



TITLE: Trillion Season Hotel

NAMES OF GROUP MEMBERS:

Iman Ehsan bin Hassan (A20EC0048)

Lee Jia Yee (A20EC0063)

Nik Syahdina Zulaikha binti Badrul Hisham (A20EC0108)

LECTURER'S NAME:

Dr MOHAMAD ASHARI BIN ALIAS

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1. Introduction

Covid-19 has struck the world with many deaths. So we took an initiative to make a system to ease the burden of a hotel. The system is handled by the customers that are checking into our hotel. By doing this, we can actually reduce the social interaction between customers and the workers of the hotel to reduce the infection of covid-19.

We were well informed that during the holiday season, there will be a lot of people and visitors travelling and staying at the hotel for a few days. So these systems will give the customers a good experience when they stay at our hotel by not waiting for too long for check-In into our hotel and these will give our hotel a good reputation in the future.

Furthermore, in order to avoid a crowded crisis during the holiday season, at such a peak hour, the customers do not need to wait too long in line just to check in or check out of the hotel room. They can just do a self-service in the software system that we created.

The program starts with 6 options which are Available Room, Check-In Room, Check-out Room, Customer Services, Promotion and Exit program.

2. Problem statement

When we discussed the idea of the project, we noticed during this pandemic covid-19, the hotel industry was very affected. Thus, we take the initiative to discover and create a system that can reduce the face-to-face interaction involved in a hotel service every day. We think about how to ease our customers in many possible ways that can result in positive feedback to both sides, the hotel, and the customer. Thus, we think of how our system will make the process more systematic as the customer does not need to wait in such a long time to register at the counter. We want to have our users experience new things that are kind of related to the new revolution of our technology nowadays. We thought of a service that will make customers happier to use the system and what makes our system more special than others.

3. Objective

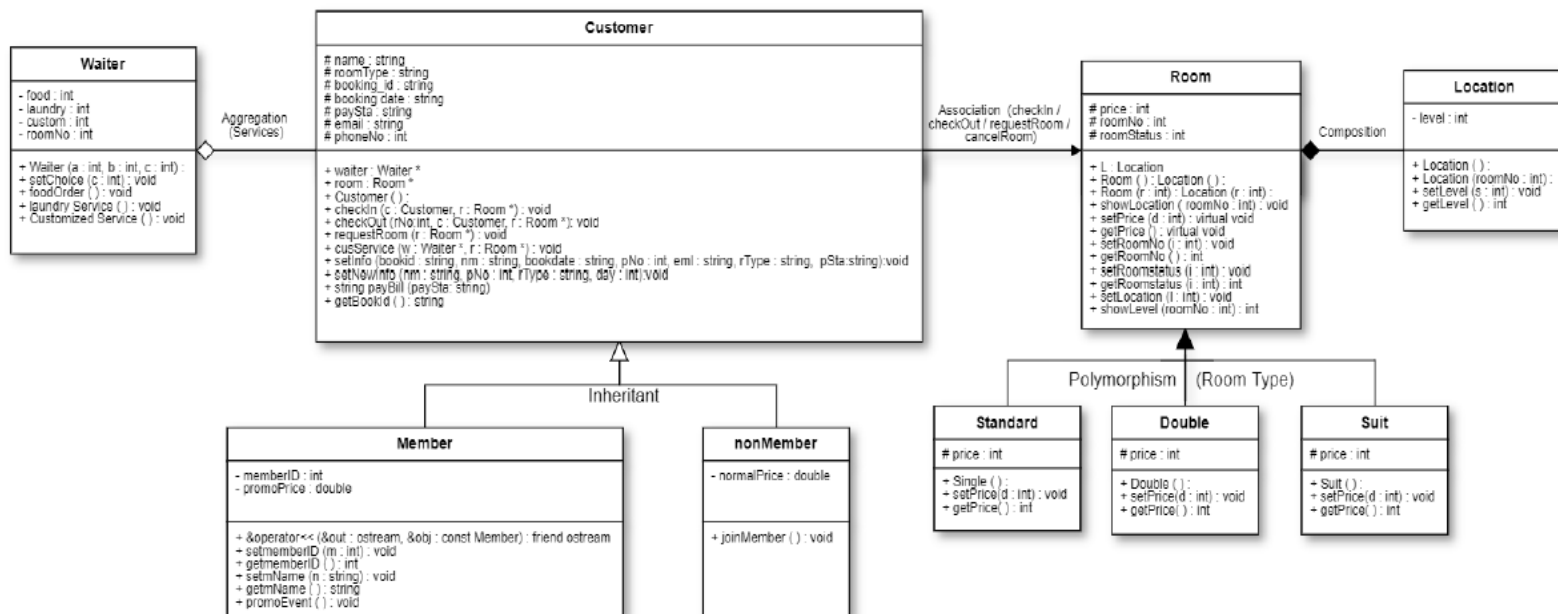
After discussing, we created a hotel system that has many functions involved and it will ease the process of checking in, checking out, requesting customer service and so on. Our objective is to create a system that is user-friendly for the customer. Below are the objectives of our projects.

