7/8/2021

HOTEL MANAGEMENT SYSTEM

HALA ALI KHAN_007

MAHRUKH_037

SOFTWARE DESIGN AND ARCHITECTURE

SUBMITTED TO: SIR SHOAIB

Hotel Management System

Hotel Management System helps the hotel staff to maintain and keep and organized rec9rd of all the monetary transactions and other activities directly related to management of a Hotel.
Hotel basically contains a food area and rooms that can be booked by the customers on their desire. Untill and unless they are all not completely filled.
Designing a software also includes pictorial representation of all its module to make it easier for the end user to recognize the working of the system.
Pictures attached below present a pictorial representation of our software.

1. Use Case Diagrams:

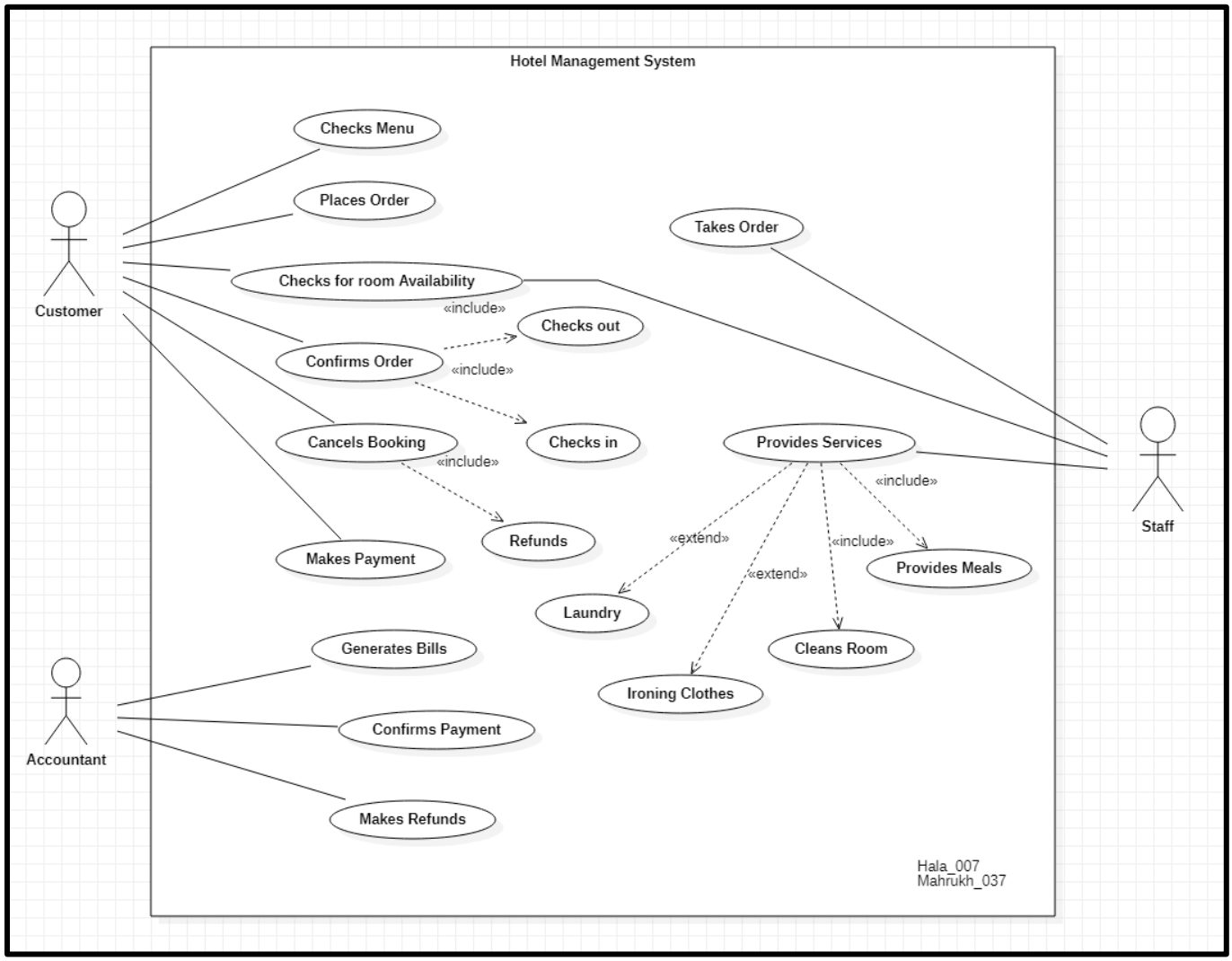
As use case diagrams are used to show the modules that are being stimulated by some actor.
This use case diagram consists of 3 actors. Out which 2 are primary actors and 1 is secondary actor.

