

Higher Diploma in Science in Business Systems Analysis
Systems Analysis and Design

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Hotel Villa Maria Independent Hotel Group
HOTEL RESERVATION BOOKING SYSTEM

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1.0 Introduction

Hotel Villa Maria is a hotel in Kilkenny, that is part of the Independent Hotel Group. The hotel has 30 rooms, consisting of single, twin and double bed rooms. The rooms vary in price depending on room type and dates.

This system is concerned with the booking of Hotel rooms by the customer. The hotel:

- Only accepts Credit/ Debit card as a method of payment.
- Bookings are either online or walk ins.
- Walk in bookings are carried out at a machine terminal in the hotel. This machine is also used to make payments throughout the stay and to pay final amount.
- A deposit is required for any booking, with this amount then being taken off for the final payment.
- The deposit is paid when making the initial booking.
- Before checking out it is required that customers pay the balance outstanding.
- Receptionist will be responsible for helping guests to check in and check out. They will check that deposit and final balance has been paid before completing check in or check out.
- Cleaners have access to handheld devices in order to see rooms that are required to be cleaned and to update room status.

2.0 Use Cases

2.1 UC1: Reserve a Room

UC1: Reserve a Room	
Primary Actor	Customer.
Description	This use case describes how a Customer can reserve a room at the hotel.
Pre-condition(s)	N/A
Post-condition	Customer reserves appropriate room.
Main Success Scenario	<ol style="list-style-type: none"> 1. Customer selects desired dates. 2. System invites choice of room and number of occupants. 3. Customer selects room type and number of occupants availability. 4. System presents price. 5. Customer selects preference. 6. System invites customer to input contact details. 7. Customer inputs details. 8. Systems presents payment options. 9. Customer selects Payment using credit/ debit card. Detailed below. 10. System sends confirmation email with booking reference.
Additional Scenario(s)	<p><u>Room not available for selected dates.</u></p> <p>3a. Customer selects alternative dates/room types.</p> <p>3a. System resumes to Step 3 in Success Scenario.</p>

2.2 UC2: Amend Booking

UC2: Amend Booking	
Primary Actor	Customer.
Description	This Use case describes the process of amending or cancelling a reservation already made.
Pre-condition(s)	Customer is checking information regarding a reservation already booked.
Post-condition	Customer has successfully amended or cancelled their booking. Customer will be reimbursed or charged difference on room
Main Success Scenario	<ol style="list-style-type: none"> 1. Customer submits booking reference number. 2. System displays booking information related to reference number. 3. System presents options to amend booking or cancel booking. 4. Customer chooses to amend booking. 5. System prompts Customer to enter new date details. 6. Customer enter dates availability is required for. 7. System displays alternatives with the applicable dates and prices. 8. Customer selects alternative preference. 9. System displays changes to reservation and price.. 10. Customer confirms details. 11. System presents confirmation of successful outcome. 12. System sends confirmation mail.
Additional Scenario(s)	<u>Customer wants to cancel their booking.</u> 3a. Customer decides to cancel booking. 3a. System invites Customer to confirm cancellation. 3a. Customer confirms intent to cancel reservation. 3a. System skips to Step 9 in Success Scenario.

2.3 UC3: Make A Payment

UC3: Make A Payment	
Primary Actor	Customer.
Description	This Use case describes the payment process for a credit/debit card Customer.
Pre-condition(s)	Customer should have a valid booking reference. Customer has carried out an act that requires a payment to be made.
Post-condition	Reservation deposit is paid for. Appropriate message is displayed.
Main Success Scenario	<ol style="list-style-type: none"> 1. System invites Customer to input debit/ credit card details. 2. Customer inputs debit/ credit card details. (Name/ Credit/ Debit card number/ CVV). 3. System displays credit/ debit card details. 4. Customer confirms details. 5. System confirms payment successful. 6. System sends confirmation mail.
Additional Scenarios	<p><u>Customer enters Incorrect Credit/ Debit Card details</u></p> <p>5a. Customer inputs incorrect credit/ debit card details.</p> <p>5a. System prompts Purchaser to re-enter correct credit/ debit card details.</p> <p>5a. Customer enters correct credit/ debit card details.</p> <p>5a. System returns to Step 3 in Success Scenario.</p> <p><u>System requires additional verification of the transaction.</u></p> <p>5b. System requests additional verification.</p> <p>5b. Customer provides additional verification.</p> <p>5b. System continues to Step 5 in Success Scenario.</p> <p><u>Customer has insufficient funds</u></p> <p>5b. Customer must use an alternative payment method or cancel the transaction. If chooses alternative payment returns to step 1.</p>

2.4 UC4: Room ready for inspection

UC4: Room ready for inspection	
Primary Actor	Cleaner Attendant
Secondary Actor	N/a
Description	This Use case describes the process of Attendant certifying that a room has been passed ready for inspection.
Pre-condition(s)	Guests have checked out of the room and receptionist has ordered a room clean.
Post-condition	Room has been certified clean and ready for occupancy.
Main Success Scenario	<ol style="list-style-type: none"> 1. Attendant checks device for rooms that receptionist has instructed to be cleaned. 2. System returns applicable rooms supervisors handheld device. 3. Attendant cleans room. 4. Attendant updates room status to ready for inspection. 5. System sends message to handheld devices, room ready for inspection.
Additional Scenario(s)	N/a

2.5 UC5: Room passed inspection

UC5: Room passed inspection	
Primary Actor	Cleaner Supervisor
Secondary Actor	N/a
Description	This Use case describes the process of Supervisor certifying that a room has been cleaned and has passed inspection.
Pre-condition(s)	Room has been cleaned by cleaner and they have updated room status is ready for inspection.
Post-condition	Room has been certified clean and ready for occupancy.
Main Success Scenario	<ol style="list-style-type: none"> 1. Supervisor checks device for rooms that have been certified ready for inspection. 2. System returns applicable rooms supervisors handheld device. 3. Supervisor checks room. 4. Supervisor updates room status to passed inspection. 5. System sends message to reception, room ready for occupancy.
Additional Scenario(s)	<u>Room requires additional cleaning:</u> 4a. Supervisor updates room status to re-clean. 4a. Returns to step 1 in MSS once room has been cleaned.

2.6 UC6: Check in

UC6: Check In	
Primary Actor	Customer
Secondary Actor	Receptionist
Description	This Use case describes the process of checking in a Customer.
Pre-condition(s)	Customer has a booking made.
Post-condition	Customer has successfully been checked in.
Main Success Scenario	<ol style="list-style-type: none"> 1. Customer provides a booking reference number to the receptionist. 2. Receptionist uses the reference number to find the booking. 3. System returns details of the booking and prompts receptionist to confirm the details. 4. Receptionist states the details of the room type and the duration of the stay recorded in the booking. 5. Customer confirms the details of the room type and the duration of the stay. 6. The receptionist confirms deposit has been paid 7. System returns confirmation of deposit payment. 8. System presents confirmation mail of successful check in. 9. Receptionist prints off check in confirmation mail containing amount outstanding and presents it to the Customer.
Additional Scenario(s)	N/a

