



Institute of Computer Engineering Technology



iCET Certified Master

ASSIGNMENT

Module	Object Oriented Programming
Assignment Title	Java Swing Applications
Assignment Type	Practical Assignment

Guidelines



- ❖ Refer to the Coursework Guidelines at the end to understand the specific guidelines to be followed when developing the project required.
- ❖ You should use your knowledge of JAVA Swing, and MVC design pattern to implement this coursework.
- ❖ Adhere to best practices for Java Swing development.
Organize your code logically into packages and classes, keeping related functionality together.
- Follow consistent naming conventions for classes, variables, and methods to enhance code readability.
- All validations that have been mentioned in this document should be implemented in your program.

Case Study

The iHungry Burger shop, recently started in our city, it has a large number of transactions every day. The Burger Shop owner requires a system to manage orders. As a talented iCET student, they have given you the chance to make a system for them. (NOTE: Presented here is just a sample. You may create this GUI application in your own unique way.)

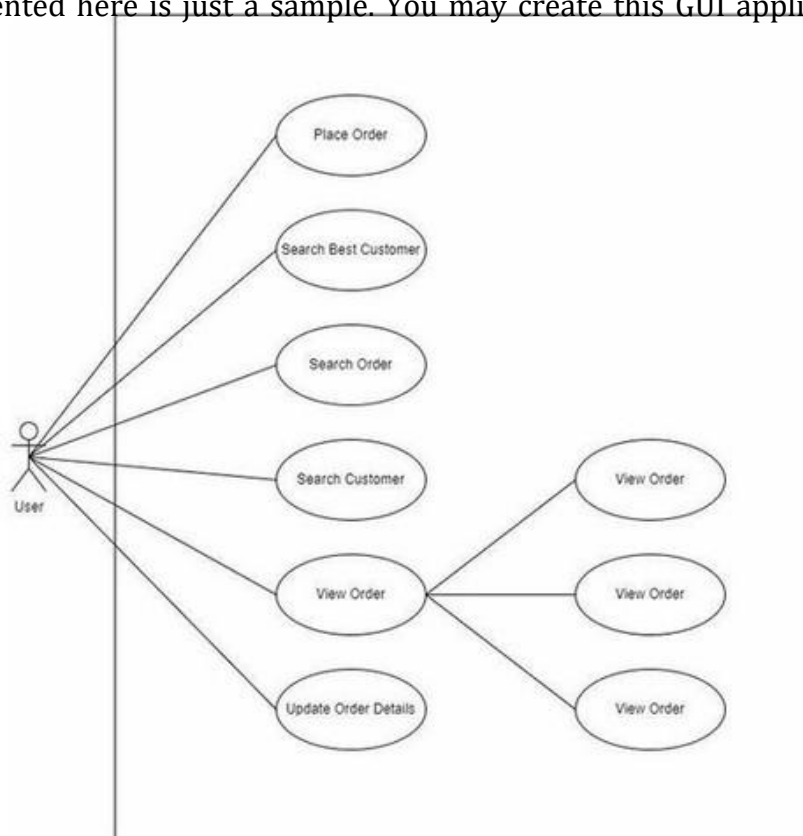


Figure 1 – Usecase Diagram

Requirements

You are supposed to create a Java application to manage a Burger Shop. In the application, you need to implement the following use cases.

When you run the application, you should come up with something similar to the following Graphical User Interface (GUI), where the user can select an option that they want to execute. This will be the Home Page of the application that you will be developing.



Figure 2 – Home Page of the iHungry Burger Shop Management System

01. Place Order

The system keeps five details related to the Place Order. They are Order ID, Customer ID, Customer Name, Burger Quantity, and Order Status.

- OrderID – The OrderID should be generated by the system and the Order ID should start with 'O' followed by 3 numbers. When the user selects the Place Order option on the home page, the Place Order window will be loaded. The order ID should be generated by the system and the user should place the order under that ID. Order ID cannot be generated randomly and the next Order ID should be generated according to the last Order ID. Order ID can not be repeated.