A. **Customer** is a primary actor which is the main stakeholder in the system. Because untill and unless customer do not stimulate the actions other actors will be idle. Customer performs different activites as mentioned below in the diagram e.g. Checks menu, places order, checks for available rooms, confirms booking or cancels booking and pays bill.
B. **Accountant** is another primary actor. Accountant performs actions related to money i.e. Generates bills, confirms payment, refunds money.
C. **Staff** is the secondary actor. It performs actions like taking order, checking available rooms and provides services to those who booked rooms.

Include and Extend Modules:
In the diagrams multiple modules are connected to others either through include or extend function.
For example. If customer confirms booking, checking in and checking out is a compulsory module.
Similarly, if customer cancels booking, refund is a compulsion.
Moreover, if we talk about staff providing services. Then the services include

- Cleaning room
- Providing meal
- Ironing clothes
- Laundry

Out of these four services cleaning room and providing meal are 2 compulsory services because they are being charged at the time when booking is confirmed.
The other two are also provided but only if demanded. Their charges will be paid when the customer checks out.


Hotel Management System
Checks Menu
Places Order
Takes Order
Checks for room Availability
«include»
Checks out
Confirms Order
«include»
Cancels Booking
«include»
Checks in
Provides Services
«include»
Refunds
«extend»
«include»
Makes Payment
Provides Meals
«extend»
Laundry
Cleans Room
Generates Bills
Ironing Clothes
Confirms Payment
Makes Refunds
Customer
Staff
Accountant
Hala_007
Mahrukh_037

2. ***Class diagram:***

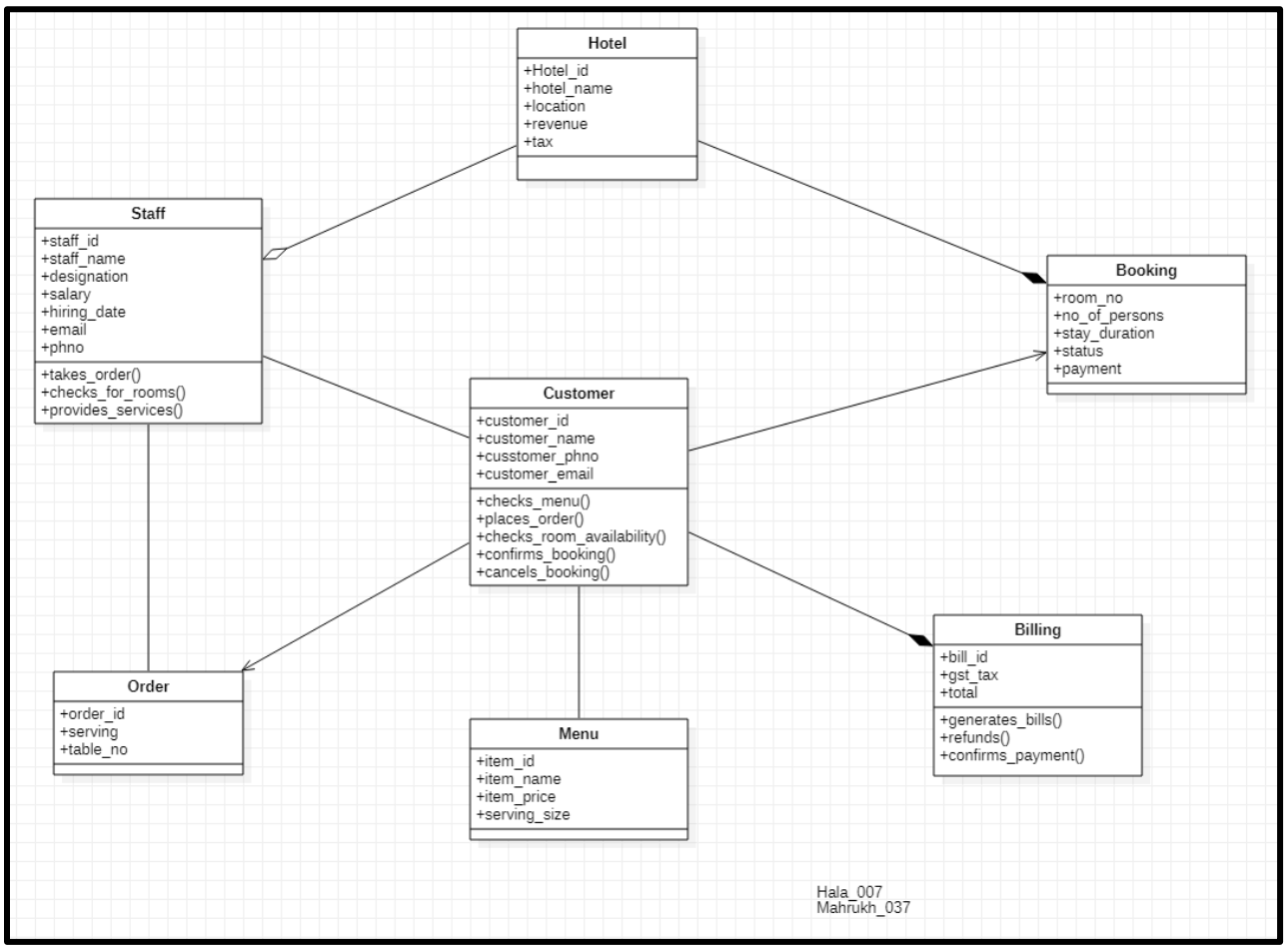
Class diagrams are the artifact that describe the attributes, operations and associations of the modules present in the system.

