ITT626: BACK-END TECHNOLOGY

Semester March 2022 – August 2022

BACK-END TECHNOLOGY Case Study Report:
[Sweet Surprise Gift Shop]

Prepared by:

Name of Group Members	Student ID
1. NUR AUNI QISTINA BINTI MOHD ZAKRI	2021102241
2. NURZALIKHA IZZATIE BINTI ZAIDI	2021100633
3. TENGKU NUR AIN NADHIRAH BINTI TENGKU NAZMUDIN	2021156079

Prepared for:

PROFESOR MADYA DR NOR SHAHNIZA KAMAL BASHAH

Remarks:

Table of contents

Content	Page

1.0 PROJECT BACKGROUND
    1.1 Problem statement
    1.2 Solution
    1.3 Objective
	1 – 3

2.0 MODULE FOR EACH USER	4 – 5
3.0 USE CASE OF THE PROJECT 3.1 Use Case Description	6 - 12

4.0 FLOWCHART DIAGRAM OF THE PROJECT
    4.1 Customer Authentication
    4.2 Customers Edit Profile
    4.3 Customer Select Menu
    4.4 Admin
	13 - 19

5.0 ENTITY RELATIONSHIP DIAGRAM (ERD)
 	
    5.1 Business Rules
    5.2 ERD Details
	20 - 23

6.0 USER INTERFACE	24 - 43

1.0 Project Background

Sweet Surprise Gift Shop is a well-known gift shop in Kota Bharu, Kelantan, and still requires specifications for a new web application for administration. Customers may usually find a variety of gifts in the gift shop. Sweet Surprise Gift Shop offers a wide range of surprise gifts in two categories: standard gifts such as chocolate and flowers, and special gifts. The new system will be designed to make it easier for customers to choose the package their orders, survey their budgets before purchasing, menu options based on gift type by customers preference, and manage the process using a web application.

This system is very essential because it is already achieving the business goals of serving the customers by ordering gifts through an online system, saving them time and gas money, making it easier for customers to order various gift packages, improving better customer service, enhancing the management system, and increasing sales and profit margins. Currently, the Sweet Surprise Gift Shop handles its business in a conventional or manual manner, and the proprietor solely advertises them via WhatsApp, Instagram, and Facebook.

Furthermore, customers may only contact via WhatsApp and Telegram, making it difficult for staff to record each customer's data and booking information one by one. It's also more challenging if they have more than one customer who wants to order the gift on the same day. Customers can save time by purchasing a gift with all the available features utilizing this technique. Customers may choose their gifts using the Sweet Surprise Gift Shop system. The technology will also make it easier for staff to manage customer data. Customers will be more attracted due to the user-friendly technology, which will help the business generate more profit.

1.1 Problem Statement

In this 'Sweet Surprise Gift Shop', there have been a few incidents and issues recently that have reduced the effectiveness of the ongoing work, which has served as the impetus for the development of these projects. Firstly, **package order issues due to unavailability or wrongly taken orders**. This issue manifests itself most frequently at times when there is a high volume of orders coming in from customers, which leads to the management being careless and making mistakes when they are taking those orders. Additionally, there is a possibility that the unavailability of products is not updated, which results in a problem between the customer and management. This results in management accepting orders for products that are unavailable, which causes a hassle for customers and makes it impossible for customers to have their orders canceled after they have already been confirmed.

Next, one of the issues that motivate the development of this project is the **customer's budget constraints**. Due to many gifts available to customers as a means of expressing their appreciation for a loved one, there may be budget constraints for customers who wish to purchase a gift for a loved one but have a limited budget. Based on our motto, *"Everyone Gets Their Desired Gifts at Affordable Prices,"* there are no obstacles for anyone, including students, to purchase gifts for their loved ones. As a result, package orders can result in an increase in price if the customer adds items without knowing the price, which can make it difficult for them to pay. Therefore, with this project, customers can place suitable package orders after confirming the prices of the products, so there are no issues between customers and management.

Lastly, one of the issues that occurred in 'Sweet Surprise Gift Shop' that led to inefficiency in the work process is **choosing gifts can be difficult due to the abundance of options**. Due to the limited number of options available to customers, this situation is stressful. This is since only a small number of customers choose to purchase designs that are already available in the shop, as opposed to choosing package designs, to save time and for urgent orders. Customers have a sufficient budget, but the issues related to a lack of options make it difficult for them to find the best gift for their loved ones. As a result, it is difficult for customers to choose gifts based on design and budget when there are not enough options for them to choose from.

1.2 Solution

Few solutions have been discussed to solve the problems that we justified in the preceding problem statement. First and foremost, one of the main solutions that contribute to developing this project is a **systematic package order option**. Since there are a large number of orders specifically tailored to the preferences of a subset of customers, it is possible for orders to be confused, especially when the volume of orders is high. As a result, with the systematized package order option, customers' orders are no longer taken incorrectly, and they can choose the appropriate products for their package orders as they can view product availability. This action benefits both customers and management, as the system already assists management in organizing order options, particularly during periods of high order volume.

Next, **customers can survey the budget first before buying through price-range functionality** as the chosen solution to the mentioned problem. Customers of this application see given the opportunity to select the price range for which they would be willing to purchase their desired gifts. Therefore, there is no problem with the fact that customers are unable to purchase the gifts because it is not within their price range. So, customers can buy their desired gifts that fulfill their preferences and budget.

The final solution to the problem is the **availability of menu options based on the gift types offered**. Customers can view the types of gifts offered by this shop based on type, such as for the package menu option, where they can choose from a few options based on the flower, brownies, chocolate, fly money, and soon used as the base for the gift.

1.3 Objective

The objectives for developing this project are as follows:

1. To design a gift menu the system allows customers to configure their orders based on their preferences.

2. To develop a web-based system or application to handle gift shop transactions

3. To test the web-based system in terms of its usability and functionality

2.0   Module for each user

ADMIN

Module	Explanation
• Login	The administrator can access the web application by logging in to the account. The administrator needs to enter the username and password.
• Logout	The administrator can log out when they did not want access to the web application anymore.
• Add New Gift	The administrator can add new gift options for the customer.
• Update Gift	The administrator can update existing gifts by editing their details
• Delete Gift	The administrator can delete existing gifts if it is not available in the shop
• View Order	The administrator can view the order that has been ordered customer.

CUSTOMER

• Login	The customers can access the web application by logging in to the account. The customers need to enter a username and password
• Sign Up	The customers can access the web application by registering the account if they did not have an account. The customers need to enter the username, name, email, number phone, and password.
• Logout	The customers can log out when they did not want to access the web application anymore.
• Edit Profile	The customers can edit their profile
• Choose gift based on price	The customers can choose gifts based on the price range that is offered in the web application
• Choose gifts based on the type	The customers can choose gifts based on the type that is offered in the web application
• View receipt	The customers can view the receipt after they confirmed the order

3.0 Use Case of the Project
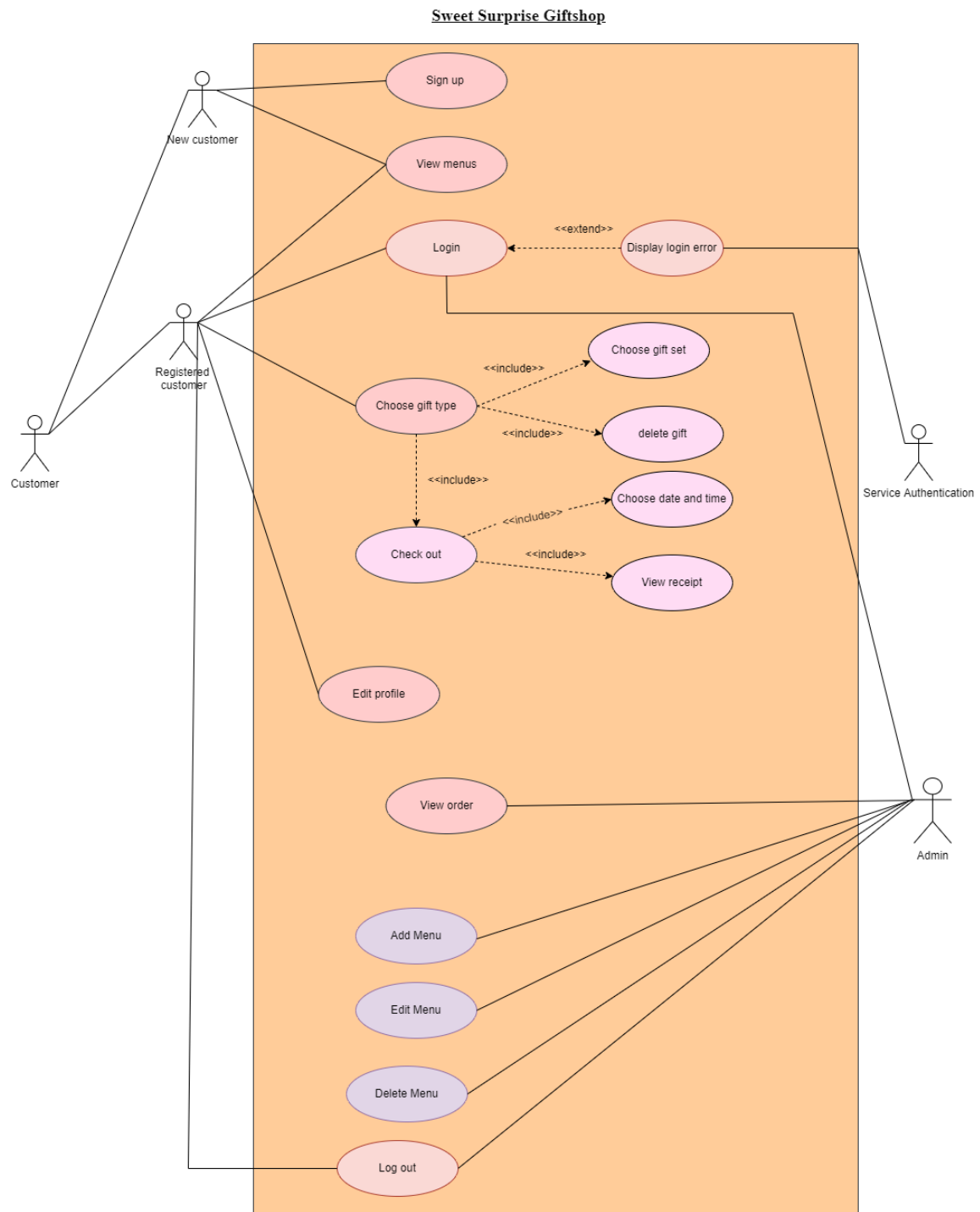
Figure 1

Figure 1 depicts the use case of 'Sweet Surprise Gift Shop' with four actors: new and registered customers, service authentication, and an administrator(admin). Here are the use cases to describe every use case in this "Sweet Surprise Gift Shop".

3.1 USE CASE DESCRIPTION

Use case title #1	Sign Up
Actor	New Customer
Trigger	The use case starts when a customer wants to register the web application.
Description	**Basic Path:** 1. On the registration interface, new customers need to fulfil the information form by entering their names, username, password, email, confirm password, and phone number. 2. After customers complete the registration process, customers may proceed to use case login. **Alternate Path:** The use case ends if the customer has already an account to access the web application, they can proceed to the login use case.

Use case title #2	Login
Actor	Registered Customer, Admin
Trigger	The use case starts when a customer or admin wants to log in to the web application.
Description	**Basic Path:** 1. Customer enters his or her username and password **Alternate Path:** Customers may exit the use case without completing it if he or she doesn't want to log in to the account.

Use case title #3	Display login error
Actor	Service authentication
Trigger	The use case starts when a customer or admin enters the wrong password or username.
Description	**Basic Path:** 1. Popup messages "Wrong password or username" is displayed when the customer or admin entered the wrong password or username. 2. Customer or admin may enter the new one after closing the popup messages. **Alternate Path:** The use case ends if there is no log-in error from the customers.