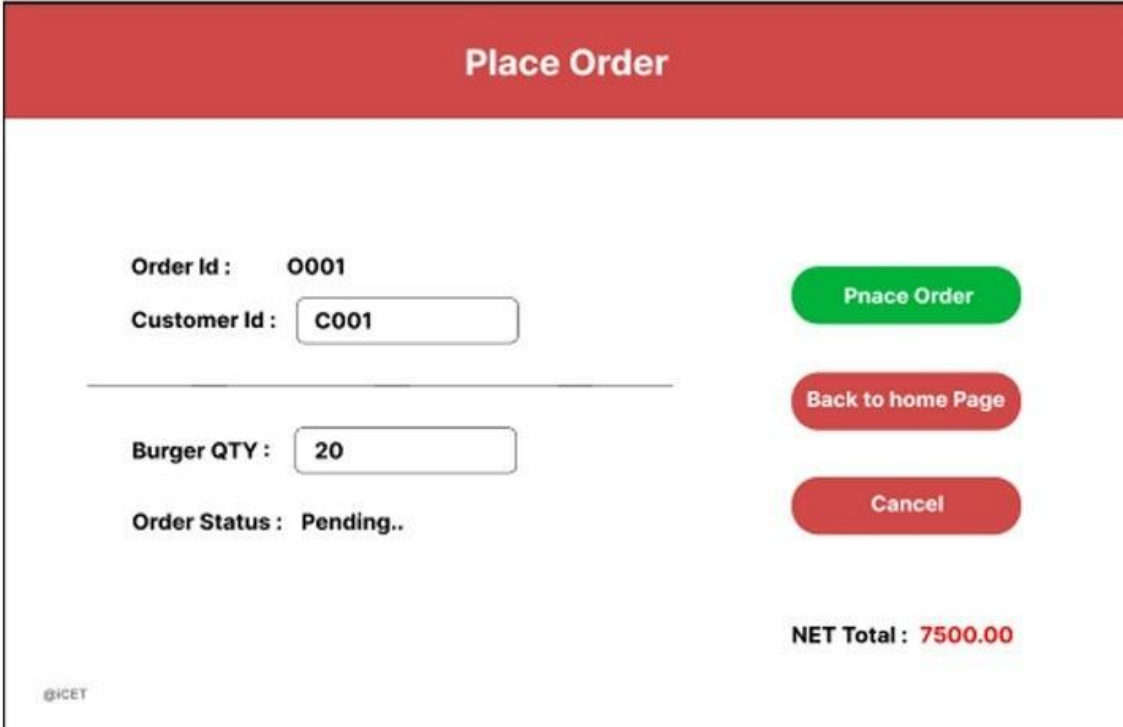
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Customer ID- The system should generate the Customer ID, which must begin with the letter 'C' followed by three digits. The user must place their order under the specific Customer ID generated by the system. The system must ensure that Customer IDs are not randomly generated to avoid duplicates and that it will not repeat any Customer IDs.

Burger Quantity- The user should input the Burger Quantity. Any value greater than

- 0 can be input as Burger Quantity.

OrderStatus - There are 3 order statuses. They are PREPARING, DELIVERED, CANCELLED. After entering the details, the system should display the NET Total. The quantity entered by the user should be multiplied by the value of the Burger and the total value should be calculated and displayed by the system. (The value of the Burger is Rs.500/= and it is constant).



The image shows a web form titled "Place Order" with a red header. The form contains the following fields and buttons:

- Order Id :** O001
- Customer Id :** C001 (input field)
- Burger QTY :** 20 (input field)
- Order Status :** Pending..
- Buttons:**
 - Place Order (green button)
 - Back to home Page (red button)
 - Cancel (red button)
- NET Total :** 7500.00 (displayed in red)
- Footer:** @iCET

Figure 3 – Place Order

02. Search Best Customer

This displays all the Customers' total purchases presented in descending order. The best customer table is displayed in Figure 5. It should prompt whether the user wants to stay in here or go back to the main menu.

Search Best Customers		
Customer ID	Name	Total
C001	Saman Kumara	75000.00
C005	Sugath pathirana	2500.00
C008	Nimal pushpakumara	2235.00
C003	Vijaya Bandara	4520.00
C004	Sirimal weerathilaka	6653.00
C002	Kelum Sriwardana	5680.00
C006	Sheshan dilanka kuree	1520.00
C009	Jayasiri jothipla	1000.00
C007	Wimala siri kumarage	7800.00

