



SECJ1023 PROGRAMMING TECHNIQUE II

PROJECT NAME: FARM GROCER BY FERMA.INC

Lecturer:

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Section: 01

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Introduction

With the development of technology, self-service pay systems have appeared in some advanced countries. By using a self-service pay system, people can make their payment without waiting in line for assistance from the cashier during peak hour when buying just a few items. For our project, we would like to create a self-service pay system which is rarely seen in the grocery store in Malaysia. The system created is user-friendly and easy to use. It can reduce the physical contact among the people especially during the pandemic of covid-19. Over-ahead services, which use contactless transactions for ordering, payments, and distribution are helping to protect consumers in these unpredictable times.

The system will display welcome messages and ask for membership. If yes, the users will need to input their member id, name and phone number. Then, the system will display a main menu. The first five contents of the main menu are Meat Section, Vegetable Section, Beverage Section, Snack and Daily Supply. Each of them will direct to a different item list. The users are free to choose which directory they want to purchase. In addition, there are also sixth and seventh options provided in the menu which is Proceed with payment and Item list respectively. After inputting the items they want to purchase, the users are able to choose the seventh option to show the items that they had selected and decide whether to proceed with adding another item or choose the sixth option to make payment. If they choose to proceed with payment, the system will ask for a payment method from the user and display the receipt. The users are required to pay an amount of money based on the total amount displayed in the receipt. Besides, in order to encourage the people to use and adapt with the new system, we will give some discount to the member users according to the total amount purchased from them.

Problem Statement

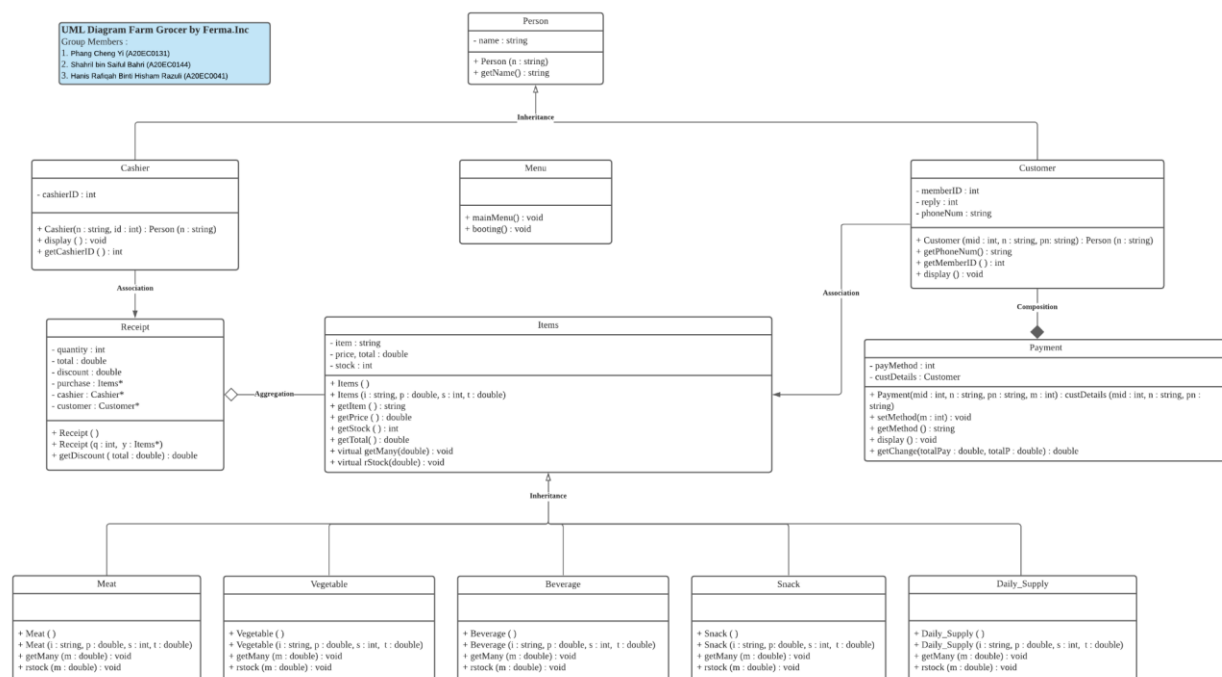
Normally, the people are required to queue up and take turns to make their payment even if they just buy a few items especially on public holiday and festival eve. Moreover, the efficiency of dealing with real people (cashiers) on the registration of the items purchased is unstable, sometimes fast and sometimes slow. This phenomenon is likely to cause most of the customers to be dissatisfied with the service of the cashier such as neglect, delay or low service efficiency because of wasting their time waiting. Therefore, the emergence of this system which uses the

