



City University of Hong Kong
IS2022 Business Programming with Spreadsheet (Semester B, 2021/2022)
Project Final Report

Student Name	SID
Chan Lok Him	55700413
Lee Ka Wing	55697023
Ngai Oi Lam	56310248
Law Tsz Kiu	55688259
Wong Chun Hei	56748904
MOK Chun Yiu Dickens	56463622

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Introduction

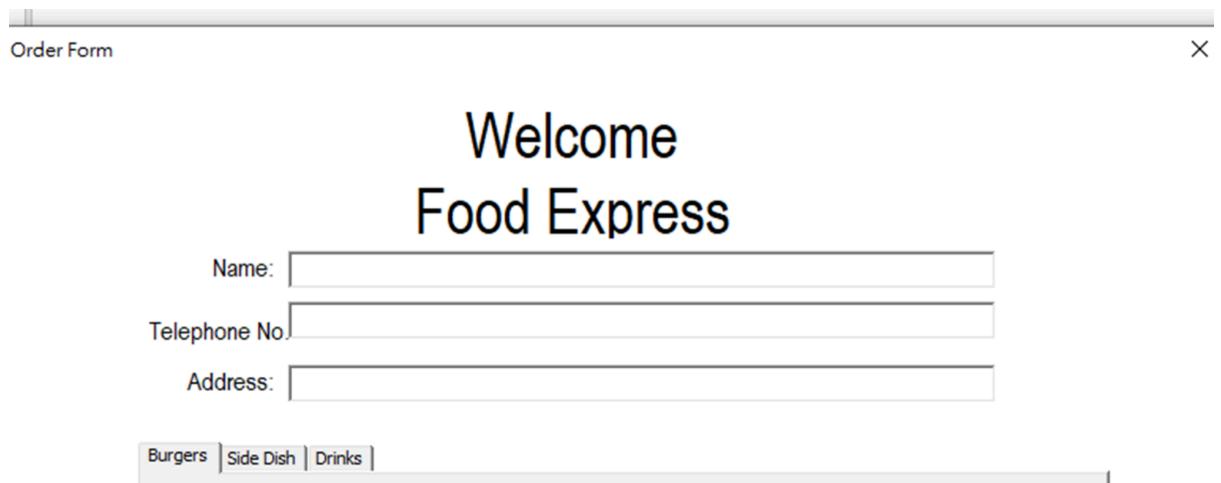
Executive Summary

Food Express is a newly-opened fast food restaurant in Hong Kong. It has recently been popular online and orders are increasing significantly. With the need to improve the operation efficiency, we suggest a user-friendly excel application to regulate the restaurant operation. In the report, we will go through the customer and staff interface to demonstrate how the application works. We will also set the assumptions and data validation rules will be explained. Customers can place their order by following the customer user form and the staff can manage the data by the staff menu to increase the operation efficiency and analyze the business performance.

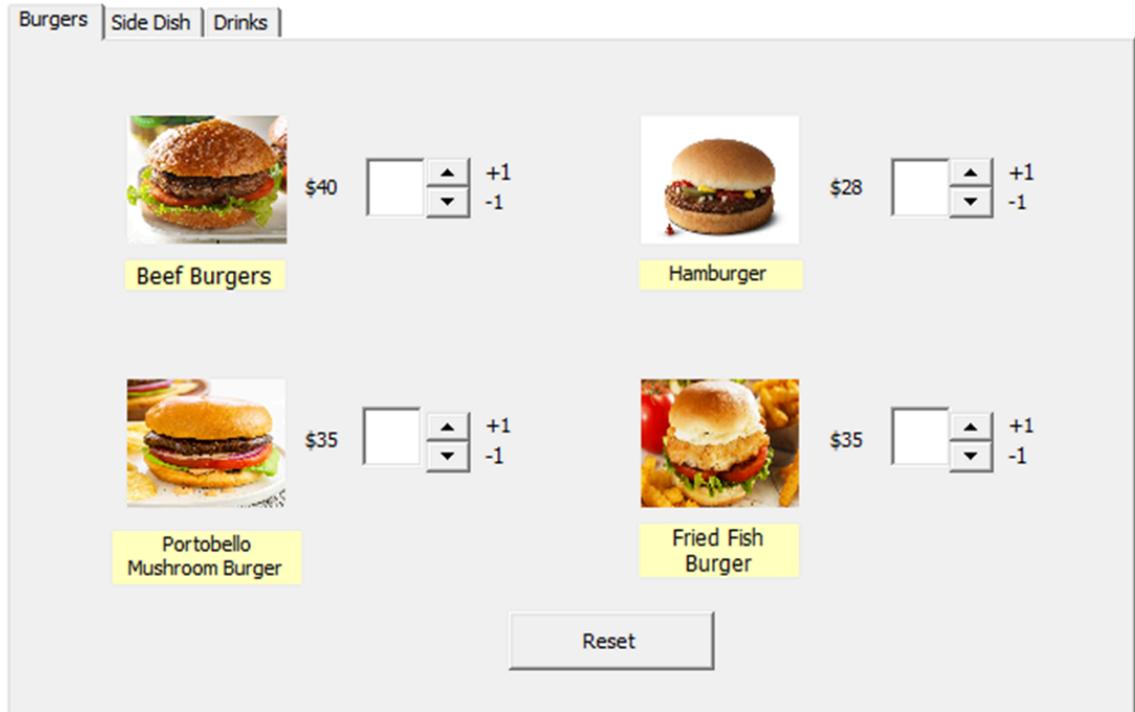
Assumptions

Customer Interface

1. Customers should enter their real name, correct telephone number and address. For the staff to content the customer.



2. The customers can increase the spin button.



3. Customers can choose only either Cash payment method or Credit payment methods.



- Once the customers click the “Continue” button, they cannot change any information including ordering items and payment methods.

Staff Interface

1. Restaurant staff will monitor the order status in the Order Checking worksheet and can delete the order record which has been prepared and delivered. The staff will prepare the food according to the order on the order list.

2. Staff need to check the number of sales orders of the day everyday after close and deduct the used stocks. For Stock Information, all the information is from “user form data”. The deduction of stocks is based on the sold items. For the renewal of stock, staff needs to enter the renewed number of stock in the Inventory.

Food Item	Inventory	Cost per each Stock	Selling Price	Belonging Category	Date
資料編輯列	101	\$10.0	\$40.0	Burger	12/4/2022
Portobello Mushroom Burger	0	\$8.0	\$28.0	Burger	
Fried Fish Burger	248	\$9.0	\$35.0	Burger	
Fries (Regular)	50	\$8.0	\$35.0	Burger	
Fries (Large)	70	\$5.0	\$15.0	Side Dish	
Chicken Nuggets	100	\$6.0	\$18.0	Side Dish	
Vegetable Croquette	200	\$7.0	\$23.0	Side Dish	
Onion Rings	30	\$6.0	\$17.0	Side Dish	
Coke	102	\$6.0	\$19.0	Side Dish	
Coke zero	119	\$5.0	\$20.0	Drink	
Sparkling Water	109	\$5.0	\$20.0	Drink	
Chocolate Milkshake	105	\$5.0	\$15.0	Drink	
	85	\$6.0	\$25.0	Drink	

3. All of the information on the "user form Data" sheet is permanent. The order information captured from the customer interface user form is saved in "user form Data" and becomes the data source for the profile report.