- I. To ease the normal process that carried out at the counter in the Trillion Hotel
- II. To make the system more user-friendly for the customer
- III. To study how a system in a hotel really works.

- IV. To reduce the workload of the workers of the hotel
- V. To reduce the social interaction of the customers and workers.
- VI. To reduce the expenses of the hotel

4. Project Design

Class Diagram of Trillion Hotel



We used a lot of concepts to develop this system such as inheritance, association, polymorphism, aggregation and composition. For polymorphism, we used it in the class of rooms which consist of Single room, Double room and a Suit. We also applied in the class of Customer which consists of Members and non-Member. We also applied for access specifiers such as public, protected and private. For example, in the class of Suit, the protected location for the room. For example, the level of the room will notify the room class to show which level is the room located on.

For aggregation, the waiter class links to the customer as the waiter has a customer. This is because when the customer orders food in the hotel, the waiter class will have the information of the food that was ordered by the customer. From class Customer to other objects we applied

the association concept. The class Customer has a class Location that we use the composition concept on.

Next, for an inheritance, we can look at the class of Member and non-member where for the member, there will be some information that customers need to enter such as name, ID while for non-Member, we just invite the customers to join our hotel memberships.

5. Project output/results

5.1 The main output

```
*****
****                                     ****
***      WELCOME TO TRILLION SEASON HOTEL      ***
****                                     ****
*****
1. Available Room
2. Check-In Room
3. Check-Out Room
4. Customer Services
5. Promotion
6. Exit

Enter Option: _
```

This is the main output that will show up when we run the system and it will keep on displaying if the user does not want to exit the system. The system will welcome the user with 'WELCOME TO TRILLION SEASON HOTEL'. Then a list of options will be shown and the user should enter the option as '1' for Available Room, '2' for Check-In Room, '3' for Check-Out Room, '4' for Customer Services, '5' for Promotion, and '6' for Exit the system.

5.2 If the user enters the option as '1' in the main output.

```

Enter Option: 1

Customer name      : John

PhoneNo (number only) : 01112333441

*****
*****      Kinds of Room      *****
*****

1.Single Room
2.Double Room
3.Suit

Enter Your Choice : 2

You Have Selected Double room.

How many days do you stayed : 2

Total Price : RM 300

Please select your payment methods:
1. Cash
2. Card Payment

Your option : 2

----- PAYMENT PROCESSING -----
-----

----- THANK YOU FOR THE PAYMENT -----

Process is Successful.

Your Room Number is 46
Your Room is at Level 3
Please remember to take the room card.
Wish you have a nice day!!

```

Example of output for 5.2

After the user fills in the name and phone number, they need to choose the types of the room based on the option as '1' for a single room, '2' for a double room, or '3' for the suit. The example shows that the user chooses a double room. Next, the system will ask "How many days you stayed". The example shows that the user wants to stay for 2 days. The total price will show up. Then, the user needs to choose the methods to pay the bill, option '1' for using cash or '2' by card payment. The example shows that the user wants to pay by using card payment. When the payment process is successful, it will show the room number and level. A reminder for customers to take the room card and wish to have a nice day, in the hope that it will enlighten the user's heart a little bit.

5.3 If the user enters option as '2' in the main output.

```
Enter Option: 2

Please Enter Booking_ID : A000123

*****
*****      Check In Detail      *****
*****

Booking ID       : A000123
Booking Date    : 02/04/2021
Name            : Ali
Contact Number  : 130098098
Email Address   : ali@gmail.com
Room Number     : 100
Room Type       : double
Room Location   : 5
Room Price      : 150
Payment Status  : Done

Checked-In Successfully.
Your Room is at Level 5
Please remember to take the room card.
Wish you have a nice day!!
```

Example of output for 5.3

When the user enters the option as '2' in the main output, the system will ask to enter the Booking_ID. Then, the check-in details will pop out, and here the user needs to be alert with the payment status whether it is done or not. If the payment is incomplete, the system will ask the user to choose which methods they prefer either by cash or card payment. After the payment is successful, the check-in will be successful. Then, the system will show the room level and a reminder to take the room card will show up. By wishing the user to have a nice day, we hope that can make the user feel happy.