Here in the picture the class diagram presents the modules of hotel management system and their attributes.

Hotel: Hotel is being associated with staff and booking of rooms. Staff has aggregation association with hotel whereas booking has a composition relation.

Customer: Customer shares mostly directed association or only association. Customer is associated to the staff, order, booking, menu and billing module.

Billing: Billing module which supervised by accountant is another important module. It is associated to order and staff.

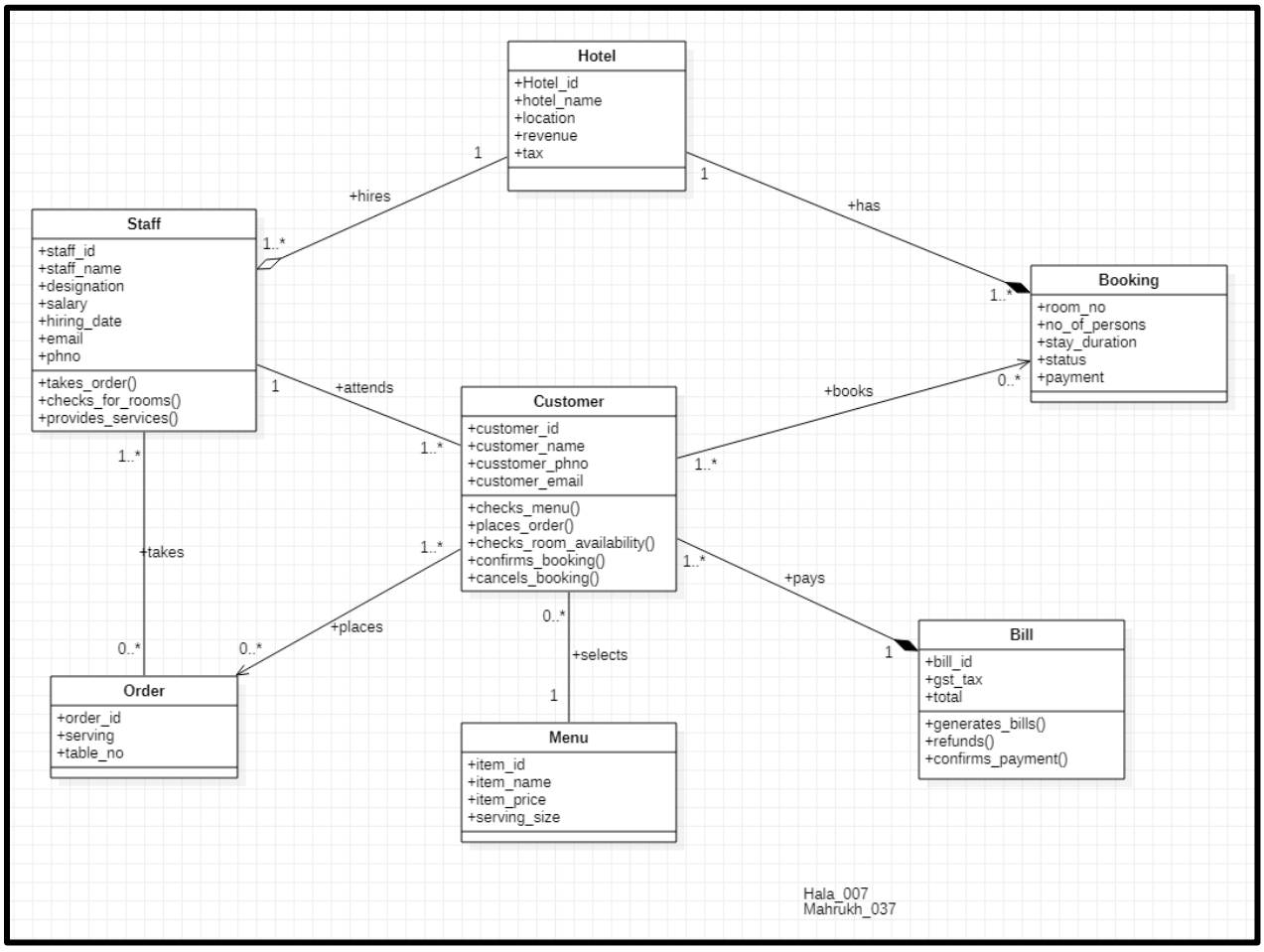


3. ***Domain Model:***

Domain Model is an advanced version of class diagram. Where we mention cardinalities or multiplicity along with association.

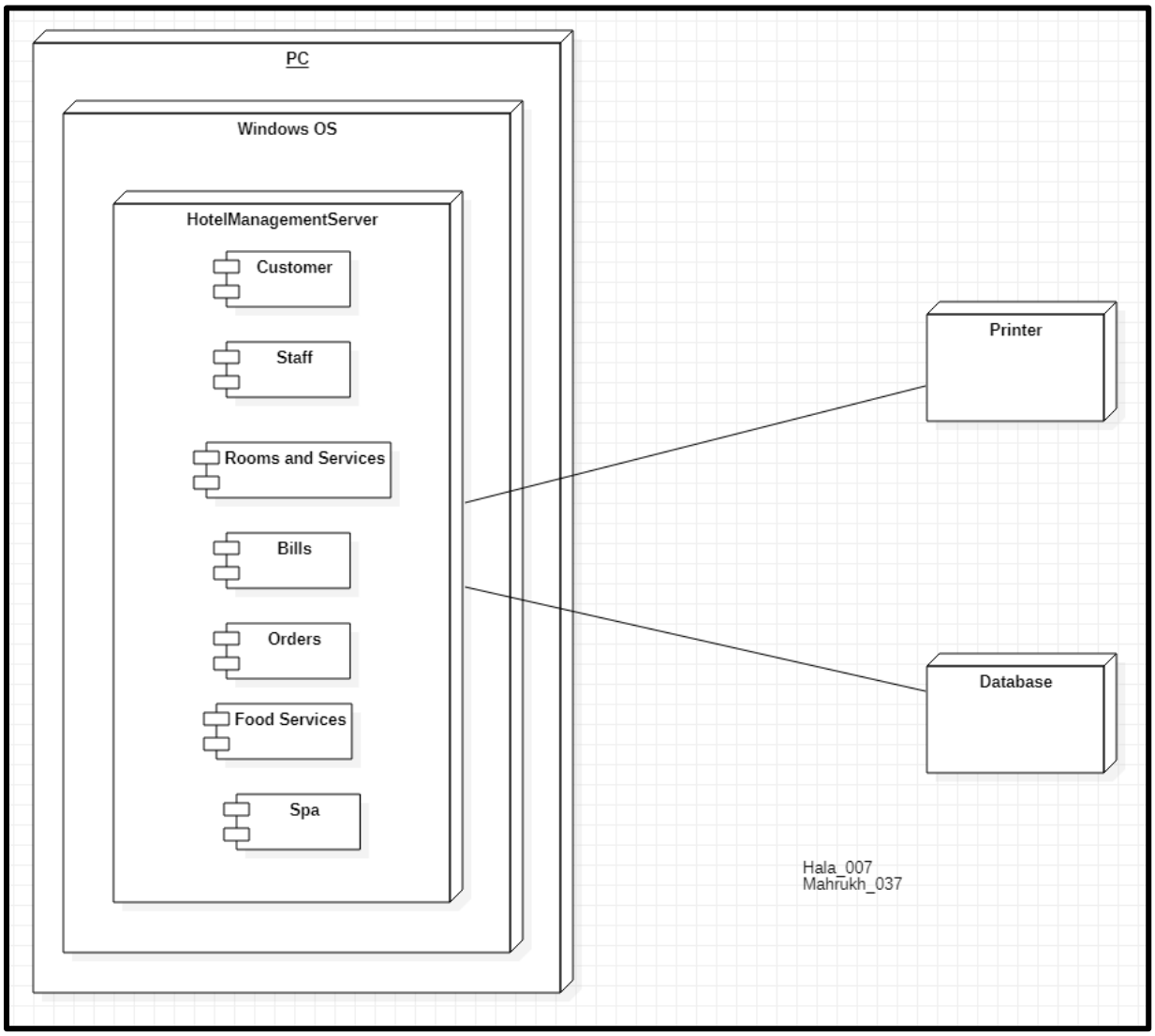
Attached below is a picture of domain model which shows dependency of each module on the other.