Date	Time	customer name	telephone No.	address	Beef Burgers	Hamburger	Portobello Mushroom Burger	Fried Fish Burger	Chips (Regular)	Chips (Large)	Chicken Nuggets	Vegetable C
2/4/2022	1:27 pm	chan	21211212	cityu		1			1			1
7/4/2022	13:27:00	chan	213423	hk				1			1	
7/4/2022	13:27:00	chan	12345678	hk		1						1
7/4/2022	13:27:00	chan	12345678	hk					1			
7/4/2022	13:27:00	chan	12345678	hk	1							
7/4/2022	13:27:00	chan	12345678	hk		1						1
10/4/2022	22:54:02	chan	12312312	HK	1	1		1		2		

Data Validation

Customer Interface

1. Customers must type input in the textbox for “Name”, “Telephone” and “Address” to place an order.

The screenshots show a user interface for a food ordering website. At the top, there's a navigation bar with "Food Express" and a search bar containing "1000 LAPTOPS". Below the search bar are fields for "Name", "Telephone No.", and "Address", each with a red "X" icon indicating an error. A modal dialog box titled "ERROR" displays the message "Please Enter Your Name!", "Please Enter Your telephone No.!", and "Please Enter Your Address!" respectively, each accompanied by a red "X" icon. The "OK" button at the bottom of each dialog is highlighted in blue.

2. Only letter is allowed to be typed in the textbox for “Name”

A screenshot of the food ordering application. The "Name" field contains a semicolon (";"), which is incorrect. A modal dialog box titled "ERROR" shows the message "Please enter Your Name Correctly!" with a red "X" icon. The "OK" button is highlighted in blue.

3. The phone number entered must be numeric and 8-digital long.

Food Express

Name:

Telephone No. ERROR

Address:



Burgers | Side Dish | Drinks |



OK

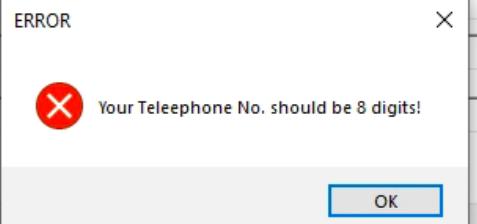
Name: John

Telephone No. 1234

Address:



Burgers | Side Dish | Drinks |

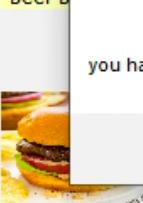


OK

4. The textbox for quantity of food only allows numeric value.

 \$40 j +1 -1

 \$28 + -

 Microsoft Excel X
you have entered non numeric value. Please enter again

 \$35 + -

5. Customers must select at least 1 item to place an order.

Burgers | Side Dish | Drinks |

 ERROR +1 -1
You do not select any item. Please select at least 1 item.

