

A FULL EXPERIENCE
IN A SMALL AND INTIMATE HOTEL
WITH HISTORIC FLAVOR

RED TEAM



Hotel Management Software Development Project

[Deliverable 3: Use Cases and UML Diagrams]

OCTOBER 7th, 2022



Client Information :

Hôtel Manoir Ramezay – Vivian (Proprietor)


492, rue Claude de Ramezay (Route 227),

Mariville (Québec) J3M 1J6

Telephone : (450) 460-3251 | E-mail : info@manoirramezay.com

CERTIFICATIONS:

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Date: 2022-10-07

I, Red Team MEMBER, **Li Yu # 2295012**, certify that I have contributed to this deliverable.

Signature: 


Date: 2022-10-07

I, Red Team MEMBER, **Patrick Larocque # 0879202**, certify that I have contributed to this deliverable.

Signature: 

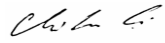
Date: 2022-10-07

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Date: 2022-10-07

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I. Statement of Prior Work

The work herein is possible in part due cumulative learning assignments and projects undertaken in the past, as part of the team's Software Development curriculum. As such, some of the ideas or technical skills used in this project originate partially from prior work. The table below lists past projects undertaken by members of the Red Team, which may contribute in part to elements found in the scope of this project.

Past Projects	Tools Used	Contributor(s)
Mock-ups for personal websites, Application Dev 1	Adobe Photoshop, Cava, Figma	All membres
Simulation Program	Java and Java Swing	Chi-Tao Li
Car Rental System	MS SQL Server	All members
Inventory Management System	Apache Derby Database, Java, and Java Swing	Patrick Larocque
Issue Tacker	C#, Google API, .NET, Firebase	Patrick Larocque
Prior Works Relevant to Deliverable 3	Tools Used	Contributor(s)
Deliverable 1 Report	MS Word, Instagantt.com (for Gantt Chart)	All members
Deliverable 2 Report	MS Word	All members
Database course	Draw.io, Lucidchart	All members

II. Introduction

This document is the third deliverable in a series of reports aimed at the assessment and diagnosis of business problems affecting Manoir Ramezay. The diagrams found herein are based on information acquired through a series of interviews with the operating staff and owners of **Manior** Ramezay. This deliverable focuses on understanding the client's current management information system, which will serve as a foundation for work in future deliverables.

III. Executive Overview

The following document outlines the red **teams'** efforts and activities aimed at documenting Manoir Ramezay's current management information systems. The reader will find an extended and refined client description, a statement on the client's business problem as it is presently understood and considering the work done over the course of this report, along with a narrative description of Manoir Ramezay's current information system, based on the information and diagrams herein. Following this section, the reader will find a complete Use Cases diagram illustrating the existing reservation management system at Manoir Ramezay (Appendix 1).

Furthermore, the reader will find Use Case templates, which show the procedures of the 2 specific uses cases, namely, making an online reservation, and paying for a reservation (Appendix 2). Activity and sequence diagrams will then be presented in Appendix 3. These diagrams will once again illustrate a specific use case, namely, the act of making an online reservation. These diagrams aim at illustrating the flow and interactions between the actors and in the booking management system itself.

Next, the reader will find a class diagram for the entire existing information system which will map out the classes, or data objects present in the system, along with their attributes and behaviors or methods (Appendix 4). Appendix 5 is a state chart diagram which illustrates the state transformations undergone by the reservation class within the information system, along with the actions or behaviors that lead to those state changes. Lastly, the reader will find a series of documents and screenshots supplied by Manoir Ramezay. These documents capture parts or moments of the existing information system itself (Appendix 6).

IV. Summary Description of the Client

Manoir Ramezay is a 3-star hotel located in Marieville purchased by its current owners in 2018. The owners are first time hotel operators and are of Chinese ethnicity. They immigrated from China to Canada with their two children. During the four years they have been operating the hotel, their business has been consistently growing. The hotel offers 9 standard rooms, 5 suites, an event space, a restaurant, which currently operates as a rental kitchen, and a spa/hot-tub area, which also operates as a rental service, due to COVID restrictions.

The business has a [website](#), which includes features typical for a hotel business, including a landing page which introduces the hotel along with images of its amenities, pages that describe the services offered. Guests can make a reservation through their website, as well as the third-party platforms, namely Expedia, Booking.com, Hotels.com and Priceline.com, along with walk-in reservations or by phone.

Their primary method of bookkeeping consists of keeping a record of reservations inside of a physical ledger. This ledger is updated each time a booking is made, through any of the various booking channels. They may also print booking confirmations they receive via email for the purpose of bookkeeping. They have kept most of the legacy systems in place, from when the business was purchased 4 years ago. They have not modified the website, other than for the purposes of COVID updates, and much of the management practices have remained unchanged. Their business has grown since it was acquired, and the staff at Manoir Ramezay has voiced their desire to improve and modernize their management systems to solve the business problems they see themselves facing.

Regarding the staff's computer skills, the owners have working knowledge of Microsoft's Office suite, along with a basic understanding of navigating the web, and using email services. The accountant uses QuickBooks to manage the finances of the business. The cleaning staff do not use any software tools on a day-to-day basis to complete their duties. Management has expressed a willingness to learn any new software tools, should it help them operate their business and solve their current business problems.

V. Description of the Business Problem

The hotel doesn't have an efficient system in place to keep track of room availability across available booking channels. When a room is booked through one of their platforms, front-desk staff must update a physical ledger or print out a confirmation from a third-party platform to have a unified running tally of past reservations. Front desk staff must then manually change room availabilities across all other platforms to avoid duplicate bookings and to reflect the actual availability. This is a very inefficient process, especially when the hotel is busy, during the summer months. The front-desk staff is often preoccupied with assisting on-site clients and fulfilling requests, so much so that they are unable to keep up with the current methods of data entry. The potential for double bookings, and overworked front-desk staff may lead to poor experience for the client, leading them to choose another establishment in the future. Moreover, if a repeat client returns to the hotel to book a room, the front-desk staff must reference the physical ledger or paperwork to find their personal information or preferences (if any were noted). This often leads to the client having to repeat much of the same information that was given during prior visits.

As it stands, the current business problem has to do with efficient booking management. The current process is inefficient, leading to inaccurate room tallies, overworked front-desk staff, an inability to answer client questions and the potential for poor client experience as a result. Writing down all guests' information on paper is a slow and error prone process and appears to be a pain point with respects to the hotel's day to day operations. Front-desk employees need to be able to quickly verify guest's personal information for the check-in and check-out process to be as seamless as possible. Booking and client information is spread across many tools and platforms, each needing to be cross-referenced every time a booking is made. This creates a bottleneck for the business if it wishes to continue growing.