Use case title #4	View menus
Actor	New and Registered Customer
Trigger	The use case starts when a customer (registered or new) wants to view menus that are available in the web application.
Description	**Basic Path:** 1. While browsing the system, the customer chooses the menu tab in the navigation bar 2. Customers view the gift menu that is offered in the web application. **3.** If a customer wants to purchase the gift, they must first log in for existing customers or create an account for new customers, as described in the log-in and registered new customer use cases, and then add it to their cart. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #5	Choose gift type
Actor	Registered Customer
Trigger	The use case starts when a registered customer wants to choose the gift type that he or she desires.
Description	**Basic Path:** 1. While browsing the system, the customers choose a gift type he/she wants that is offered in the web application. 2. They can choose what type of gifts they want, and it will redirect to the gift types of menus. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #6	Choose gifts sets
Actor	Registered Customer
Trigger	The use case starts when a registered customer wants to choose the gift type that he or she desires based on the type that he or she has chosen.
Description	**Basic Path:** 1. While browsing the system, the customers choose a gift set that he/she wants that is offered based on the type that he or she chooses in use case #5 in the web application. 2. The customer can choose more than one gift and he/she can delete their selected gift if they want to cancel the selected gifts in the cart. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #7	Check out
Actor	Registered Customer
Trigger	The use case starts when a registered customer wants to check out their items in the cart and choose the date and time for their pickup.
Description	**Basic Path:** 1. Customers view the cart. They select items that they want to check out. **2.** If they confirm their order, they choose the date and time of pickup. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #8	View receipt
Actor	Registered Customer
Trigger	The use case starts when a customer confirms their order.
Description	**Basic Path:** 1. After they confirm their order, a receipt is generated. 2. Customers need to screenshot the receipt and bring it to the shop during pickup. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #9	Edit profile
Actor	Registered Customer
Trigger	The use case starts when a registered customer wants to edit their profile.
Description	**Basic Path:** 1. Customers choose the edit profile menu. 2. Customer can edit their profile whether to change their name, username, email, or phone number and update the profile. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #10	View order
Actor	Admin
Trigger	The use case starts when an admin wants to view orders from customers.
Description	**Basic Path:** 1. Admins choose the view order menu. 2. Admin can choose to view order customers based on order ID. 3. Based on order ID, it displays details about the order like gift name, customer name, and more. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #11	Add menu
Actor	Admin
Trigger	The use case starts when an admin wants to add a new menu to the web application.
Description	**Basic Path:** 1. Admin views the add menu option. 2. Admin can add the new menu by adding gift type, gift name, gift price, description, and image. 3. If the admin confirms about gift detail, they click the add button and the gift is into the menu **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #12	Edit menu
Actor	Admin
Trigger	The use case starts when the admin wants to edit the gift menu.
Description	**Basic Path:** 1. Admin view the gift list 2. Admin chooses the edit gift button. 3. Admin can edit name, image, price, and description. 4. If the edited details are confirmed, the edited one is displayed in the web application and viewable to the customer. **Alternate Path:** If the customer does not use it, the use case is over.

Use case title #13	Delete menu
Actor	Admin
Trigger	The use case starts when the admin wants to edit the gift menu.
Description	**Basic Path:** 1. Admin view the gift list 2. Admin chooses to delete gift button. 3. A popup message appears to confirm if the admin really wants to delete the gift. 4. If the admin clicks yes, the gift is successfully deleted and not available in the web application. **Alternate Path:** If the customer does not use it, the use case is over.

4.0 Flowchart or Activity Diagram

Customer

4.1 Customer Authentication
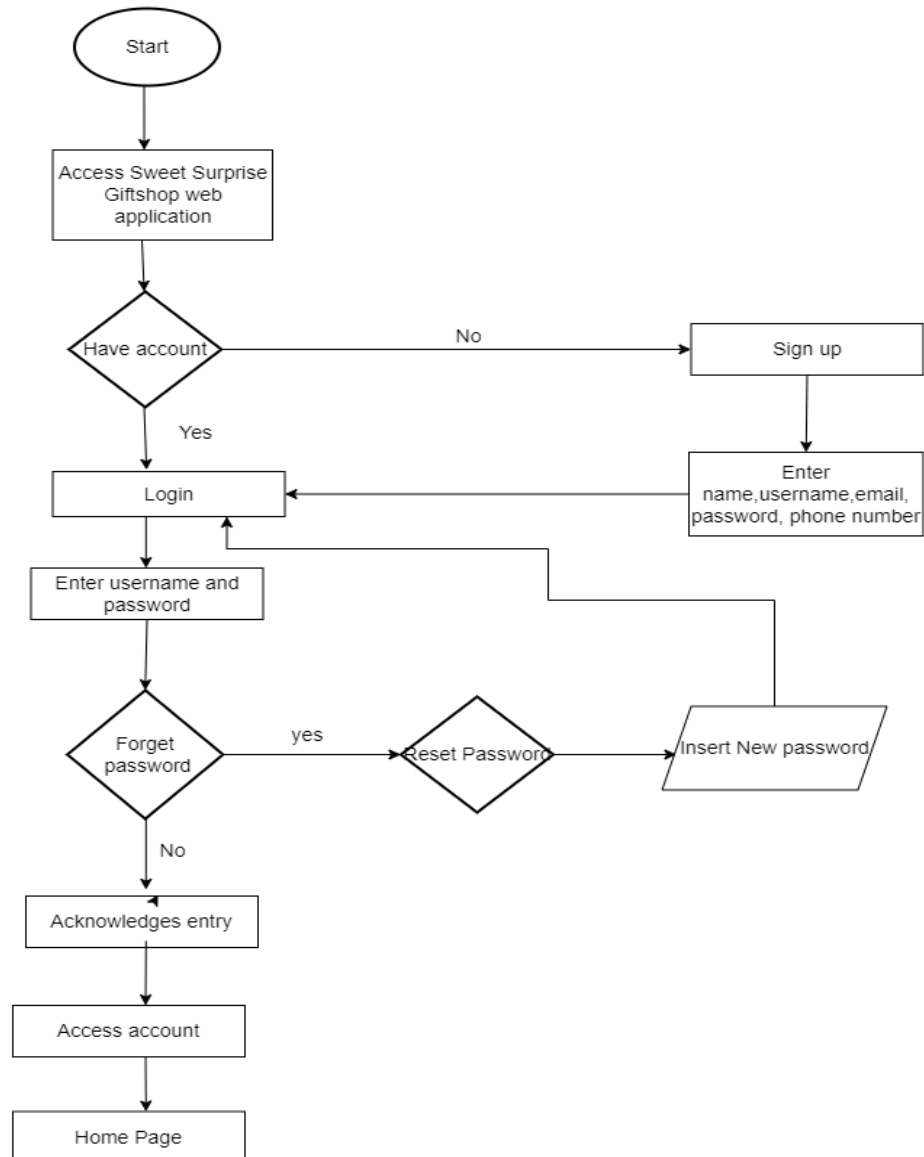
Figure 2 depicts the Sweet Surprise Gift Shop customer's authentication flowchart. Customers can initially access the "Sweet Surprise Gift Shop" web application. Customers have the option of logging in or registering. If they have an account, they can log in by entering their username and password. If they do not, they must register by entering their name, username, email address, and phone number. If a registered customer forgets his or her password, they have the option to reset it and enter a new one. Then, they can access the web application.

13

4.2 Customers Edit Profile
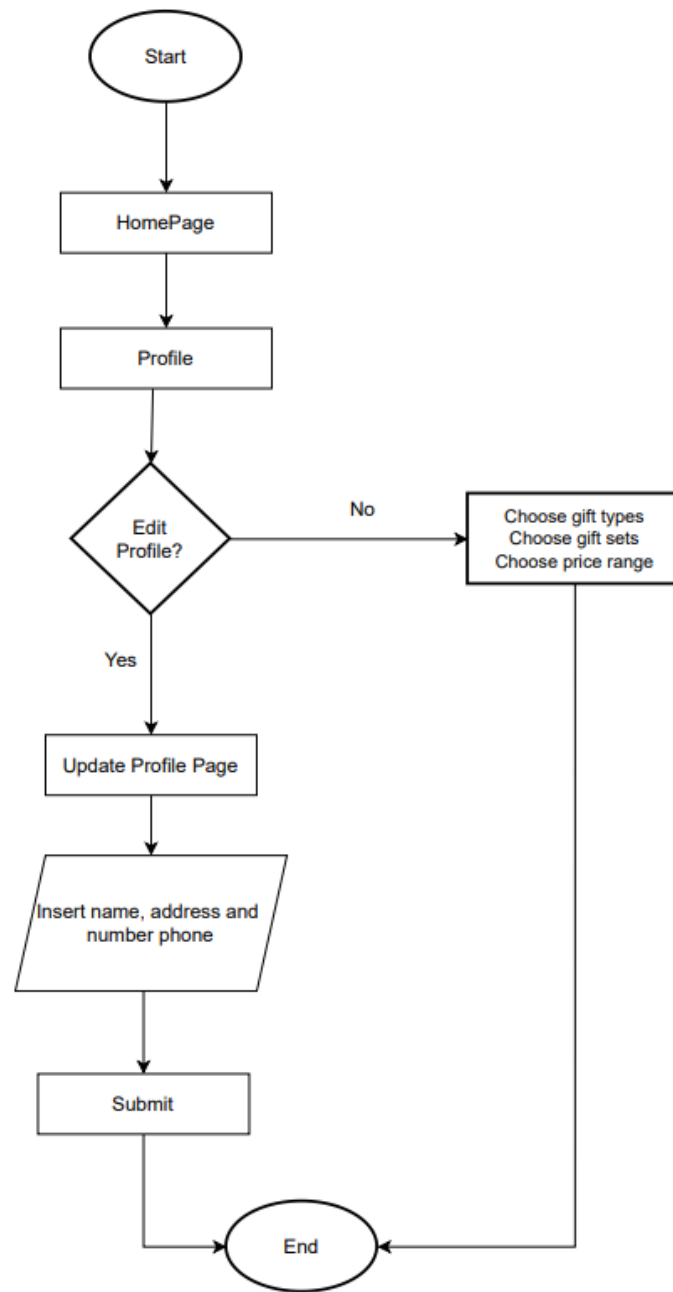
Figure 3

Figure 3 depicts a flowchart for customer profile editing. When the customer opens the profile menu, the option to edit the profile is presented. If yes, the update profile page is displayed, and the customer can enter their name, address, and phone number before submitting. If they do not wish to edit their profile, they will proceed to the gift type, set, and price range selections.