5.4 If the user enters option as '3' in the main output.

```
Enter Option: 3

Enter Room Number: 5

Please insert your room card.

-----

*****
***      Check Out Details      ***
*****

Customer Name       : Ali
Room Number        : 5
Phone Number       : 130098098

Room check out has done.
Wish you have a nice day!!
```

Example of output for 5.4

When the user chooses the option as 3, to check out, the system will ask the user to enter room number. Thus, the user needs to insert the room card. Then, check-out details will show up when the room check-out is successful. In order to lighten up the user's mood, the system will wish the user to have a nice day.

5.5 If the user enters option as '4' in the main output.

```
Enter Option: 4

***** CUSTOMER SERVICES *****

1. Need further inquiry from counter.
2. Location of facilities.
3. Request Services.
Please Enter Your Option : 3

***** Services that provided *****

1. Food Order
2. Laundry Service
3. Customized Service
Please Enter Your Option : 1

***** TRILLION CAFE *****

Please Enter Your Name: ■
```

Example of output for 5.5

When the user chooses option 4, the system will ask what type of service that they want. If the user enters option 1 which the user needs further inquiry from the counter, the system will give the user a number and tell the user to take a seat while waiting for their turns. If the user enters option 2, the list of the location of the facilities will show up as swimming pool, gym room, and sauna room at level three and the restaurant is at level 5.

Next, if the user enters option 3 which is request service, the system will show the services that the hotel provided as option 1 for food order, 2 for laundry service, and 3 for customized service. As the user chooses a food order, it will be brought to the Trillion Cafe system site. The user needs to enter their name and room number. The trillion cafe serves breakfast for RM8.00 on every purchase, lunch for RM20.00 on every purchase, tea time for only RM10.00 on every purchase, and dinner for only RM27.00 on every purchase. The system will display the menu for the category that the user chooses and after the user makes a decision on what they want to eat they need to put in how many quantities of the food they want. Then, the details for the order will show up. The system will ask the type of payment methods that the user prefers either cash or card payment. If the user wants the receipt, they need to press 1 for yes but 2 for no. The system will display “THANK YOU FOR ORDERING. YOUR ORDER WILL BE DELIVERED IN 35 MINUTES.” and whether the user would like to order anything else.

Then, if the user chooses a laundry service, it will be brought to the Laundry Service site and the user needs to fill in their name and room number. The system will ask the user to choose either 1 for dry cleaning service and 2 for ironing service. After that, the request will be recorded and the customer needs to wait for the workers to pick up the clothes.

Next, while the user chooses a customized service, they need to enter their name and room number. The system will ask them to enter the choice for the service as 1 for housekeeping and 2 if they want to request another service that is not in the option. Thus, the request will be recorded.

5.6 If the user enters option as '5' in the main output.

```
Enter Option: 5

***** Promotion Event *****

Are u having our membership? [1=yes/2=no]: 1

Please enter your name : Aiman
Hello, Aiman.
You are our member!!

Dear Member, you can enjoy all the services provided in Hotel.
They are free of charged.
You can get extra 30% discount for the next booking.
```

Example of output for 5.6

The system will show the promotion event and ask the user whether they already have the membership or not. If the user answered yes, the system will ask the user's name. Then, a checking process will happen if it is true that the user is one of the members. If it is true that If the user does not have the membership yet, the system will display the benefits that can be gained from the membership and the fee is RM150 monthly. If the user decides to be a member, the user needs to enter 'Y' for yes but 'N' for no. When the user chooses yes, they need to fill in their name, and the application will proceed.

5.7 If the user enters the option as '6' in the main output.

```
Enter Option: 6

Please enter security password: 123456

THANK YOU FOR USING SOFTWARE
```

The output for the '6' option.

Lastly, to close the system, it needs a password as only workers can close the system.

6. Conclusion

To be put in a nutshell, we managed to create a hotel system that is user-friendly and has a lot of functions. We use a variety of concepts such as association, aggregation, composition, polymorphism, and inheritance. We also learn a lot from designing the system in hotels such as how the system actually works. It is very interesting actually to see such a system can be applied in a hotel where every single day there must be a lot of customers checking in. We are grateful and appreciate seeing that the system can finally ease the burden of the workers.

7. Appendices

<http://bit.ly/FullCodingofTrillionSeasonHotel>