 \$35 +1 -1

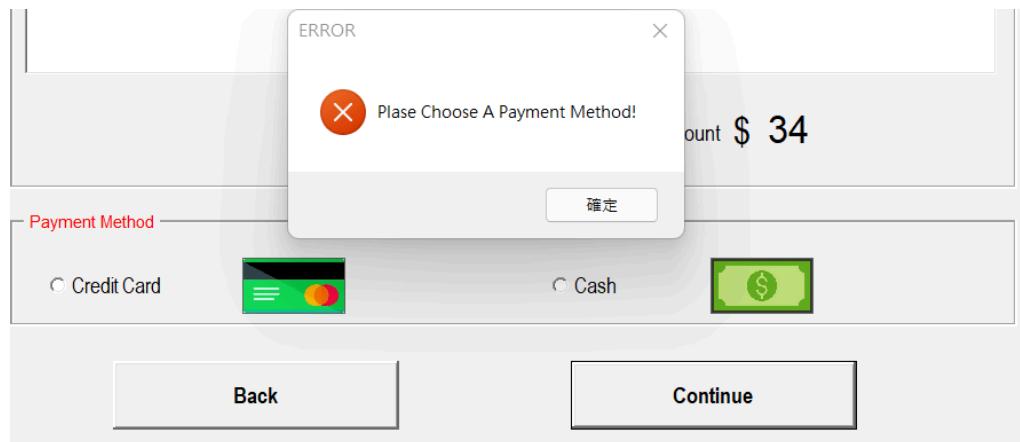
 \$35 +1 -1

Portobello
Mushroom Burger

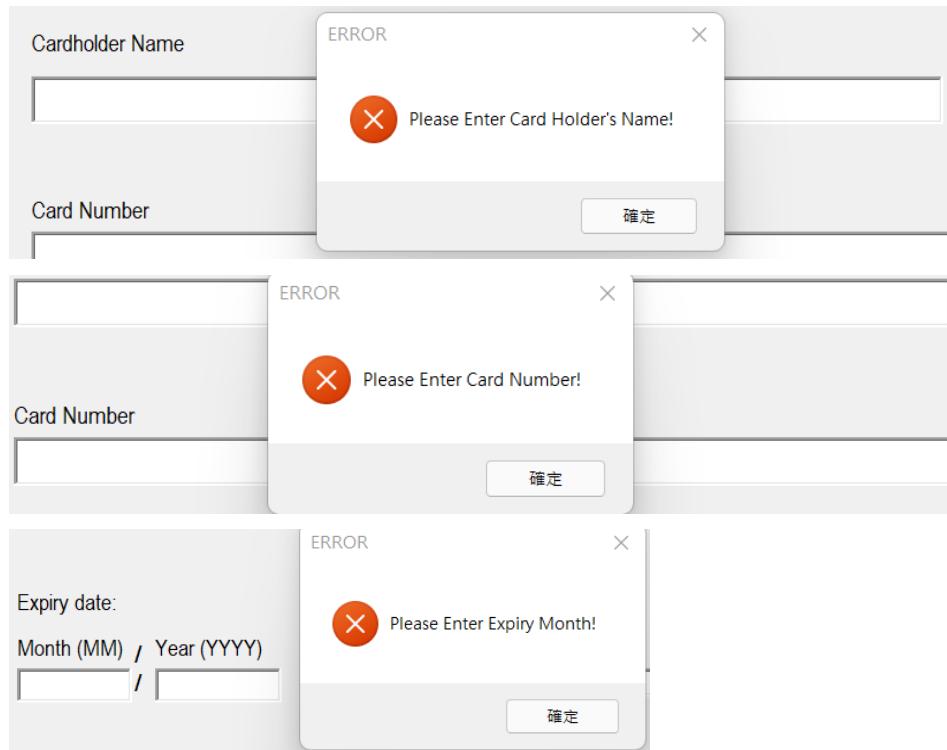
Fried Fish
Burger

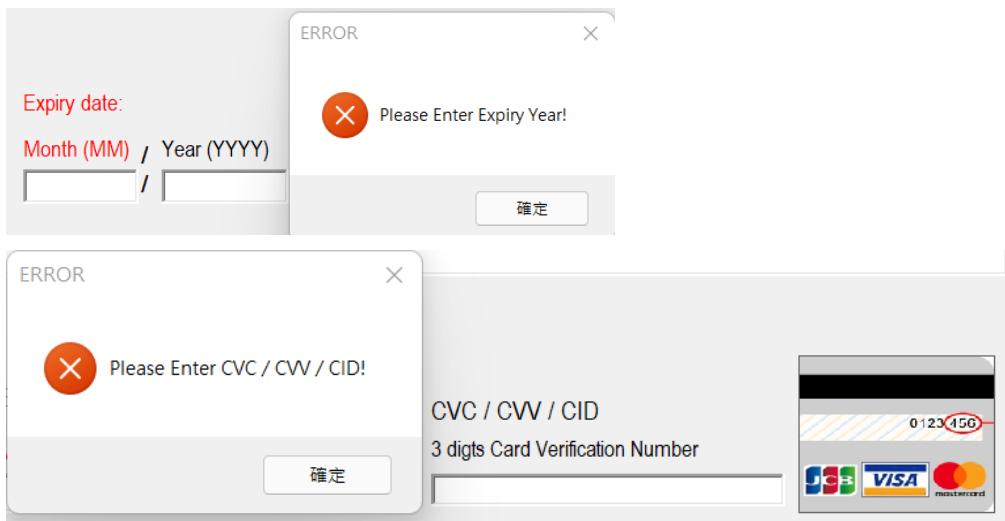
Reset

6. Customers must choose one of the payment methods to continue the payment process.

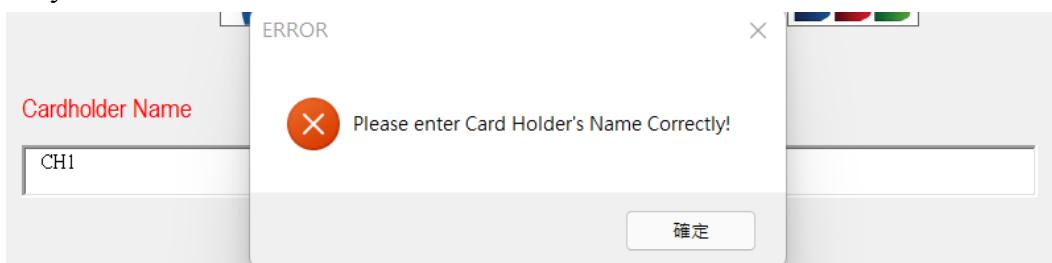


7. Customers should type input in “Cardholder Name”, “Card Name”, “Expiry date - Month”, “Expiry date - Year” and “CVC/CVV/CID” to continue the Credit payment.