4.3 Customer Select Menu
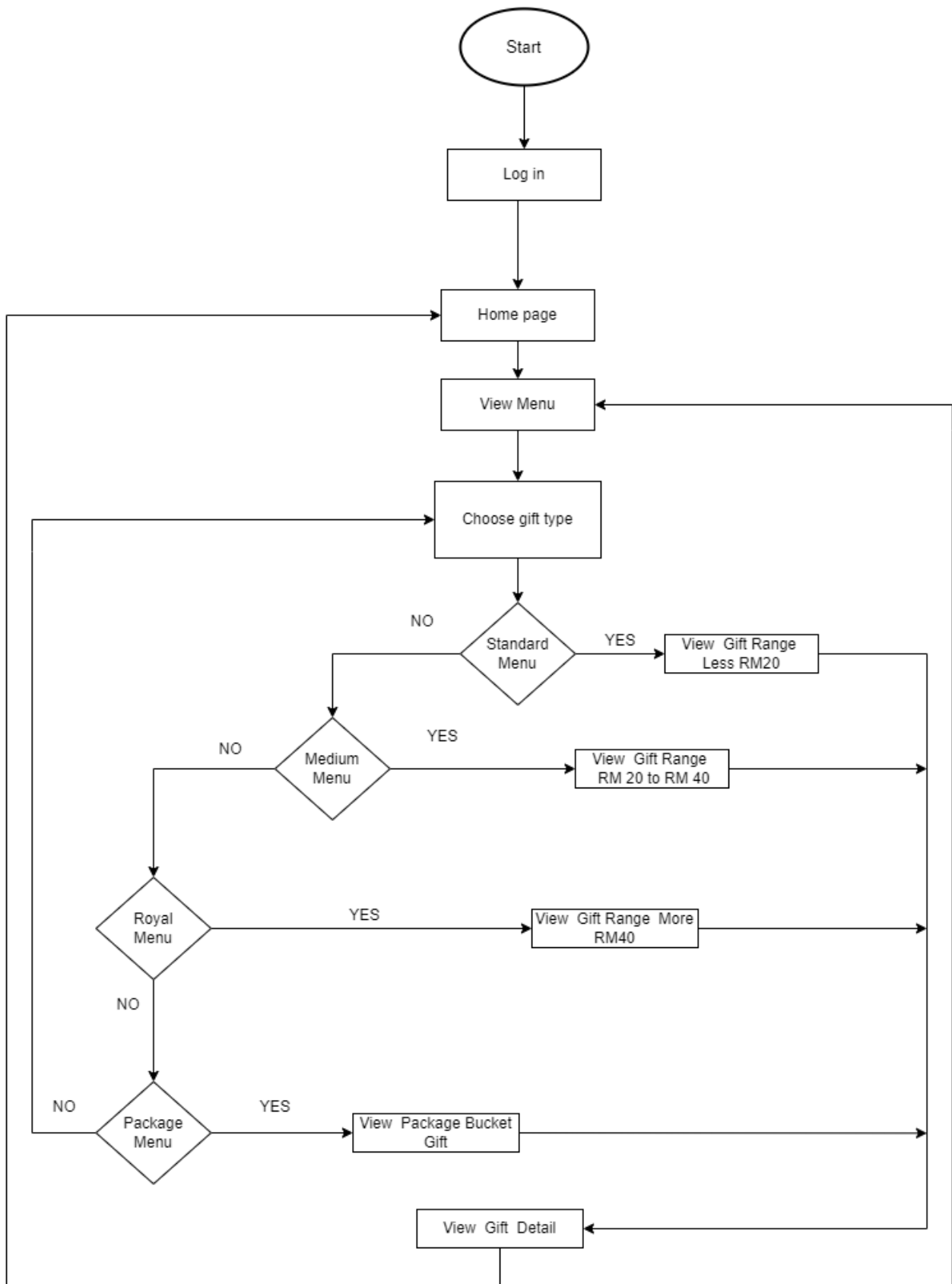
Figure 4
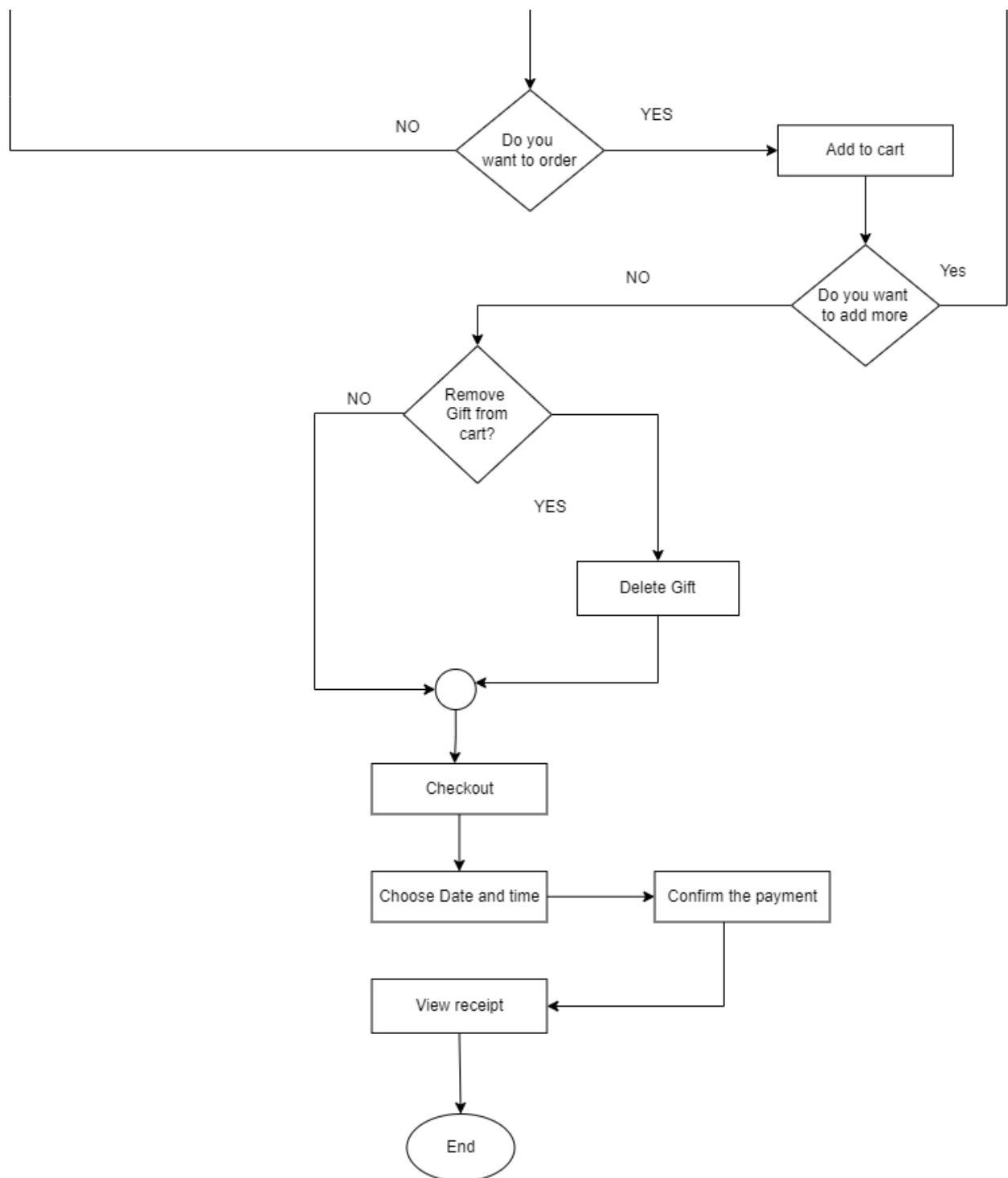
Figure 4 depicts a flowchart for customer menu selection. After viewing the homepage, a customer can view the menu by selecting the menu page. The customer can then select gift types, gift sets, and- a price range. If they select a standard menu, they are redirected to the page displaying a gift set with a price less than RM20. If they select a medium menu, they are redirected to the page displaying a gift set with price between RM20 to RM40. If they select a royal menu, they are redirected to the page displaying a gift set with a price of more than

RM40. If they do not select all the types of gifts, they will redirect to the package menu that displays package bucket gift. After selecting a gift with a particular type, they can view its specifications.

If they want to order, they can add it the to cart. Based on the cart, if the customer wants to add a quantity of that from the cart, they can add more. Customers can delete the item if they want to remove the selected items that they want to delete. If both choices are not selected, the customer can proceed to checkout. After they confirm about the gifts, they can view the total price and they need to choose date and time that they want to pick up the gift., and then confirms payment. After the customer has confirmed their order, a receipt is generated.

.

Admin

4.4 Admin
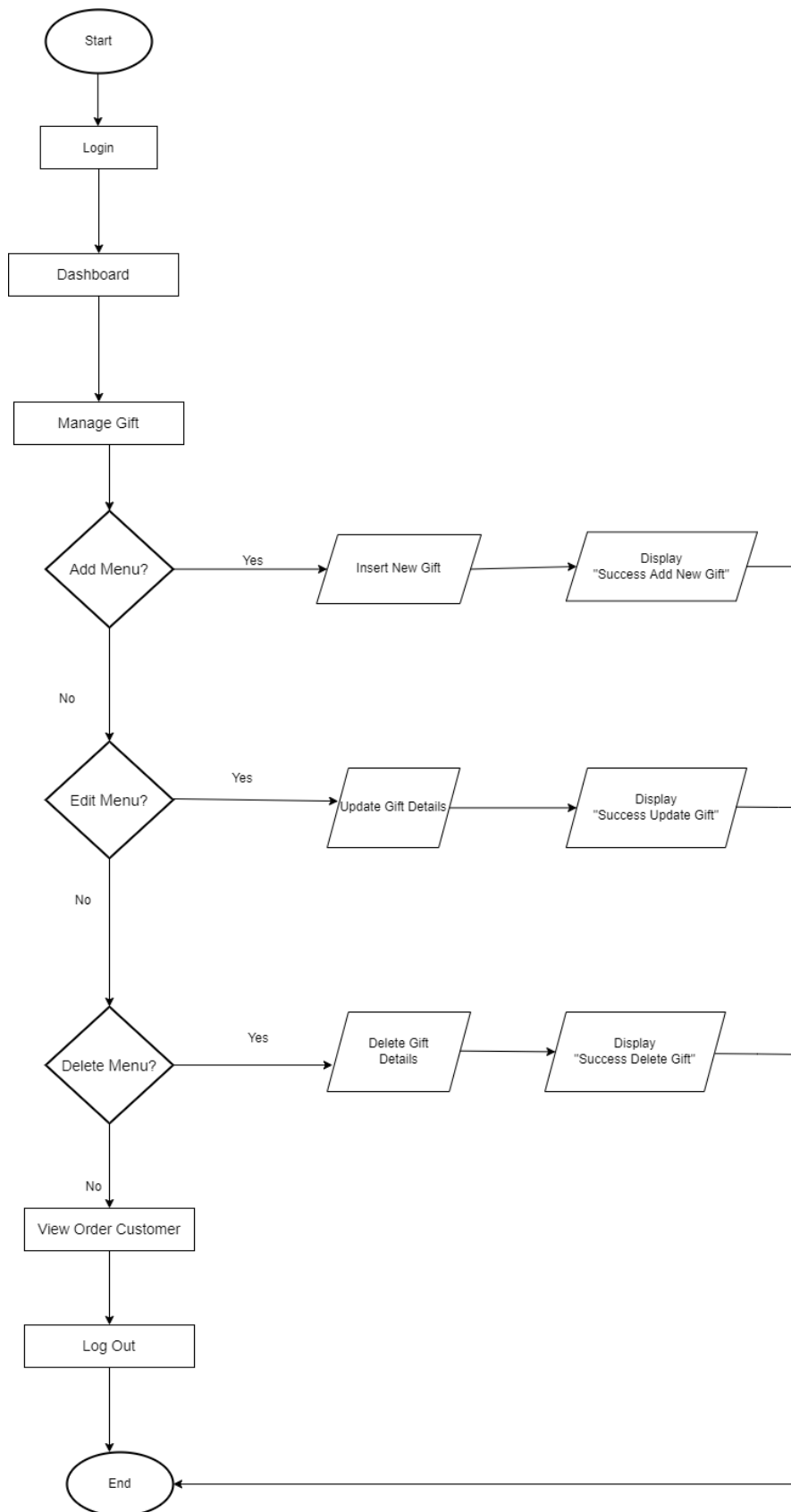
Figure 5

Figure 6 is a flowchart for administration. Administrators can log in using their username and password. After admin login, the dashboard is displayed. The administrator can manage gifts by adding, editing, and removing menus. If they add a new gift, they enter the gift's details. After that, "success add a new gift" is displayed. If they edit an available gift, the details of that gift are updated.

 After that, "success update new gift" is displayed. If they choose to delete a gift, the message "success add new gift" is displayed. They can view order customers if they do not wish to manage gifts. Admin can log out if they do not wish to perform any administrative tasks.

5.0 Entity Relationship Diagram (ERD)
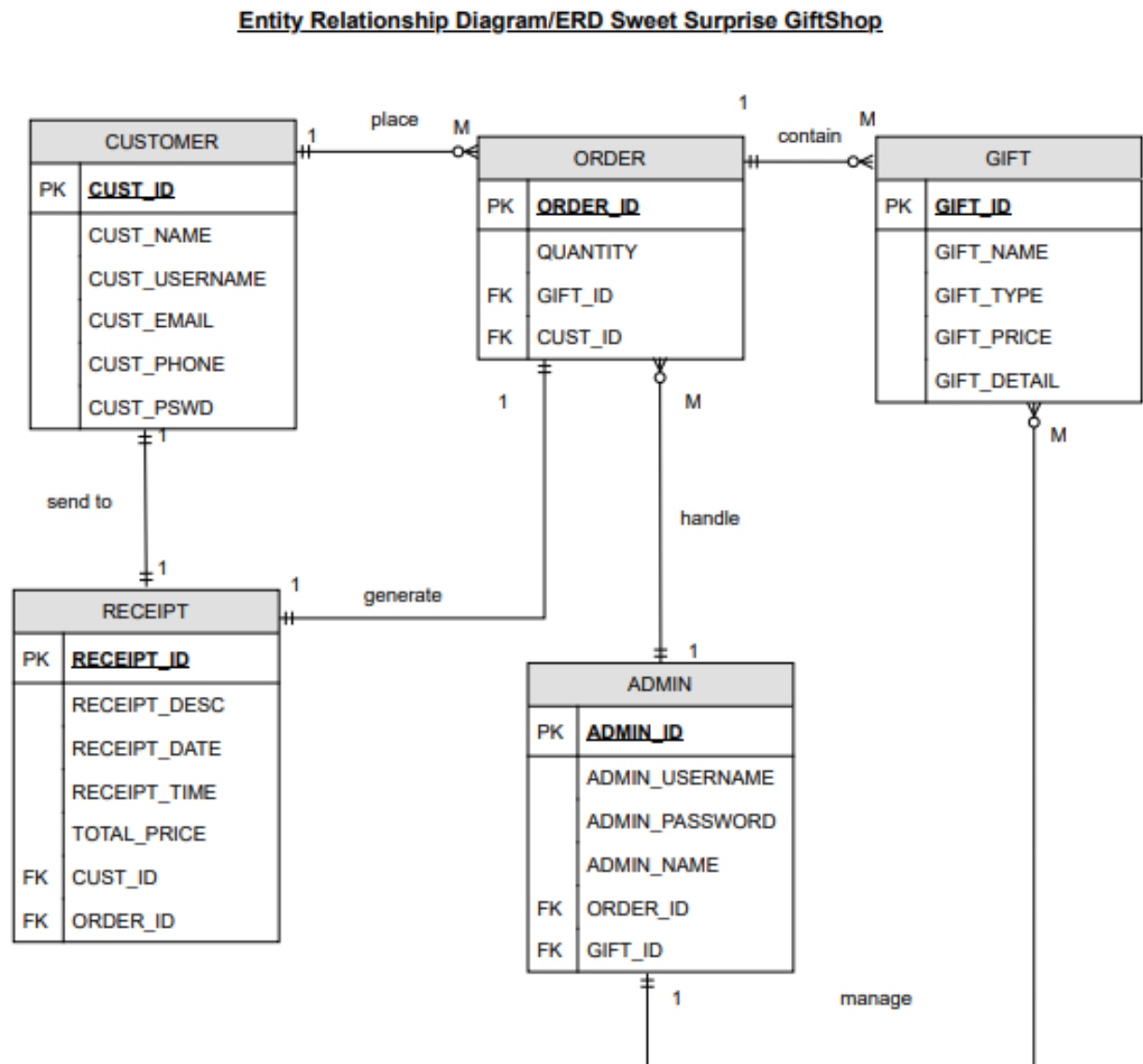
Figure 6

The Entity Relationship Diagram for Sweet Surprise Gift Shop is depicted in Figure 7. The-five tables are customer, order, gift, receipt, and administration. A few attributes and relationships are depicted in the figure for each table. This ERD's business rules are listed below (1.5.1). Details about ERD's table are displayed in 1.5.2