Hotel and Booking: 1 hotel hires 1 to many staff
Hotel and Staff: 1 hotel has 1 or more rooms
Staff and Customer: 1 staff member attends 1 to many customers
Staff and Order: 1 to many staff members takes 0 to many orders
Booking and Customer: 1 to many customers book 0 to many rooms
Customer and Order: 1 to many customer places 0 to many orders
Customer and Menu: 0 to many customers selects from only 1 menu
Customer and Bill: 1 to many customers pays only 1 bill



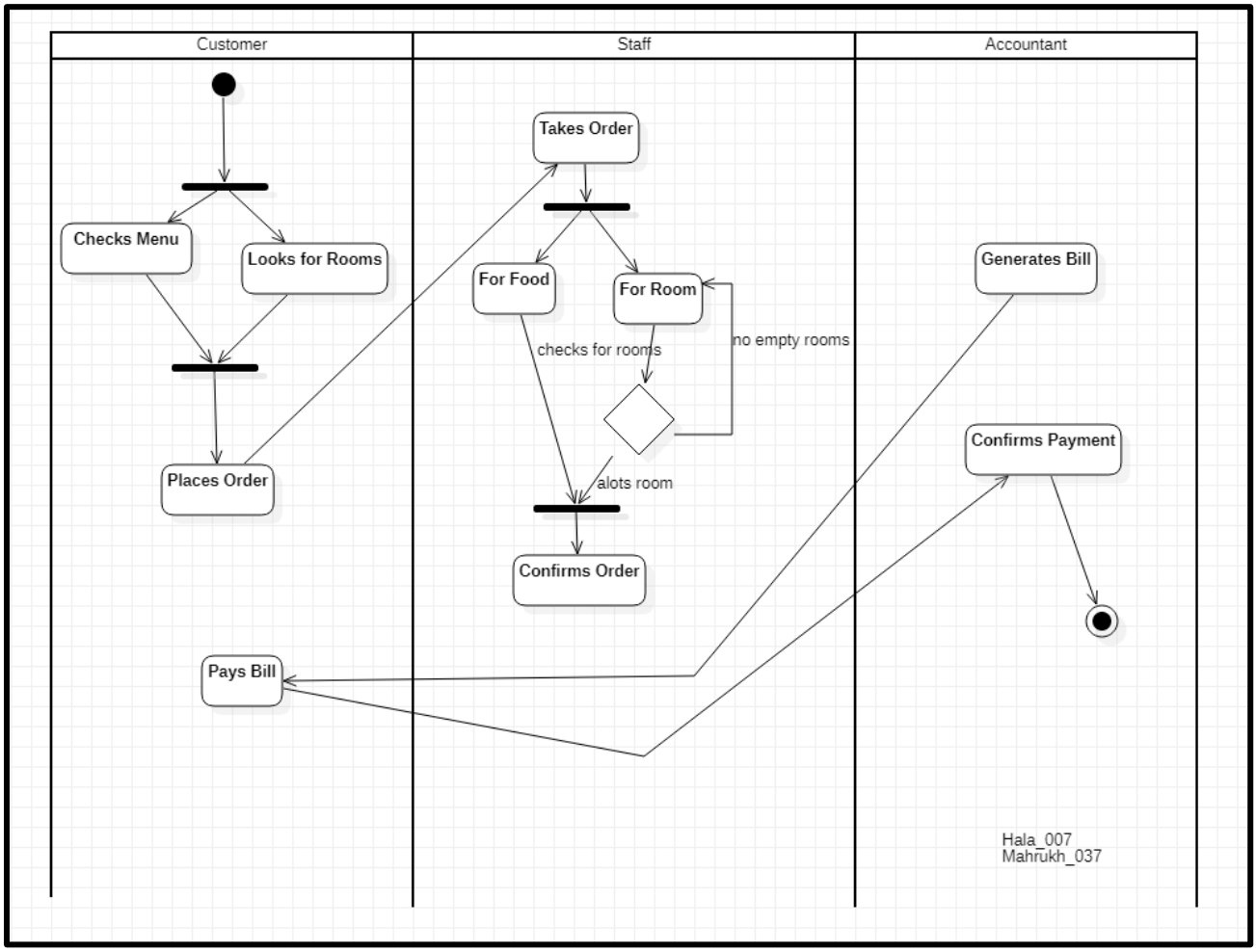
4. ***Deployment Diagram***

In a deployment diagram all the hardware and software that a system depends on.Here the main nodes are the PC , Windows operating System, which contains Hotel Management Server. The HMS consists of components which are basically the modules working together to form an organized system. This software is further connected to hard ware i.e printer and database that is present in secondary memory.



5. ***Activity Diagram:***

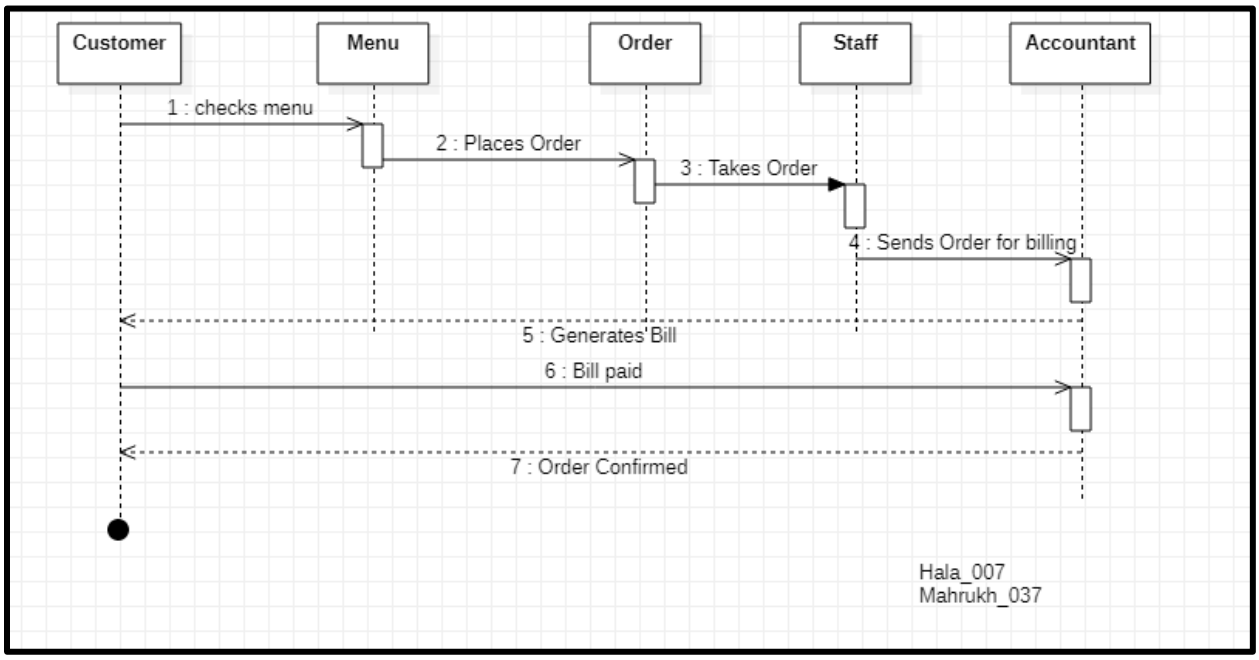
The activity diagram is a kind of flow chart which shows the flow of the activities performed in the system. Given below is the swimlane activity diagram where different actors are represented through explicit swimlanes. This shows the complete flow of how order is placed.



