



**PROGRAMME :
DIPLOMA IN INFORMATION TECHNOLOGY
(DIGITAL TECHNOLOGY)(DDT)**

**COURSE:
DFP30243- OBJECT ORIENTED PROGRAMMING**

ASSESMENT	CASE STUDY 2	
NO	REGISTRATION NO	NAME
1.	32DDT20F2027	MUHAMMAD ZAID AIMAN BIN MOHAMMED ZAIDI
2.	32DDT20F2029	MUHAMMAD AFIQ MUHAJMIN BIN MOHD ZAINI
PROGRAMME	DDT	

INSTRUCTIONS :

1. Answer **ALL** the questions.
2. Submission Date :

CODE / COURSE	DFP30243-OBJECT ORIENTED PROGRAMMING	CASE STUDY	4/2
PROGRAM / CLASS	DDT3A	DURATION	3 HOURS
STUDENT'S NAME	MUHAMMAD ZAID AIMAN BIN MOHAMMED ZAIDI MUHAMMAD AFIQ MUHAJMIN BIN MOHD ZAINI	CLO	2P
REG. NO.	32DDT20F2027 32DDT20F2029	TOTAL MARKS	/10
LECTURER'S NAME	PN. HAZLEENA BINTI OSMAN		

Topic: Explain the relationships between Classes

Learning Outcomes: At the end of this case study, student able to display skills to use graphical/ visual data to visualize the concept of OOP

Answer the questions based on the following requirements:

The system we will be modeling is for the Hotel Booking System. As a software designer, you are required to come out with a UML class diagram to represent the classes and relationships that the system might have. The following steps are involved in building an object-oriented system:

1. Identify classes for the system
2. Describe the attributes and methods in each class.
3. Establish **relationships** among classes.

Table 1.0: Basic Requirement List

No	Requirement (attributes and methods)	Class
1.	User id and password needed. Able verify during login.	User
2.	Subclass of User class. Customer name, address, email and credit card info are needed. Able to register, login and update the profile	Customer
3.	Subclass of User class.	Administrator

No	Requirement (attributes and methods)	Class
.	Administrator name and email needed. Able to update the catalog hotel	
4.	Part of Customer class (without Customer, no booking will exist). Booking id, booking date, check in and check out date, customer id, customer name, room type, room cost, room id, cost per night, booking total. Able to place an order.	Booking
5.	Part of Customer class (without Customer, no booking will exist). Booking id, room id, room name, check in and check out date. Able to booking the room, update the check in and check out date, view all booking details and confirm the booking.	Booking Cart







Class Diagram Relationship Type	Notation
Association	
Inheritance	
Realization/ Implementation	
Dependency	
Aggregation	
Composition	

Figure 1: Relationship type

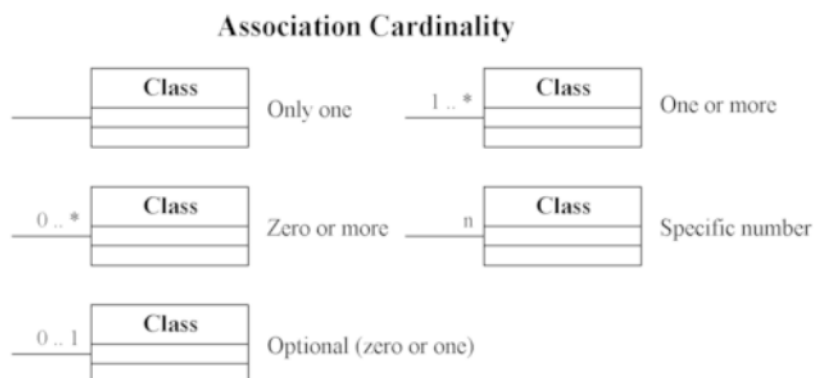


Figure 2: Cardinality

UML enable the classes and their interrelationship to be modeled via class diagram. Read and analyze the entire scenario given in **Table 1.0** to identify

attributes and method of each classes. Finally draw all the classes in UML's class diagram together with the **relationship between classes (refer to figure 1 and 2)**. Make sure the name for all the classes, attributes and methods are according to the naming convention. No arbitrary name are allowed in the class diagram. Your case study report must consist of introduction, body of report where you analyze and visualize the class using class diagram and finally the conclusion of the report.