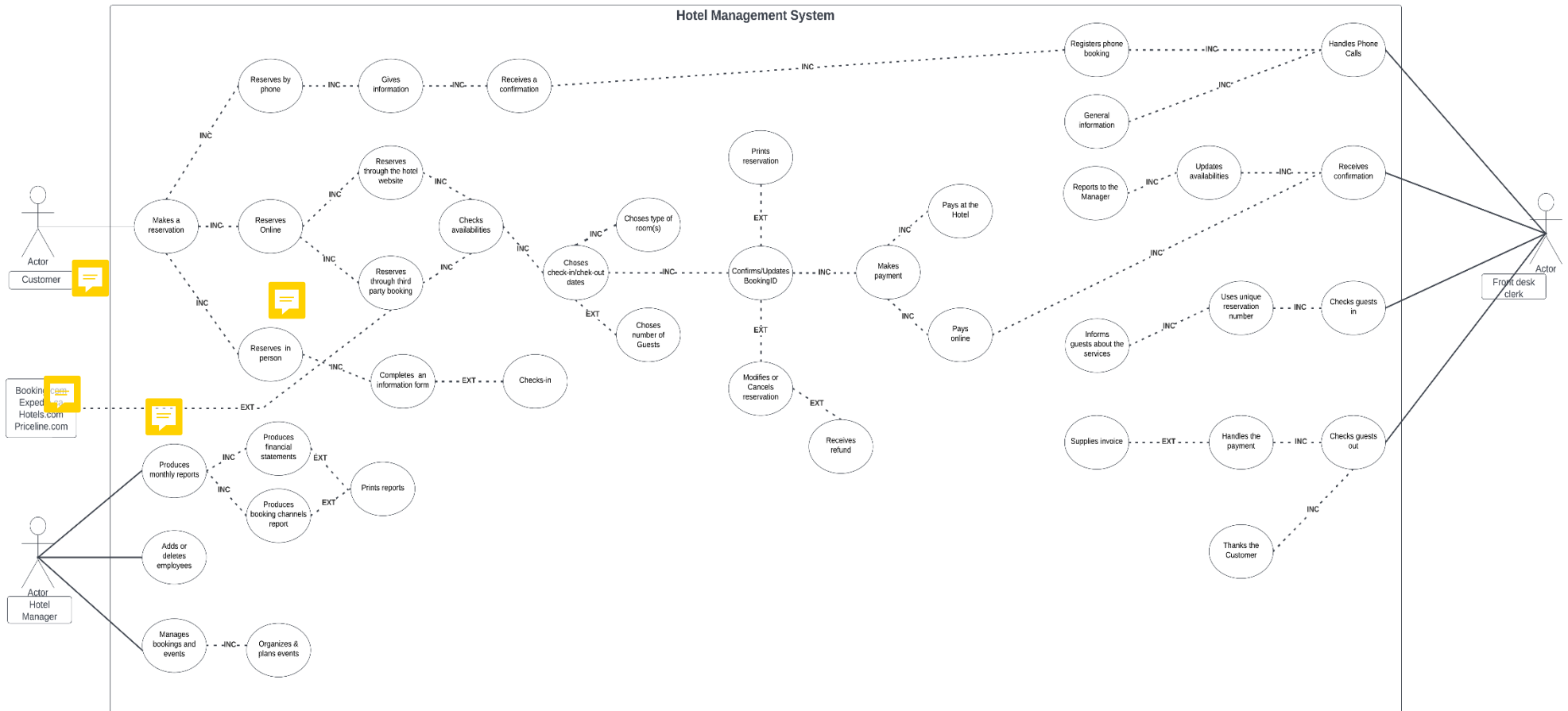
VI. Narrative Description of the Present Information System

Making a reservation at Manior Ramezay can be made in one of three ways. Online, by phone, or in person. A reservation made online can be made through several different booking platforms. Namely, directly through Manoir Ramezay's [website](#), or through one of several third-party booking platforms (Booking.com, Expedia, Hotels.com, Priceline.com). Booking online sees

the prospective guest access one of the booking platforms. The guest then browses a selection of rooms, until they have made a choice. The guest then verifies that the room that satisfies their needs is available on the dates they wish to visit. The booking platform returns the availabilities to the user, at which point the user may choose to proceed with their reservation. The user may abort at any stage of this process.

Should the guest choose to proceed with a reservation, the booking platform will request the guest's personal information, which includes the name of the primary guest, the number of additional guests, along with their names, the primary guest's address, phone number, email address and date of birth. Once the guest has provided the necessary personal information, they will be presented with a choice of payment options. The guests pay provide a credit card for immediate payment or for a hold/deposit to be placed on their credit card. Alternatively, they can pay in cash, or debit during their check-in, however, a credit card number is still necessary to secure their reservation. Once the guest has provided their payment information, their reservation is confirmed. They will receive a confirmation email, and the booking platform will also send a notification email to Manoir Ramezay with the guest's booking information. Staff at Manoir Ramezay must then update other booking platforms, along with their physical ledger, to reflect the change in availabilities across all platforms. Guest may also call in to book a reservation. In this instance, the clerk or receptionist will handle the guests' requests by fielding relevant questions pertaining to the rooms and current availabilities. Again, should the potential guest wish to proceed, the receptionist will then gather the guest's personal and payment information, and send the guest a confirmation email once the booking has been made. The receptionist must then ensure to update the hotel's availabilities across all channels once again. A walk-in reservation functions in much the same manner. However, the guest is provided a physical form to be filled out, which serves to record all the relevant personal and payment information. Finally, the receptionist will enter the reservation details into their information system, and, if they stay is immediate, the client will provide payment and check into their rooms. If the stay is for a future date, they will be sent a confirmation email. The reservation form will be stored in a physical ledger for future reference. Once again, the receptionist must update availabilities across all booking channels.