artificial intelligence robots as the cashiers will help the customers to get their desired item fastly and checkout faster.

Objectives

We wanted to design a self-service pay system with a lot of features that would make the payment process easier. Our goal is to design a system that is simple for customers to use. The objective is to provide a complete and efficient service system to improve customers' experience. With the assistance of the great system, the employees may focus and devote their attention on customer service and more sophisticated tasks like stocking shelves and producing higher-quality products. This will let the customer experience a high-quality service. Apart from this, our other objective is to lessen the company cost by having a durable system instead of paying the employees. Serving customers requires fewer human resources, resulting in cost savings for the company. By having this system, we can also minimize the social interactions between customers especially during this pandemic.

Project Design



Project Result

Booting of the program

```
=====
|                               Welcome to farm Grocer by Ferma.Inc !
|                               Are you a member of our store?
| Login - 1
| Not a member - 2
| Please enter the number according above, thank you :D
|=====
Enter: _
```

Figure 2.1

```
=====
|                               Welcome to farm Grocer by Ferma.Inc !
|                               Are you a member of our store?
| Login - 1
| Not a member - 2
| Please enter the number according above, thank you :D
|=====
Enter: 1

Please enter your member id : 82712
Please enter your name: Shahril Saiful
Please enter your phone number: 0192332195
Press any key to continue . . .
```

Figure 2.2

```
=====
|                               Welcome to farm Grocer by Ferma.Inc !
|                               Are you a member of our store?
| Login - 1
| Not a member - 2
| Please enter the number according above, thank you :D
|=====
Enter: 2

Not a member

Press any key to continue . . . _
```

Figure 2.3

Main menu :

If users input the num 1-5, they will be directed towards the section they choose.

```
Please choose the directory that you wish to go

1. Meat Section
2. Vegetable Section
3. Beverages Section
4. Snack
5. Daily Supply
6. Proceed with payment
7. Item List

Choice :
```

Sections :

```
Here is our meat list:

Meat          Price    Stock
1. Beef       12.50    20
2. Chicken    10.00    15
3. Lamb       20.00    10
4. Fish       10.00    15

Please kindly input the integer number of the meat you wanted to purchase, press 5 to skip this option: 1
How many would you want? : 10
Item Successfully added, please check your item list on the main menu !

Press any key to continue . . .
```

Figure 3.1

```
Here is our Vegetable list:

Vegetables    Price    Stock
1. Cabbage     5.00    15
2. Carrot      2.50    20
3. Broccoli    1.50    20
4. Green Pepper 2.50    20

Please kindly input the integer number of the vegetable you wanted to purchase, press 5 to skip this option: _
```

Figure 3.2

```
Here is our Beverages list:

Beverages     Price    Stock
1. Fanta       2.00    30
2. Pepsi       2.50    30
3. Mineral Water 1.00    30
4. Capricon Sun 2.00    30

Please kindly input the integer number of the beverages you wanted to purchase, press 5 to skip this option:
```

Figure 3.3

```
Here is our Snack list:

Snack         Price    Stock
1. Mamee Monster 1.50    100
2. Mr Potato     4.50    70
3. Super Ring    2.00    50
4. Snickers      4.00    30

Please kindly input the integer number of the snack you wanted to purchase, press 5 to skip this option:
```