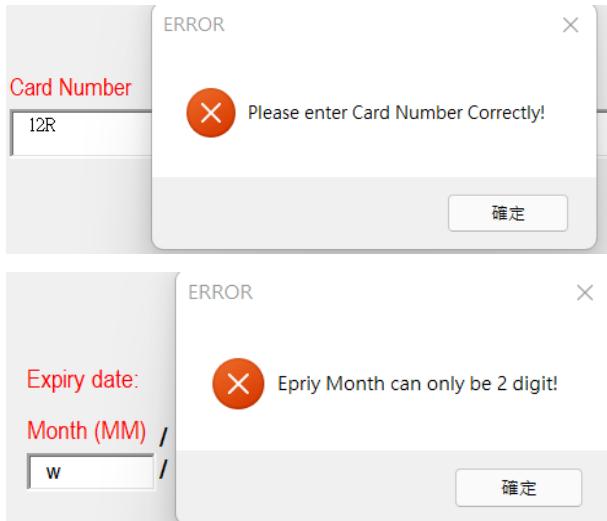


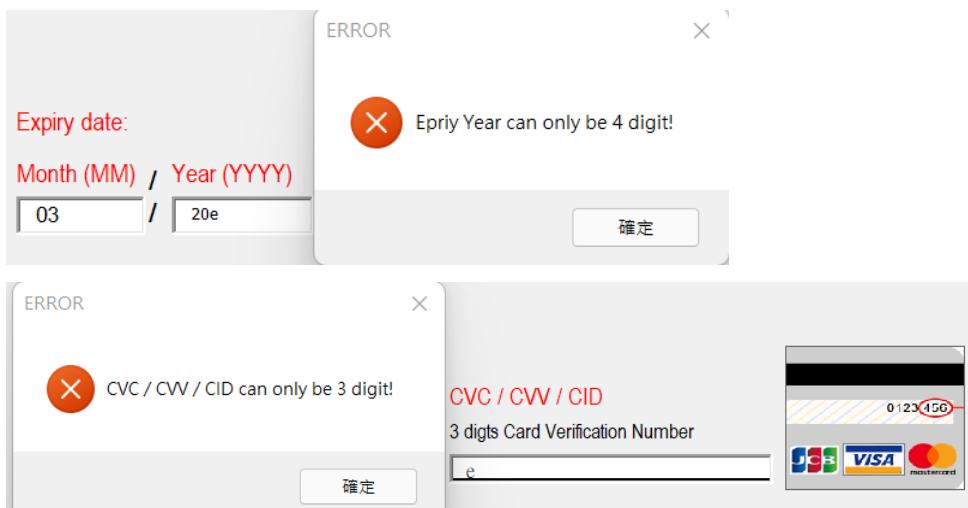


8. Only letters are allowed in “Cardholder Name”

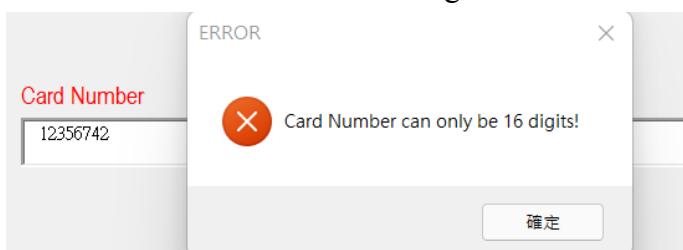


9. Only digits are allowed in “Card Number”, “Expiry date - Month”, “Expiry date - Year” and “CVC/CVV/CID”.

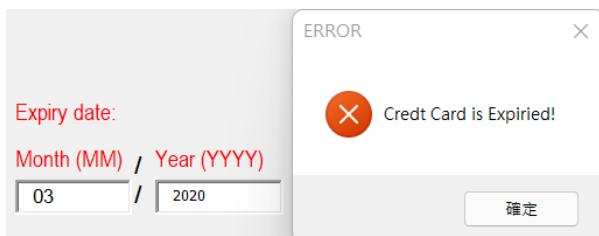




10. The “Card Number” must be 16 digits.

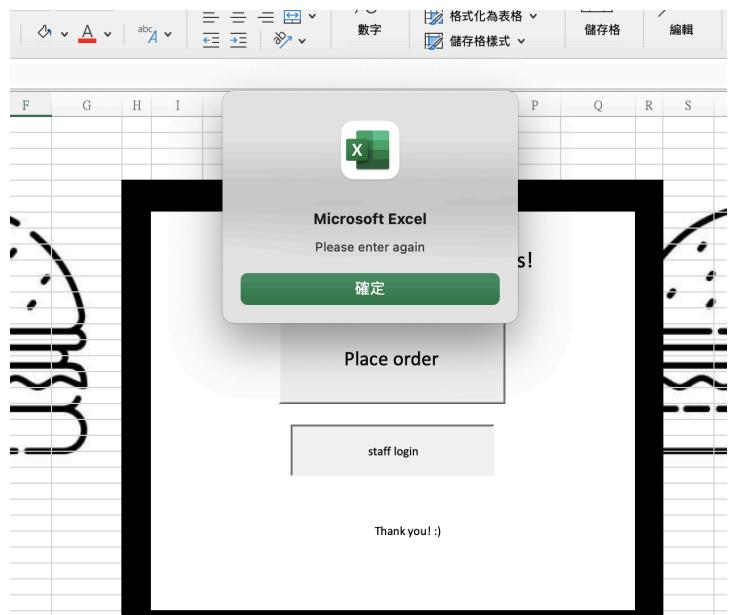


11. The “Expiry date” entered by customers must not be expired.



Staff Interface

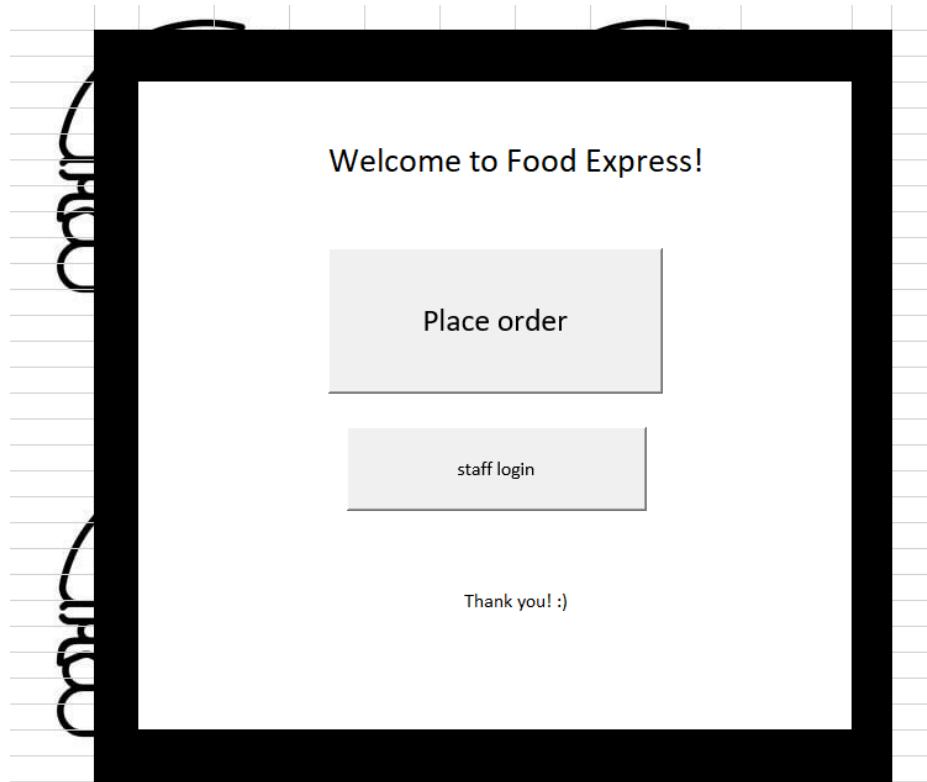
1. Staff must enter the correct password to enter the staff menu and the staff-related sheet will show.



Customer Interface Manual

1. Start

Customers can click the “Place order” Button to start ordering.



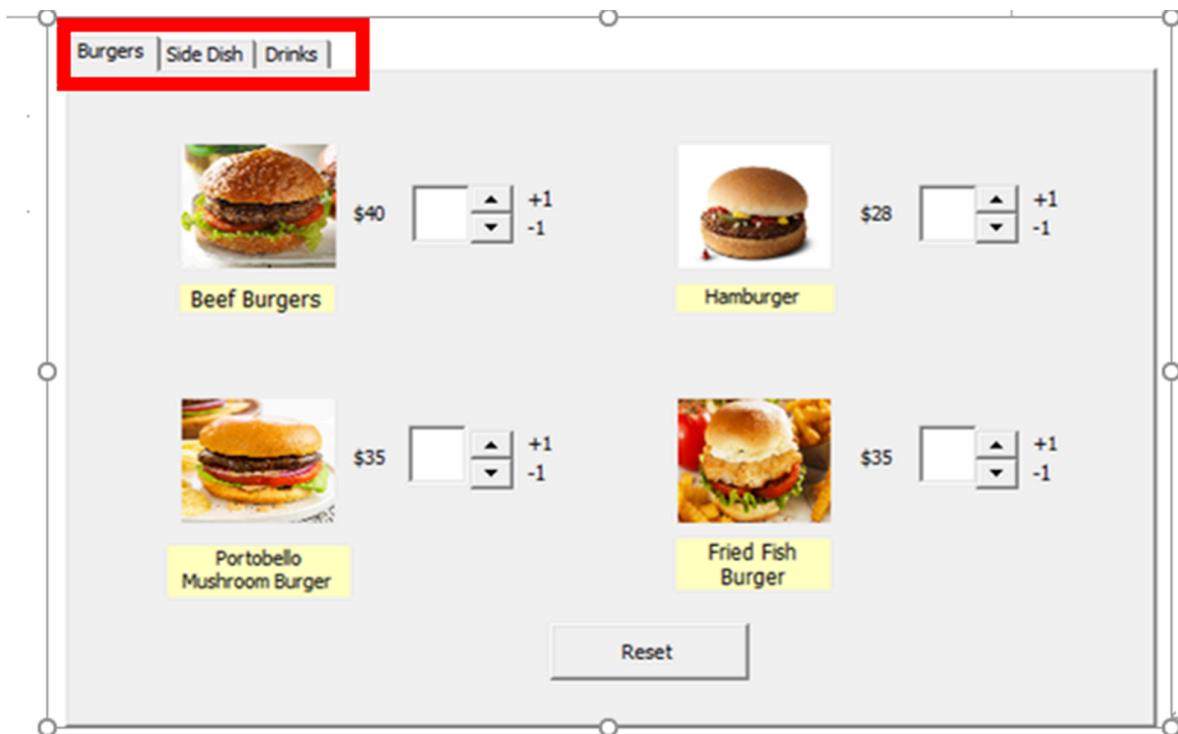
2. Order

Customers will enter the Order Form to order burgers, side dishes and drinks.