VII. Appendix 1 - Use Case Diagram



VIII. Appendix 2 - Use Cases Templates

Appendix 2a; Online Booking

Use Case ID:	#1 Booking online		
Use Case Name:	Make an online booking		
Created By:	Murat	Last Updated By:	
Date Created:	2022-10-05	Last Revision Date:	
Actors:	Client, administrator		
Description:	Book a room at hotel		
Trigger:	When client access online booking		
Preconditions:	Client is logged and has access to hotels site		
Postconditions:	room must be booked		
Normal Flow:	1 Client enters a gateway for hotel 2 Client chooses, check in and check out dates, and room type 3 The system provides availability and price 4 Client accepts and asks for a room. 5 Client provide name and required information 7 The system makes a booking and assigns a booking number 8 The system shows reservation number to client 9 The system creates and sends a confirmation to client by email 10 The system sends booking information to the hotel		
Alternative Flows:	At 2) -Required room not available -The system offers alternative rooms		
Exceptions:	At 2) -Client declines offer -Exit		
Includes:	None		
Frequency of Use:	Every time when a client booking, 2 to 6 times daily.		
Special Requirements:	None		
Assumptions:	None		
Notes and Issues:	None		

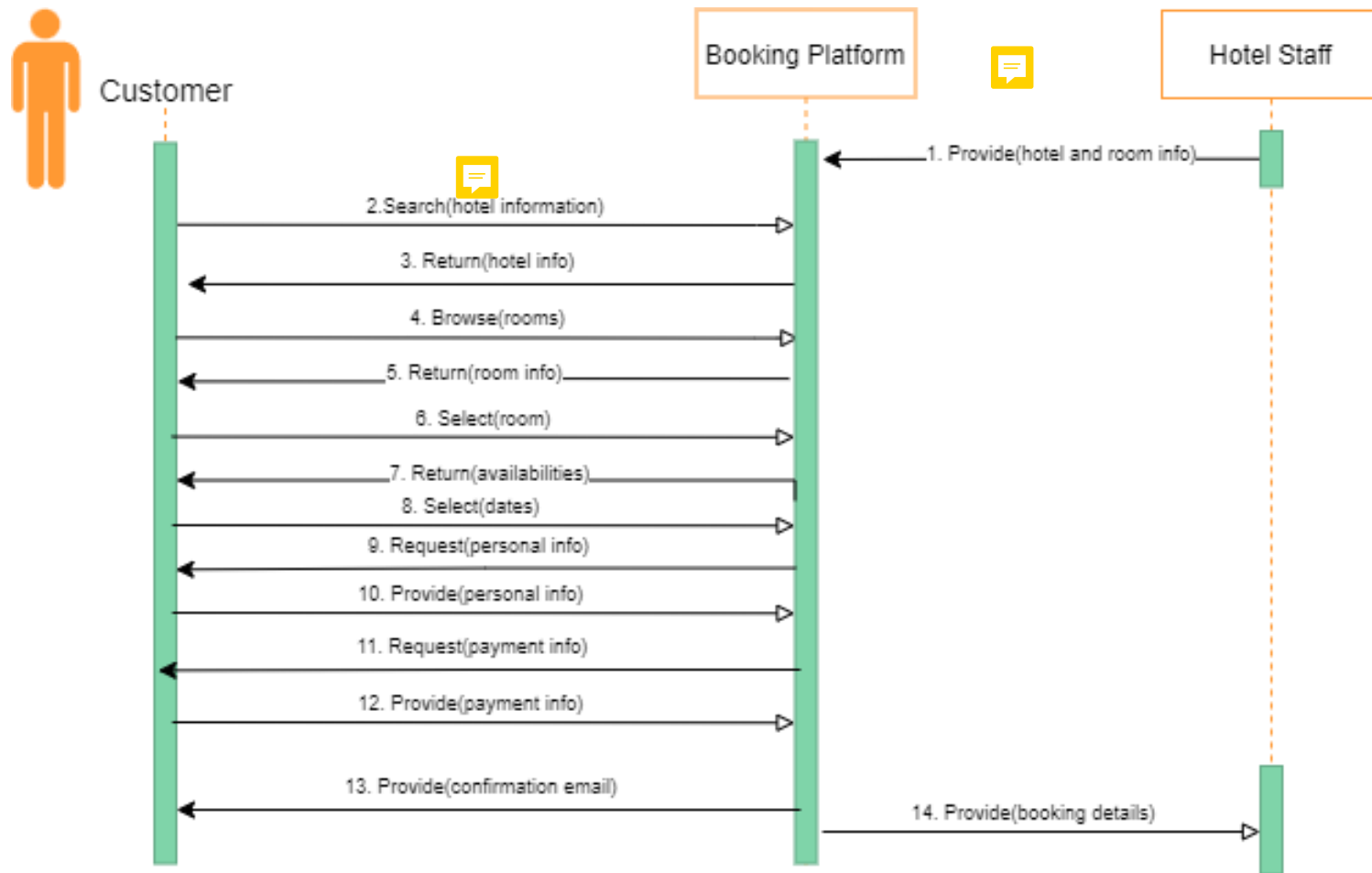
Appendix 2b; Online Payment



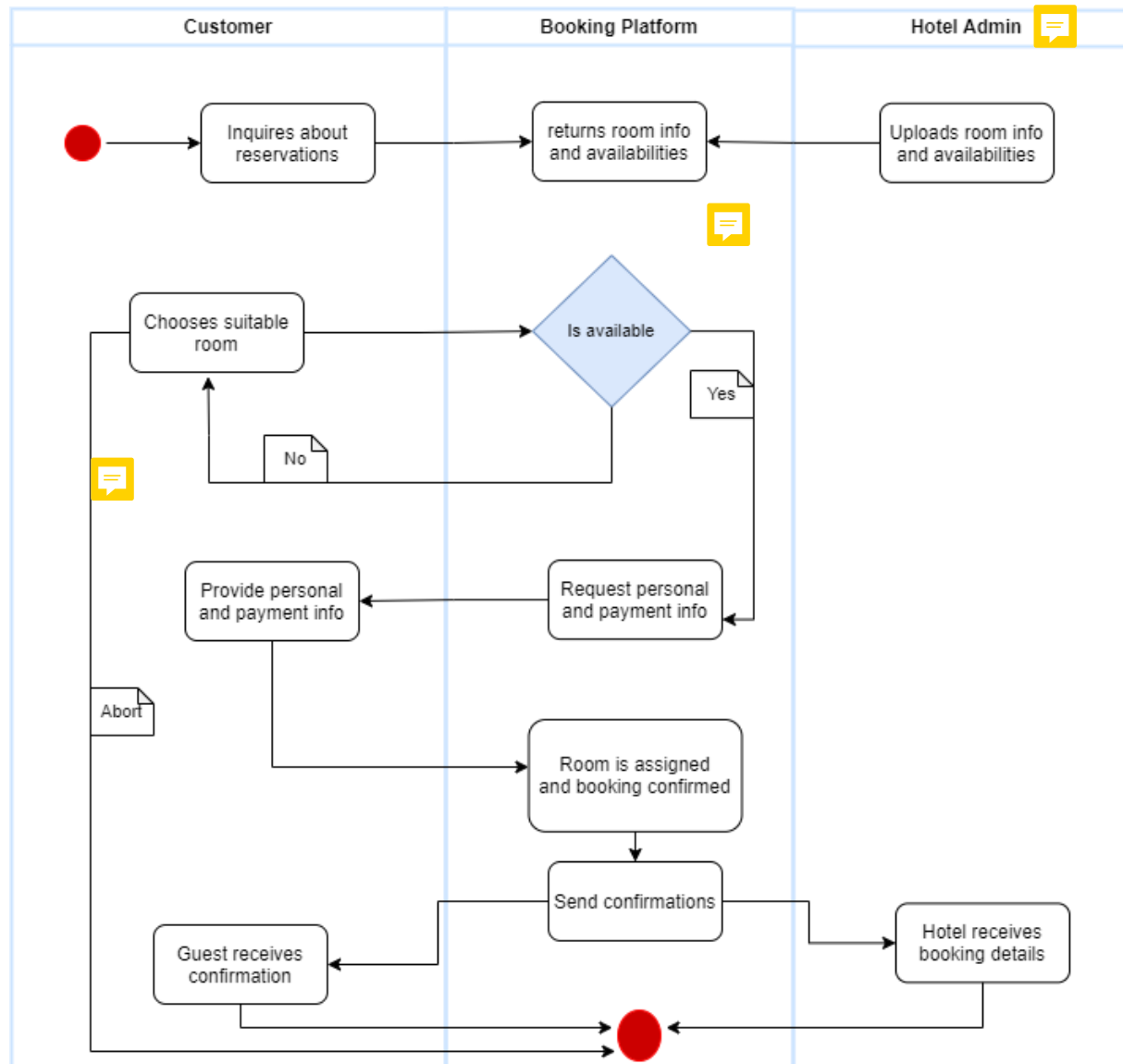
Use Case ID:	#2 Online payment		
Use Case Name:	Payment		
Created By:	Murat	Last Updated By:	
Date Created:	2022-10-05	Last Revision Date:	
Actors:	Client		