5.1 Business Rules

1) One customer can place more than one order (1:M)

2) Based on the one order, details about one or more gifts that have been ordered are displayed. (1:M)

3) One admin handles many order lists. (1:M)

4) One admin manages many gifts. (1:M)

5) One receipt is generated based on the order that the customer made and send to the customer. (1:1)

5.2 ERD Details

Entity	Attributes	Explanation
CUSTOMER	CUST_ID (PK)	The primary key for the customer.
	CUST_USERNAME	Username customer that used to log in.
	CUST_NAME	Customer's name
	CUST_EMAIL	Customer's email that used to create an account as a login to the account.
	CUST_NOPHO	Customer number phone that used for contact
	CUST_PSWD	The customer's password is for the customer to enter for them to log in to the account.
ORDER	ORDER_ID(PK)	The primary key for order. An ID for the order that has been made by the customer.

	QUANTITY	Quantity for the order that has been added by the customer.
	GIFT_ID(FK)	The foreign key for table order, where customer-ordered gift details can be viewed.
GIFT	GIFT_ID(PK)	Primary Key the for the gift table.
	GIFT_NAME	Gift name that available in the gift shop.
	GIFT_TYPE	Gift type whereby is divided into standard, medium, royal, and package types.
	GIFT_PRICE	Price for gifts that offer in the gift shop.
	GIFT_DETAIL	Details about the gift including weight, what is included in the gift etc.
RECEIPT	RECEIPT_ID	The primary key for receipt. It refers id that the receipt has been generated.
	RECEIPT_DESC	Description of the receipt needs to be displayed in the receipt
	RECEIPT_DATE	The date that receipt has been generated
	RECEIPT_TIME	The time that receipt has been generated.

	TOTAL_PRICE	The total price that a customer buys for an order he/she made.
	CUST_ID(FK)	The foreign key for Receipt. In the receipt, the details about the customer are displayed like name, number phone, pickup date, and time linked to the receipt.
	ORDER_ID(FK)	The foreign key for Receipt. Description of the order that has been ordered by the customer is linked to the receipt.
ADMIN	ADMIN_ID(PK)	The primary key for the admin table.
	ADMIN_USERNAME	Username admin that used to log in.
	ADMIN_NAME	Admin's name that displayed in the dashboard.
	ADMIN_PASSWORD	Password admin that used to log in.
	ORDER_ID(FK)	The foreign key for Admin. Admin can view the order that has been confirmed by the customer
	GIFT_ID	The foreign key for Admin. Admin can manage gift whether to add, edit and delete gift.

6.0 User Interface

Sweet Gift Shop Main Page

Figure 7

This interface has an admin login and a customer login, where they may go through to any page by clicking the login button.

<u>Customer</u>

i.   Register Customer
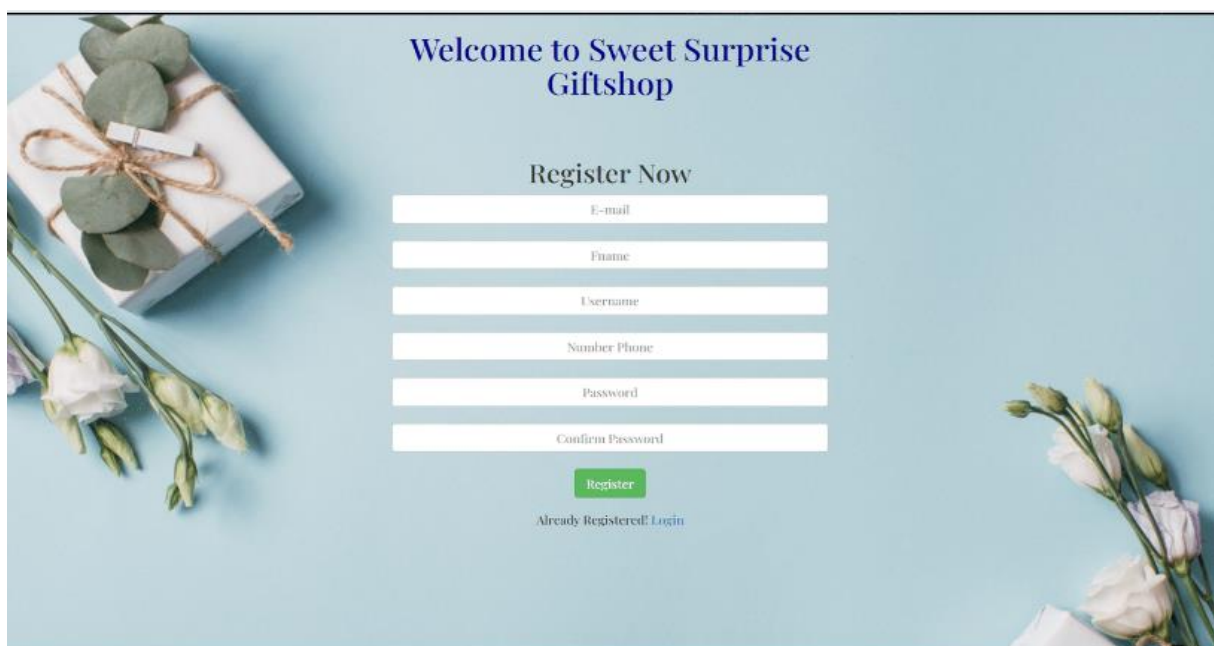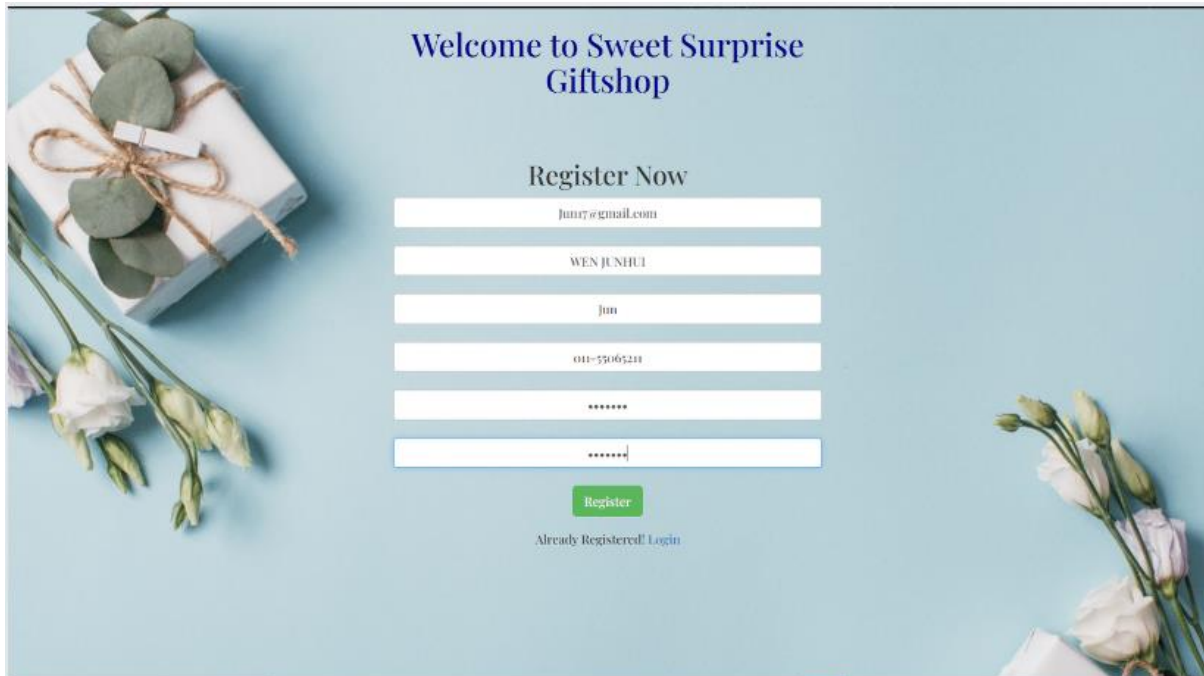
Figure 8
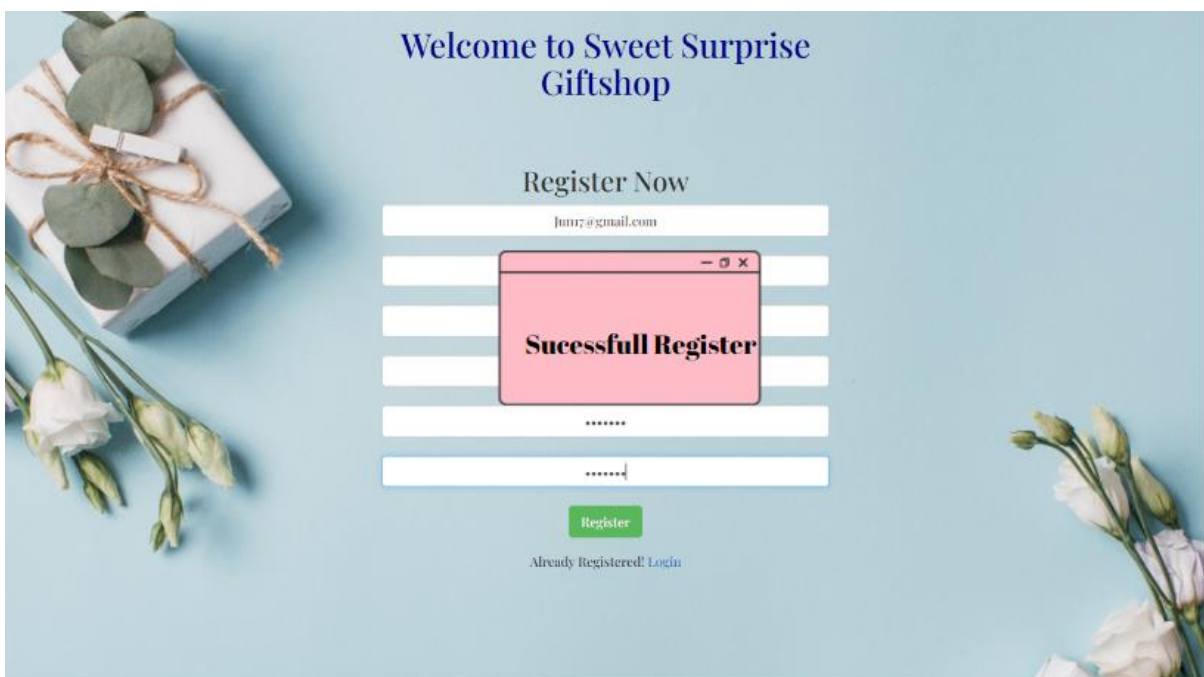
Figure 9