Back

Figure 5 – Search Best Customer

03. Search Order

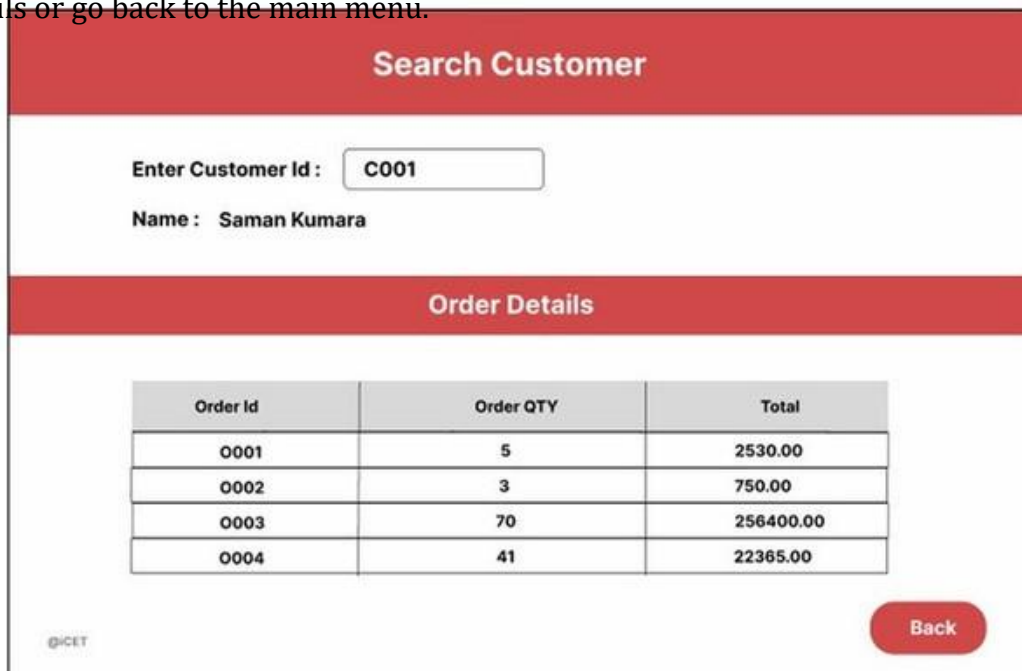
With this option, the user can view Order details. First, the user needs to enter a valid Order ID. After the user enters the Order ID, the system should search if this Order ID already exists.

Search Order Details	
Enter OrderID :	<input type="text" value="O001"/>
Customer ID :	C001
Name :	Saman Kumara
QTY :	20
Total :	7500.00
Order Status :	pending ..

Figure 6 – Search Order

04. Search Customer

With this option, the user can view Customer details. First, they need to enter a valid Customer ID. Then a comprehensive detailed table should be displayed. It should contain all the details of the orders placed by that Customer. Once the information has been displayed, the user should be prompted whether to continue seeking Customer details or go back to the main menu.



Search Customer

Enter Customer Id :

Name : Saman Kumara

Order Details

Order Id	Order QTY	Total
O001	5	2530.00
O002	3	750.00
O003	70	256400.00
O004	41	22365.00

iCET Back

Figure 7 – Search Customer

05. View Orders

With this option, the user can view Order details under the 3 order categories. If the user enters 1, the user can view the Order details of Delivered Order (figure 11), If the user enters 2, the user can view the Order details of Preparing Order (figure 12) If the user enters 3, the user can view the Order details of the Canceled Order (figure 13). Just like above, in the end, it should prompt whether the user wants to stay here or go back to the main menu.



Figure 8 – Home Page of View Order List

Processing Orders				
Order Id	Customer Id	Name	Order QTY	Total
O009	C0011	Wishudi karunarathna	5	2530.00
O010	C0012	Thamasha	3	750.00
O011	C0013	Niluka	70	256400.00
O012	C0014	Samidu sanalpa	41	22365.00

Back

Figure 10 – Preparing Order list

Cancelled Orders				
Order Id	Customer Id	Name	Order QTY	Total
O001	C001	Saman Kumara	5	2530.00
O002	C005	Sugath pathirana	3	750.00

@iCET

Back

Figure 11 – display canceled Order list

Delivered Orders				
Order Id	Customer Id	Name	Order QTY	Total
O001	C001	Saman Kumara	5	2530.00
O002	C005	Sugath pathirana	3	750.00
O003	C008	Nimal pushpakumara	70	256400.00
O004	C003	Vijaya Bandara	41	22365.00
O005	C001	Saman Kumara	8	8530.00
O006	C005	Sugath pathirana	2	750.00
O007	C008	Nimal pushpakumara	210	786400.00
O008	C003	Vijaya Bandara	85	96850.00