Description:	To pay for the booking room		
Trigger:	When a client decides to pay for the booking room		
Preconditions:	Client must have username, password, and credit card. Client must provide correct information. The system has information of booking room by client		
Postconditions:	System must be working Client receives booking information		
Normal Flow:	1. Client log on system. 2. Client enter their user ID and password. 3. The system requests customer payment information. 4. Client fills the information about payment. Client enters amount of money Client enters credit card number, security cod and expiration date Client confirms operation 5. Client information and payment are verified 6. Client information is documented in the system 7. The system generates and sends a booking information to the client by e-mail		
Alternative Flows:	At 2) If user ID and password are incorrect, the system will prompt to client to retry to log on. At 4) -Client payment information is invalid. -The system asks the client to re-enter their payment information; it is possible that the client made a mistake.		
Exceptions:	At 4) -If the payment information is still invalid -The system rejects the request		
Includes:	None		
Frequency of Use:	Every time when a client booking room online, 2 to 7 times daily.		
Special Requirements:	None		
Assumptions:	None		
Notes and Issues:	None		

IX. Appendix 3 - UML Diagrams

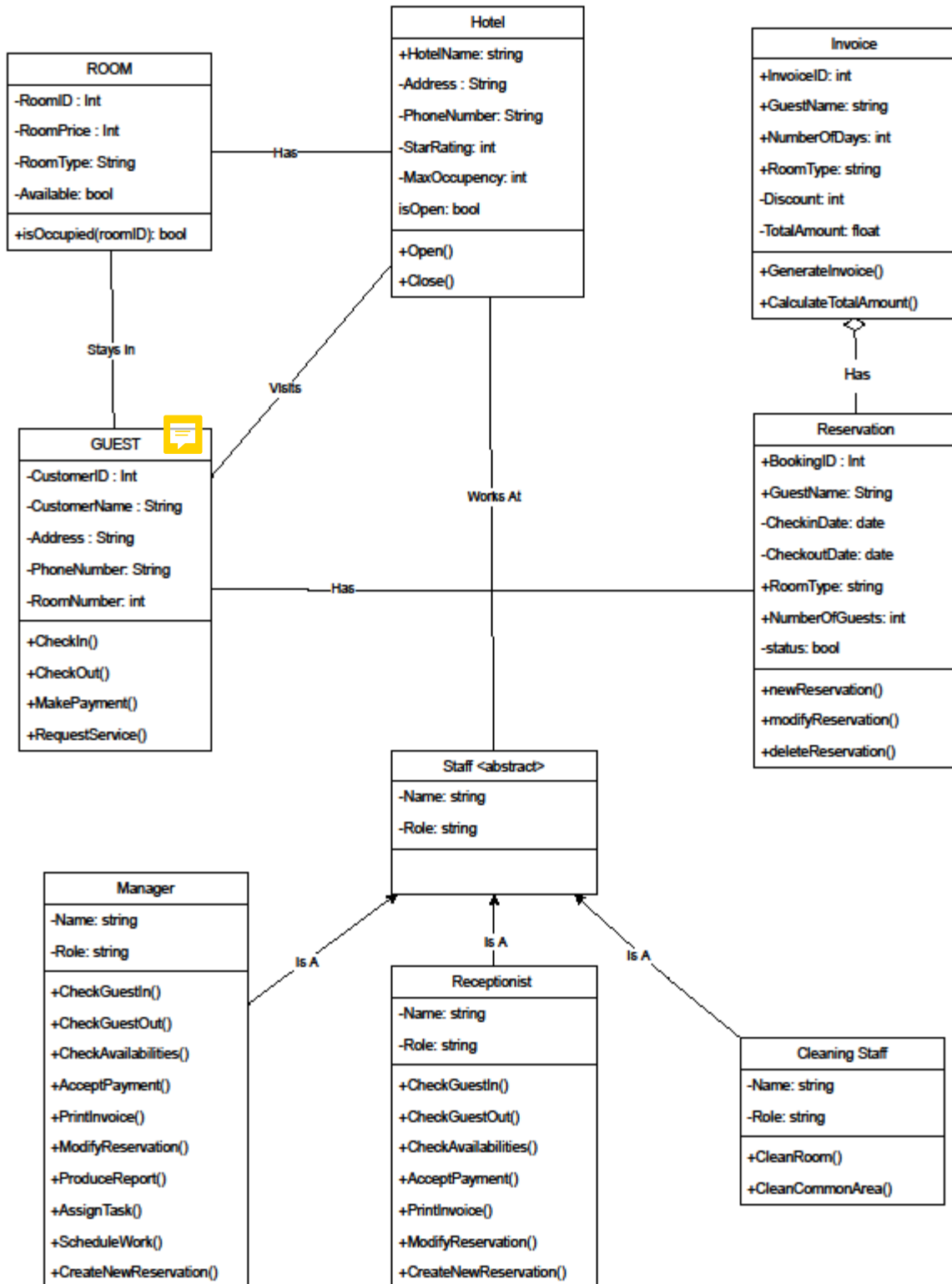
Appendix 3a: Activity Chart Diagram for Online Booking