2.7 UC7: Check out

UC7: Check Out	
Primary Actor	Customer
Secondary Actor	Receptionist
Description	This Use case describes the process of checking out a Customer.
Pre-condition(s)	Customer is has been checked in.
Post-condition	Customer has successfully been checked out.
Main Success Scenario	<ol style="list-style-type: none"> 1. Customer provides a booking reference number to the receptionist. 2. Receptionist uses the reference number to find the booking. 3. System returns details of the booking and prompts receptionist to confirm the details. 4. Receptionist states the details of the room type and the duration of the stay recorded in the booking. 5. Customer confirms the details of the room type and the duration of the stay. 6. Receptionist confirms final payment has been paid 7. System returns confirmation of final payment.
Additional Scenario(s)	<p><u>Deposit hasn't been paid:</u></p> <p>7a. Receptionist instructs Customer to pay outstanding balance at booking terminal.</p> <p>7a. Returns to Step 6 in MSS once deposit has been paid.</p>

2.8 UC8: Check Availability

UC8: Check Availability	
Primary Actor	Receptionist.
Secondary Actor	Customer
Description	This Use case describes the process of checking room availability for a date range.
Pre-condition(s)	N/a
Post-condition	Availability of rooms has been ascertained.
Main Success Scenario	<ol style="list-style-type: none"> 1. Customer indicates dates they would like to make a booking for. 2. Receptionist selects Booking Management. 3. System presents options. 4. Receptionist selects check availability. 5. System prompts receptionist to enter date details. 6. Receptionist enter dates availability is required for. 7. System returns room availability for dates queried. 8. Receptionist returns availability to the customer.
Additional Scenario(s)	<u>Availability of a certain type of room is needed.</u> 5a. Receptionist enters dates and room type for which availability is required. 5a. Skips to step 6 in MSS.

3.0 CRC Cards

3.1 CRC Card 1: Customer

CRC Card 1: Customer	
Responsibilities	Collaborations
<ul style="list-style-type: none"> • Make Booking () • Make Payment () • Change Booking () • Check In () • Check Out () 	n/a

3.2 CRC Card 2: Price

CRC Card 3: Price	
Responsibilities	Collaborations
<ul style="list-style-type: none"> • Get Price () 	Room

3.3 CRC Card 3: Booking

CRC Card 4: Booking	
Responsibilities	Collaborations
<ul style="list-style-type: none"> • Show Details() • Open Booking() • Get Deposit Paid () • Change Booking () • Update Booking () 	Customer Payment

3.4 CRC Card 4: Room

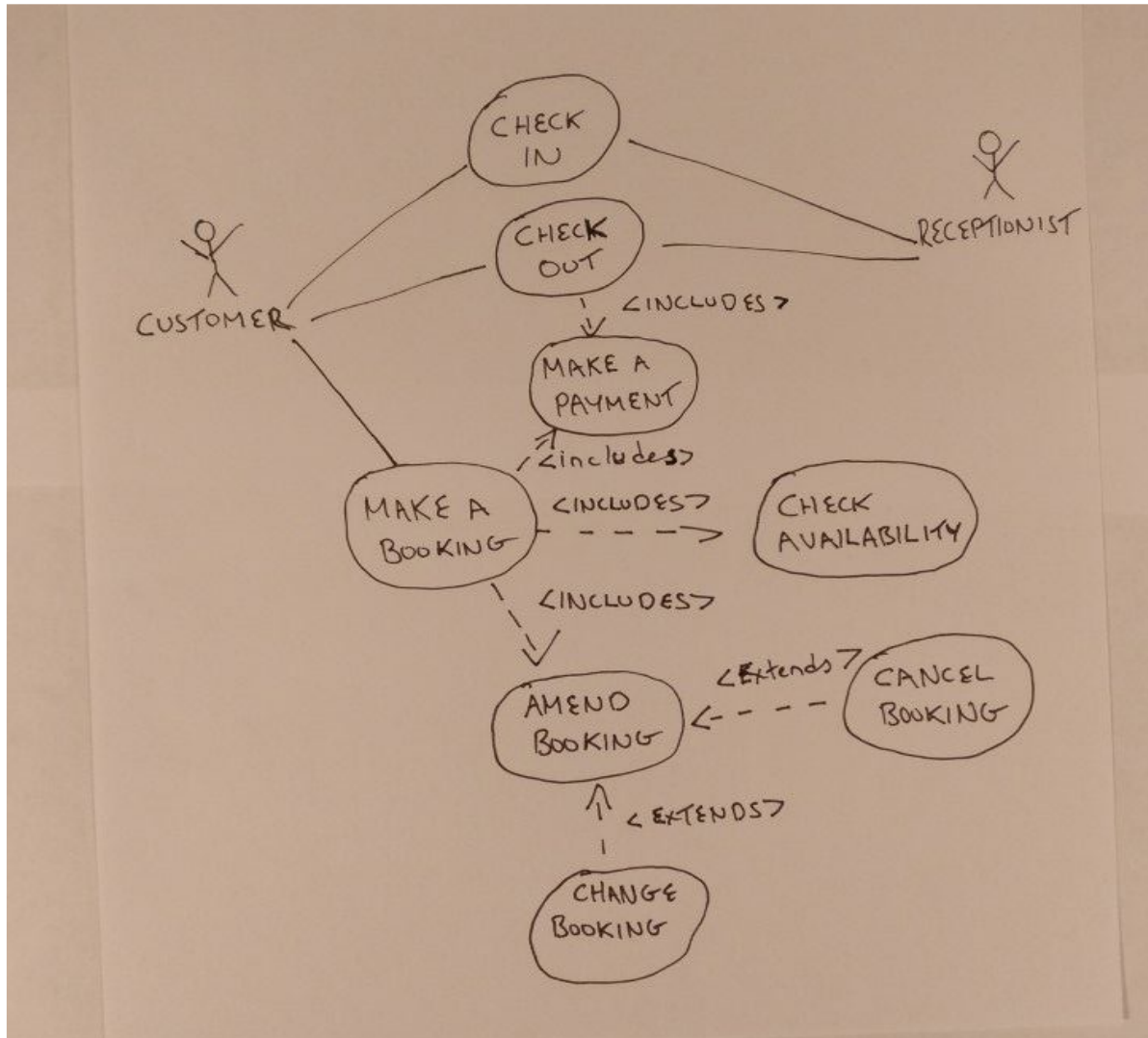
CRC Card 5: Room	
Responsibilities	Collaborations
<ul style="list-style-type: none"> • Check Reservations() • Update Status() • Change Status() • Check Status () • Confirm Details() • Check Availability() • Update Availability() 	Customer Booking