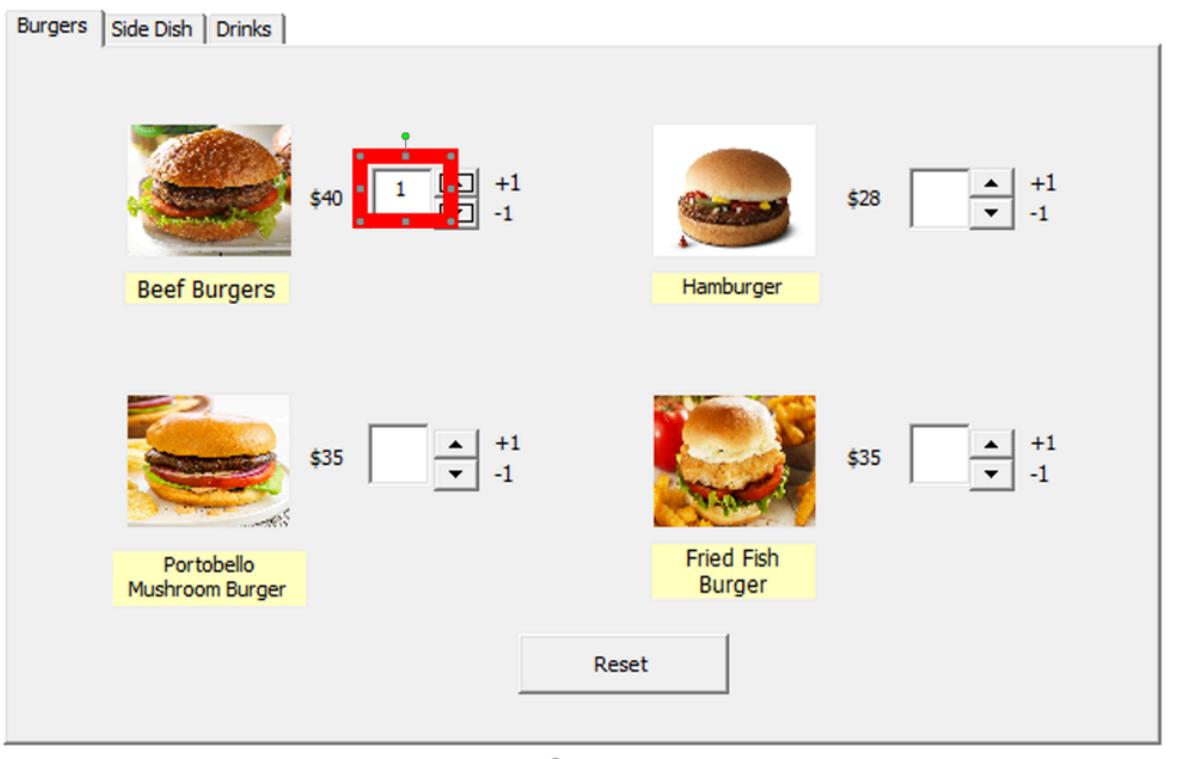


They can then enter their personal information including Name, Telephone number and Address into the relevant textboxes.

Next, they can choose what food they want to order by clicking the spin buttons which show near the food . There are 3 tabs of order menu which includes burgers, side dish and drinks.



For the burgers, there are 4 types of burgers including beef burgers, hamburger, portobello mushroom burger and fried fish burger. When the customer presses the spin button next to the food item, the ordered food quantity of the text box will change accordingly.(eg. “1” in beef burgers).



Moreover, if the customer wants to reset the food they ordered, they can click the “reset” button to reset the order of the burgers.



When the customer wants to order the side dish and drinks , they can click the top of the page of “Side dish” or “Drinks”.

Burgers | **Side Dish** | Drinks

	Regular \$15 <input type="text"/>		\$17 <input type="text"/>
	Large \$18 <input type="text"/>		
Fries		Vegetable Croquette	
	\$23 <input type="text"/>		\$19 <input type="text"/>
Chicken Nuggets		Onion Rings	

Burgers | Side Dish | **Drinks**

	Coke <input type="text"/>		Sparkling Water <input type="text"/>
	CokeZero <input type="text"/>		Chocolate Milkshake <input type="text"/>

Besides, there are 3 buttons (Exit, Reset and Next) at the bottom of the order form. The “Exit” button is used when the customers do not want to order anything and quit the order form. Second, “Reset” button is used for resetting all orders and personal information. The “Next” button is used when customers want to go to the next page for payment.



3. Payment

In the payment window, customers can check the customers' name, telephone number, address, order details and total price. The order detail list will show the order items, including the quantity and price per order item, that the customers selected. Customers can click the "Back" button to go back to the Order Form and submit it again if they want to change their personal information or the order.