Appendix 3b: Sequence Diagram for Online Booking

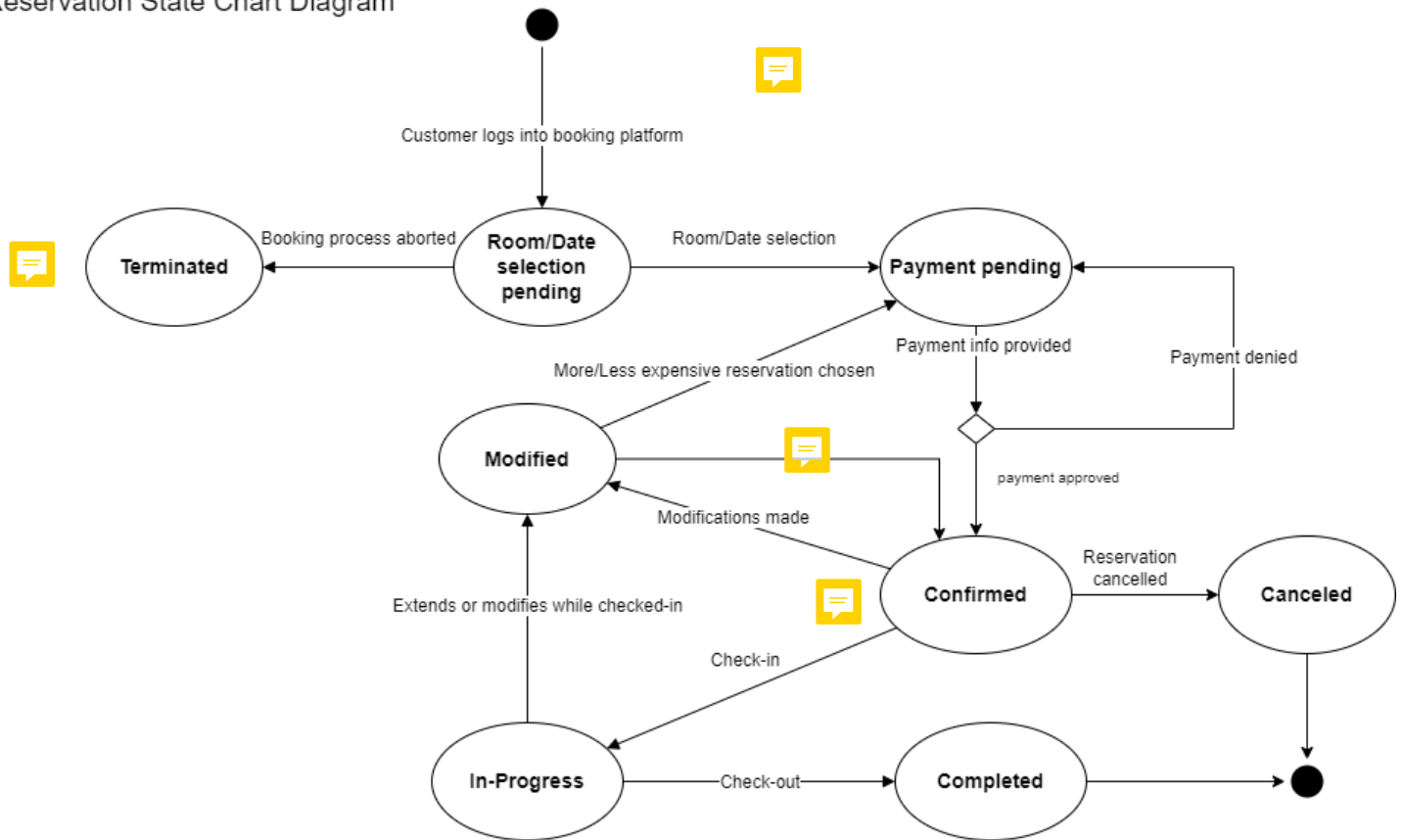


X. Appendix 4 - Class Diagram