3.5 CRC Card 5: Payment

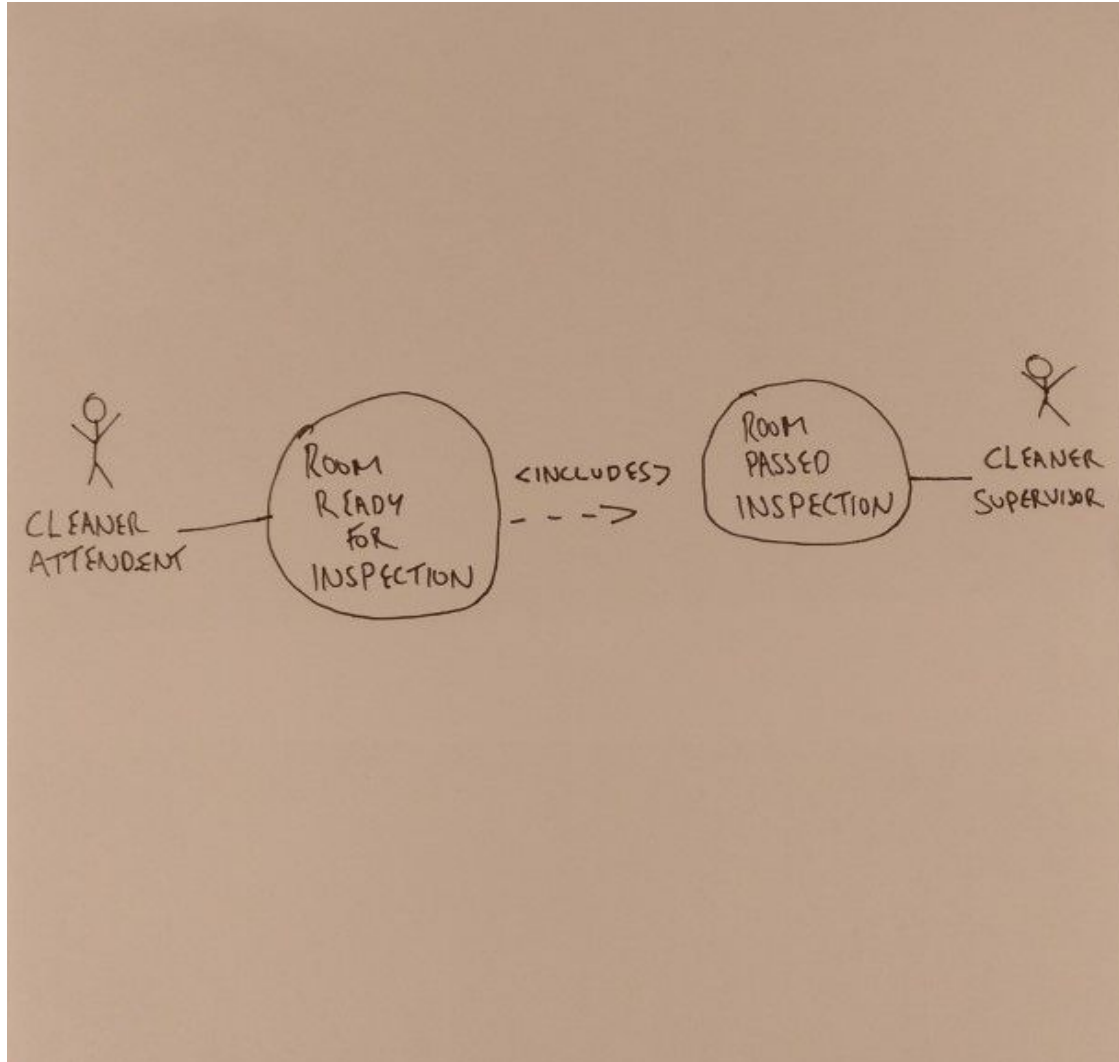
CRC Card 6: Payment	
Responsibilities	Collaborations
<ul style="list-style-type: none"> • Check Payment Details() • Open Payment () • Initiate Payment () • Calculate Payment () • Verify Payment () • Make Payment () • Update Payment () 	Customer