Payment

Name: chan Tai Ming

Telephone No.: 12345678

Address: cityu

Order details -

Order Items	Quantity	Price
Chips (Regular)	1	15
Chicken Nuggets	1	23
Coke	1	20

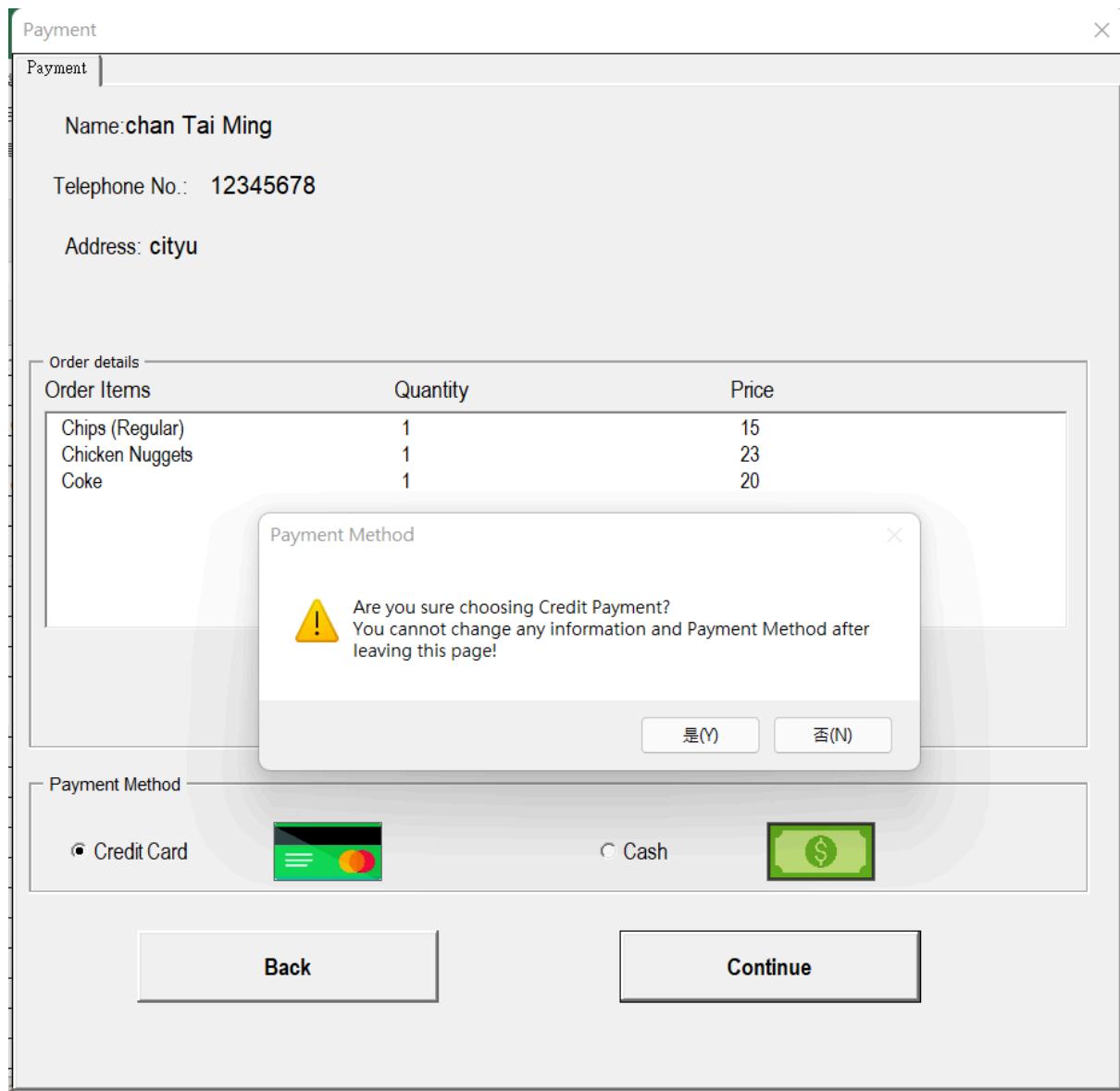
Total Amount \$ 58

Payment Method

Credit Card 

Cash 

For the payment method, customers are required to choose one of the payment methods as shown in the "Payment Method" fame including "Credit Card" and "Cash". After selecting the payment method, customers can click the "Continue" button to finish the ordering. Once the customers click the "Continue" button, they cannot go back to either the "Payment" page or the "Order Form".



Payment method - Credit Card (Visa/ Master/ Union Pay/ JCB)

If the customers choose "Credit Card" as their payment method, they will go to the "Credit Card" page. Customers are required to enter the related information to pay the order. If they have any difficulties during the credit payment, they can call 93439563 for help. Once customers finish entering the related information, they can click the "Pay" button to finish to order

Payment ×

Credit Card

Credit Card

Cardholder Name

Card Number

Expiry date:

Month (MM) / Year (YYYY)