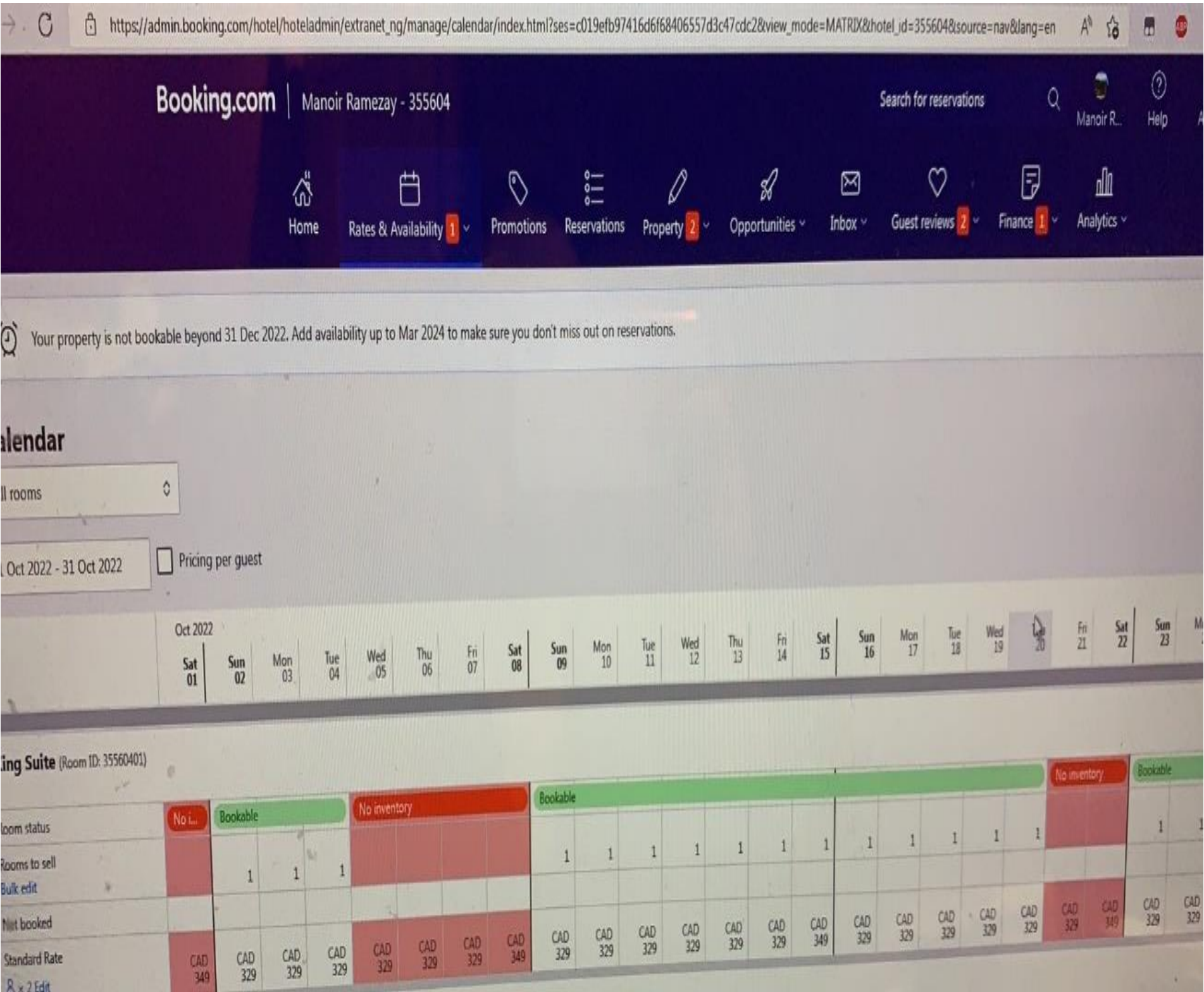
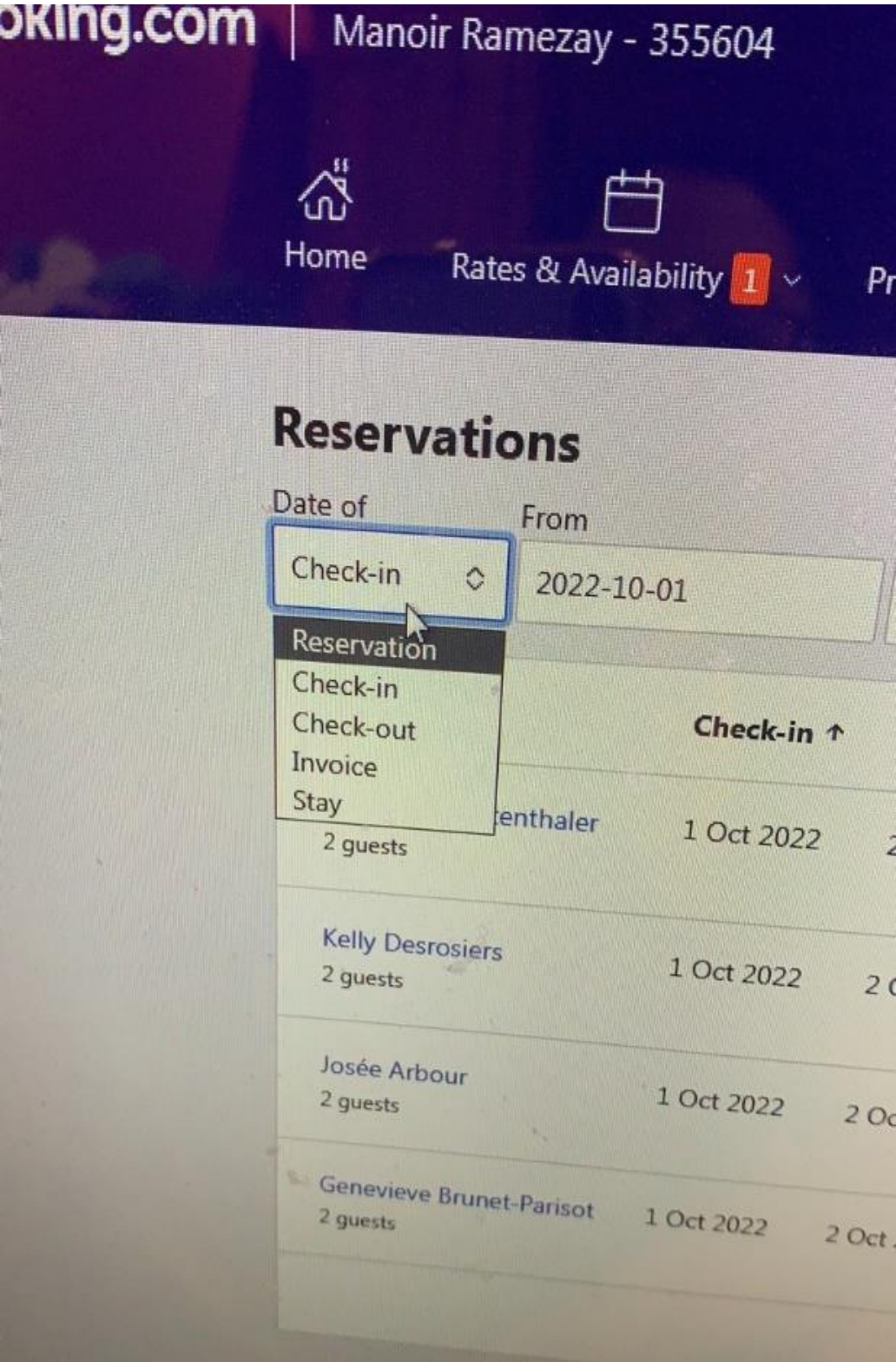
XI. Appendix 5 - State Chart Diagram