4.0 Use Case Diagram

4.1 UC1 Diagram:

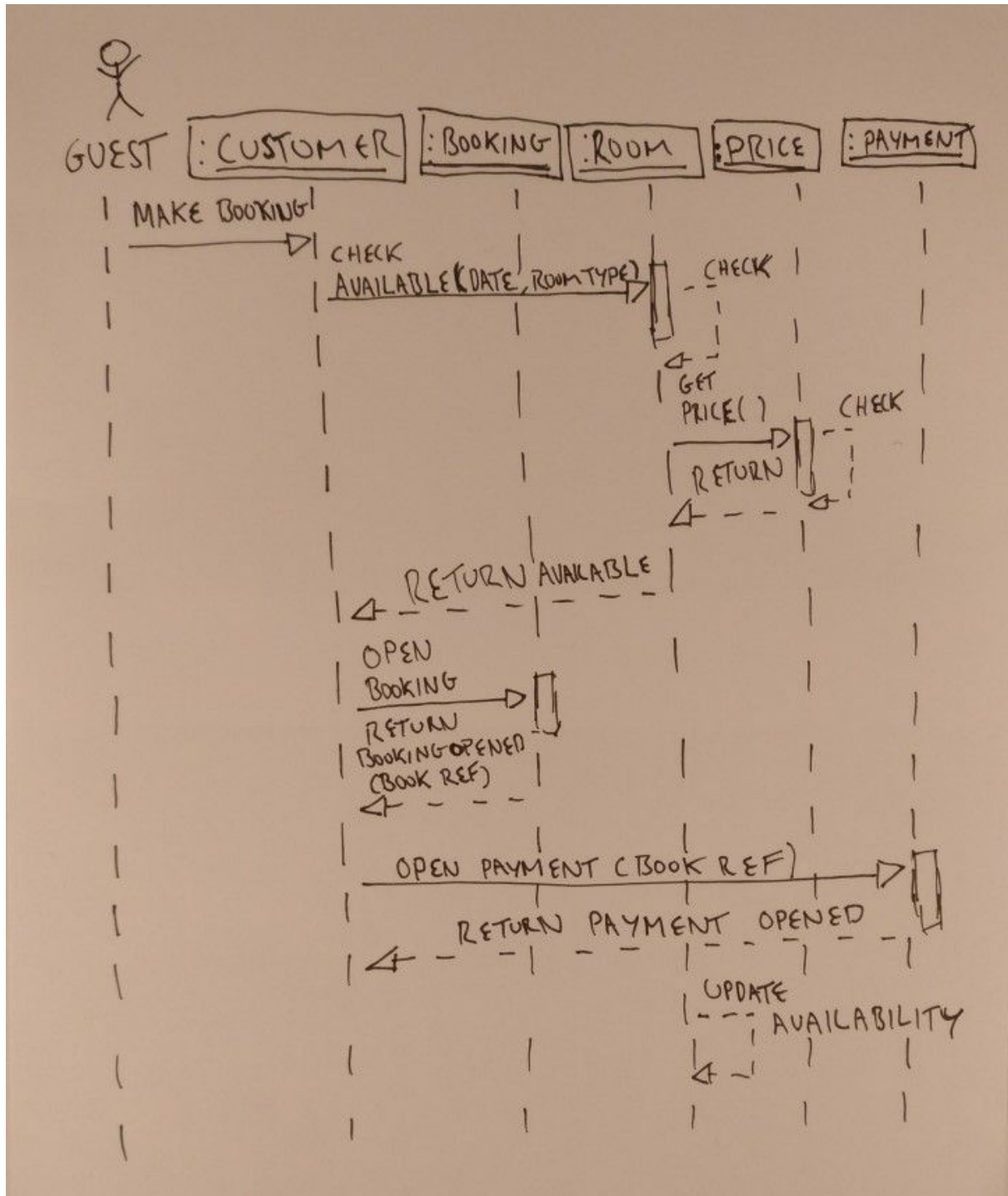


4.2 UC2 Diagram:

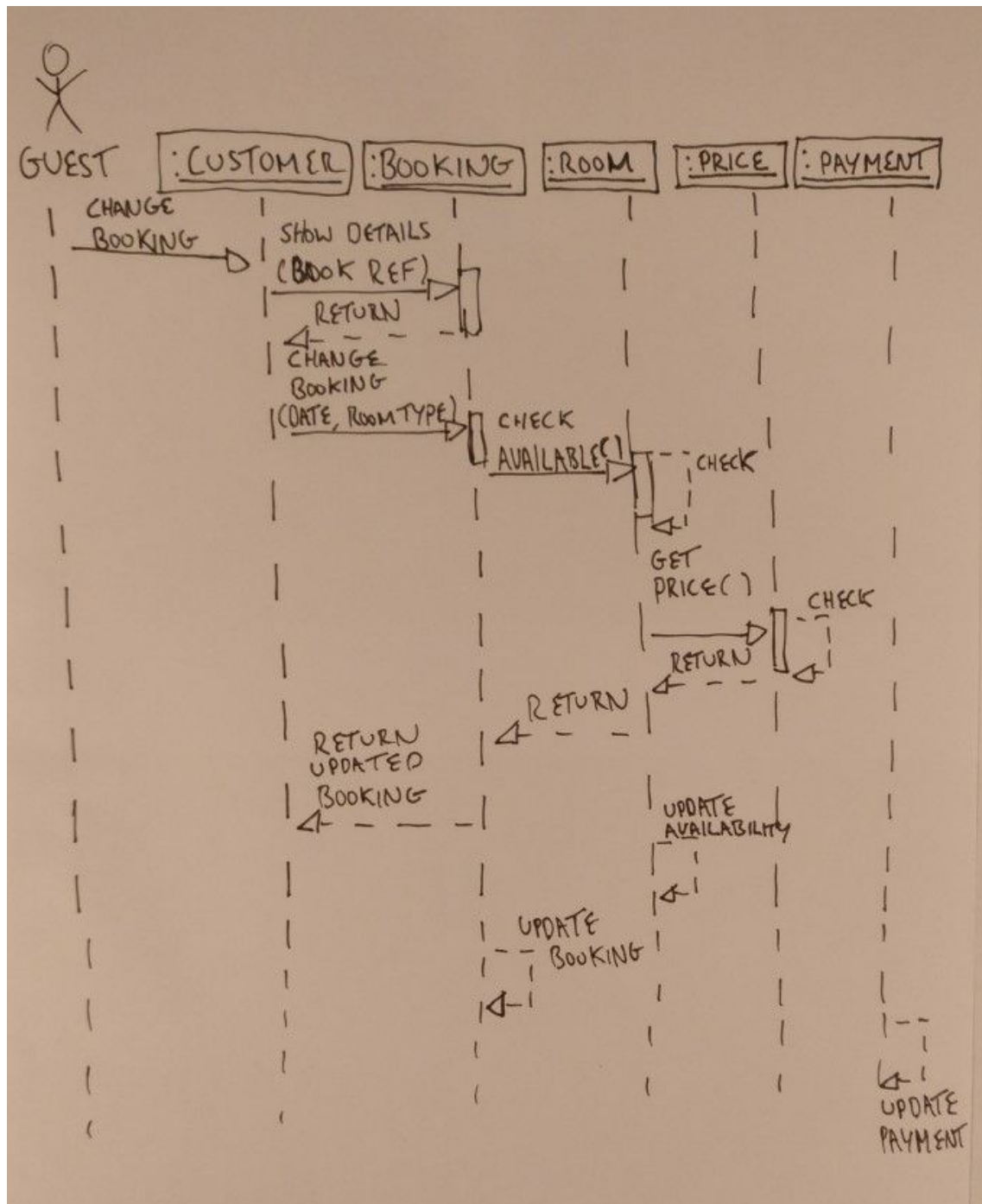


5.0 Sequence Diagrams

