King Saud University

College of Computer and Information Sciences

Cake Shop

CSC113 Project Phase 2

Group members	Members IDs	Responsibilities
Mona Alnajjar	444200091	Exceptions, GUI
Walaa Saif Aleslam	444200088	GUI, Report
Aljohara Alsultan	444203635	Files, Report

Table of Contents

1 Introduction

Cake Shop is a program that simplifies ordering cakes, now with an added GUI interface to simplify it even more, adding an improved user experience and making it more interactive and customizable for users. There are also handled exceptions, to make sure the program runs smoothly, handling errors with grace, not ending abruptly. Along with a save/load feature that saves the user's order info and bill, as well as loading it when prompted. With these new features, we aim to make Cake Shop a smooth interactive user-friendly solution for ordering cakes.

2

Exception Handling

Our project has one checked user defined exception, WrongCakeID, which occurs in Frame5 when the user inputs an incorrect cake ID. In Frame2. It also has a NumberFormatException, to catch any exception that happens when we convert the string (num of candles/cupcakes/tiers) to a number. When its catched, it displays a message letting them know that the input has an invalid number format and tells them to try again, it then cleans the text field to provide the user an input field to enter a correct value after receiving the message, the return statement then exists the method to ensure that the method stops after handling the exception. In Frame7, There are 2 exceptions, IOException and ClassNotFoundException to catch any exception from reading from or writing to files. When catching the IO and ClassNotFound exceptions, the code displays a message to the user to inform them about the error.

3 File Managing

When the user clicks Save, the code creates FileOutputStream to write data to the object file “OrderInfo.ser”, then by using ObjectOutputStream to serialize the objects to write them to the file. Then by using a getter. it retrieves cList, an array of Cake objects. It then writes the array of Cake objects to the file using oos.writeObject(list). It then closes the output streams and displays a message letting the user know its successfully saved.

When the user clicks Load, the code creates FileInputStream to read data from the same file “OrderInfo.ser” it also creates a FileOutputStream and PrintWriter to write into a text file named “Info.txt” it deserializes objects from “OrderInfo.ser” using ObjectInputStream and reads them into an array of Cake object. It then writes the information of the order(name, orderid, number of cakes) using the appropriate getters. For each cake in the array, the code writes details about to the cake using pw.println(list[i]) which relies on the toString() method.

There are the appropriate exceptions as explained above..

4 Implementation

There are 8 frames in total, each having a specific purpose in the program.

Frame 1: Includes a welcome message, an image, and a “Make Order” button. When the “Make Order” button is clicked it creates an instance of Frame2 and makes it visible.
Frame 2: It prompts the user to enter input from the text fields for the name, order ID, and number of cakes.
It then parses the input for the number of cakes as an integer along with the appropriate exception. When input is successfully parsed, an Order object (ObjOrder) is created, along with a message that the order has been successfully made. An instance of frame3 is created and made visible.
Frame 3: Labels and input fields are provided are for selecting cake type, flavor, size, and customizations like the number of cupcakes, tiers, and candles
Action listeners are added to the combo boxes to update the text fields based on user’s selections. They also are added to enable specific text fields based on the selected cake type
When the button “Set Order” is clicked it retrieves user input from the text fields, and creates a Cake object, the created cake is added to the order stored in frame2.ObjOrder. A message confirms if the cake was successfully added. An instance of frame4 is created and made visible

4 Implementation

Frame 4: Action listeners are added to the “Add” button and the “Remove” button. If the add button is clicked, it opens a new instance of frame3, if the remove button is clicked, it opens a new instance of frame5, if the done button is clicked, it opens a new instance of frame6.

Frame5: It includes a label prompting the user to enter the cake ID they want to remove from the order. An action listener is added to the “Remove” button. When clicked it attempts to remove the cake, if it is successfully removed, a message informs the user, if the cakeID is not found, a custom exception is thrown (explained above).

Frame 6: It includes a label and text field for entering the size of the cake and a “Show” button to display number of wedding cakes with the same entered size, another “Show” button for displaying the bill of the order, and two text areas to display the number of wedding cakes and the bill of the order, along with a “Next” button to proceed to the next frame.