Figure 3.4

```
Here is our Daily Supply list:

Daily Supply   Price    Stock
1. Shampoo     10.00    30
2. Toothpaste   3.00     25
3. Bodywash     8.00     20
4. Hand Sanitizer 2.00    100

Please kindly input the integer number of the daily supply you wanted to purchase, press 5 to skip this option:
```

Figure 3.5

```

Here is our meat list:

Meat          Price    Stock
1. Beef       12.50    10
2. Chicken    10.00    15
3. Lamb       20.00    10
4. Fish       10.00    15

Please kindly input the integer number of the meat you wanted to purchase, press 5 to skip this option: _

```

Figure 3.6

Figure 3.6 shows when a user enters a product and how much they want, it will update on the section that they choose from previously. Figure 3.1 shows before they add the item to the list, and Figure 3.6 shows the after they add the item to the list.

Item List:

This section lists the items that had been chosen by the user and put them in the list. It also shows the total price of items that they had picked.

```

ITEM LIST

1. Beef       125.00    10
2. Green Pepper 35.00    14
3. Hand Sanitizer 100.00    50
4. Carrot     15.00     6
5. Mamee Monster 30.00    20
6. Capricon Sun 20.00    10

Total Price: RM 325
Press any key to continue . . .

```

Figure 4

Payment Method :

Users are given 4 types of options to pick for their payment method.

```

Please select your payment method:

1. Cash
2. Debit card
3. Visa pay wave
4. Credit card

Please input integer number only (1-4): _

```

Figure 5

Receipt :

Figure 6.1 shows the receipt if the customer was a member. Members are able to receive a discount on how much on their total spending. Figure 6.2 shows the receipt if the customer was not a member. Non members are not able to receive a discount.

```
=====
                        Farm Grocer by Ferma.Inc
                        89, Persiaran Horizon, 81350 Johor Bahru, Johor.
                        012-3456789
=====
                        Date: Tue Jun 22 14:49:09 2021

                        Cashier: Alisya, 339
                        Member Info: 7412, Shahril Saiful, 0192332195

Purchase List:

1. Beef           237.50           19
2. Chicken        100.00           10
3. Green Pepper   15.00              6
4. Capricon Sun   20.00           10
5. Mamee Monster  30.00           20
6. Snickers       40.00           10
7. Hand Sanitizer 20.00           10

Total number of purchase: 85

Subtotal: RM 462.00
Discount: RM 50.00
=====
Total: RM 412.00
=====

Total Pay: RM 412
Change: RM 0.00

Payment made by: Shahril Saiful
Pay with: Cash

                        Thank you for your purchase !
                        Hope to see you again!

-----
Process exited after 88.46 seconds with return value 0
Press any key to continue . . . █
```

Figure 6.1

```

=====
                        Farm Grocer by Ferma.Inc
                        89, Persiaran Horizon, 81350 Johor Bahru, Johor.
                        012-3456789
=====

                        Date: Tue Jun 22 14:37:36 2021

                        Cashier: Alisya, 339
                        Member Info: -----

Purchase List:

1. Beef                125.00          10
2. Green Pepper        35.00          14
3. Hand Sanitizer     100.00         50
4. Carrot              15.00           6
5. Mamee Monster       30.00          20
6. Capricon Sun        20.00          10

Total number of purchase: 110

Subtotal: RM 325.00
Discount: RM 0.00
=====
Total: RM 325.00
=====

Total Pay: RM 325
Change: RM 0.00

Payment made by: -----
Pay with: Cash

                        Thank you for your purchase !
                        Hope to see you again!

-----
Process exited after 114.7 seconds with return value 0
Press any key to continue . . . █

```

Figure 6.2

Conclusion

In summary, we were able to develop a self-service pay system that is functional and simple for customers to use. We applied what we have learned in class such as association, aggregation, composition, inheritance and polymorphism to explain our results. It is rather fascinating to see how a system may be implemented in grocery stores where there are a significant number of people purchasing basic necessities on a daily basis. We hoped that by using this system, it might benefit a lot of people including the company, the employee and the customers.

Appendices

Our project's code :

https://drive.google.com/drive/folders/17GsslvCz33HtZatppzCfw_818k5Fnr-5?usp=sharing