Answer:

Introduction:

This is a Component diagram of the Hotel Booking System which shows components, provided and required interfaces, ports and relationship between the Customer, Booking, bookingCart and the Administrator. This type of diagram is used in Component- Based Development(CBD) to describe systems term with Service- Oriented Architecture(SOA). Hotel Booking System UML component diagram, describes the organization and writing of the physical components in a system.

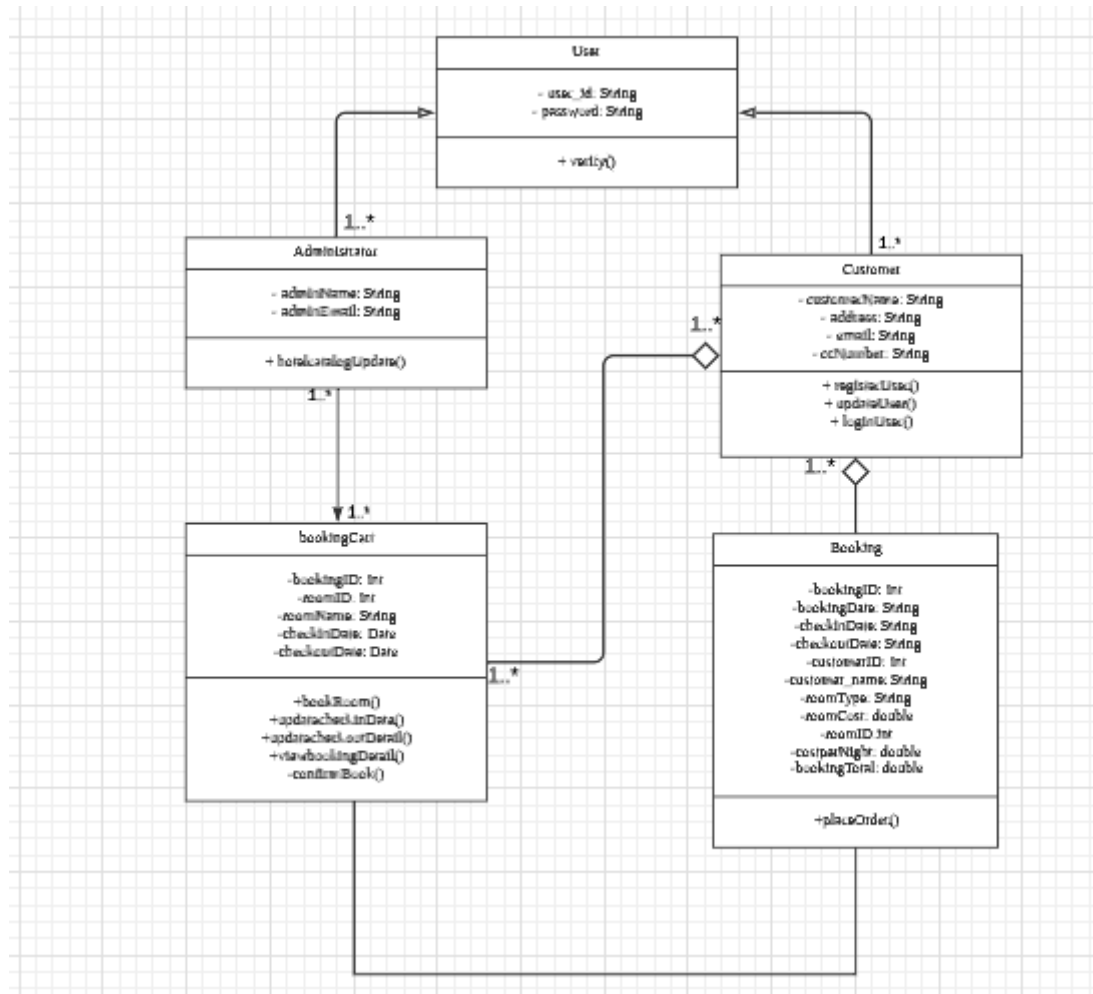
Components of UML of Hotel Booking System:

- User
- Administrator
- Booking
- bookingCart
- Customer

Features of Hotel Booking System Component Diagram:

1. You can show the models of the components of the Hotel Booking System.
2. Model the database schema of the Hotel Booking System.
3. Model the executable of an application of Hotel Booking System.
4. Model the system's source code of Hotel Booking System.

UML Class Diagram



Conclusion

From what we can see from the UML Class diagram,

- Customer and Administrator is the subclass for User which is the superclass
- bookingCart and Booking is part of the Customer class because without a customer there wouldn't be booking.

Cardinality

- 1 or more Administrator can only create only one user
- 1 or more Customer can only create only one user
- 1 or more Customer can have one or more bookingCart
- 1 or more Administrator can administer one or more bookingcart
- 1 or more Customer can have only one booking at a time

RUBRIC

CODE / COURSE	DFC30133 / OBJECT ORIENTED PROGRAMMING	CLO	2P	
CASE STUDY	2	TOTAL MARKS	/ 36	

COMPONENT						STUDENTS' SCORE
Item	4 marks	3 marks	2 marks	1 mark	0 mark	
Able to construct class name	All classes are named with descriptive names	Most of the classes are named with descriptive names	Some classes are named with descriptive names	Most classes are not described or the named are not descriptive.	No class name	
Able to construct data members and access modifier	Data members and access modifiers are well construct and include their data types for all classes	Most data members and access modifiers are well construct and include their data types for most classes	Many data members and access modifiers are well construct and include their data types for some classes.	Most of data members are construct but without access specifier	No data members	
Able to construct methods	All methods including constructors are well described and include their data types and returns for all classes.	Most methods including constructors are well described and include their data types and returns for most classes.	Many methods including constructors are well described and include their data types and returns for many classes	Able to declare method only	No methods	
Able to follow UML notations for OOAD	Follow notation used for OOAD by UML and use them properly in the case study	Follow notation used for OOAD by UML but some of them are not properly used in the case study	Follow notation used for OOAD by UML but most of them are not properly used in the case study	Follow some notation used for OOAD by UML	Does not follow notation used for OOAD by UML	

COMPONENT						STUDENTS' SCORE
Item	4 marks	3 marks	2 marks	1 mark	0 mark	
Ability to construct the correct UML class diagram	Able to construct correctly a class diagram from the given requirements	Able to construct a class diagram from the given requirements but some of the final result is not correct	Able to construct a class diagram from the given requirements but most of the final result is not correct	Unable to construct a class diagram from the given requirements but the final result is not correct	Unable to construct a class diagram from the given requirements	
Able to construct the relationships between classes	Able to construct all the relationships correctly between class	Able to construct most of the relationships correctly between class	Able to construct some of the relationships correctly between class	The relationships are exist but not correct.	No relationships	
Introduction of the case study report	Introduction clearly written about the case study.	Introduction is written about the case study.	Introduction is fairly written about the case study.	Simple introduction is present but not adequate	No introduction	
Contents are clearly organized and supported	Well organized, demonstrates logical sequencing and sentence structure	Well organized but demonstrates illogical sequencing and sentence structure	Organized but demonstrates logical sequencing and sentence structure	Content is poorly organized	Not organized	
Conclusion	Numerous detailed conclusions are reached from the evidence offered	Several detailed conclusions are reached from the evidence offered	Conclusions only include what was learned from the assessment.	Show little effort and reflection	No conclusion	
TOTAL SCORE :						/36