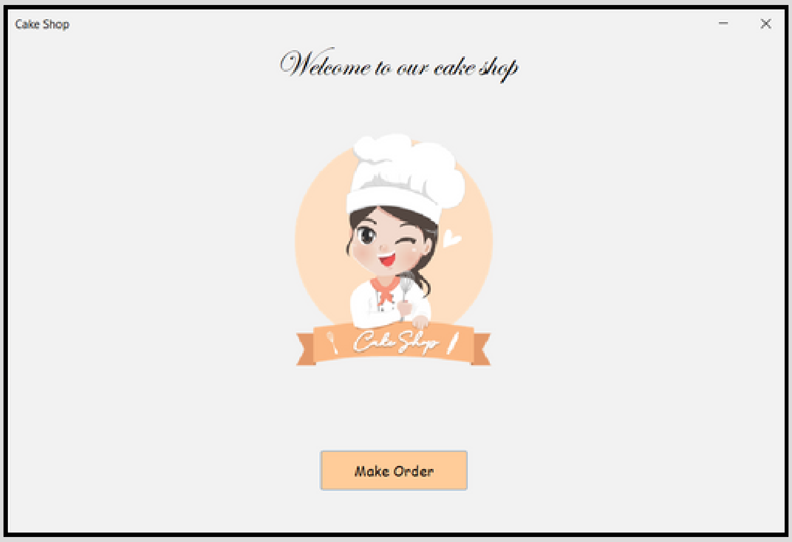
Frame 7:Includes two labels indicating options to either save or load order information, a “Done” button to proceed to the next frame. An action listener is added to the “Save”, “Load”, “Done” buttons

Frame 8: It consists of an image icon displaying the logo, a large text label to thank the customer for the order, and another text label providing a message informing them that their order will be delivered soon.

5 GUI Components

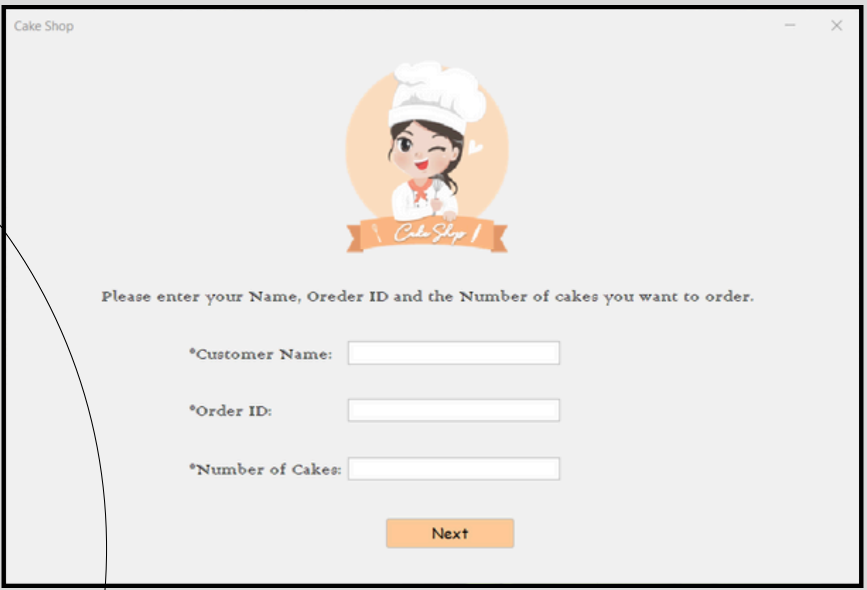
- Labels.
- Labels with icons (pictures).
- Buttons.
- Text Fields.
- Combo Box.
- Radio Buttons.
- Buttons Group.
- Panel.
- Text Area.

6 GUI Screenshots



1

Frame to welcome the customer

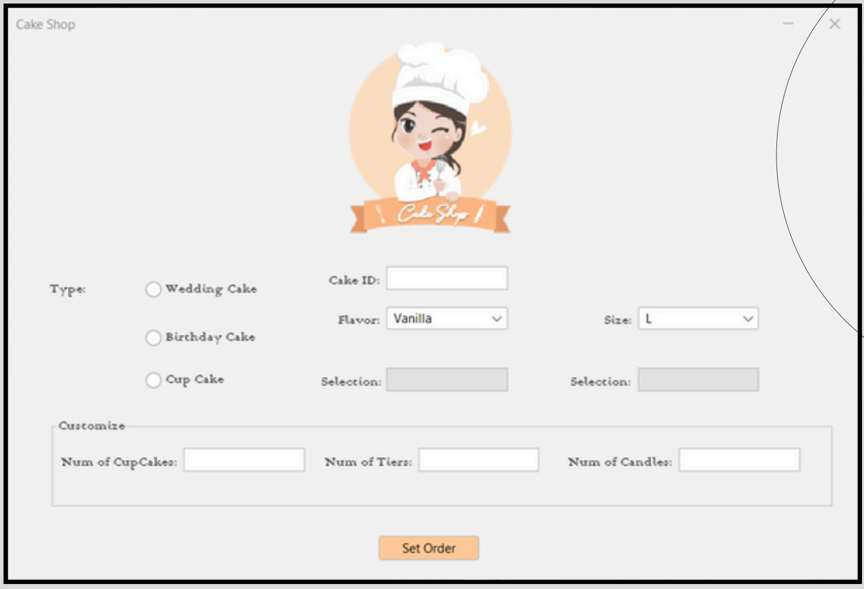


Please enter your Name, Oreder ID and the Number of cakes you want to order.

*Customer Name:	
*Order ID:	
*Number of Cakes:	

2

Frame to create the order object



Cake Shop

Type: ◯ Wedding Cake ◯ Birthday Cake ◯ Cup Cake

Cake ID:

Flavor: Vanilla

Size: L

Selection:

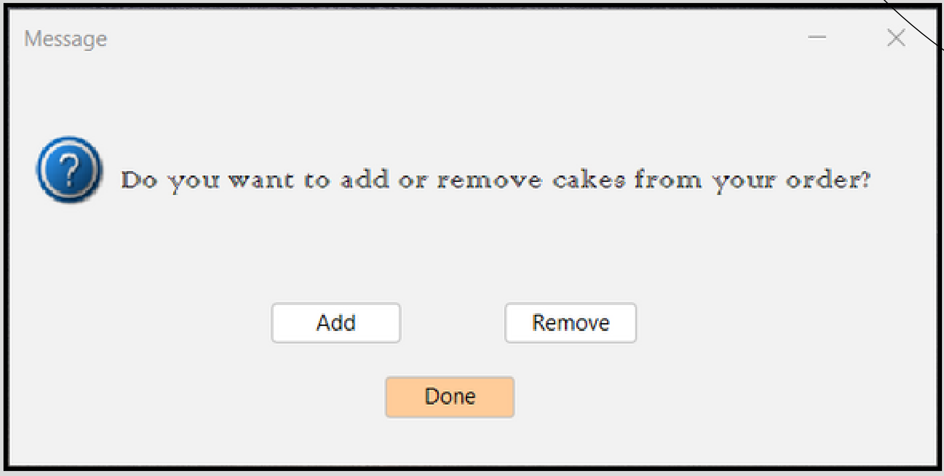
Selection:

Customize

Num of CupCakes: Num of Tiers: Num of Candles:

3

Frame to enter all cake information

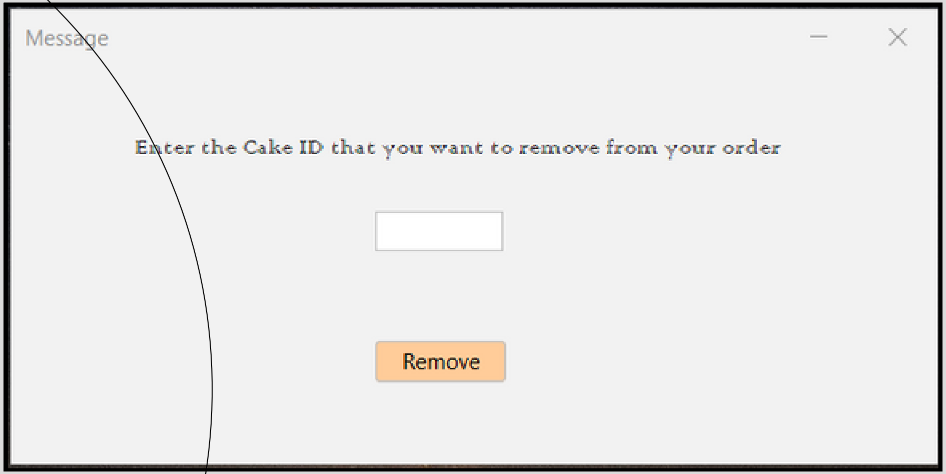


Message

Do you want to add or remove cakes from your order?

4

Frame with two options: 1.add more cakes, 2.remove cake.