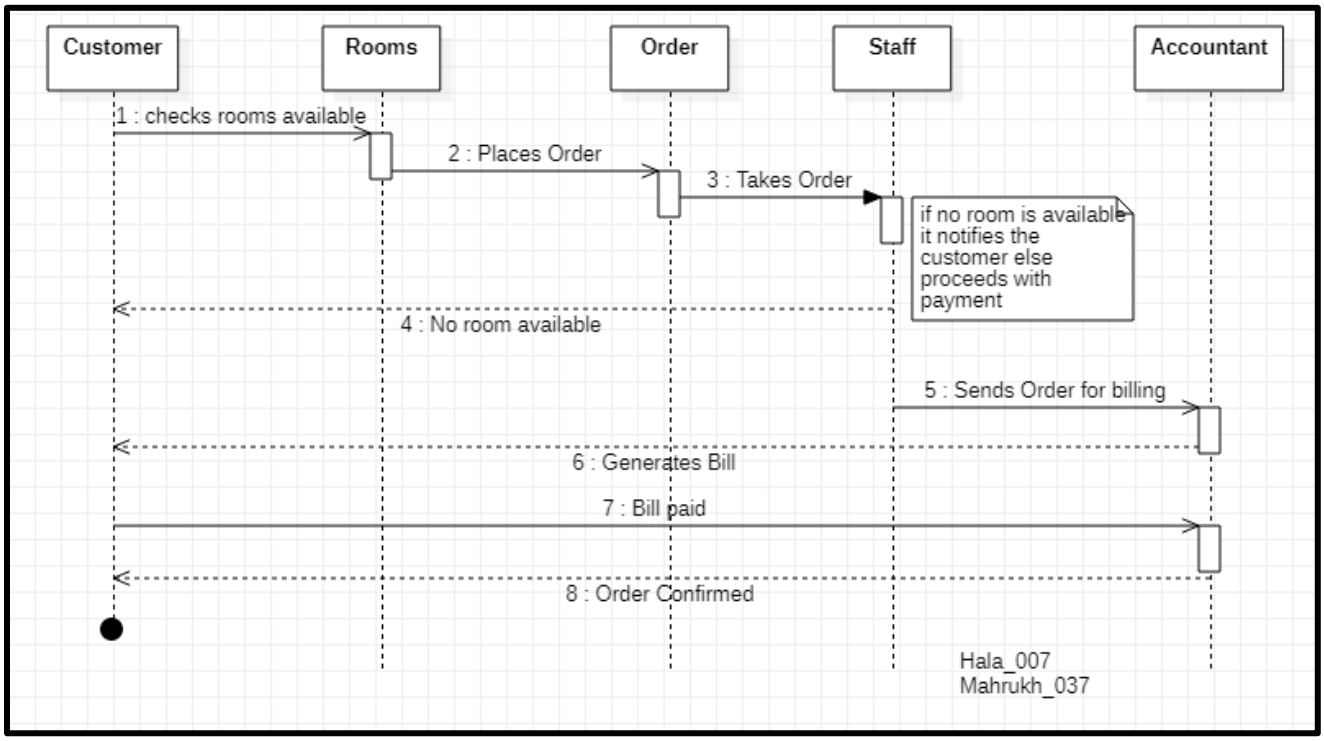
6. ***Sequence Diagram:***

Sequence diagrams shows the time-oriented diagram which represents the communication between different flows of actions.

Sequence to order Food:



Sequence to book room:


Customer
Rooms
Order
Staff
Accountant
1 : checks rooms available
2 : Places Order
3 : Takes Order
if no room is available it notifies the customer else proceeds with payment
4 : No room available
5 : Sends Order for billing
6 : Generates Bill
7 : Bill paid
8 : Order Confirmed
Hala_007
Mahrukh_037