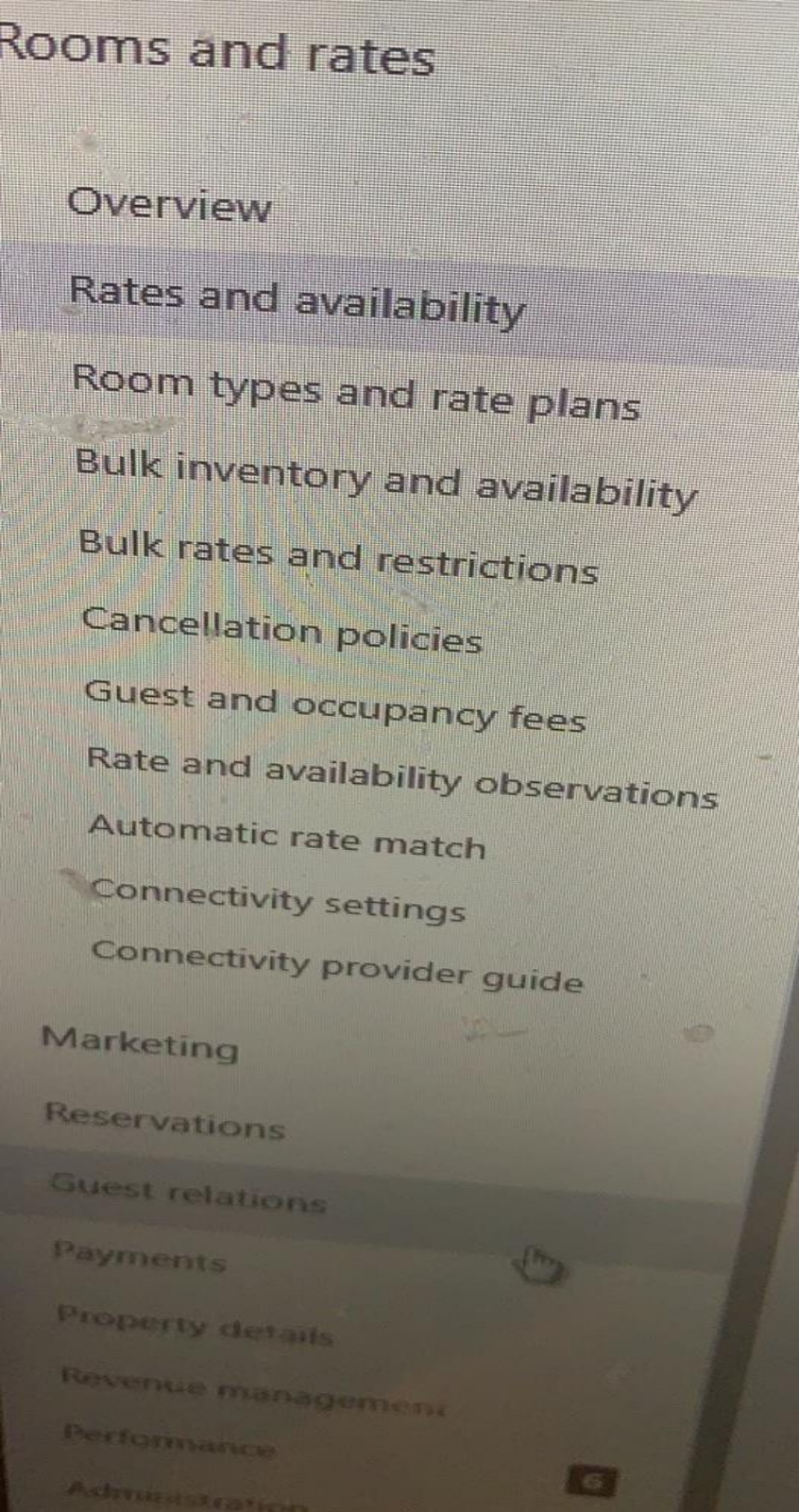
Reservation State Chart Diagram



XII. Appendix 6 - Copies of Forms/Screenshots

BOOKING.COM





Rooms for an extended period of time. You can do this quickly and easily by submitting a property closure request, which will also start the relocation process for existing bookings for the dates you will be closed. [Submit a closure request](#)

Date: 1/1/2023

Select room 2 Customise view 2

	Jan 1	Jan 2	Jan 3	Jan 4	Jan 5	Jan 6	Jan 7	Jan 8	Jan 9	Jan 10	Jan 11	Jan 12	Jan 13	Jan 14	Jan 15	Jan 16	Jan 17	Jan 18	Jan 19	Jan 20	Jan 21
Family Suite, 2 Bedrooms (ID: 202181187)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inventory	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard (S) ▾																					
Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rate (CAD)	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
Family Suite, Kitchen (ID: 001743343 • Code: Family Suite Kitchen, 1 Queen & 1 futon)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inventory	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Standard (S) ▾																					
Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rate (CAD)	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169	169
Royal Suite, 1 King Bed, Jetted Tub (ID: 202181196 • Code: Suite Royale)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Availability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

HOTEL WEBSITE

Availability

Specials

Diary

Email

Check In

Stripe

Plus

Reports

Events

Cleaning Report

New Diary

Video Help

Diary View: Portrait | Assigned | Landscape | Search

< Previous 4 weeks

26th Sep 2022 to 23rd Oct 2022

Next 4 weeks >

No payments

Part paid

Fully paid or zero due

Check In / Check Out

	Mon 26 Sep	Tue 27 Sep	Wed 28 Sep	Thu 29 Sep	Fri 30 Sep	Sat 1 Oct	Sun 2 Oct
	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking
Regular Room	3	3	3	3	3	W Duplex	3
Regular Room	3	3	3	3	3	1	3
Regular Room	3	3	3	3	3	1	3
Regular Room	3	3	3	3	3	1	3
Regular Room	3	3	2	3	3	1	3
Queen Room	4	3	4	4	2	0	4
Queen Room	4	3	4	4	2	0	4
Queen Room	4	3	4	4	2	0	4
Queen Room	4	3	4	4	2	0	4
Queen Suite	1	1	W Damphous...	0	0	0	1
Suite with Real Fireplace	1	1	1	1	1	0	1
Family Suite with Kitchen	1	1	1	1	1	W Desrosier...	1
King Suite	1	1	1	1	1	1	1
Royal Suite with Kitchen	1	1	1	1	1	1	1