The customer who does not have an account can click the **"Register"** button to create an account. They have to enter their email, name, username, number phone, password, and confirm password. After finishing entering all information, click on the Register button to register.
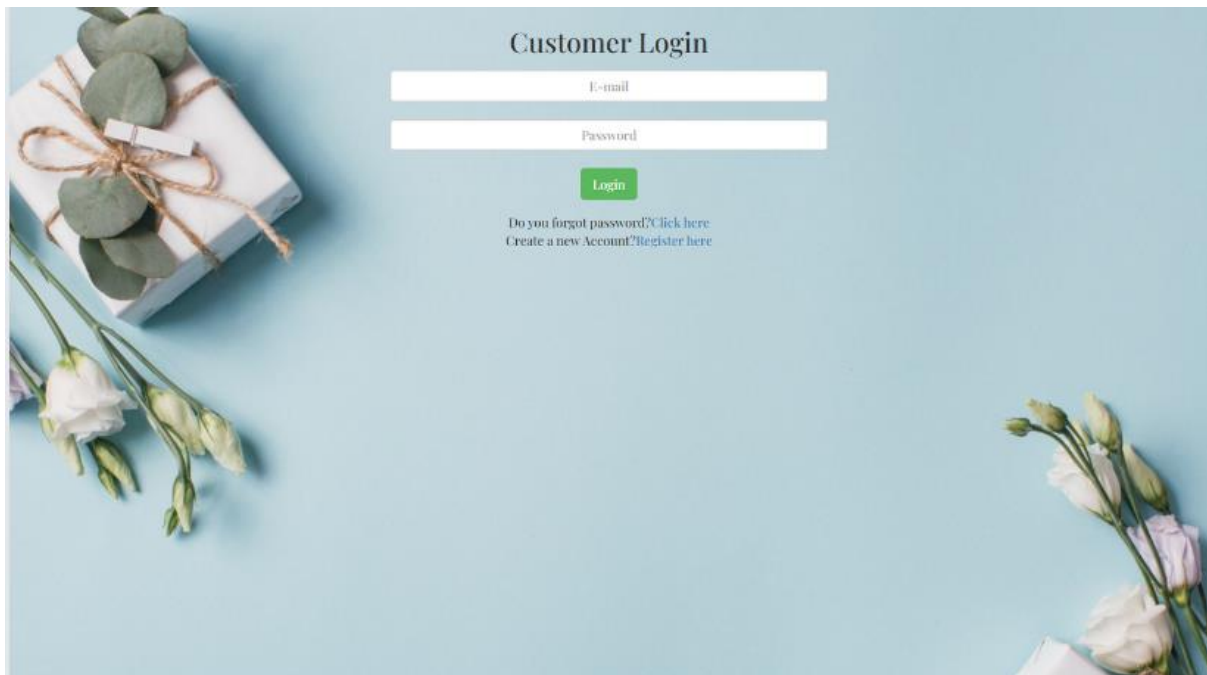
Figure 10
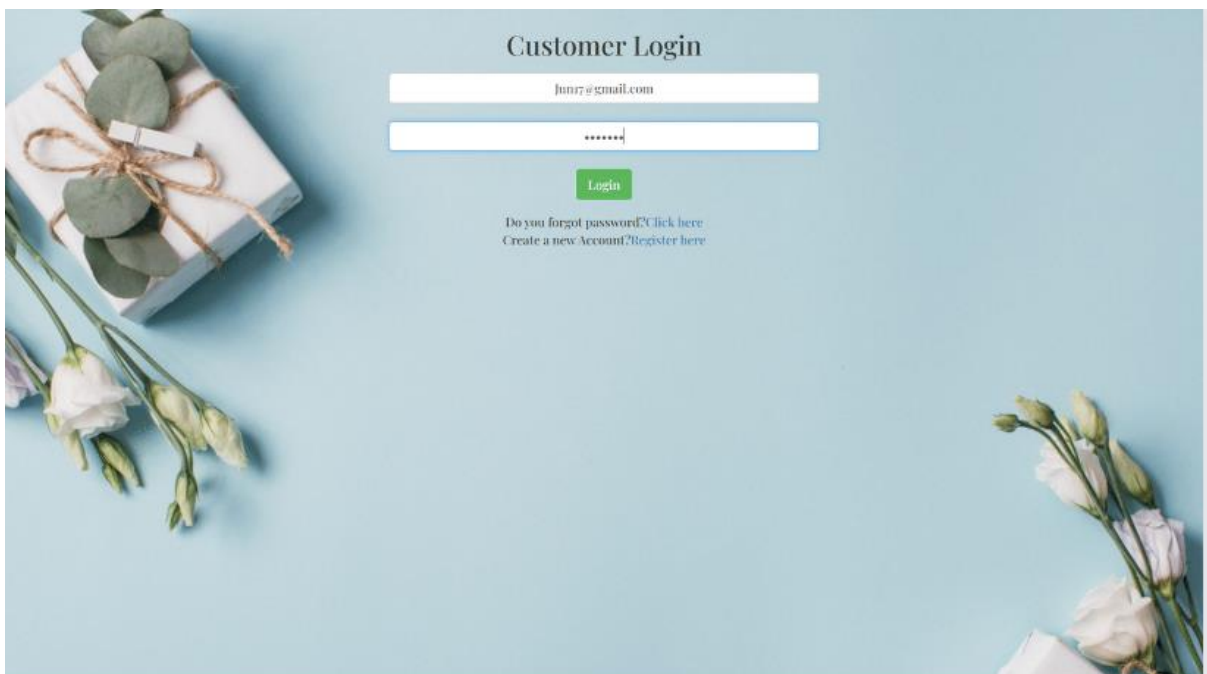
After finishing click the Register button. If all information enters the database, the pop-up message will outcome **"Successful Register".**

ii.   Login Customer

Figure 11

Figure 12

Customer who already has an account can log in by entering their email and password and clicking the **"Login"** button.

iii. Forget Password Customer
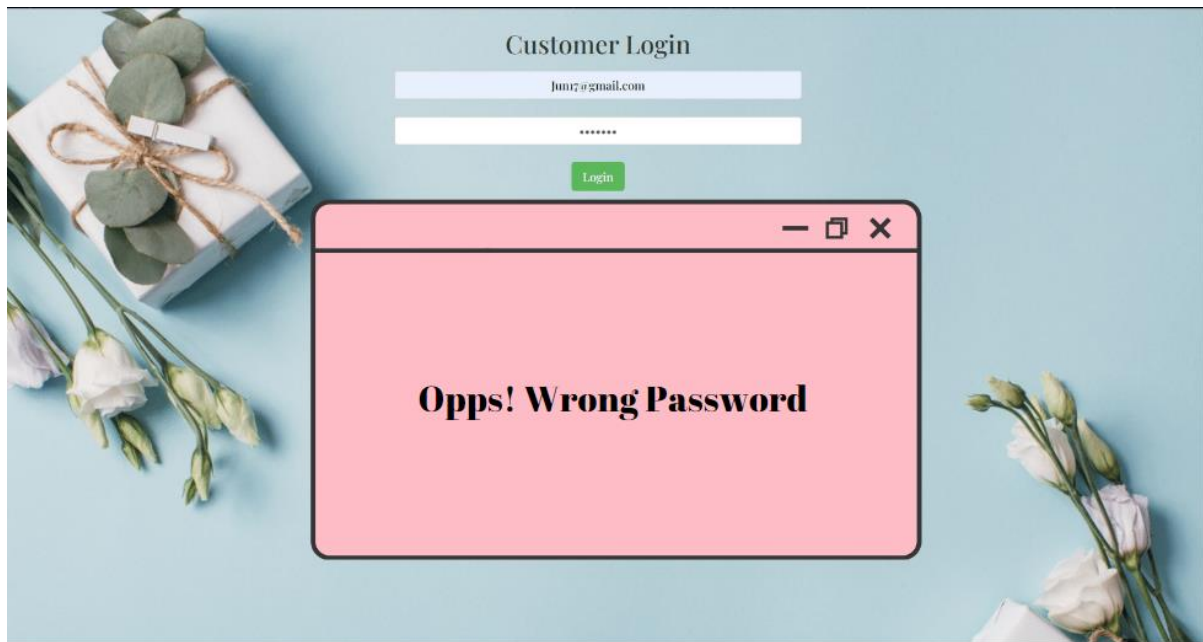
Figure 13

If a customer forgets the password and enter the wrong password. Then the pop-up message **"Opps! Wrong Password"** will come out. Click the button **"Click here"** to enter a new password.
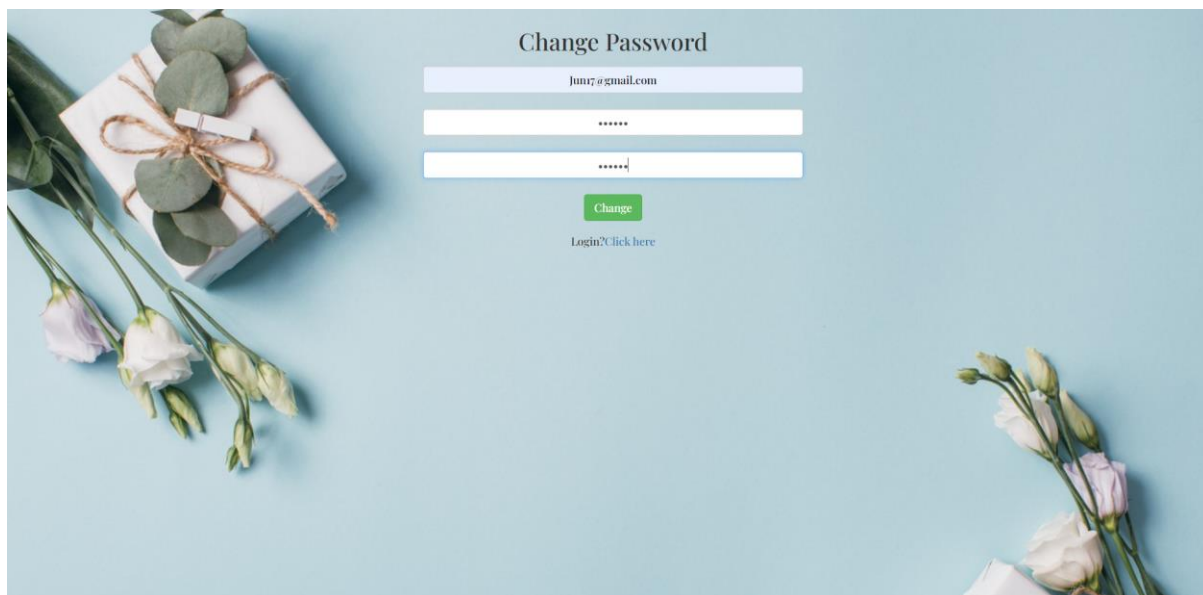
Figure 14

Customers have to reset a new password or change the password. They have to confirm the password and then click the "**change**" button to change the new password.

iv.   Customer Homepage
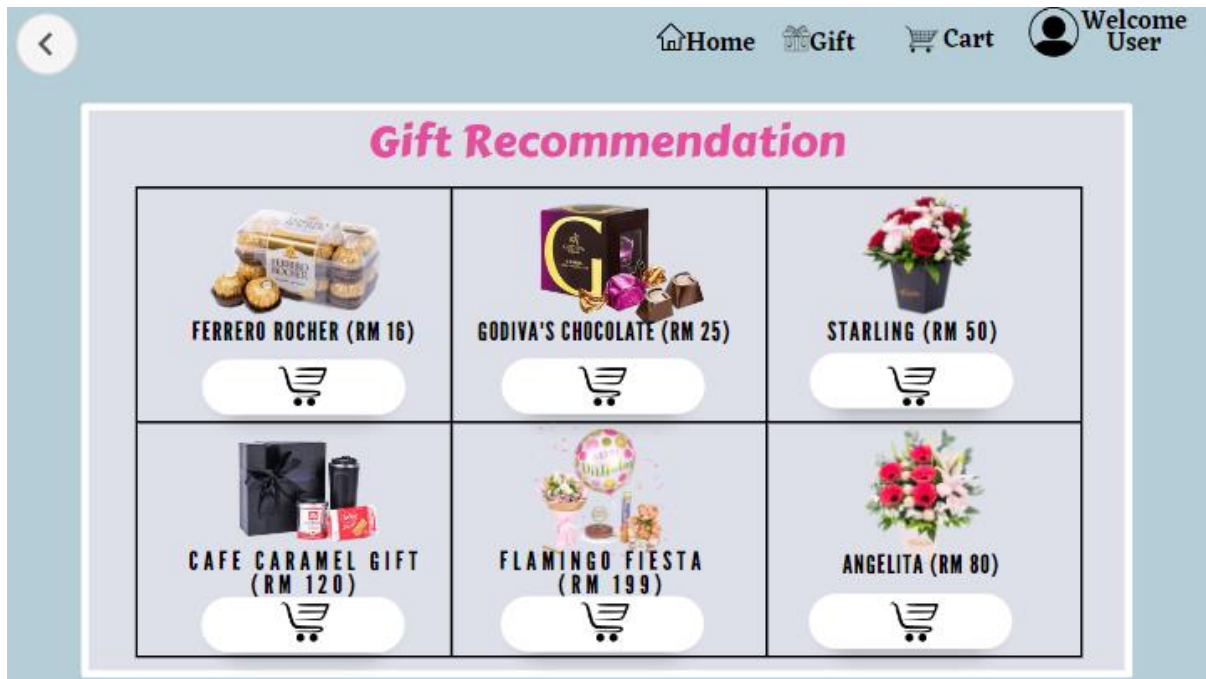
Figure 15
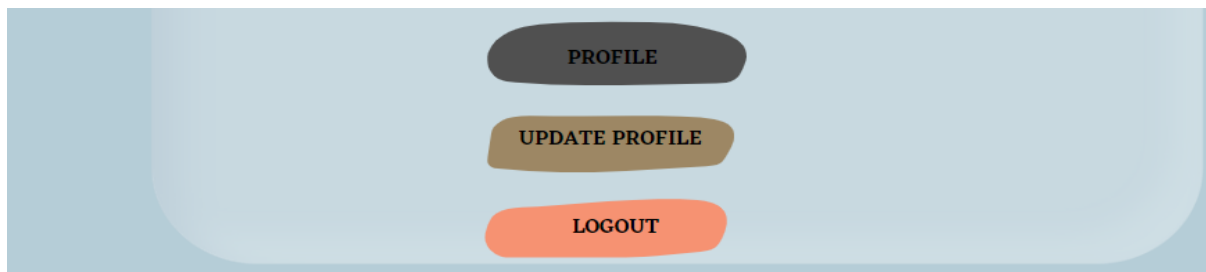
Figure 16