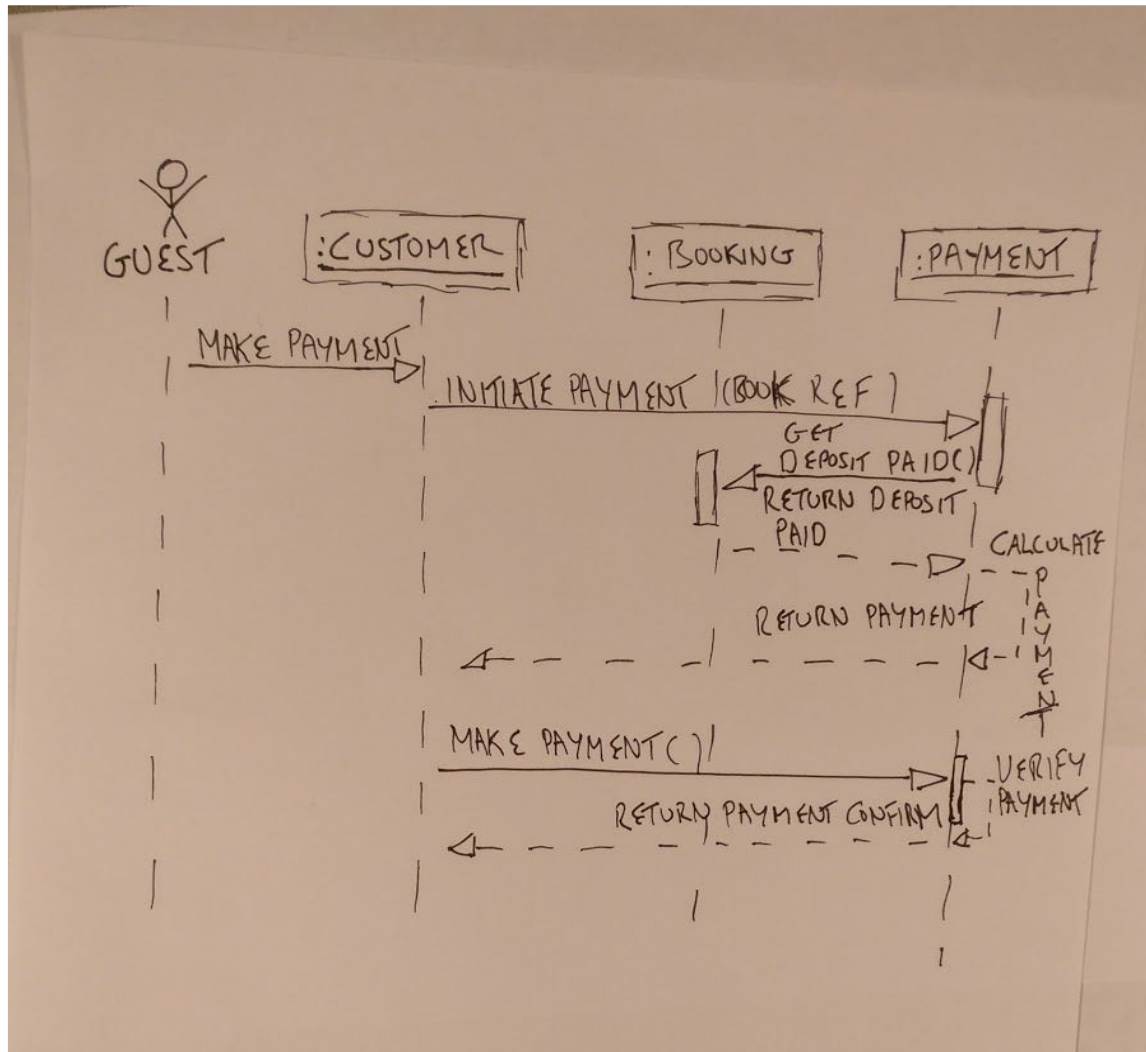
5.1 Reserve a Room



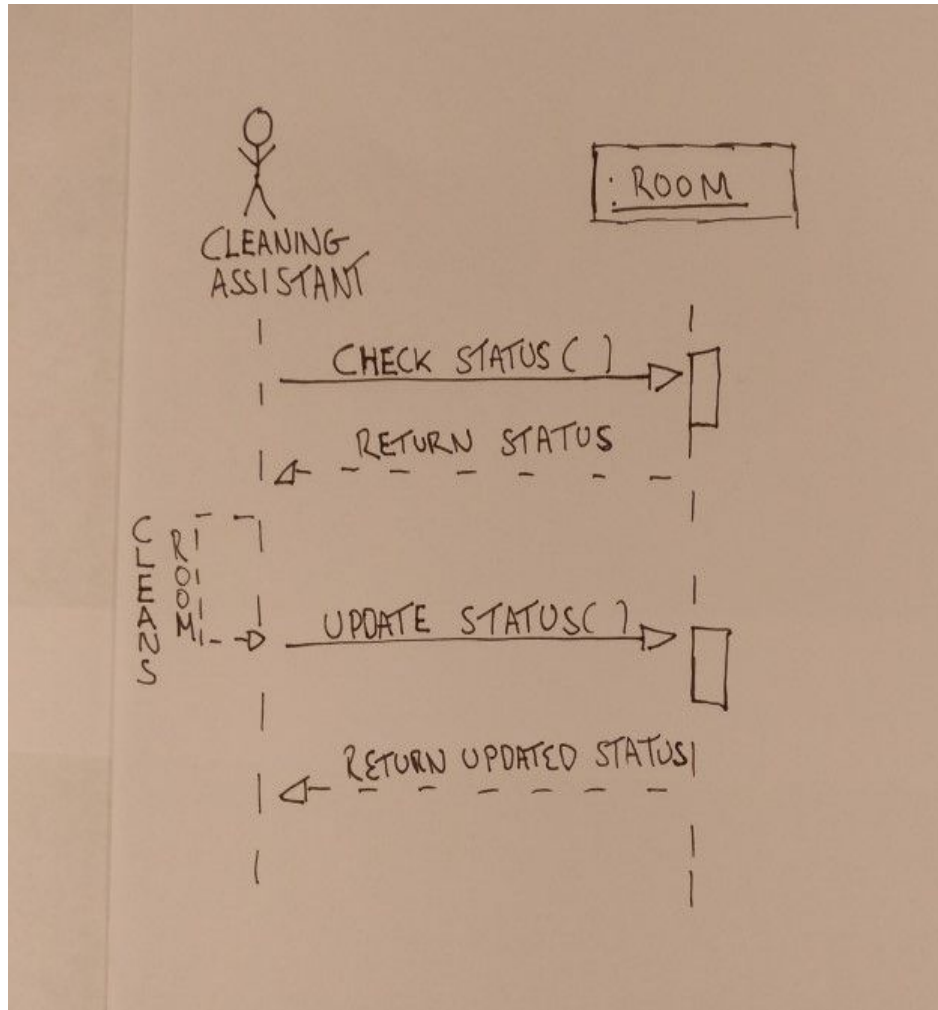
5.2 Amend Booking



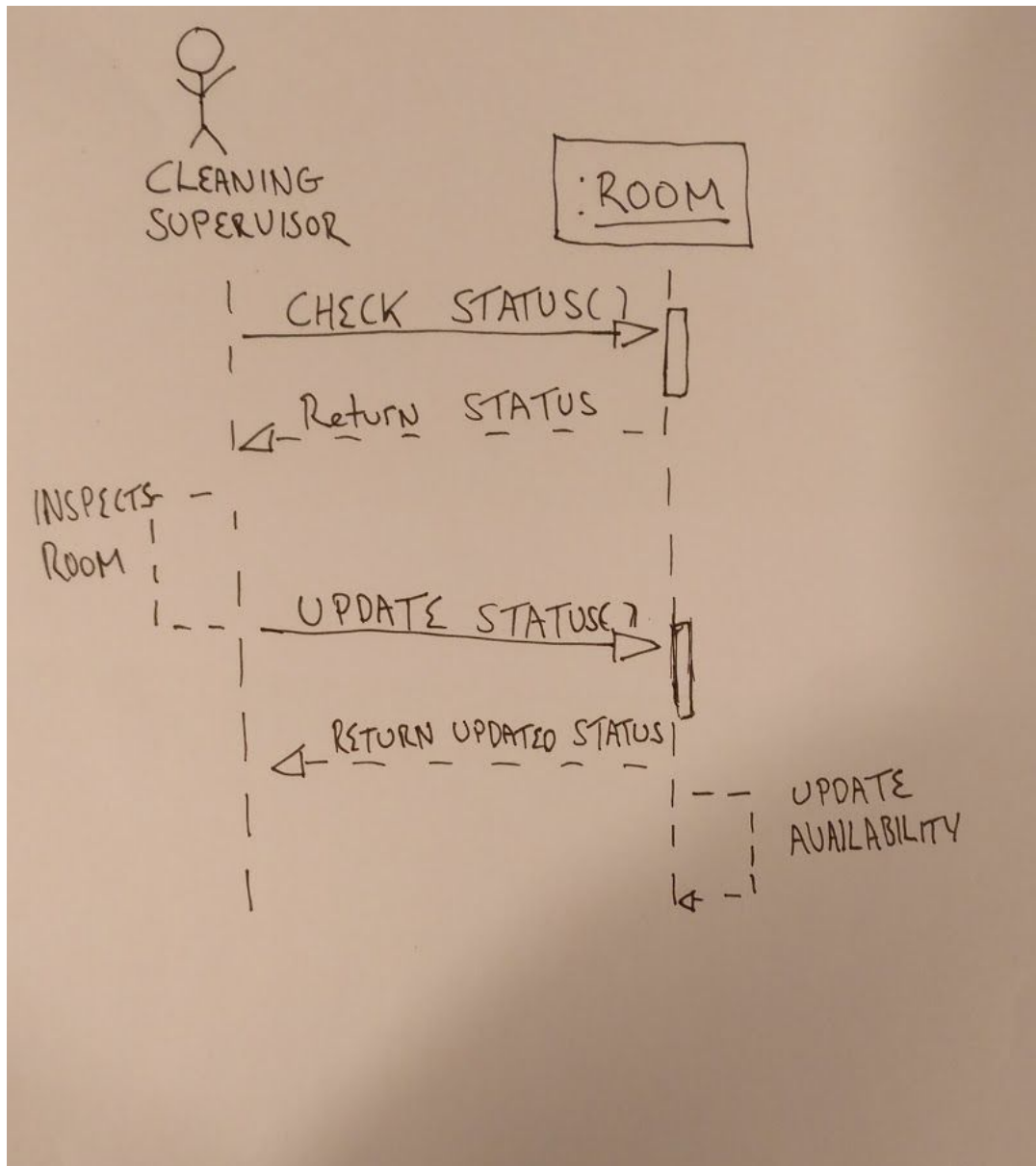
5.3 Make A Payment



