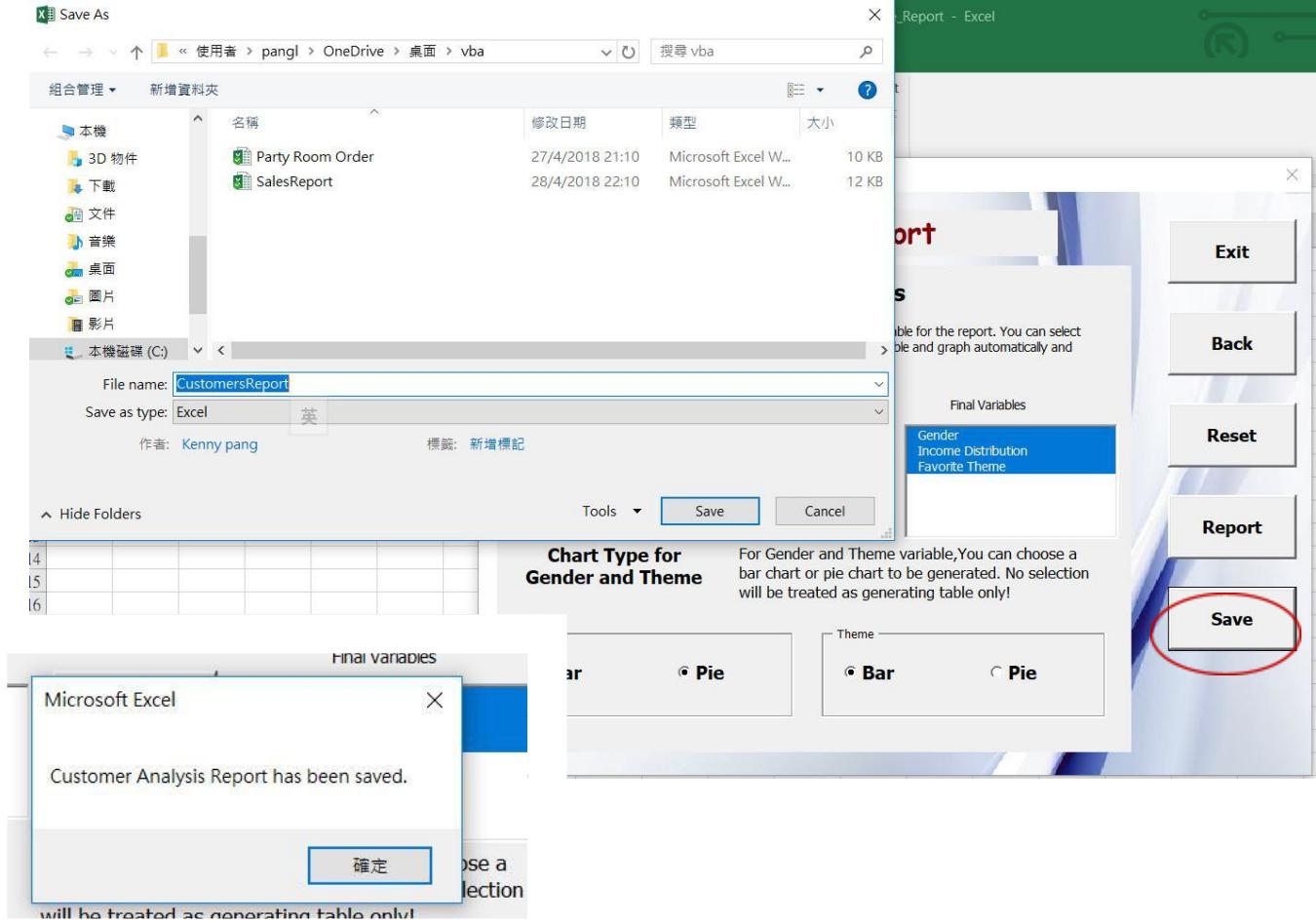
    'Change the name of Customer workbook into new name
    wkcusomer.SaveAs Filename:=savefile

    'Close the customer report workbook
    wkcusomer.Close

    'Prompt a message to confirm new workbook has been saved.
    MsgBox "Customer Analysis Report has been saved."
End If

```

End Sub





Event 4: Event Buttons

event buttons, which are back and exit button, it is used across all pages in the report userform.

Click to menu page

If the back button is clicked, The pages will return the first page of the multipage: Menu will the option buttons in Menu page is deselected. Moreover, The second and third page invisible.

```
Sub cmdback_Click()
```

```
'Back to the Option page
```

```
MultiPage1.Value = 0
```

```
MultiPage1(0).Visible = True  
MultiPage1(1).Visible = False  
MultiPage1(2).Visible = False
```

```
'Reset the option value
```

```
optSalesSelect.Value = False  
optCustomerSelect.Value = False
```

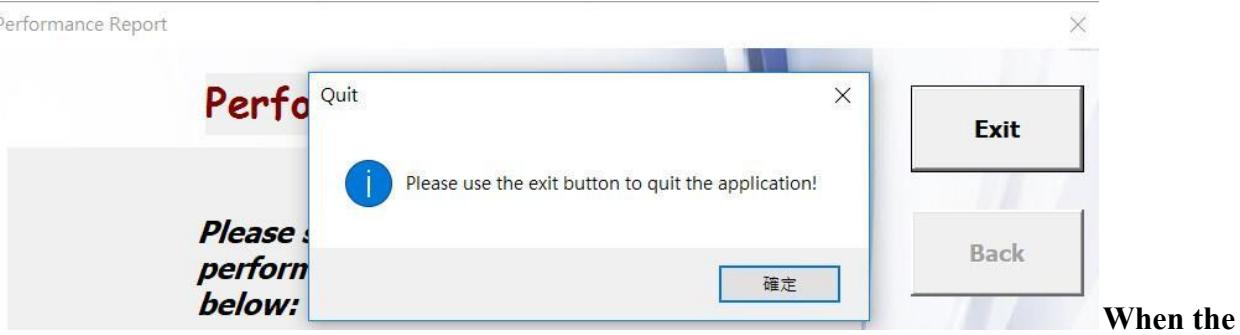
```
End Sub
```

Event 3: Exit the userform

When the “X” button is clicked:

User is not allowed to click the “X” button to exit the application. a message box as warning will prompt to ask the user to use “Exit” button to quit when the “X” button is clicked.

```
Private Sub UserForm_QueryClose(Cancel As Integer, CloseMode As Integer)  
  
'Disable exit function through the cross button  
  
If CloseMode <> 1 Then  
    Cancel = 1  
    MsgBox "Please use the exit button to quit the application!", VBA.vbInformation, "Quit"  
End If  
  
End Sub
```

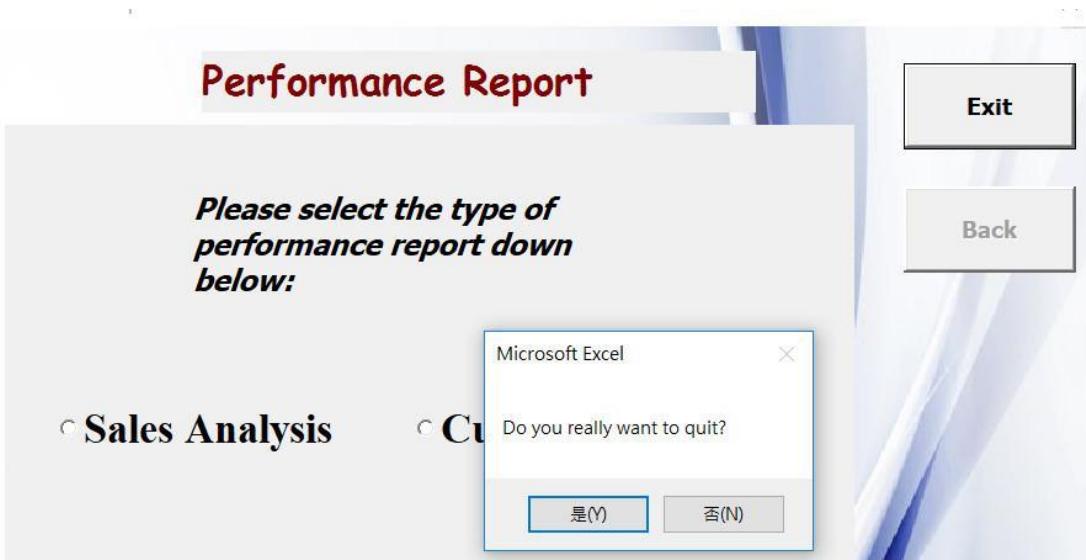


When the

“Quit” button is clicked:

User can quit the application by clicking Quit button. When the Quit button is clicked, the system will prompt the message to ask whether the user want to exit or not, and the application will be quitted by clicking the “Yes” button.

```
Private Sub cmdExit_Click()
    'Exit the userform and return to the login page
    If MsgBox("Do you really want to quit?", vbYesNo) = vbYes Then
        Unload Me
        frmLogin.Show
    End If
End Sub
```



Appendices

Sign Up Userform:

UserForm1

Co-Working Space

Sign Up Now!

1 Name

2 Login Name

3 Password

4 Confirm Password

5 Email

6 Contact Number

7 Age Group

8 Gender

9 Industry

10 Living Area

11

12

13

	Property	Function
1	Label, Textbox	Name input: txtName
2	Label, Textbox	Login Name input: txtLoginid
3	Label, Textbox	Password input: txtPassword
4	Label, Textbox	Confirm password input: txtConfirm
5	Label, Textbox	Email input: txtEmail
6	Label, Textbox	Contact Number input: txtContact
7	Label, ComboBox	Age Group selection: cbxAge
8	Label, OptionButton	Gender selection: optMale, optFemale
9	Label, ComboBox	Industry selection: cbxIndustry
10	Label, ComboBox	Living Area selection: cbxArea
11	CommandButton	Exit userform
12	CommandButton	Clear userform input
13	CommandButton	Submit userform input