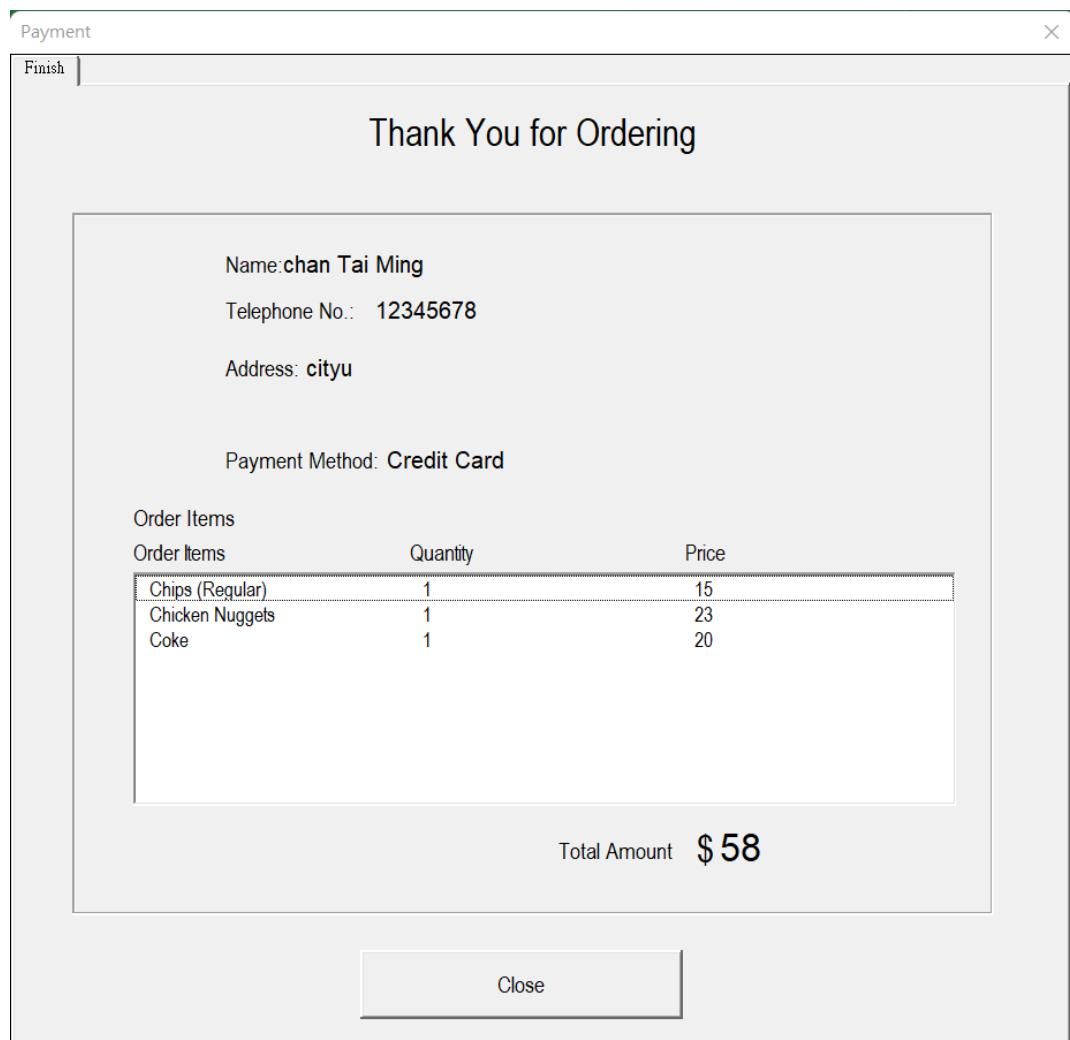
/

CVC / CVV / CID
3 digits Card Verification Number



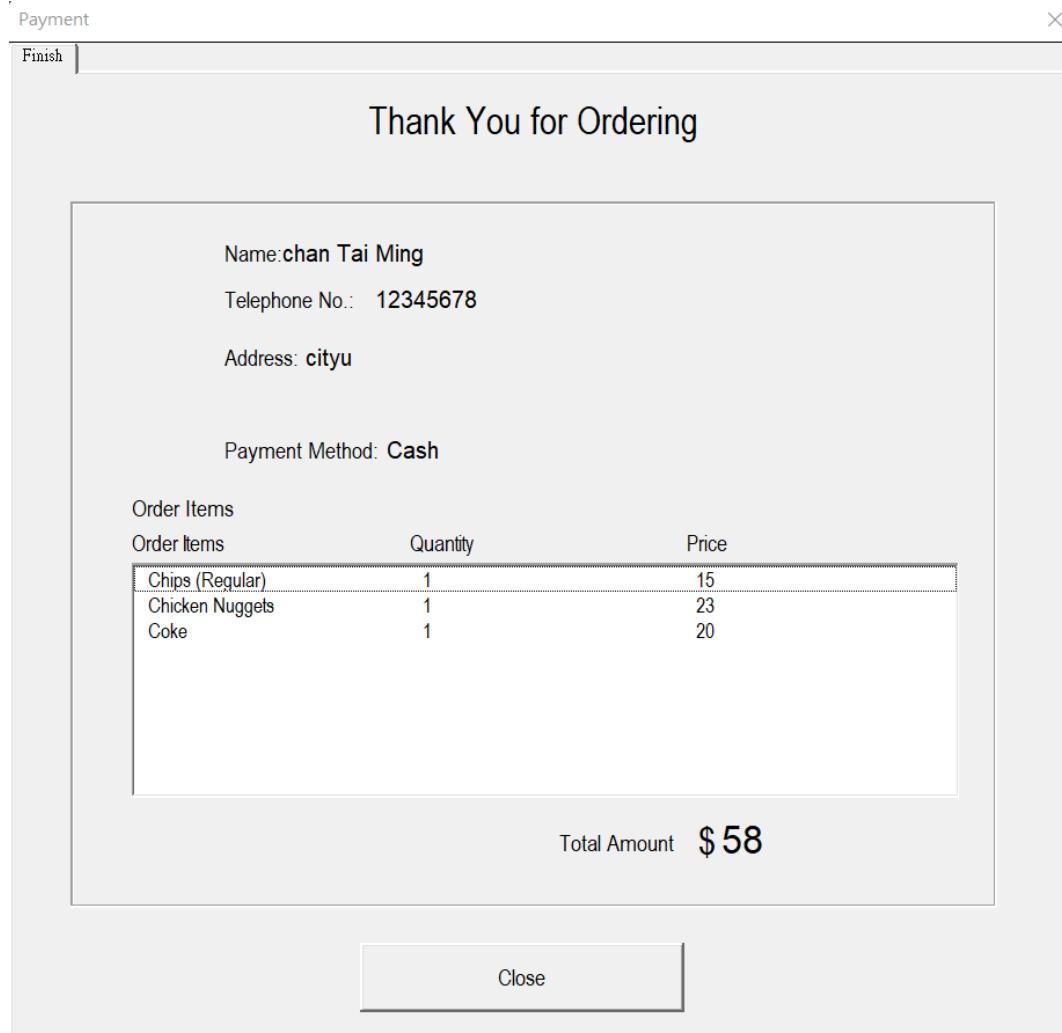
Please Contact 9343 9563 if you have any difficulties

Once they click the “Pay” button, they can see all the information including their personal information, payment method and order details on the “Finish” page. They can click the “Close” button to close the window.



Payment method - Cash

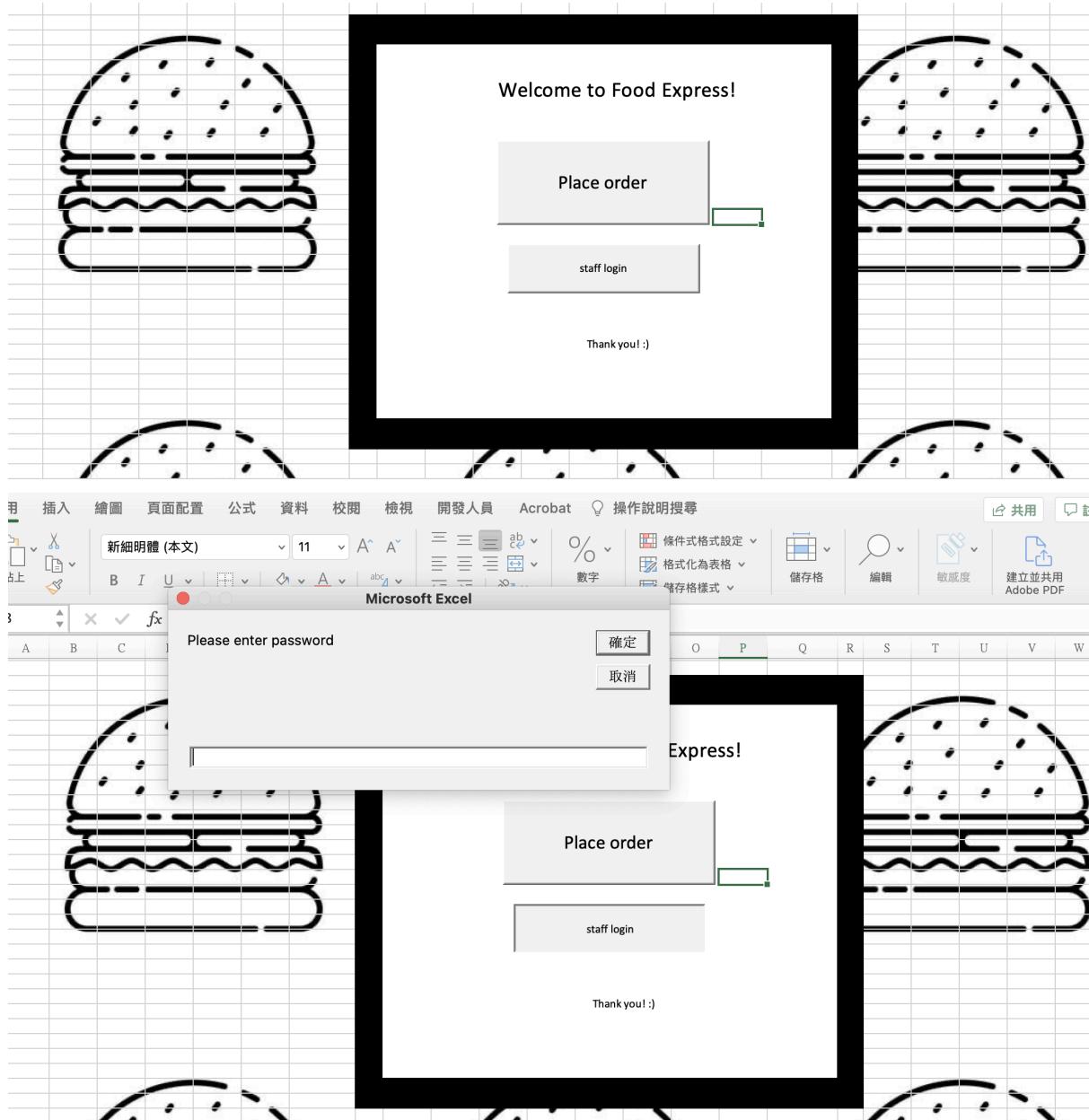
If the customers choose “Cash” as their payment method, they will directly go to the “Finish” page. Customers can see all the information including their personal information, payment method and order details on the “Finish” page. They can click the “Close” button to close the window.



Staff Interface Manual

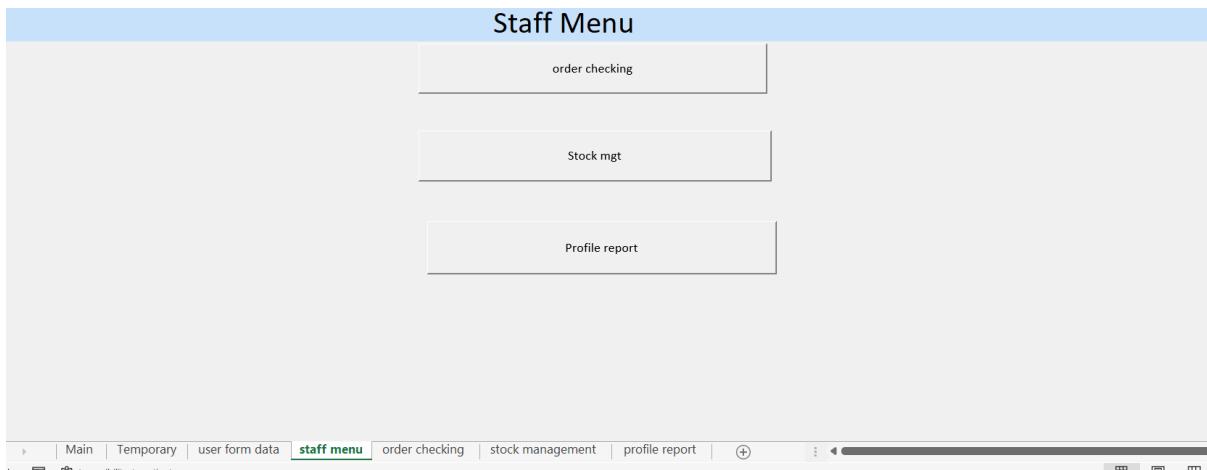
1. Login

Staff and managers can get access to the backend interface by clicking the “Staff login” button on the First page. (password : staff) Then it will jump to the menu of the staff interface where Staff and managers can choose different functions on this page.



2. Staff Menu Page

For the staff page, it would show 3 buttons in the main menu, including Order Checking, Stock information, and profit report. When staff or managers click on the button, they may go to that page specifically. users can click the “Log Out” button on a different pages in the staff user interface to back to the staff menu page to use other functions



3. Order List

For the Order Checking page, it shows the total quantities waiting for each menu item at the moment. It also has an order list which shows the order's detailed information, such as the order time, Name of the customers, and ordered food. Moreover, the button on the up right-hand corner, “Delete” could clear specific orders that the user wants.

4. Stock Management

For the stock management page, it shows the quantities of each item and it indicates which items are low in quantity and out of stock. And it is the page for staff to update the inventory everyday.

Staff update inventory:

1. Generate the sales of the day by clicking the “generate Today Sales Order”. The button will automatically delete the previous sales orders and generate the today sales order.

2.Staff has to click the “Remain Inventory of the day” to get the inventory remaining after the day-end

Food Item	Inventory	Cost per each Stock	Selling Price	Belonging Category	Remaining inventory	Date
Beef Burgers	101	\$10.0	\$40.0	Burger	101	12/4/2022
Hamburger	2	\$8.0	\$28.0	Burger	-1	
Portobello Mushroom Burger	250	\$9.0	\$35.0	Burger	248	
Fried Fish Burger	50	\$8.0	\$35.0	Burger	50	
Fries (Regular)	70	\$5.0	\$15.0	Side Dish	70	
Fries (Large)	100	\$6.0	\$18.0	Side Dish	150	
Chicken Nuggets	200	\$7.0	\$23.0	Side Dish	200	
Vegetable Croquette	30	\$6.0	\$17.0	Side Dish	30	
Onion Rings	102	\$6.0	\$19.0	Side Dish	102	
Coke	120	\$5.0	\$20.0	Drink	119	
Coke zero	110	\$5.0	\$20.0	Drink	109	
Sparkling Water	105	\$5.0	\$15.0	Drink	105	
Chocolate Milkshake	85	\$6.0	\$25.0	Drink	85	

3.Staff then copies the values of remaining inventory to the Inventory .This can help the staff to have a double check if the stock is correctly reduced.

Food Item	Inventory	Cost per each Stock	Selling Price	Belonging Category	Remaining inventory	Date
Beef Burgers	101	\$10.0	\$40.0	Burger	101	12/4/2022
Hamburger	0	\$8.0	\$28.0	Burger		
Portobello Mushroom Burger	248	\$9.0	\$35.0	Burger		
Fried Fish Burger	50	\$8.0	\$35.0	Burger		
Fries (Regular)	70	\$5.0	\$15.0	Side Dish		
Fries (Large)	100	\$6.0	\$18.0	Side Dish		
Chicken Nuggets	200	\$7.0	\$23.0	Side Dish		
Vegetable Croquette	30	\$6.0	\$17.0	Side Dish		
Onion Rings	102	\$6.0	\$19.0	Side Dish		
Coke	119	\$5.0	\$20.0	Drink		
Coke zero	109	\$5.0	\$20.0	Drink		
Sparkling Water	105	\$5.0	\$15.0	Drink		
Chocolate Milkshake	85	\$6.0	\$25.0	Drink		

Staff Check Inventory:

Staff then can check their inventory which are low or out of stock in the below table. By clicking the check low/out of stock inventory. The button will automatically also delete the before query.

Check low/out of stock Inventory		
Low Inventory/ Out of Stock	Inventory	Category
Hamburger		0 Burger
Fried Fish Burger		50 Burger
Fries (Regular)		70 Side Dish
Vegetable Croquette		30 Side Dish
Chocolate Milkshake		85 Drink

5. Profile report

For the profile report page, consist of three Pivot Tables that analyze the data captured from the customer interface. Users need to update the data sources to generate the updated report using the excel function “Changing data source” under the pivot table analyze tab They are sales analyzed by the hour, sales analyzed by date, and annual sale revenue for each menu. Those three key performance indicators could help the management decision-making and analysis of the sales performance.