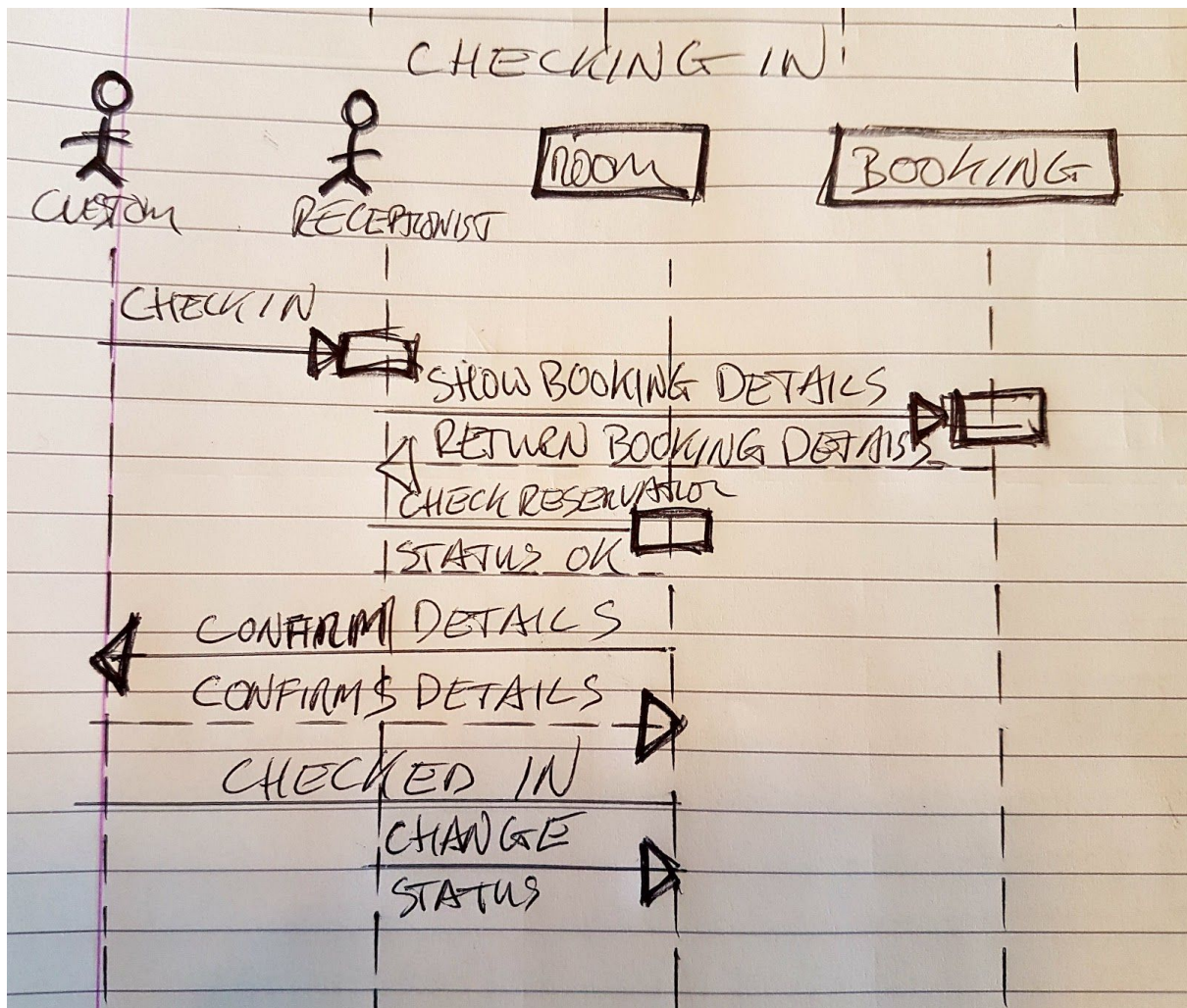
5.4 Room Ready For Inspection



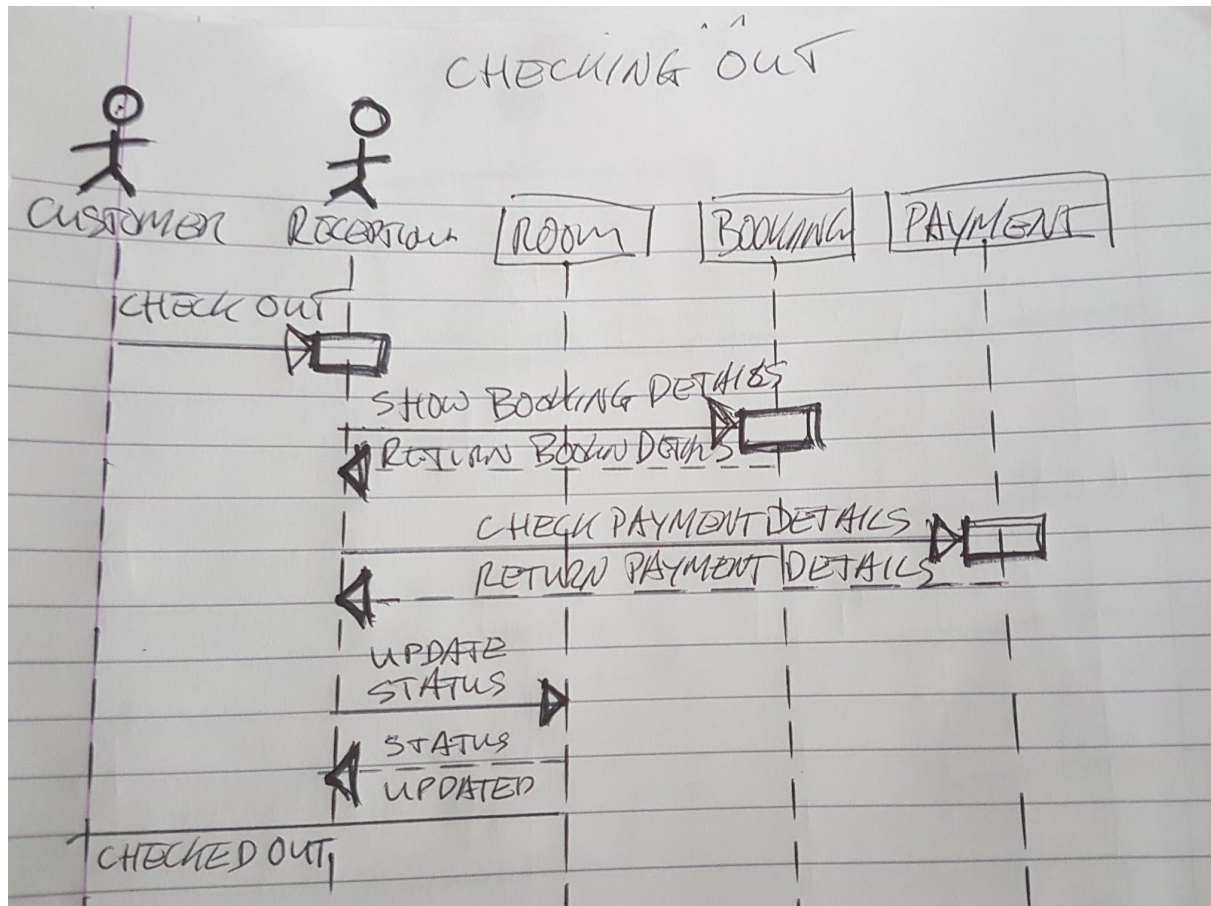
5.5 Room Passed Inspection



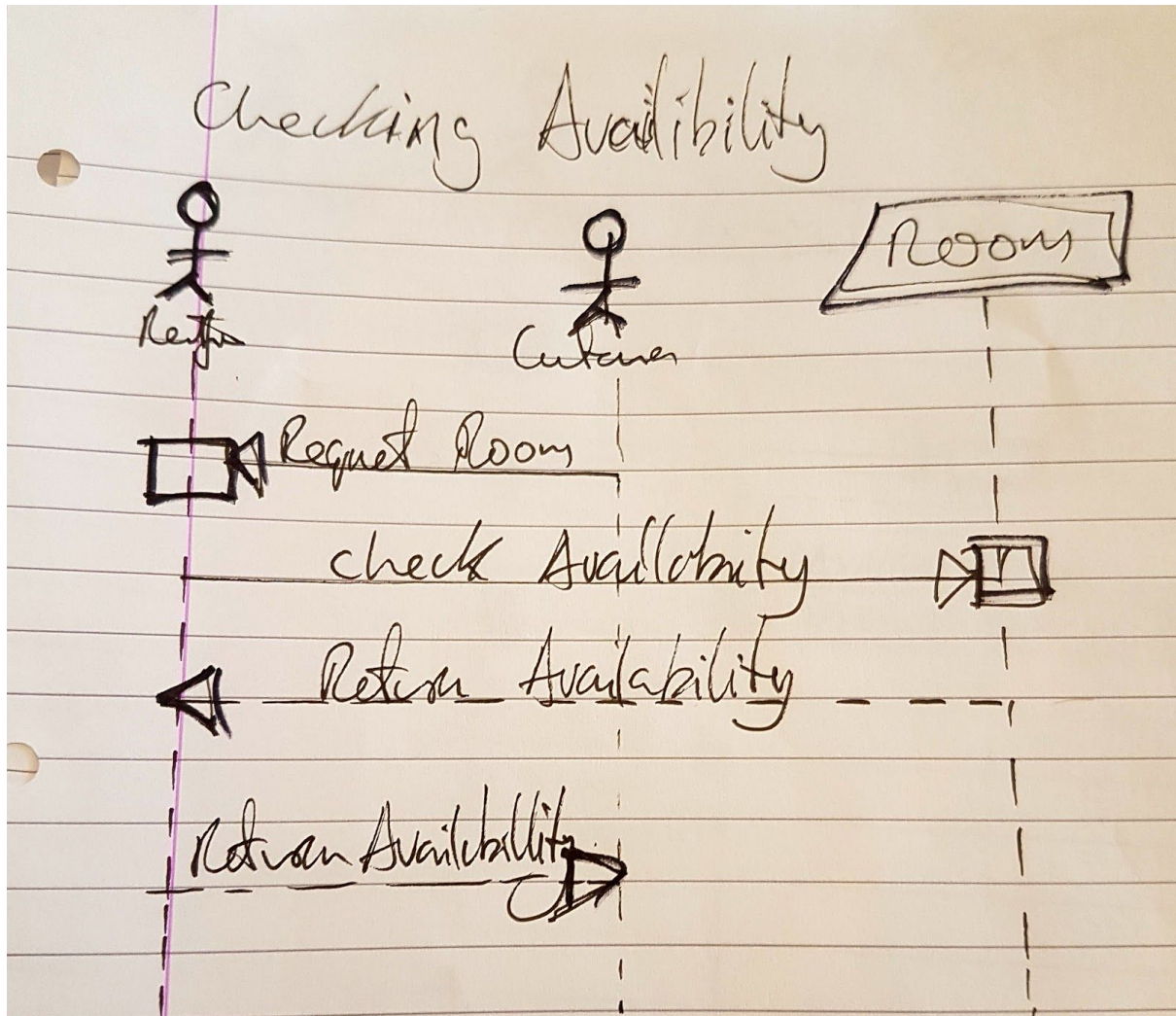