	Mon 3 Oct	Tue 4 Oct	Wed 5 Oct	Thu 6 Oct	Fri 7 Oct	Sat 8 Oct	Sun 9 Oct
	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking	Add Booking
Regular Room	3	3	2	1	1	0	3
Regular Room	3	3	2	1	1	0	3
Regular Room	3	3	2	1	1	0	3
Regular Room	3	3	2	1	1	0	3
Regular Room	3	3	2	1	1	0	3
Queen Room	4	4	4	4	2	0	4

etobook

theHive

Get help and chat

Profile

Direct Bookings

Availability

Specials

Diary

Email

Check In

Stripe

Plus

Close Outs

Rooms Available

Minimum Stays

Defaults

Ways to Sell

Booking Extras

Rooms Available

Cancel

Save Changes

Previous 6 Months

September 2022

October 2022

	01 Thu	02 Fri	03 Sat	04 Sun	05 Mon	06 Tue	07 Wed	08 Thu	09 Fri	10 Sat	11 Sun	12 Mon	13 Tue	14 Wed	15 Thu	16 Fri	17 Sat	18 Sun	19 Mon	20 Tue	21 Wed	22 Thu	23 Fri	24 Sat	25 Sun	26 Mon	27 Tue	28 Wed
Regular Room only	3	0	0	0	2	2	3	2	1	0	2	2	3	3	1	0	0	2	3	3	3	2	0	3	3	3	4	
Queen Room only	3	0	0	0	0	0	3	4	3	0	3	3	4	3	2	0	0	2	2	0	2	4	4	0	3	4	3	
Queen Suite	1	0	0	0	1	0	1	0	1	0	1	1	1	1	0	0	0	1	1	0	1	1	1	0	1	1	1	
Regular Room with Real Fireplace Catering	1	0	0	0	1	1	1	0	1	0	1	1	1	1	1	0	0	1	1	0	1	1	1	1	0	1	1	
Queen Suite with Kitchen Catering	0	0	0	0	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	1	1	1	
Queen Suite Catering	1	1	0	0	1	0	0	0	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	0	1	1	1	
Royal Suite with Kitchen Catering	1	0	0	0	1	1	1	1	0	0	0	1	1	1	1	0	1	1	1	1	1	1	0	0	1	1	1	

	01 Sat	02 Sun	03 Mon	04 Tue	05 Wed	06 Thu	07 Fri	08 Sat	09 Sun	10 Mon	11 Tue	12 Wed	13 Thu	14 Fri	15 Sat	16 Sun	17 Mon	18 Tue	19 Wed	20 Thu	21 Fri	22 Sat	23 Sun	24 Mon	25 Tue	26 Wed	27 Thu	28 Fri	29 Sat
Regular Room only	1	3	3	2	2	1	1	0	3	3	3	3	3	3	3	3	3	2	2	2	2	2	3	3	3	3	3	2	
Queen Room only	0	4	4	4	4	4	2	0	4	4	3	4	4	1	3	4	4	4	3	4	3	4	4	4	4	4	4	4	
Queen Suite only	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	

IN PERSON (BOOKING FORM)

No. Permis de conduire (réservé à l'hôtel)

FICHE D'ENREGISTREMENT

1 NOM : _____

2 PRENOM : _____

ADRESSE : _____

VILLE : _____

PROVINCE : _____

CODE POSTAL : _____

3 TELEPHONE : _____

PAYS : _____

VÉHICULE, MODÈLE : _____

COULEUR : _____

ADRESSE ELECTRONIQUE : _____

4 DATE D'ARRIVEE : _____ / _____

5 nombre de nuitée : _____

11 DATE DE DEPART : _____ / _____

6 nombre de personne : _____

12 CHAMBRE no : _____

13 PRIX : _____

7 HEURE APPROX DE L'ARRIVÉE : _____

8 *** La prise de possession des clés se fait entre 3 :00 pm et 12 :00 pm.

14 total brut

19 Calendrier compléter : _____ (x)

15 tx d'hébergement

16 TPS

17 TVQ

18

NO DE CARTE DE CRÉDIT : _____

visa mc

9 NUMÉRO : _____

10 EXPIRATION : _____

code validation a 3 chiffre : _____

Reimbursement conditions:

L'annulation ou les modifications doivent être effectuées 48 heures avant la date d'arrivée pour éviter les pénalités, sinon la facture complète sera facturée.

***** CONDITIONS ET RÈGLEMENTS DE NOTRE ÉTABLISSEMENT *****

1-Nous vous demandons, en tout temps, de respecter la tranquillité des autres clients.

2-Entre 10 h PM et 10 h AM vous devez parler à voix basse dans les aires communes (couloirs).

3-Une tenue convenable est exigée dans tout l'hôtel.

4-Aucune chandelle n'est tolérée dans le manoir.

5-Le spa extérieur (4 saisons) est strictement réservé aux clients de l'hôtel (aucun invité).

6-Le montant de tout objet brisé, endommagé ou volé sera prélevé sur votre carte de crédit, ainsi que la perte des clés ou la non restitution de celles-ci (40\$).

7-Le montant du nettoyage de tout objet taché par, huile de massage, vin ou autre sera prélevé sur votre carte de crédit.

8-Toutes les chambres et salles de bain sont NON-FUMEUR. Toute personne ne respectant pas ce règlement, se verra prélever automatiquement un montant de 300.00\$ D'AMENDE supplémentaire sur leur carte de crédit pour le nettoyage de la chambre. Aucun avertissement ne sera émis.

9- LA FÊTE N'EST PAS AUTORISÉE DANS TOUTES LES CHAMBRES D'HÔTEL.

10- LES VISITES NE SONT PAS AUTORISÉES DE 22H00 À 7H00.

11 - Le check-out ou libération des lieux est au plus tard à 11 h AM.

*Je soussigné (é), avoir lu, compris et accepté les conditions et règlements mentionnés ci-dessus.

SIGNATURE : _____

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XIII. References/Bibliography

Revfine.com. (2022, June 20). *Hotel Industry: Everything You Need to Know About Hotels!*

Revfine.com. Retrieved September 26, 2022, from <https://www.revfine.com/hotel-industry/>

O'Fallon, M. J., & Rutherford, D. G. (2010, January 12). *Hotel Management and Operations*. John Wiley & Sons, Inc.

Parker, K. (2009, February 1). *How to buy & run a small hotel: 5th edition (5 Rev Upd)*. How To Books.

What is a room type? (+20 types of hotel rooms). Hotel Tech Report. (2022, January 26). Retrieved September 26, 2022, from <https://hoteltechreport.com/news/room-type>

Wikimedia Foundation. (2022, July 2). *State diagram*. Wikipedia. Retrieved October 7, 2022, from https://en.wikipedia.org/wiki/State_diagram