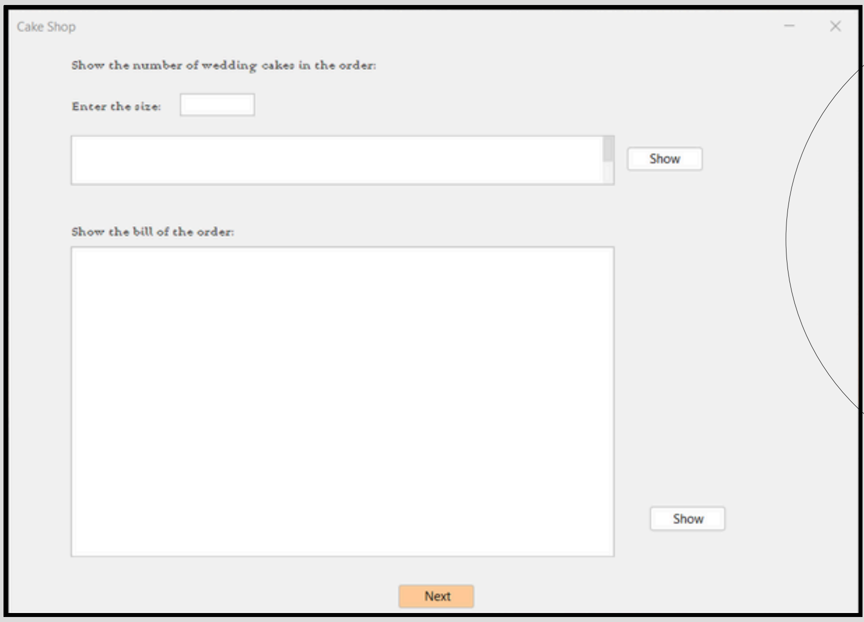


Message

Enter the Cake ID that you want to remove from your order

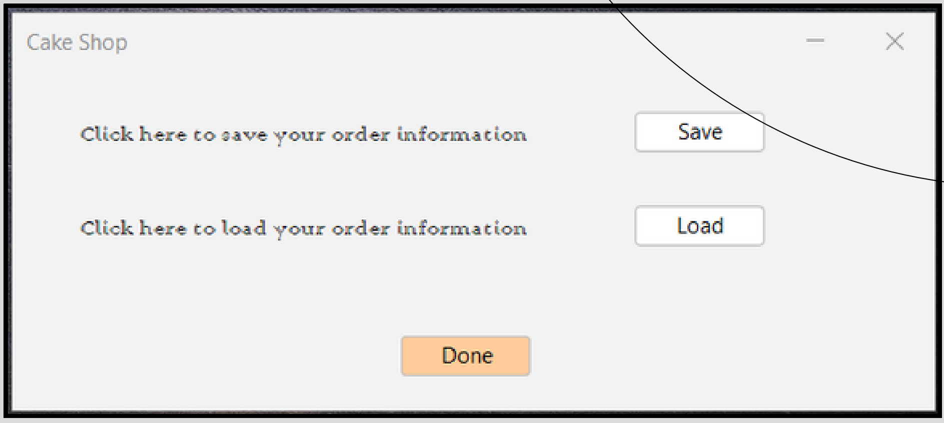
5

Frame to remove a cake using the ID


Cake Shop
Show the number of wedding cakes in the order:
Enter the size:
Show
Show the bill of the order:
Show
Next

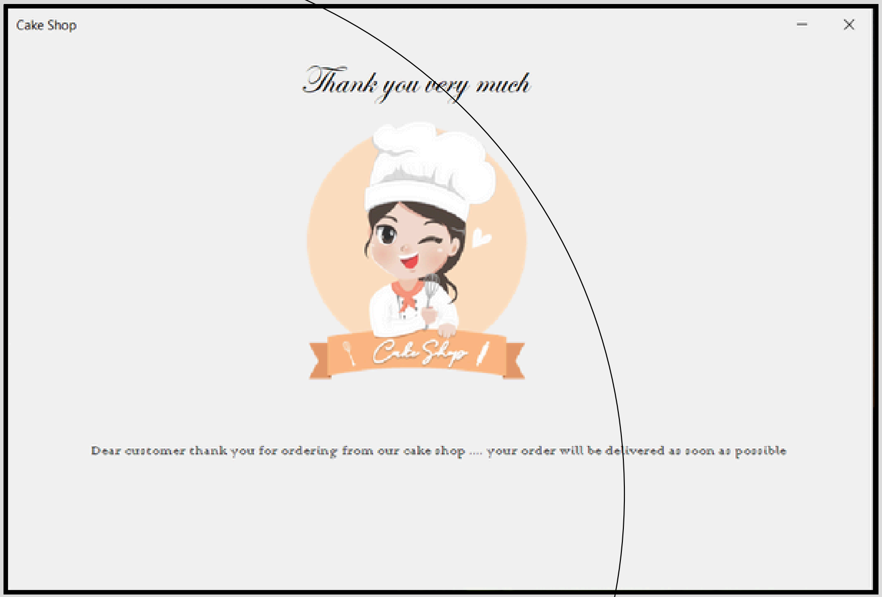
6

Frame to Search about number of wedding cakes in the order using the size & print the bill.


Cake Shop
Click here to save your order information
Save
Click here to load your order information
Load
Done

7

Frame to save the information of the order into an file & print the order information to a text file



Dear customer thank you for ordering from our cake shop .... your order will be delivered as soon as possible

8

Final frame to thank the customer