After the customer, success logs in to the "Sweet Giftshop" website. A home page interface where customers can view the gift recommendation. There is buttons **"profile"** to view customers' profile, button **"update profile"** for customers to update their information, and "**log out"** button on this website. The above-all interfaces in the customers' page have the:

        i.   Home icon for back to the home page

        ii.   Gift icon to go gift menu page to view range menu price.

        iii.   Cart icon for adding menu

        iv.   Profile picture icon for the customer that already login

v.   Gift Menu Page

Figure 17

The interface gift menu has a four-button. It is the standard menu medium menu, button royal, and menu package menu. Every button has its own main page. The customers just need to click any button they want, and it will link them to the page they want to view.

vi.   Menu

a.   Standard Menu (Less than Rm 20)

Figure 18

After the customers clicks the standard menu. It will appear a gift that have a range price of less than RM 20. Customers can click **"Cart icon"** button to add gift that they want to buy in cart, and it will automatically go to the Order Page. On this page majority of gifts are very cheap.

b. Medium Menu (Rm 20 to Rm40)
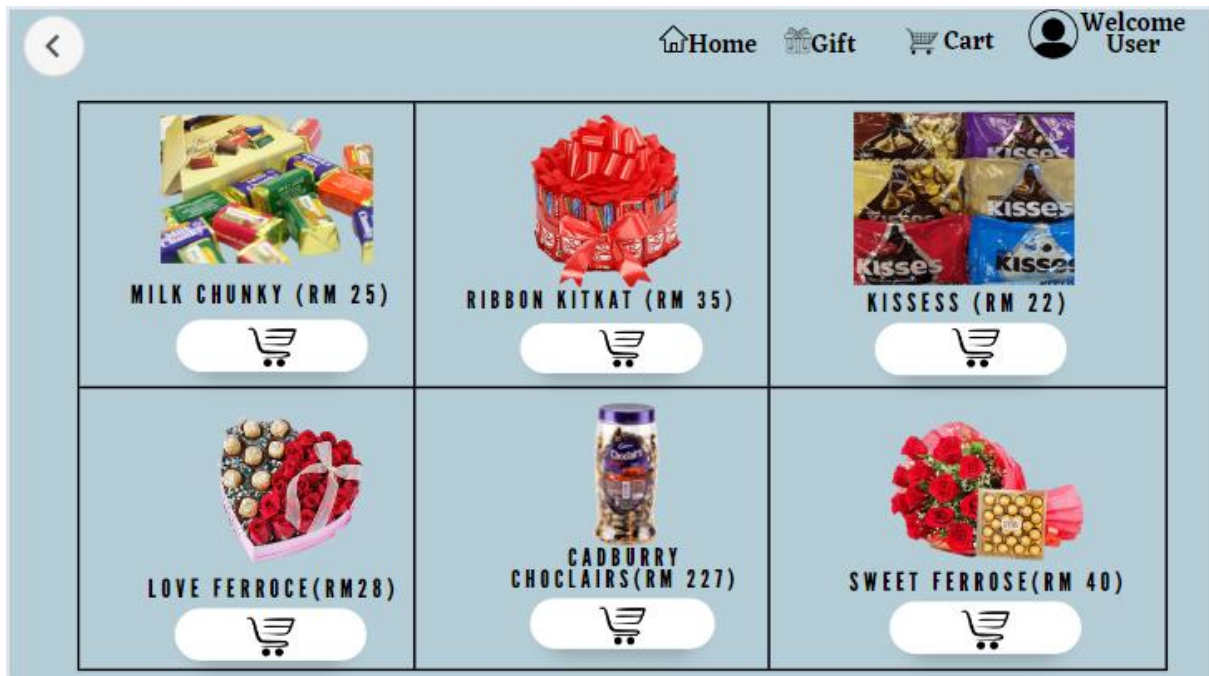
Figure 19

After the customer clicks the medium menu. It will appear as a gift that has a price range between RM 20 to Rm 40. If customers click the **"Cart icon"**, the gift that has been selected will automatically be added to the cart.

c. Royal Menu (RM 40)
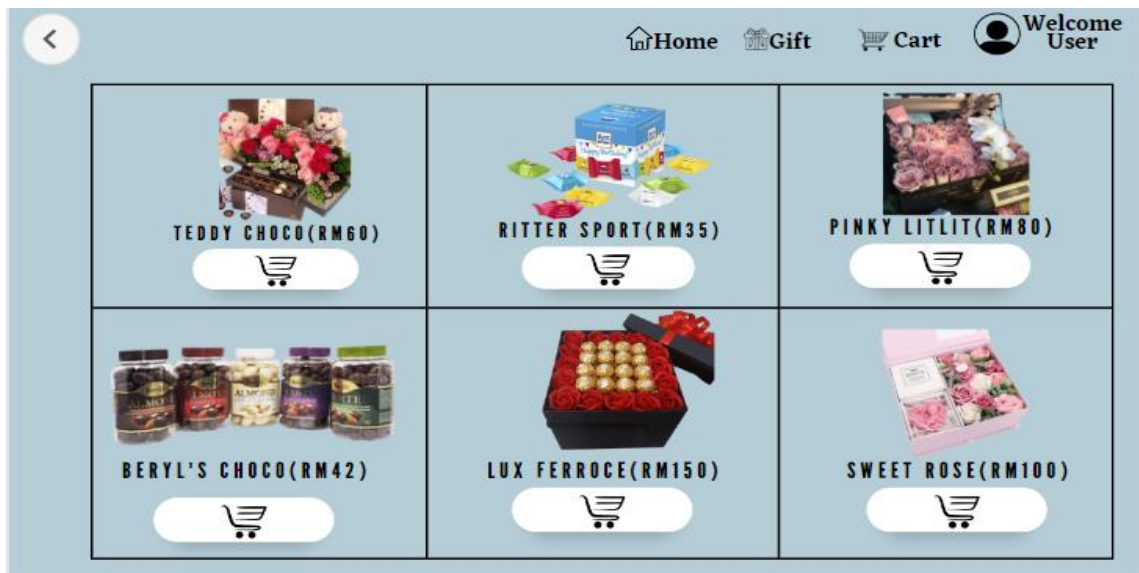
Figure 20

After customers click the Royal menu. It will appear as a gift that has a price range of around RM 40 and above. To add the gift to the order list, the customer just needs to click the **"Cart icon"** button and it will go directly to the Order page.

d. Package Menu
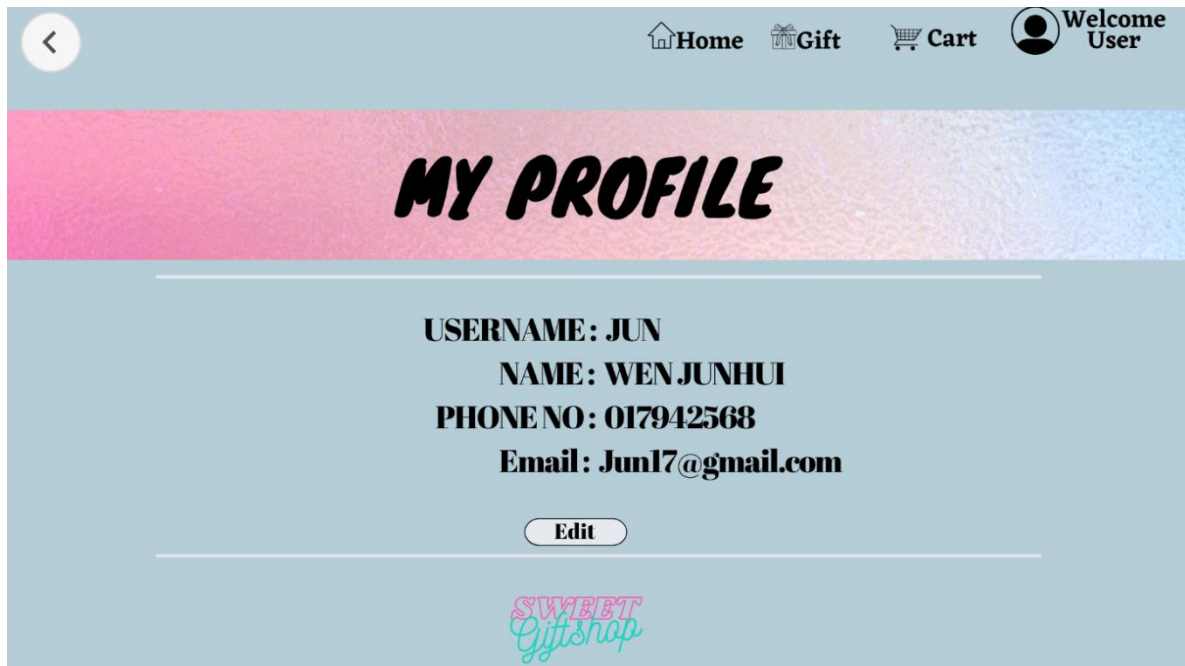
Figure 21

Package menu for bucket gift. This interface provides many buckets such as bucket brownies, expensive chocolate, plushie cartoon, custom flower, fly money, and cake. All bucket has a

beautiful balloon. For this package menu, the price is mixed, either high or low price, based on the package bucket gift customers' choice.
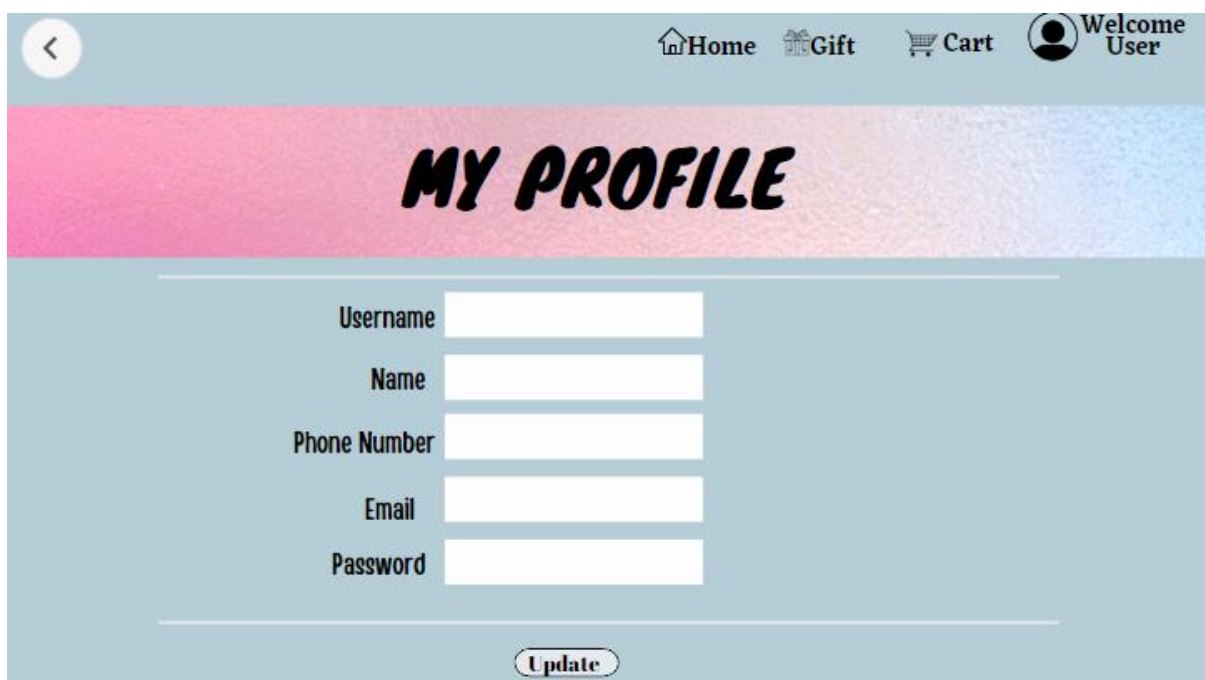
vii.   Edit Profile

Figure 22

This Edit profile contains the information of the user, like Username, Name, Phone number, and customers' email. If a customer wants to edit or update their profile, they just need to click the **"Edit"** button.

Figure 23

After clicking the **"Edit"** button this page will show. On this page, customers can edit their profiles. Done editing the profile, the customers need to click the **"Update"** button. After clicking the **"Update"** button customers' profiles will automatically change as they wish to.

viii.   Order
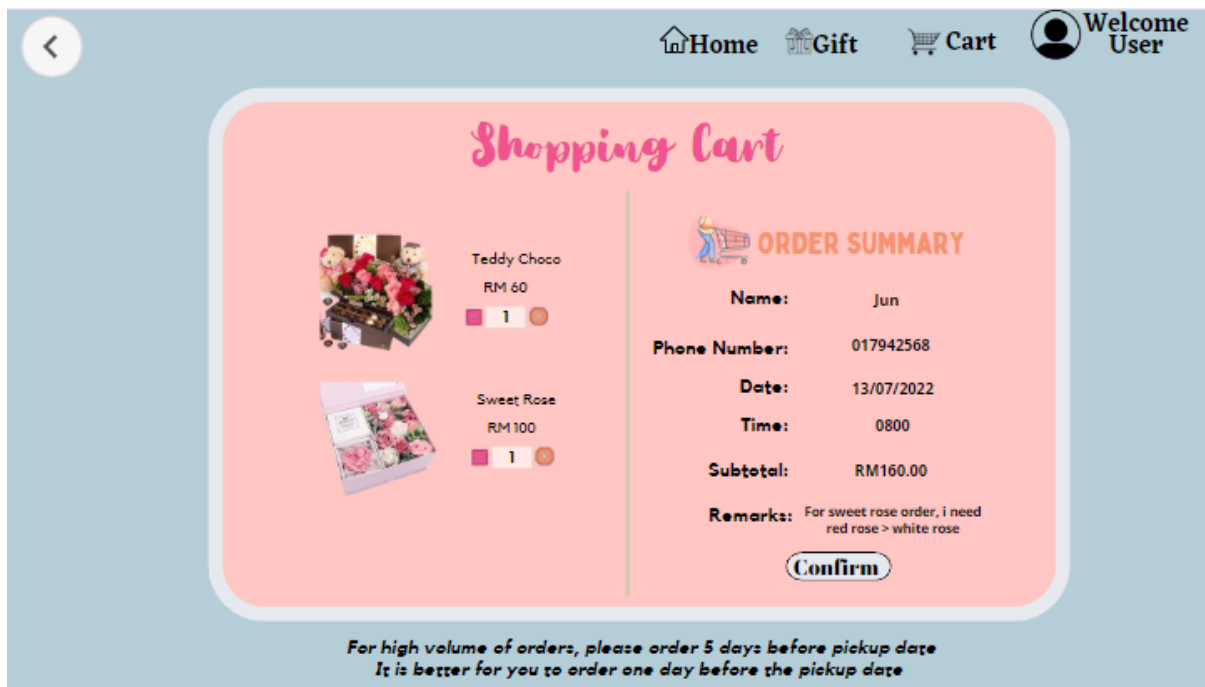
Figure 24

On the interface order page, customer can view their items on the cart. They also can add on the quantity and remove the item from the cart if they do not want to order the item. After doing so, customers need to confirm all the items, they want to buy. Customers also have to check all their information correctly such as their name, phone number, date and time, the quantity of the item, and the total price of all items. Next, customers also can write a special request at **"Remarks"**. After they check all of that and want to proceed to buy, they have to click the **"Confirm"** button.

ix.   Payment
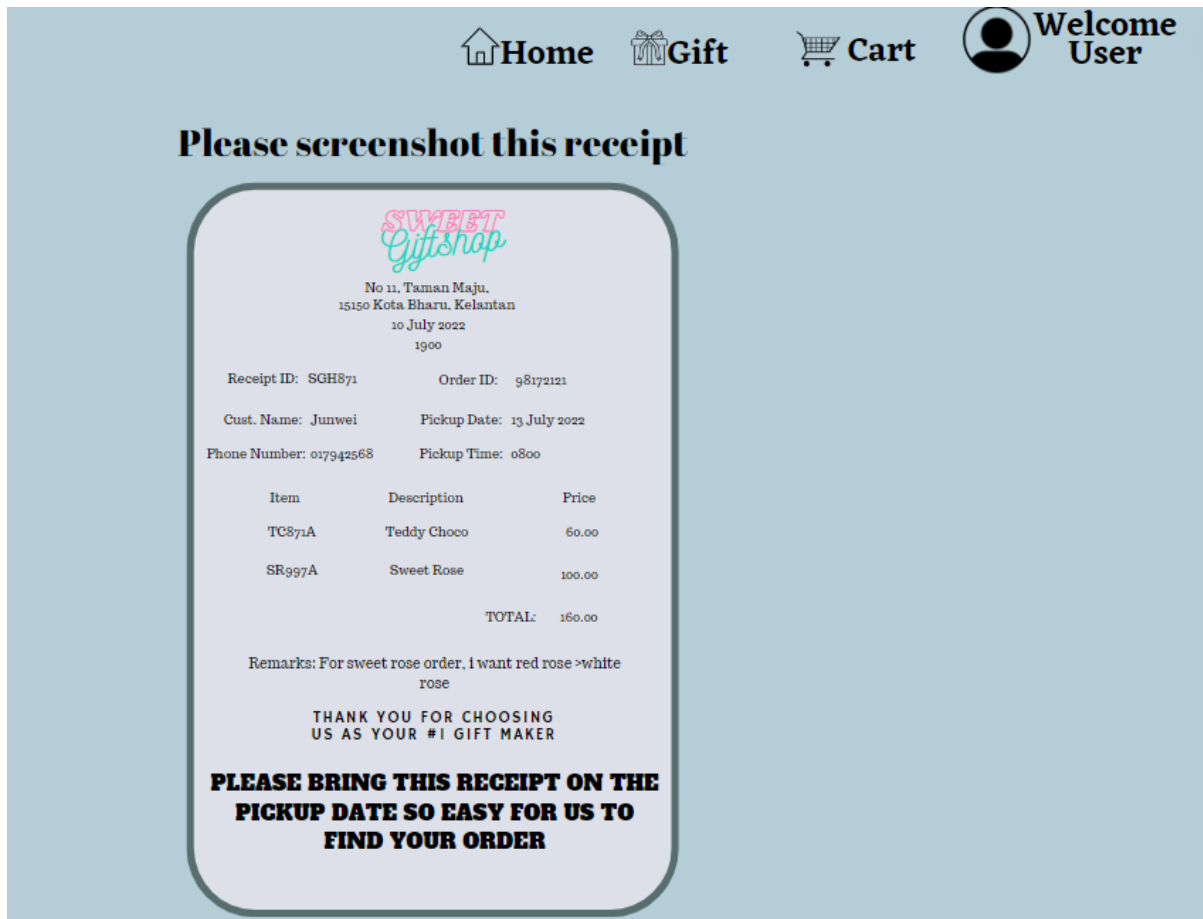
Figure 25

The receipt page contains all the information of the payment details such as order id, customer name, pickup date and time, and number phone. The receipt also has a detailed description, the price of each, item, and the total price. Customers must screenshot the receipt and give it during the pickup as proof of they have already made payment.
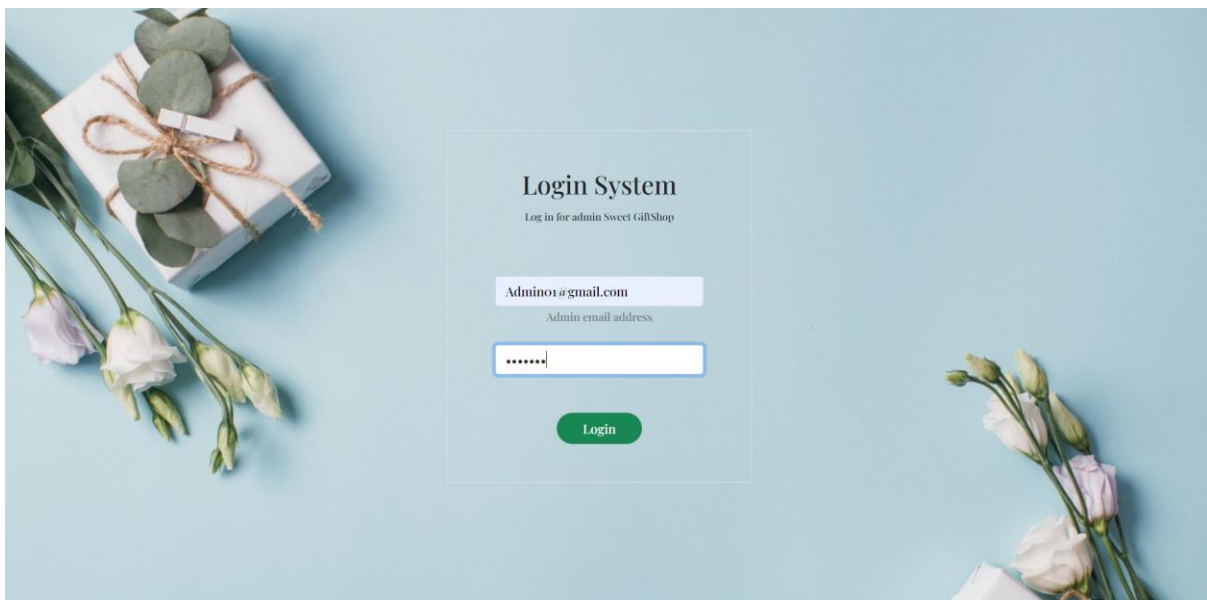
Admin

i.Login
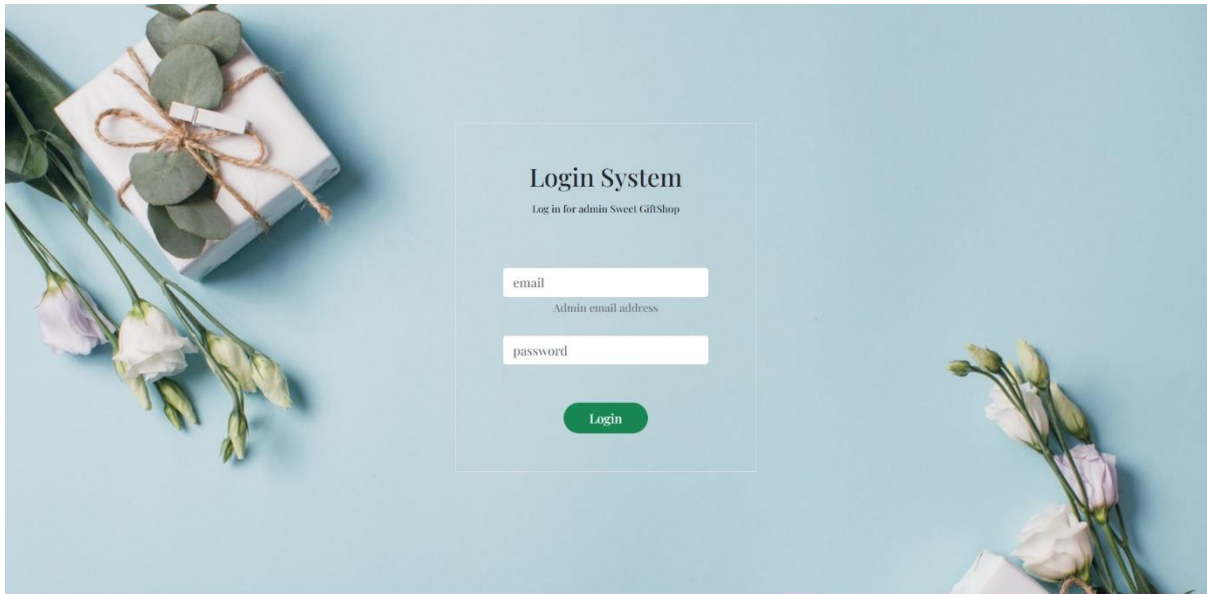
Figure 26

Figure 27

This page is a login page for the admin. To login to the main page admin just need to enter their email and password. After that, they need to click the **"Login"** button and the main page will appear.

