

Quiz # 02 8-

1- Two Core Functional Requirements

(i) Reservation Management System-

RMS must allow customers to make the table reservations through a website or mobile app.

ii) Order and Kitchen Management System

Waiter must be able to enter orders directly into a tablet or mobile device and order should be instantly transmitted to the kitchen display system for preparation and kitchen staff has real-time visibility of the orders.



Q) Use Cases

In next page we have use case diagram table.

Uses Case Id	U1C01									
User Case Name	Manage Reservations									
Created By	Tayyab Raza	Updated by Tayyab Raza								
Date Created	01-10-2024	Last Revision 2-10-24								
Actors:	i- Customer ii- System									
Descriptions	This use case describes how the customers make table reservations through the RMS and how system handle table availability, confirmation and notification.									
Trigger	Customer initiate the reservation process by accessing RMS via web or mobile app.									
PreConditions	RMS is operational. System has up-to-date table availability.									
Post Conditions:	Reservation is successfully created. Customer receives confirmation email.									
Normal flows	<table border="1"> <thead> <tr> <th>Actor</th> <th>System</th> </tr> </thead> <tbody> <tr> <td>i) Customer access RMS through the mobile app or website</td> <td>1) Display the make reservation option.</td> </tr> <tr> <td>Customer select date, time and party size</td> <td>Checks the time availability.</td> </tr> <tr> <td>Customer confirms availability and send details</td> <td>Send confirmation email.</td> </tr> </tbody> </table>	Actor	System	i) Customer access RMS through the mobile app or website	1) Display the make reservation option.	Customer select date, time and party size	Checks the time availability.	Customer confirms availability and send details	Send confirmation email.	
Actor	System									
i) Customer access RMS through the mobile app or website	1) Display the make reservation option.									
Customer select date, time and party size	Checks the time availability.									
Customer confirms availability and send details	Send confirmation email.									

Alternative flows	If no table is available
Exception	If RMS is offline, an error message is displayed.

Use Case #2B Order and Kitchen Management

Use Case ID	UC02	
Use Case Name	Manage Orders and Kitchen Workflow	
Created by	Tayyab Raza	Updated by Tayyab Raza
Date Created	01-10-24	Dated Revise 01-10-24.
Actors	i) Waiter ii) Kitchen staff iii) System	
Descriptions	This use case allows the waiter to enter the order into RMS and the kitchen receives the order and preparation process is tracked.	
Trigger	A customer places an order with the waiter.	
PreConditions	RMS is functional Menu items and inventory updated.	
Post Conditions	Order successfully sent to the kitchen Kitchen staff prepares and completes the order.	

Normal flow	Actor	System.
	1 Waiter selects table and input Customer Order	1- Displays menu for selection and transmits order to kitchen
	2 Waiter confirms the order	2- Display order on Kitchen screen.
Alternative flow:	If an ordered Menu item is unavailable, system notifies the waiter to inform to the Customer and modify order.	
Exceptions:	If system is offline, the order is manually written and delivered to kitchen.	

3) Normal Flow & (3)

1) Reservation Management System.

i) Customer interaction:

The Customer accesses the restaurants website or mobile app to make reservation.

ii) Viewing Availability:

The Customer enters the desired date time and party size.

The System displays available slots.

iii) Make a Selection:

Customer Selects the table and

slot from available options.

4- Providing details:

Customer enters their personal details.

5) Confirmation:

→ RMS processes the reservation request

→ System confirms the reservation, update database and send a confirmation email to customer.

Use Case 28 Order and Kitchen Management

Normal Flow:

1) Order Entry:

The waiter logs into RMS tablet or mobile app and selects the table associated with the customer.

2- Waiter enters the order into the customer RMS.

2) Order Transmission:

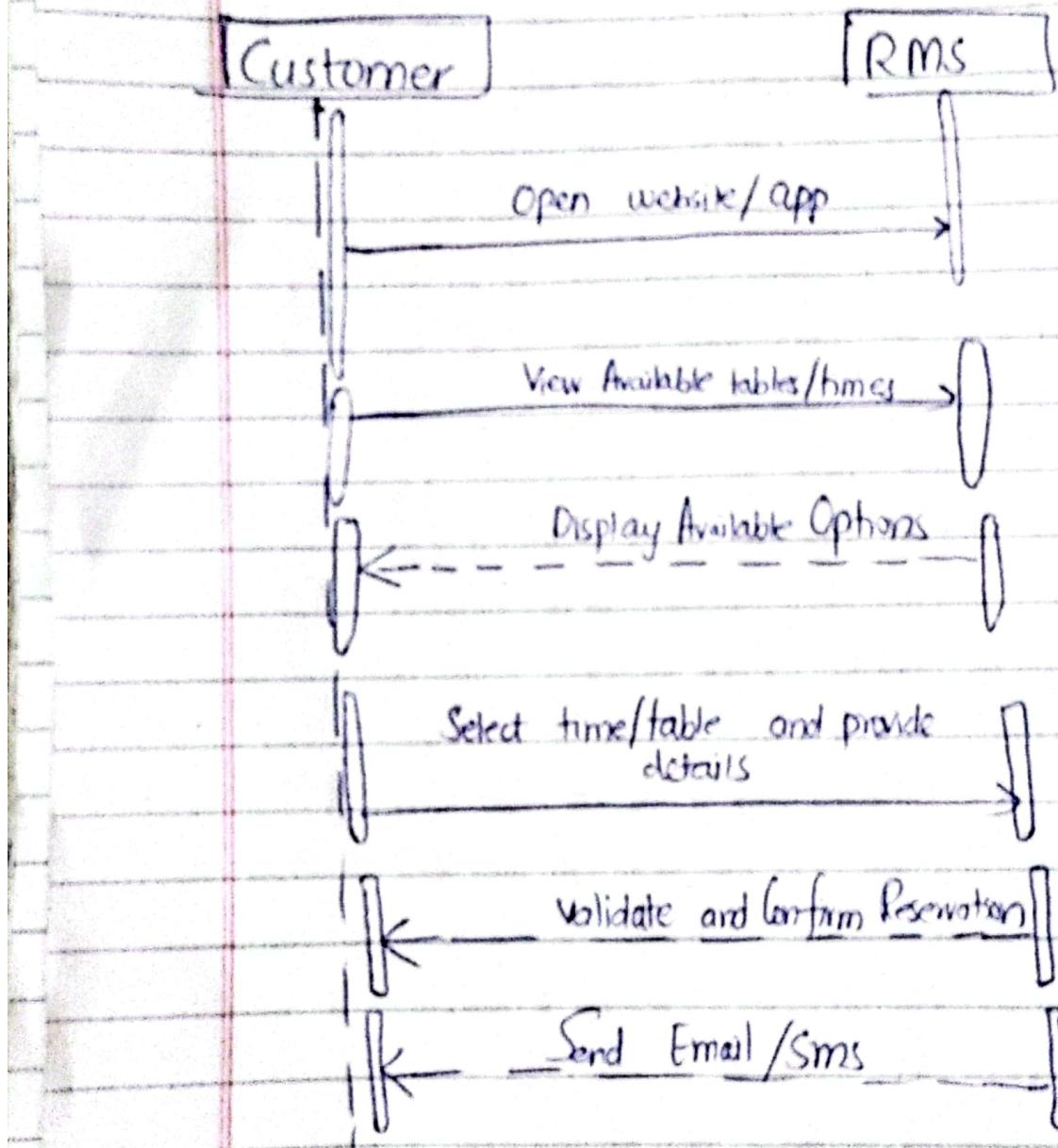
The system transmits the order to the kitchen display's screen.

3) Kitchen Staff:

Kitchen staff should be able to see the order and prepare it.

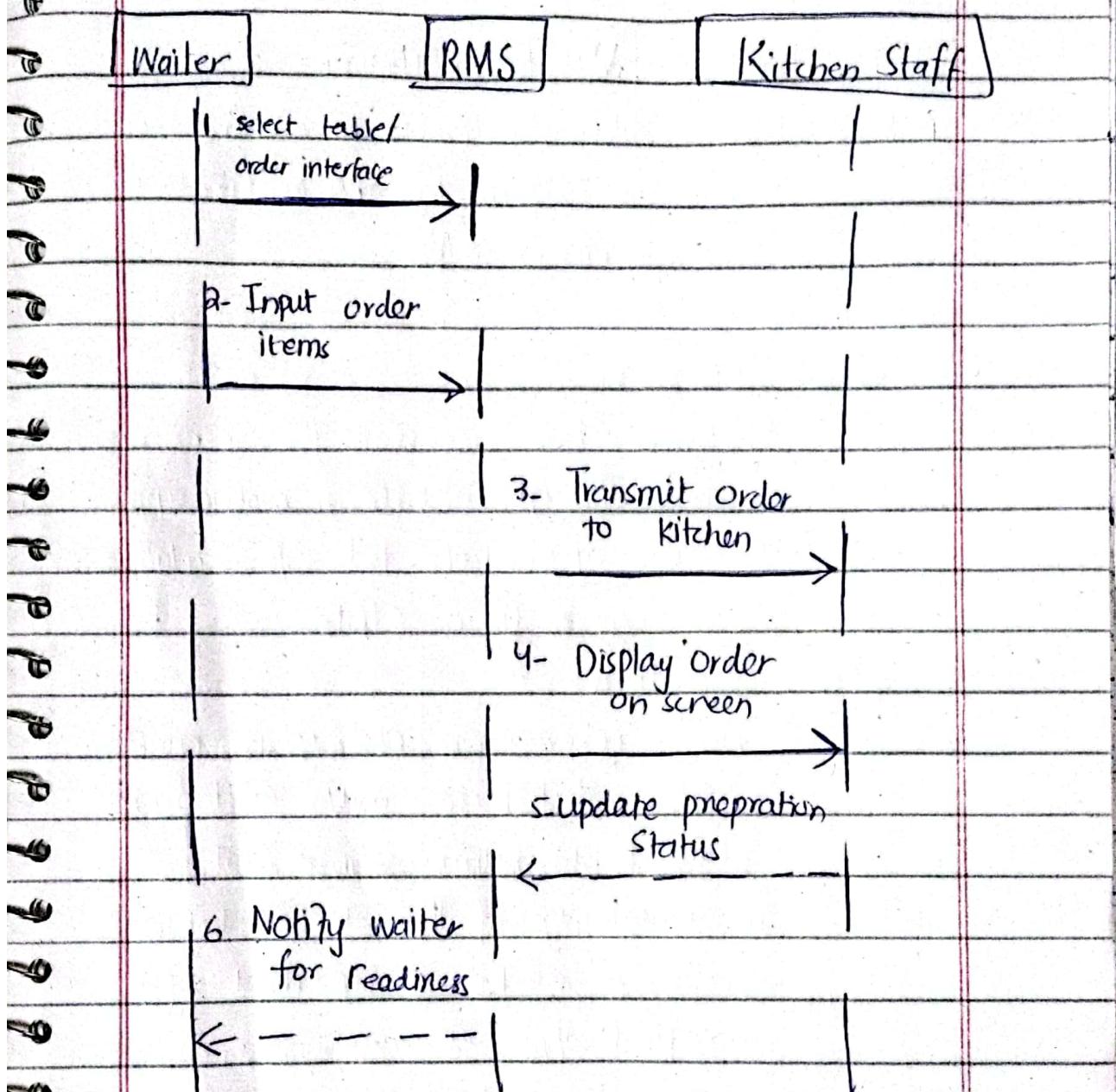
4) System Sequence Diagram

i) Actors: Customer RMS.



2) Order and Kitchen Management System

Actors:- Waiter, RMS, Kitchen staff.



5 Operational (Contract) 8

i) Operation **Make Reservation**

ii) Responsibility Allow customers to reserve table and confirms the reservation via email or SMS.

iii) Elements

• Pre Conditions:

1. Customer has accessed the reservation system through website or mobile app.

2. RMS has up-to-date list of availability tables and time slots.

• Post Conditions:

A new reservation entry is created in RMS database with customer details, table number, time slot.

The availability of the selected table and time slots is updated to reflect the reservations.

A confirmation message is sent to the customer.

• Input

Customer details (name, contact)

Reservation details

• Outputs:

Confirmation Email receive

Update Database.

Exceptions:-

If selected time or table is unavailable, error message displayed.

(2) Operational Contract for Order and Kitchen Management System

⇒ Operation : Place Order

Elements:-

• PreConditions:-

1- Waiter is logged into RMS on a table or mobile device

2- The Kitchen display System is operational and synchronized with RMS.

• Post Conditions:-

1- Order is recorded in RMS database

2- Order displayed on Kitchen Screen.

3- Order status is updated as it progresses.

4- A notification is sent to waiter when order is ready.

• Input

Table Number

Select Menu items and quantities

• Output

1 Order details show on Kitchen Screen

2- Notification to waiter.

Exception: If item is unavailable RMS notifies waiter.

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CRC Model for Reservation Management System:

1)

Class Name	Reservation Management
Super Class	Reservation Management
Responsibilities	Collaborators
1- Handle reservation process 2- Check table Availability 3- Manage Confirmation and Notification.	Table : Check and update availability Customer (subclass) Notification Service.

2)

Subclass 1 : Table	Collaborators
Responsibilities: 1-Maintain information about stable status 2-Update table availability	1-Receives table updates 2-Ensures the right table is assigned.

3)

Subclass 2 : Customer	Collaborators
Responsibilities: 1-Input reservation details 2-Receive reservation confirmation.	1- Reservation Manager 2- Notification

4)

Subclass 3 : Notification Service	Collaborators
Responsibilities: Send email/SMS notification Inform customer if no tables are available	Customer Reservation Management

CRC Model for Order and Kitchen Management System.

Class Name	Order and Kitchen Management
Responsibilities	Collaborators
1- Making order taking process from Waiter	• Order : Handles details of customer
2- Ensure efficient communication with kitchen	• Kitchen : Manages food preparation
3- Track order status from creation to completion.	• Waiter : Act as intermediary between customer and system.

Subclass 1: Order	
Responsibilities	Collaborators
1- Store and Manage Order details.	1- Order and Kitchen Management
2- Monitor order status	2- Waiter : Recieve Order

Subclass 2: Kitchen	
Responsibilities	Collaborators
1-Receive order from system	Orders
2- Update system	Waiter
3- Notify the waiter	

Subclass 3: Waiter

Responsibilities

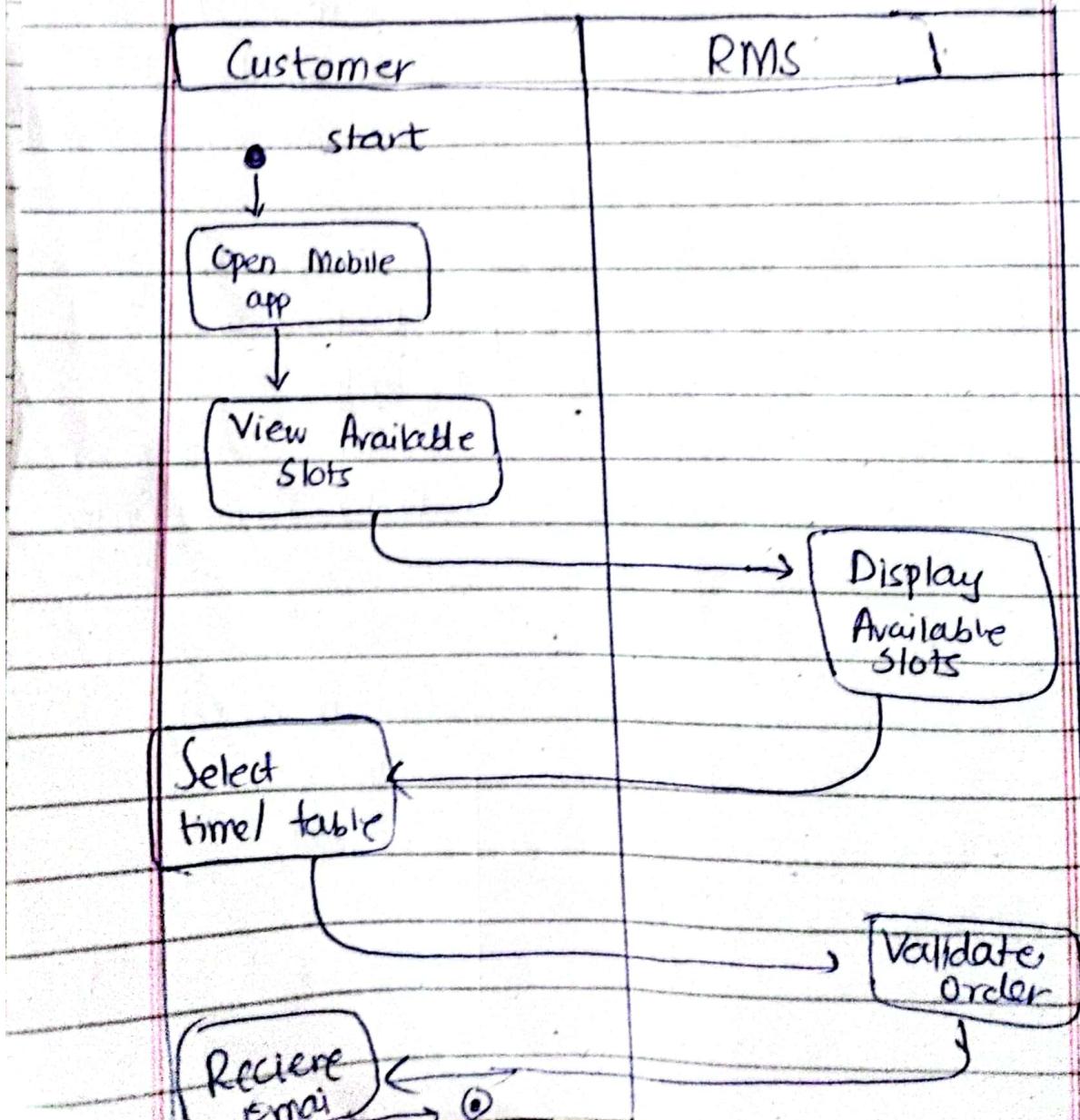
- 1- Input Customer Order
- 2- Notify System if modification is required.

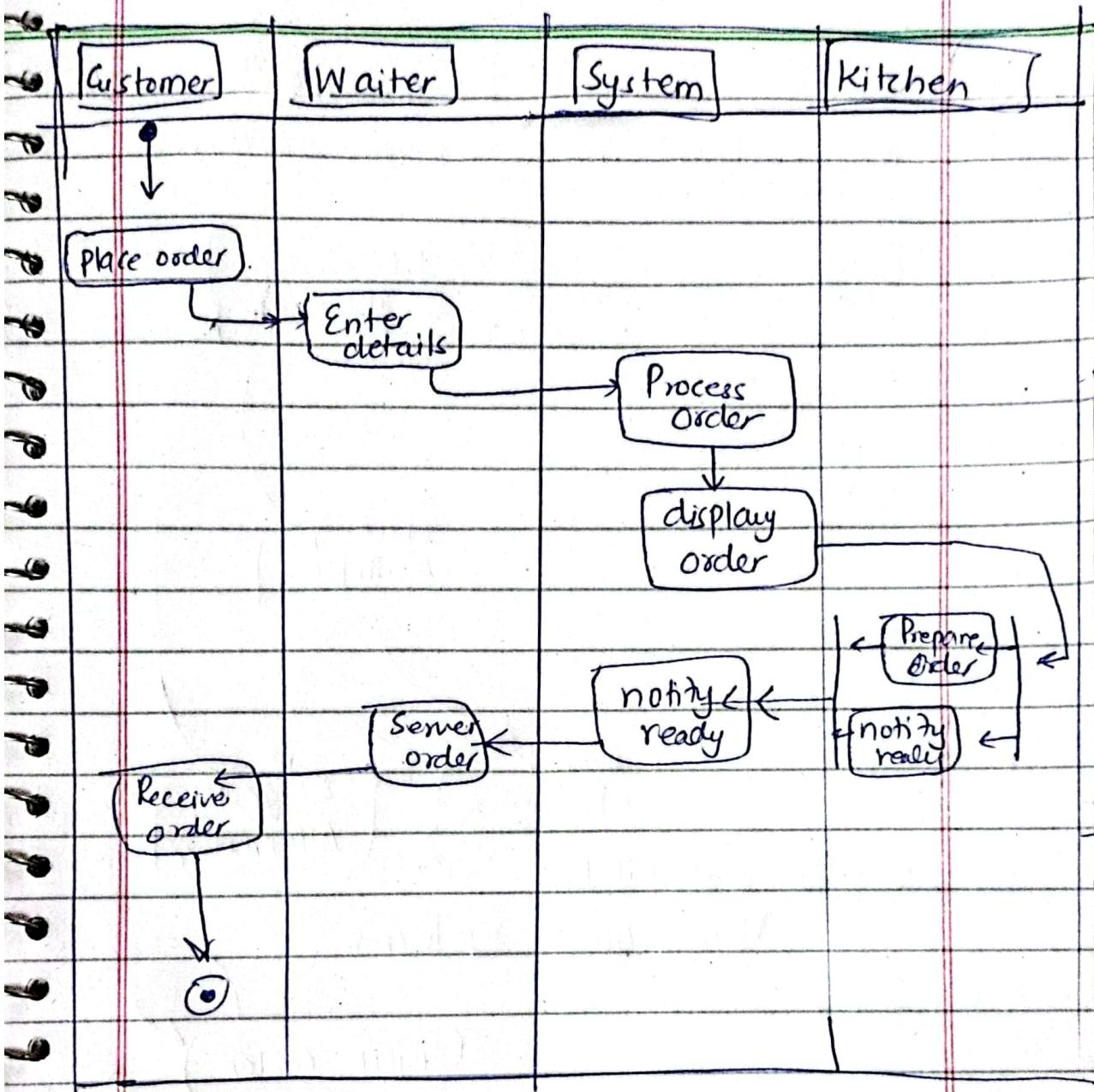
Collaborators

Order and Kitchen
Management
Order.

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Activity diagram :-

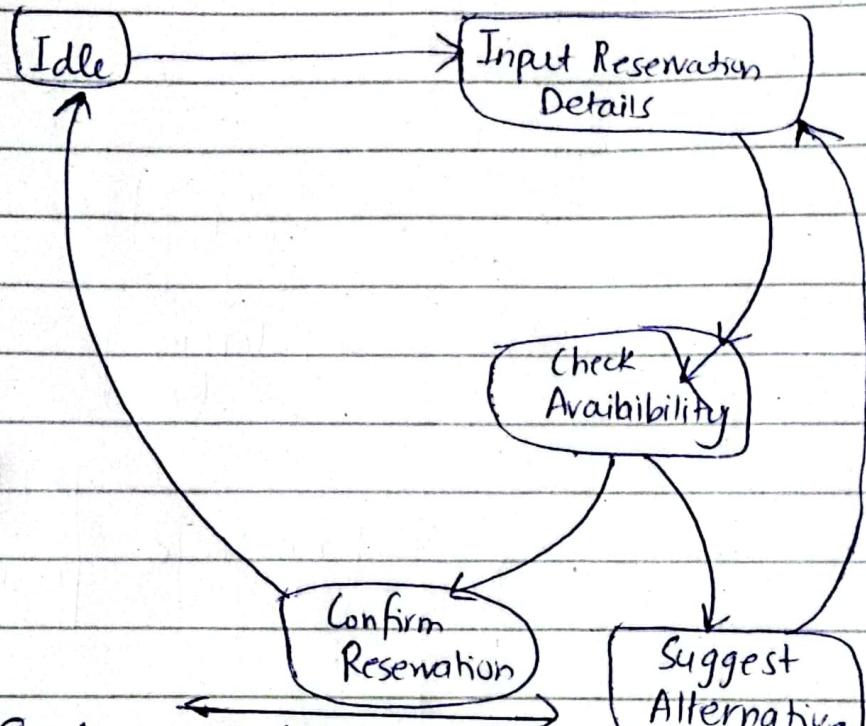




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State Transition Diagrams

(i) Reservation Management System



ii) Order and Kitchen Management System