5.6 Check In



5.7 Check Out

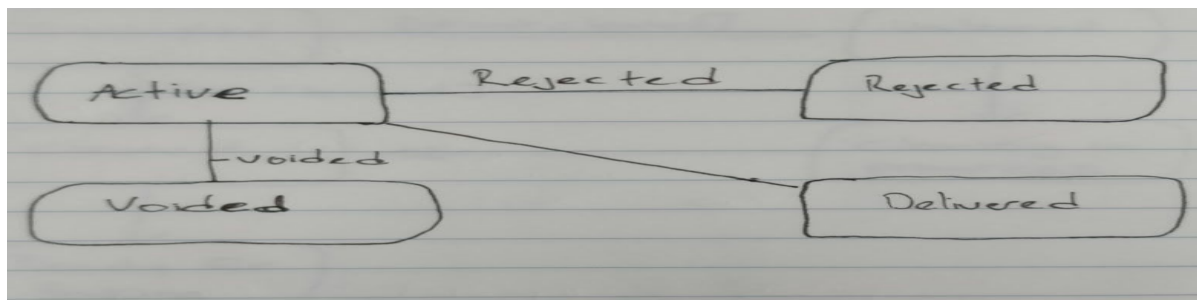


5.8 Check Availability

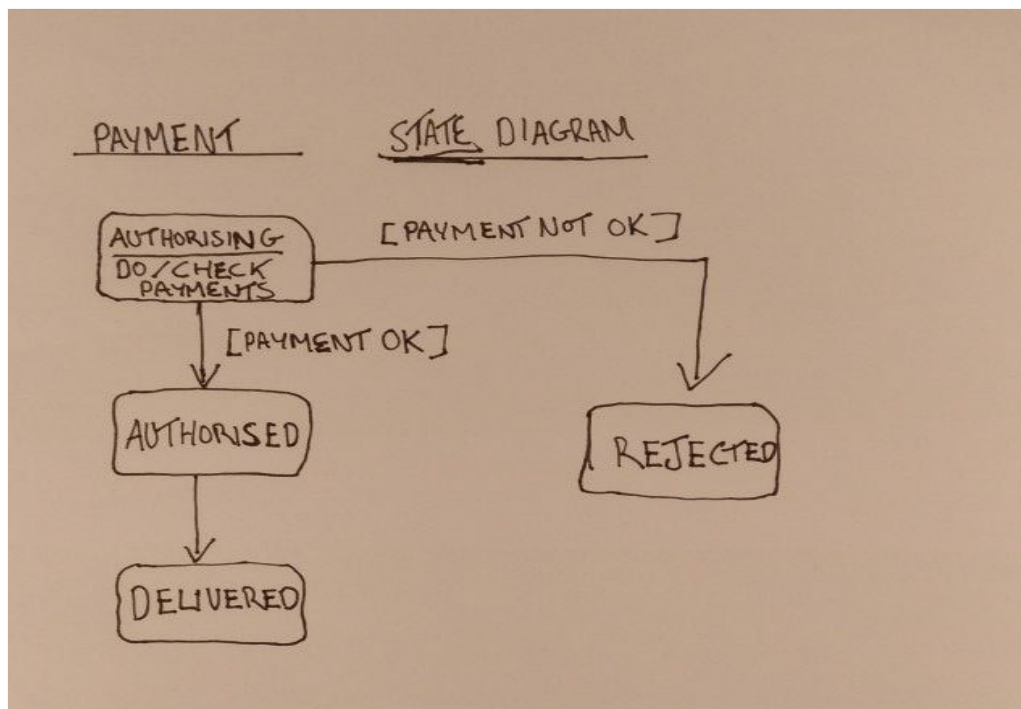


6.0 State Diagram

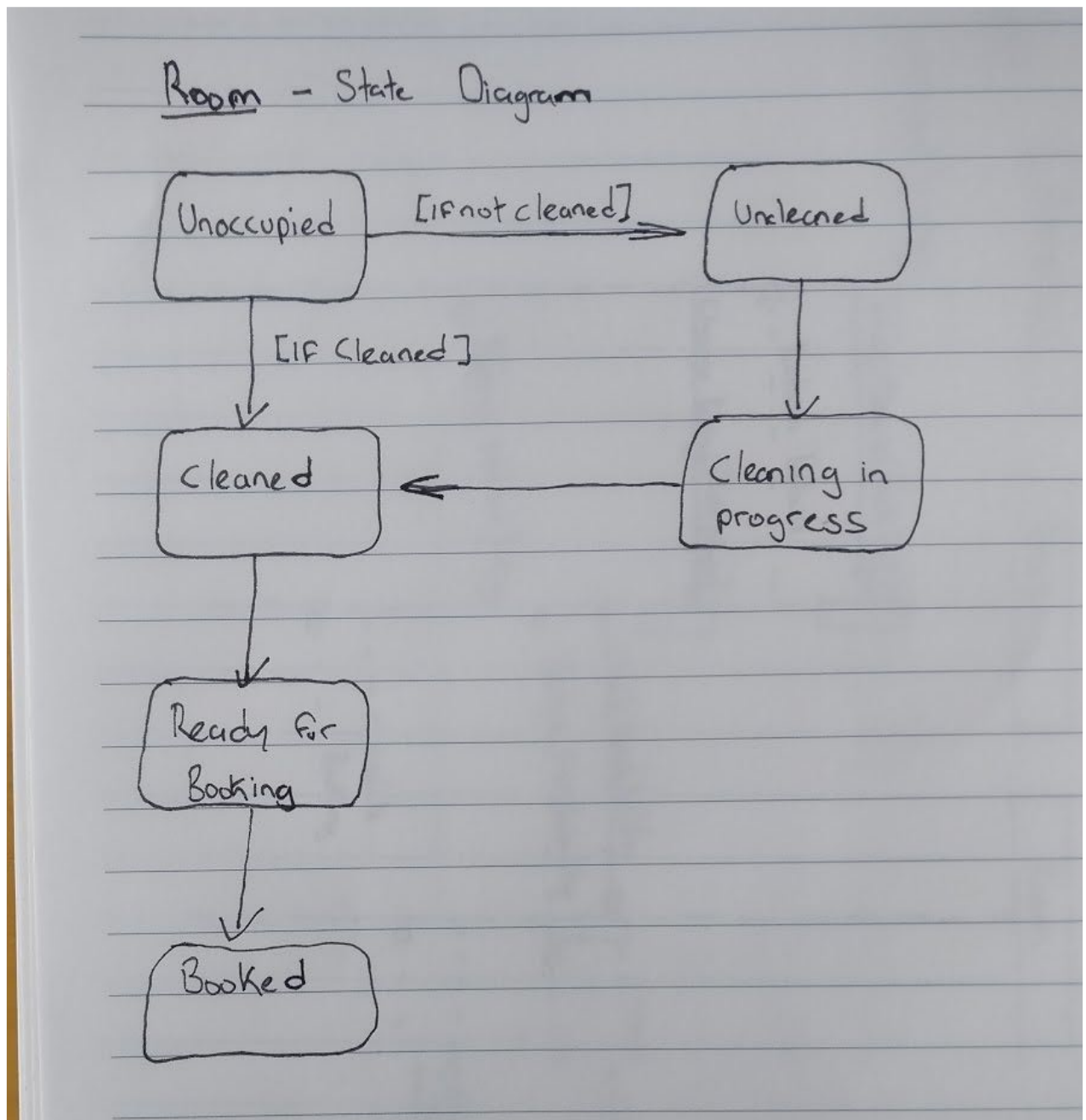