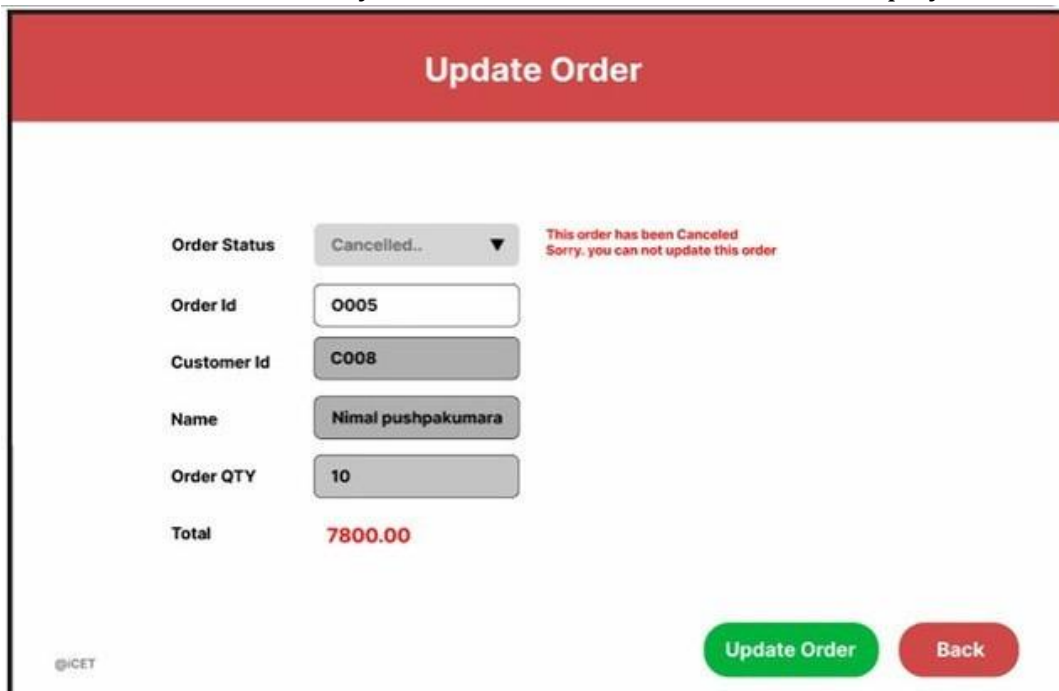
@iCET

Back

Figure 9 – Delivered Order list

06. Update Order Details

With this option, the user can update previously added Order Details. First, the user needs to find the Order that should be updated via Order ID (Invalid Order ID's should be handled like previously). Order Details can be updated only in preparing orders. If that order is already Delivered or Cancelled, it should display to the user as



The screenshot shows a web form titled "Update Order" with a red header. The form contains the following fields and values:

Field	Value
Order Status	Cancelled..
Order Id	0005
Customer Id	C008
Name	Nimal pushpakumara
Order QTY	10
Total	7800.00

A red warning message is displayed: "This order has been Canceled Sorry, you can not update this order". At the bottom right, there are two buttons: "Update Order" (green) and "Back" (red). The iCET logo is visible in the bottom left corner.


Figure 12 – Update Order (Warning – already cancel order)

Once the user has entered a valid Order ID, the current details should be displayed, which are the Customer ID, Customer name, Quantity, Order Value and Order status. After the Order Details are displayed, the system should confirm if the user wants to update Order Quantity or Order status.

If the user selects Quantity(1), prompt the window related to the Quantity and user can update Burger Quantity. Then it prompts for new Order quantity. The quantity should be validated here. Once the update has been done successfully, display the new Order Quantity and it should prompt whether to continue updating or go back to the main menu.

Update Order

Order Status	Pending.. ▼
Order Id	O009
Customer Id	C0011
Name	Wishudi karunarathna
Order QTY	5
Total	2530.00



Update Order

Back

Figure 14 – Quantity Update (successful)

If the user selects Status(2), it prompts the window related to the Order Status and the user can update the Order Status. Then it prompts for the new Order Status. Once the update is done successfully, display the new Order Status and it should prompt whether to continue updating or go back to the main menu.