ii.   Forget Password
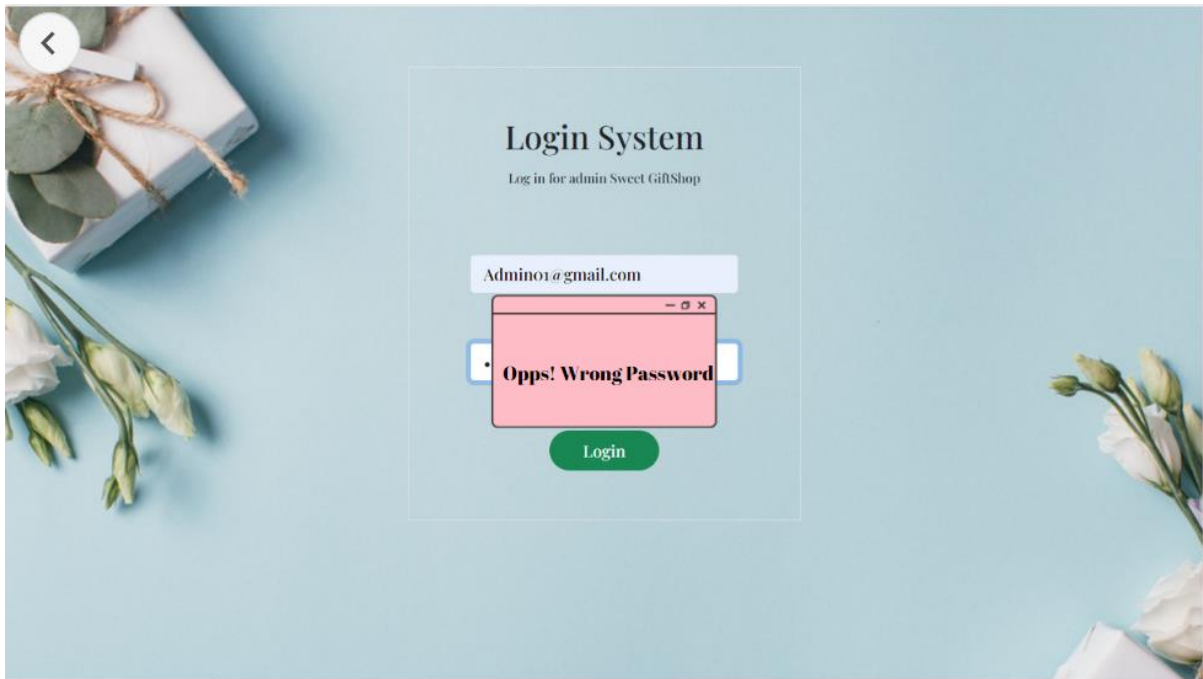
Figure 28

If the admin enters a wrong password pop-up message shows "Opps! If the admin enters a wrong password message showing "Opps! Wrong Password" will appear.

iii.   Homepage Admin

Figure 29

On this Home page admin, can see the **"Order List"**, **"Menu List"**, **"Add Menu"**, **"Update Menu"**, and **"Delete Menu"** buttons. Every button has its own main page. The admins just need to click any button they want, and it will link them to the page they want to view. The above interface in the admin page has:

   i. Home icon for back to the home page

   ii. Cart icon for the shortcut to the order list

   iii. Profile picture icon for go to admin profile

iv. Order List

Figure 30

This page allow admin to view the order list they receive. In the order list it will show gift id and date customers buy the gift. To see another order list admin can click **"Next"** button. To complete the order, admin need to click on the Order ID to create the receipt.

Figure 31

After clicking on Order ID, this page will appear and now the admin needs to fill in the information that contains order ID, Name, Phone number, Gift ID, Gift name, Quality, Pickup date, Pickup time, and Total price. After being done fill all the information admin needs to click the **"Print"** button to print the receipt. When customers came to pick up their gift, the admin will refer to this receipt.

v.   Add New Menu

Figure 32

Figure 33

This page is for the admin to add or update a new gift. To add a new gift, firstly admin needs to fill the form of what gift name, upload the picture of the gift, insert the gift type either flower or chocolate, insert the price and the last is the description of the gift. After being done fill all the information, the admin just needs the click **"Add"** button, and the popup message "Success Add New Gift!!" will be appeared to be notified that the gift was successfully added.
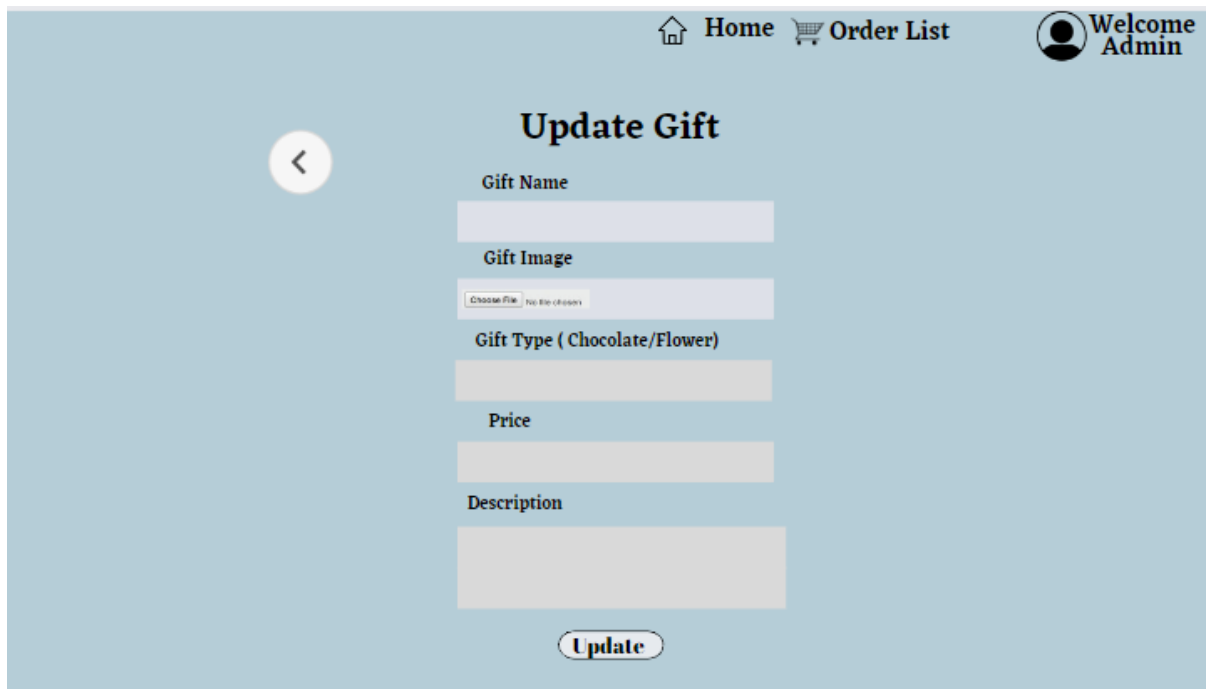
vi.   Menu Detail

Figure 34

On this menu details page admin can view the list of gifts there have on the website. Admin also can edit or update the information about the gift and delete the gift they want by clicking on the **"Edit"** and **"Delete"** buttons. If the admin wishes to view more lists of gifts admin can just click the **"Next"** button. By doing so, another list of gifts will appear.

vii.   Edit Menu Detail

Figure 35

Figure 36

This page is for admins to edit or update the information about the gift. To update the information, the admin needs to fill in any information they want to update and click the **"Update"** button. After done clicking the button, the message box will appear saying that "Success Update Gift".

viii.   Delete Menu

Figure 37

As for the Delete Menu page, admins can delete any gift they want in Menu List by clicking the **"Delete"** button. After clicking the **"Delete"** button the dialog box will be shown asking "Are You Sure to Delete This Gift" to confirm the deletion of the gift that has been selected.
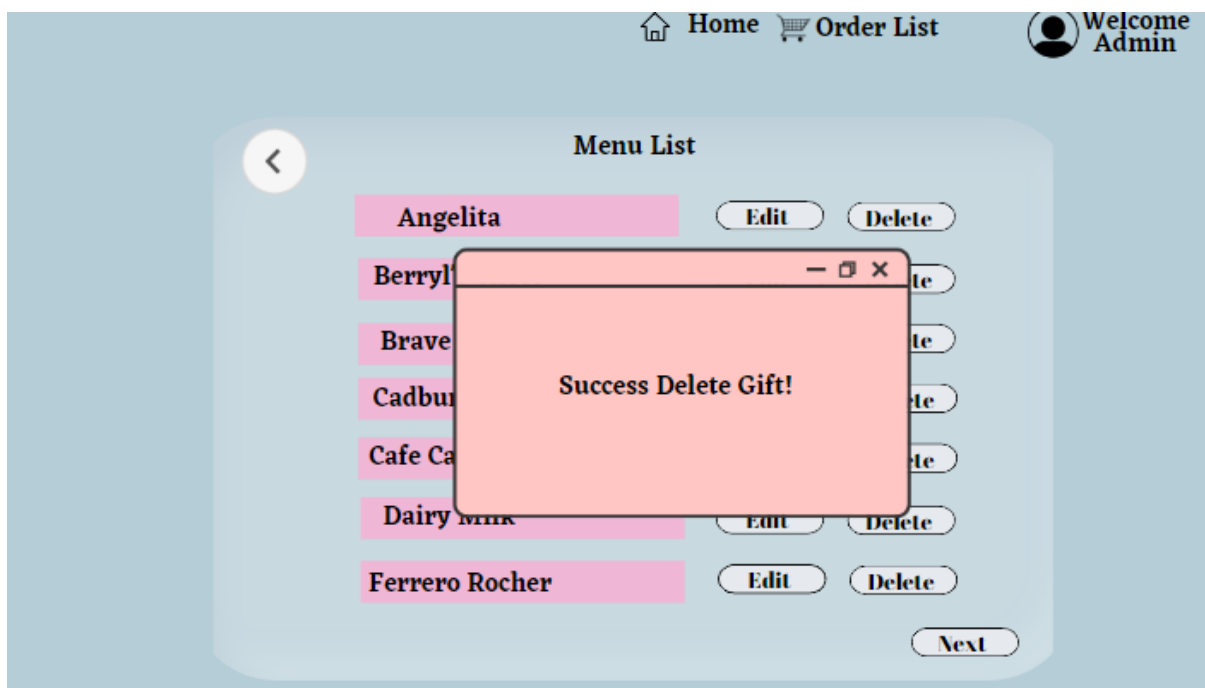

Figure 38

If the admin clicks the **"Yes"** button, a message box with "Success Delete Gift" will appear, to notify the admin that gift that has been selected has been successfully deleting. And if the admin clicks the **"No"** button from the dialog box, the gift will not be deleted and will still be there.
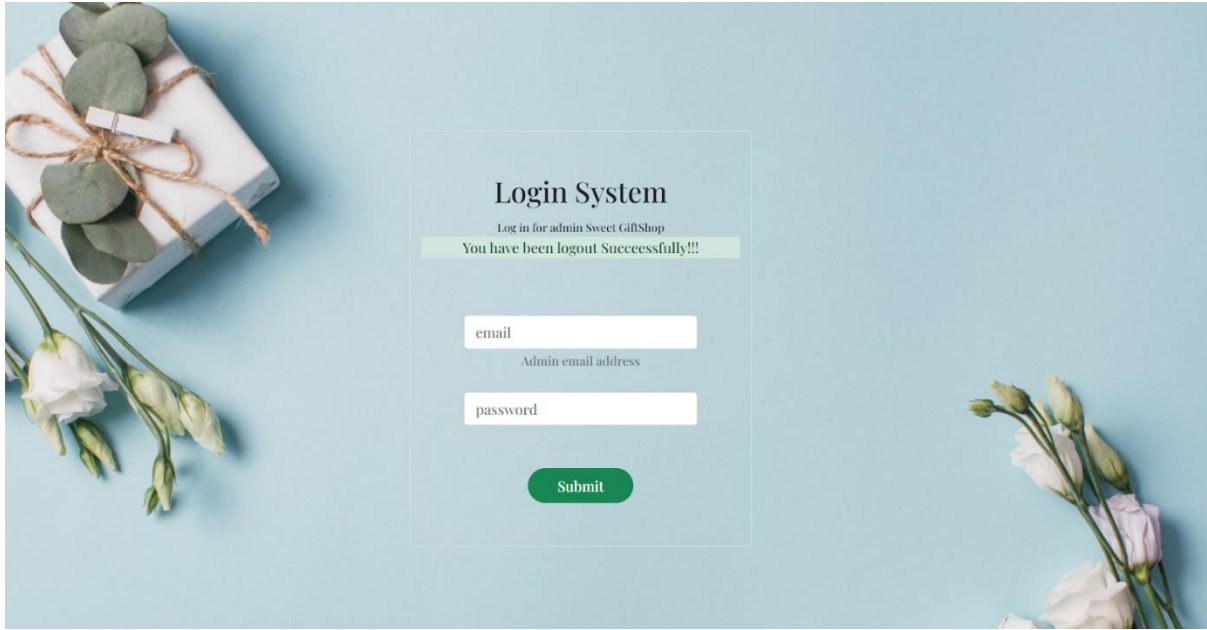
ix.   Log out

Figure 39

After the admin clicks the **"Logout"** button, the admin will bring to the Login page again, and the message "You have been logout Successfully" will be shown.