6.1 Booking



6.2 Payment

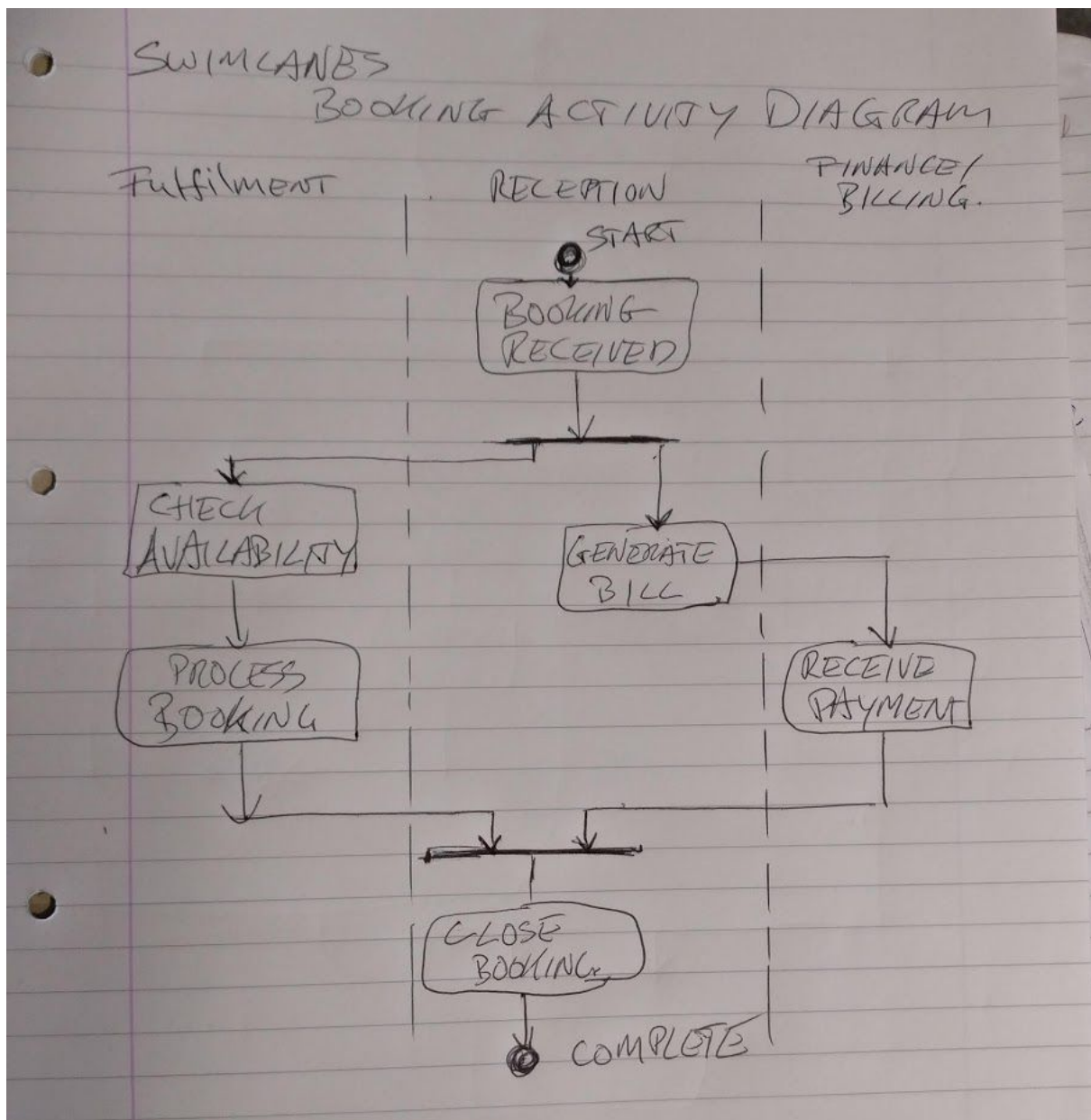


6.3 Room



7.0 Activity Diagrams

7.1 Booking a room



8.0 Class Diagram

8.1 Class Diagram:

