

Software Requirements Specification



BAYFRONT
Hotel Booking Management System

Team CS29

Proposed Project Supervisor (Academic Staff of UCSC):

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Signature of the supervisor:

Date:

Proposed Project Co-Supervisor (Assigned by Course Coordinator):

Name of the co-supervisor: Ms. Kamsa Sharma

Signature of the co-supervisor:

Date:

The client of the Project (If applicable, otherwise supervisor will be considered as the client)

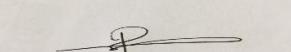
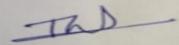
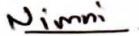
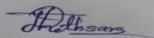
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1. Introduction

1.1 Domain description

The hotel industry plays a vital role in the tourism industry. Technology usage in the hotel industry is advancing. Today Hotel Management system application is essential equipment to improve the business. The hotel ‘Bay-front’ is a very famous middle-level hotel in southern cost-line. ‘Bay-front’ is currently using a manual system. They want to solve existing problems using a web-based system and also to provide quality customer service and manage the business, a computer-based system required. The system should be able to manage the reservation system, payment system and all information regarding customers and employees and other services.

1.2 Current system & It’s limitations

Hotel ‘Bayfront’ is currently using a manual system. However, the client is currently using websites such as booking.com, trip-advisor.com, ahotel.com, agoda.com, and a template from booked.net. Owning an independent website is not a must, but sometimes it may occur some problems. Intermediaries like Corporate websites and travel agencies demand commissions around 20% of the profits. This might not make sense for large scale hotels, but it impacts on the medium and small-scale hotel as well as they usually handle payments that are made manually using the invoice book.

When registering walk-in guests, the front desk staff hands over the GRC (Guest Registration Card) to fill the information. The client must fill it manually if there is no system. Suffice to say this is a quite cumbersome practice.

1.3 Objectives of the project

- To manage the hotel using a computerized system.
- The system should support a multi-user environment.
- Real information on the availability of the room.
- To make efficient and effective use of the hotel system.
- To provide a web site that allows customers to search and reserve a hotel room or cancel his/her reservation over the internet at any time.
- To manage large volumes of data to acquire timely and accurate information

1.4 Goals of the project

- The main goal of this project is to make a secure online environment for hotel management.
- We hope to replace their manual system as a web-based system, including all functionalities required by our client and to maintain good customer relationships.
- This project intends to introduce more user-friendliness in various activities such as record updating, maintenance, and searching.

1.5 Scope of the project

1.5.1 Project scope identification and clear boundaries

Customer Registration

- Details Login or Facebook Login and Google Login

Room Reservation System

- Room Cancelation (Free Cancellation Only)

Notification System

- Online Customer Reservation: After booking or reserving a surfing package, details are sent to the Owner and receptionist. After confirmation, notification is sent to the guest.
- Walk-in Guest Reservation: Guest and Owner both receive notification after a booking is confirmed.
- Payment
 - Online: Owner, receptionist, and Guest and receive notifications.
 - Cash: Owner and Guest receive notifications.

Edit Site System

- Room prices and type can be changed. The Owner can edit discounts for rooms, Surfing Package. The Owner can add or update images on website price can be changed, and discounts can be offered through the website.

Manage Employee

- The Owner can add, delete, or change employee details only.

Report Generating System

- We thought that it is better to generate reports so that each service provider can see their monthly statistics
- Only check-out customers can review, and one guest can leave only one review.

1.5.2 Out of Scope

- System Advancement due to the addition of future branches.
- The system can be used only to add, delete, or modify employee details. It cannot be used to do any other things, like taking employee mark attendance or assigning short leave.

1.6 Assumptions

- All the users will have access to the internet.
- New users will enter their true details when creating the account
- No one makes the same reservation at the same time from different websites.
- Every probable Customer has an email address.
- System Operator will constantly monitor the system on a daily basis.
- When the receptionist finishes work, the Owner must take care of the receptionist's work. So, the receptionist's use cases should be enrolled to the Owner.

1.7 Constraints and Limitations

1.7.1 Implementation Constraints

- Some people may be reluctant to register to the website and may end up using other means of booking.
- All users must have access to the internet to interact with the website.

1.7.2 Design Constraints

- If we use all the main languages of the country, it will not support the design. Therefore, we use simple English.

2 Feasibility Study

2.1 Technical Feasibility

- The project can be done by using existing technologies.
 - Current technical resources can be upgraded to provide the level of technology necessary for the system.
 - The team is equipped with the knowledge and expertise needed to develop the system using current technologies.

2.2 Operational Feasibility

- The system is to provide adequate throughput and response time.
 - The system allows the receptionist/owner to adapt without any specialized training with no time. This is a user-friendly system that makes it easy for the Customer.
 - The report generating feature provides a report accurate and useful formatted information from the system

2.3 Economic Feasibility

- Free and open source technologies are used in developing this system.
 - Even though at the beginning domain, hosting and maintenance will need some expense, the benefits from the system outweigh the cost.
 - The system is very much affordable

2.4 Schedule Feasibility

- We have planned and scheduled how and when we are going to implement each part of the system.
 - We will most certainly be able to implement the system within the estimated period, and the scope of the project is fit within ten months of development work.
 - We are able to implement the solution within the allocated period, and it is shown in the Gantt chart shown below. We are hoping to complete the implementation and testing phases within one year.

2.5 Legal Feasibility

- Most of the technologies used will be free and open source. If not, they will be used with proper copyright.
- The privacy of the information obtained from customers/guests are well kept. They will not be visible or accessible to any unauthorized parties or will not be used for, and advertising purposes with the expressed permission from the Customer.
- A password or any biometric identification will be used to prevent any unauthorized access to the system. Proper user privileges will be set for the groups or individuals
- The team will make sure that the execution of the system does not breach any laws of this country. It will be done with the ultimate regard to meet ethical & legal requirements

3 Requirements

3.1 Stakeholders

The users of the system can be categorized into four types.

3.1.1 Unregistered Customer

This category is comprised of anyone who visits the web page without an account. They can access only the static web pages of the web application. Login is a necessary requirement to interact with the website. Therefore, unregistered users are not in the system.

3.1.2 Registered Customer

These users are required to create and register the website. They can access the static web pages on the web application. They can book, cancel, make payments online, and review.

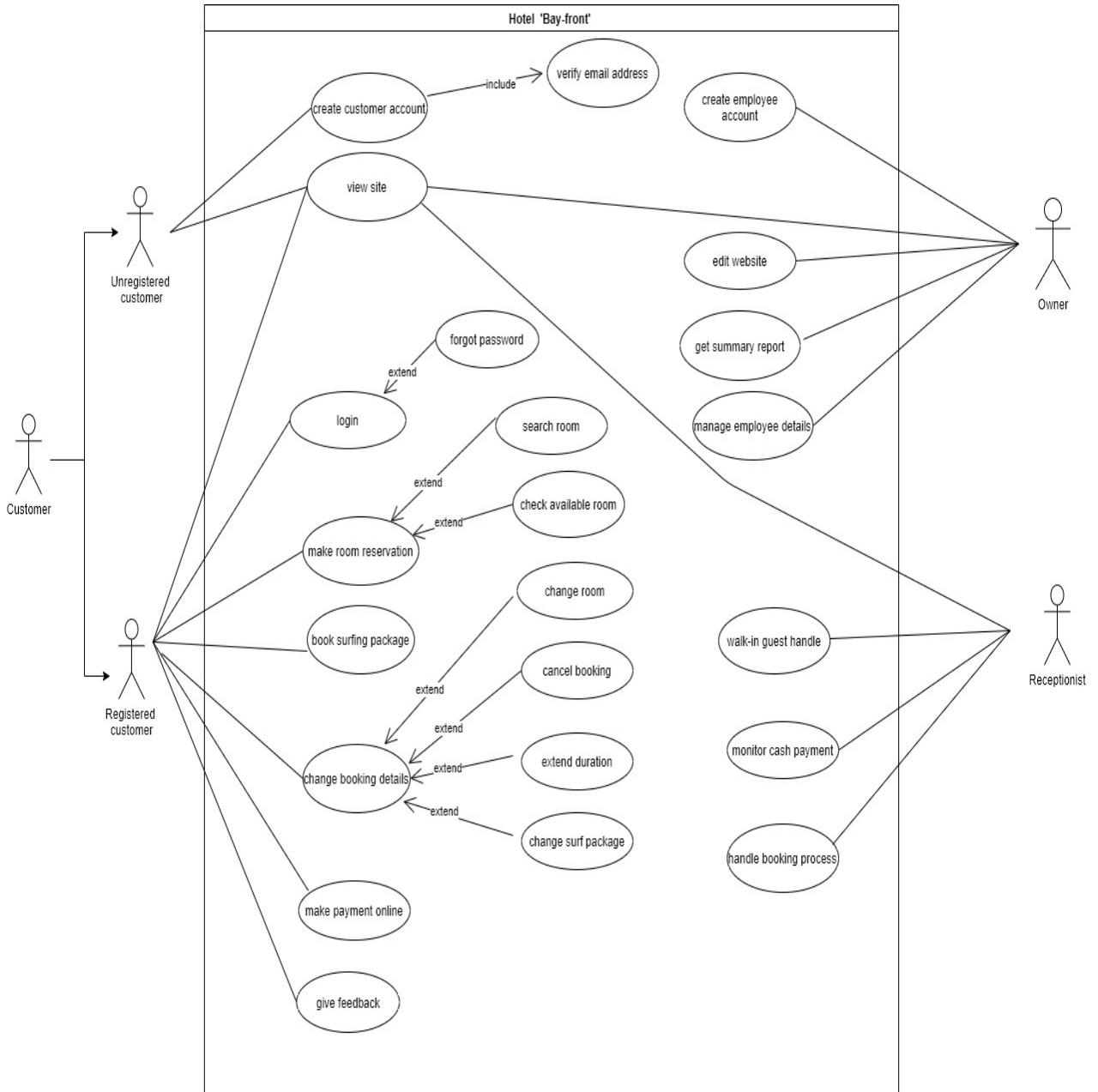
3.1.3 System Operator/Receptionist

System Operator is the user who interacts mostly with the system. The user level-System Operator has the authority to add new guests to the system, modify their details, remove them from the system, make reservations, to handle walk-in Guests, handle their bookings, and their payments.

3.1.4 Owner

The Owner has the privilege of monitoring and authorization of all the tasks handled by the system. The Owner has the power to override the decisions made by all the other users, including System Operator.

3.2 Use Cases and Use Case Diagrams



3.3 Functional Requirements

3.3.1 Unregistered Customer

- Create customer account
- It can only access the static web pages on the web application.
 - Home
 - Rooms & lifestyle
 - Dining
 - Surf packages
 - Activities
 - Gallery
 - About us
 - Guest review

3.3.2 Registered Customer

- Log in website
- It can access the static web pages on the web application.
- Reserving room
 - Ability to cancel the booking
 - Ability to change room
 - Ability to extend the reservation period
- Reserving surfing package
 - Ability to change package
- Online payment facilities
- Give feedback

3.3.3 System Operator/Receptionist

- Log in website
- It can access the static web pages on the web application.
- Handle the walk-in guest
- Monitor the cash payment
- Handle the booking process

3.3.4 Owner

- Log in website
- It can access the static web pages on the web application.
- Edit the website
- Manage employee details
- Generate summary reports

3.4 Quality Attributes and how to achieve those

3.4.1 Availability

The site is accessible 24 /7 and 365 days. We are using shared hosting sites such as Namecheap, GoDaddy, digital Ocean.

3.4.2 Usability

The system should be easy to use for all users. Icons and images used in the system should be visible and discernible regardless of the device used.

3.4.3 Security and Privacy

Except for a process in the system such as sending unique package information or summary report generation personal data of the users and employees such as email addresses, telephone numbers are not used in any manner.

All the information is encrypted to prevent the misuse of sensitive data.

3.4.4 Portability

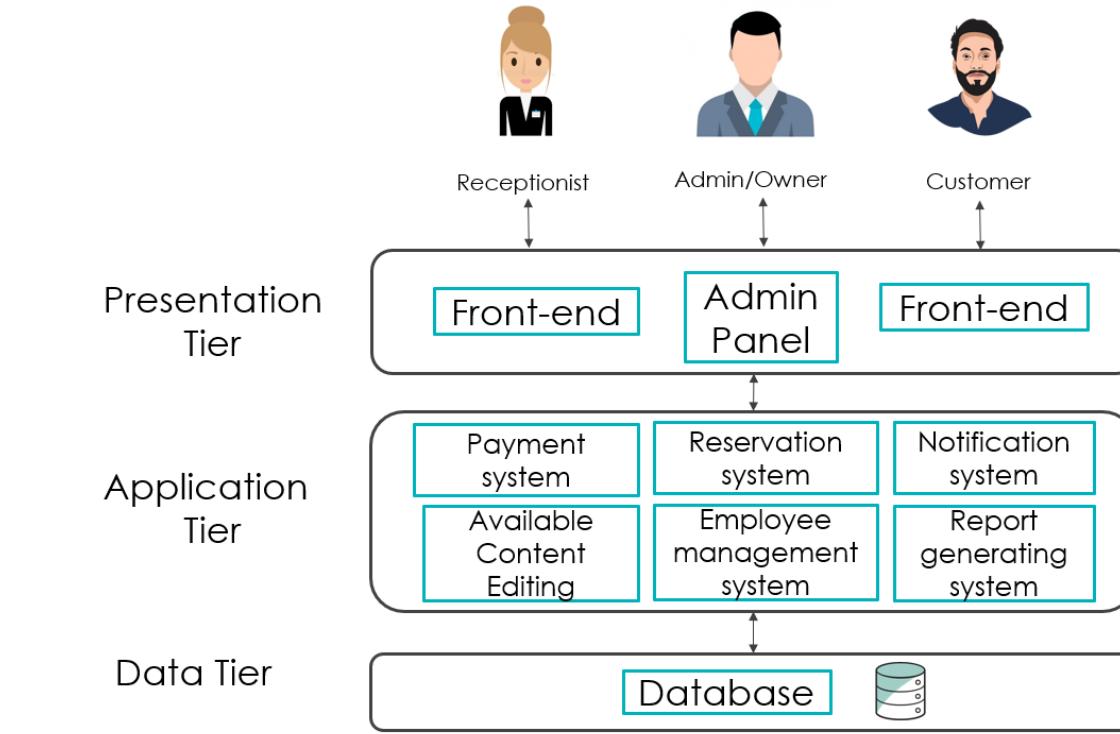
The software can be run in any environment or any machine as a laptop notebook smartphone.

3.4.5 Reliability

Testing for reliability is not straightforward. It is challenging to state if a system does or does not meet reliability requirements. We hope to conduct many tests to guarantee the Reliability of the system before and after the turnover.

4 Proposed System Architecture

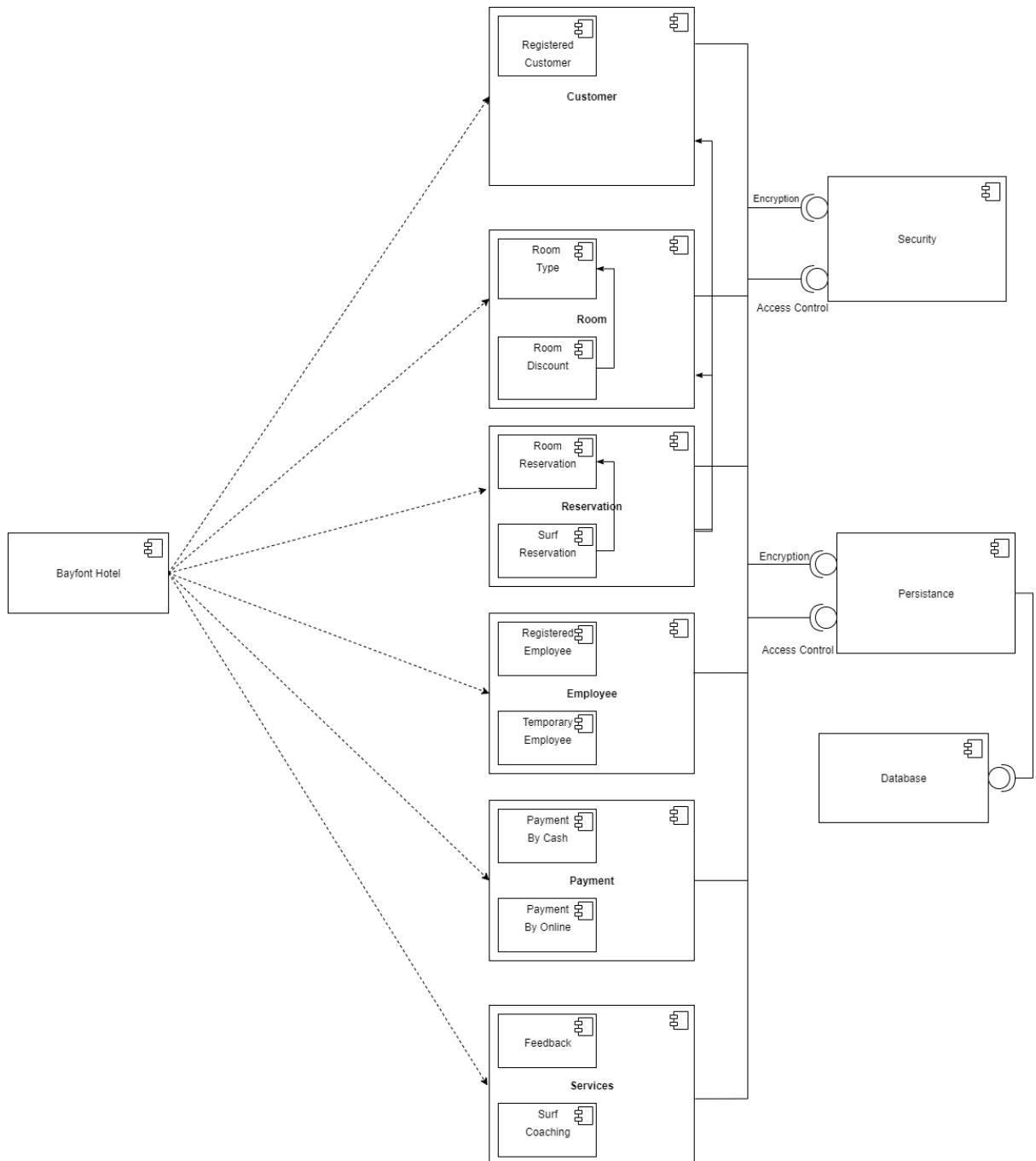
4.1 Three-Tier Architecture



4.2 Components and Their Responsibilities

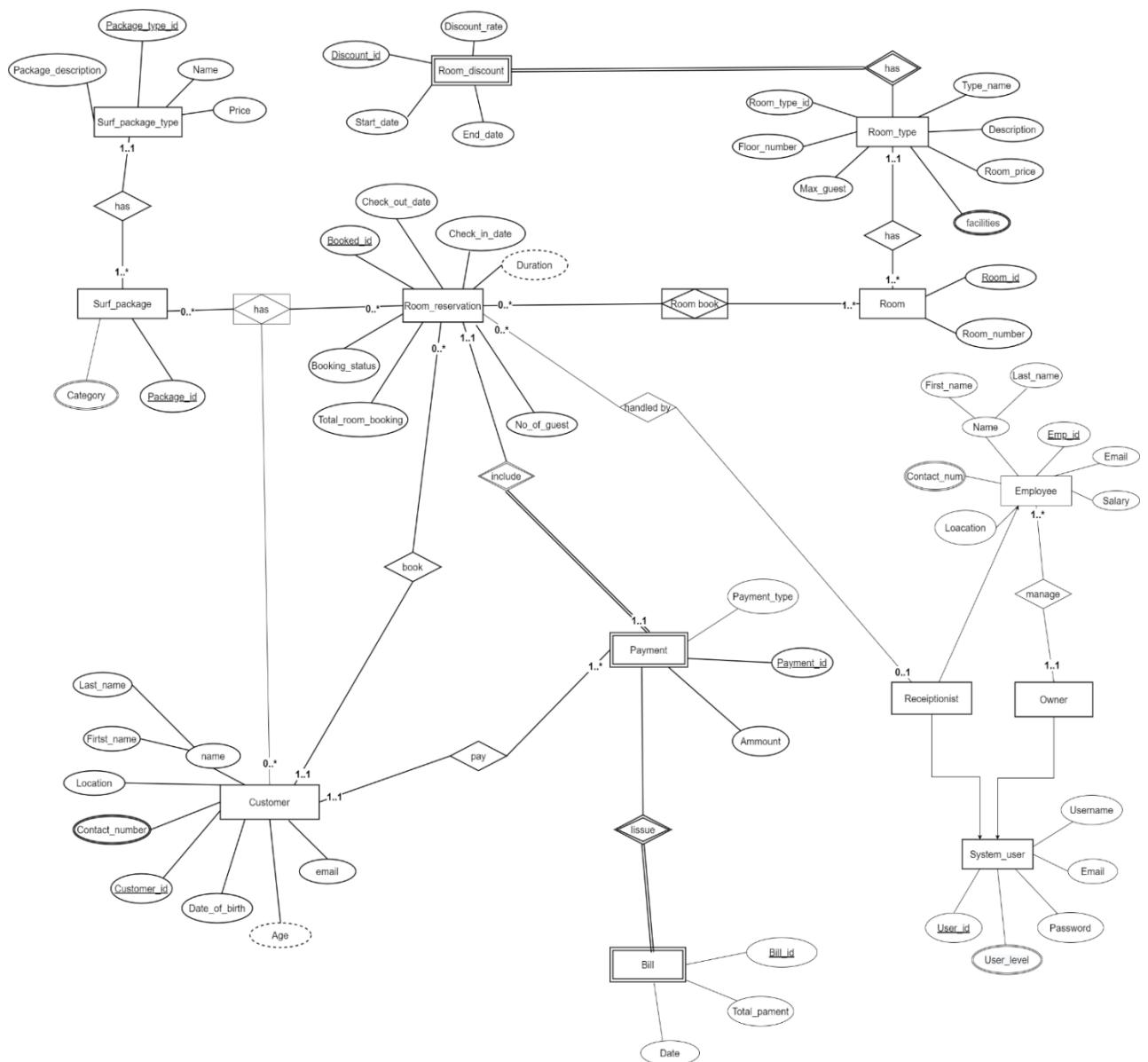
Component	Responsibilities
Registered Customer	1. Edit Details 2. Login to site 3. Add payment methods
Room Type	1. Display Room Type is given room 2. Delete Room Type 3. Add Room Type
Room Discount	1. Display Room Discount is given room 2. Add Discount for room 3. Remove Discount from room
Room Reservation	1. Notify the given room reserve or not 2. Display Room reservation payment 3. Manage room reservation
Surf Reservation	1. Notify the given surf reserve or not 2. Display surf reservation payment 3. Manage surf reservation
Registered Employee	1. Verify the Room and Surf Reservation 2. Add Temporary Employee 3. Edit website 4. Login to site 5. Display details of employee
Temporary Employee	1. Reserve for room 2. Display details of employee
Payment By Cash	1. Build a bill or invoice 2. Manage payment 3. Display the payment details
Payment By Online	1. Build a bill or invoice 2. Manage payment
Feedback	1. Collect and Display customer reviews 2. Pop up good feedback
Surf Coaching	Display Available Coaches on website

4.3 Component Interactions



5 System's Design

5.1 ER Diagram



5.2 Mapping from the ER Diagram

Customer(Customer_id, First_name, Last_name, Location, Contact_number, Date_of_Birth, Age, email)

Room_reservation(Booked_id, Customer_id, Payment_id, Reception_user_id, Check_out_date, Check_in_date, duration, Booking_status, Total_room_booking, No_of_guest)

Room_Booked(Room_id, Booked_id)

Room(Room_id, Room_type_id, Room_number)

Room_type(Room_type_id, Floor_number, Max_guest, facilities, Room_price, Description, Type_name)

Room_discount(Discount_id, Room_type_id, Discount_rate, Start_date, End_date)

Payment(Payment_id, Booked_id, Customer_id, Payment_type, Amount)

Bill(Bill_id, Payment_id, Booked_id, Total_payment, Date)

Employee(Emp_id, Owner_user_id, First_name, Last_name, Email, Salary, Location, Contact_num)

Receptionist(Reception_user_id, Emp_id, User_level, Password, Email, Username)

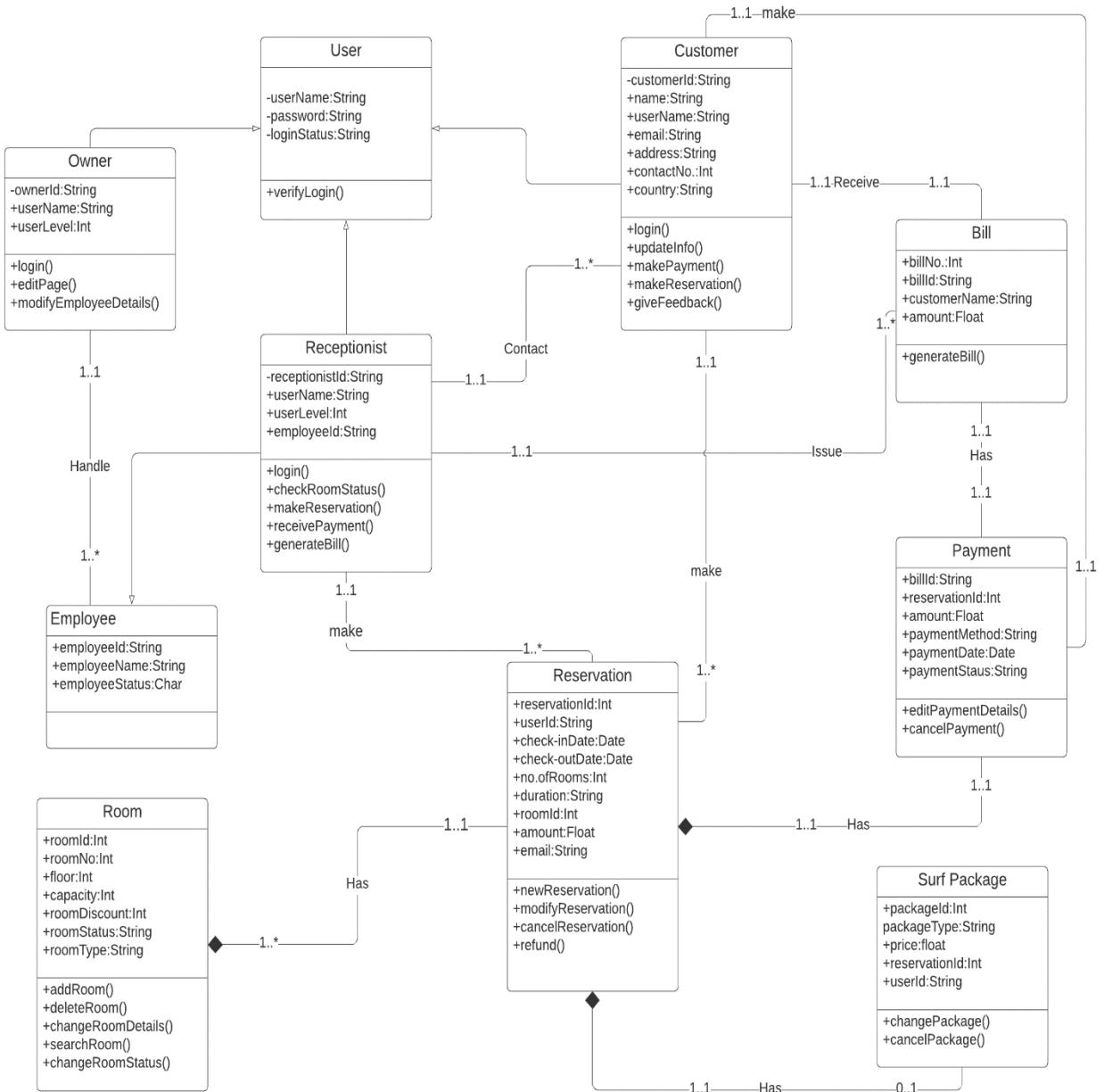
Owner(Owner_user_id, Username, Email, Password, User_level)

Surf_packages_type (Package_type_id, Name, Price, Package_description)

Surf_package(Package_id, Package_type_id, Category)

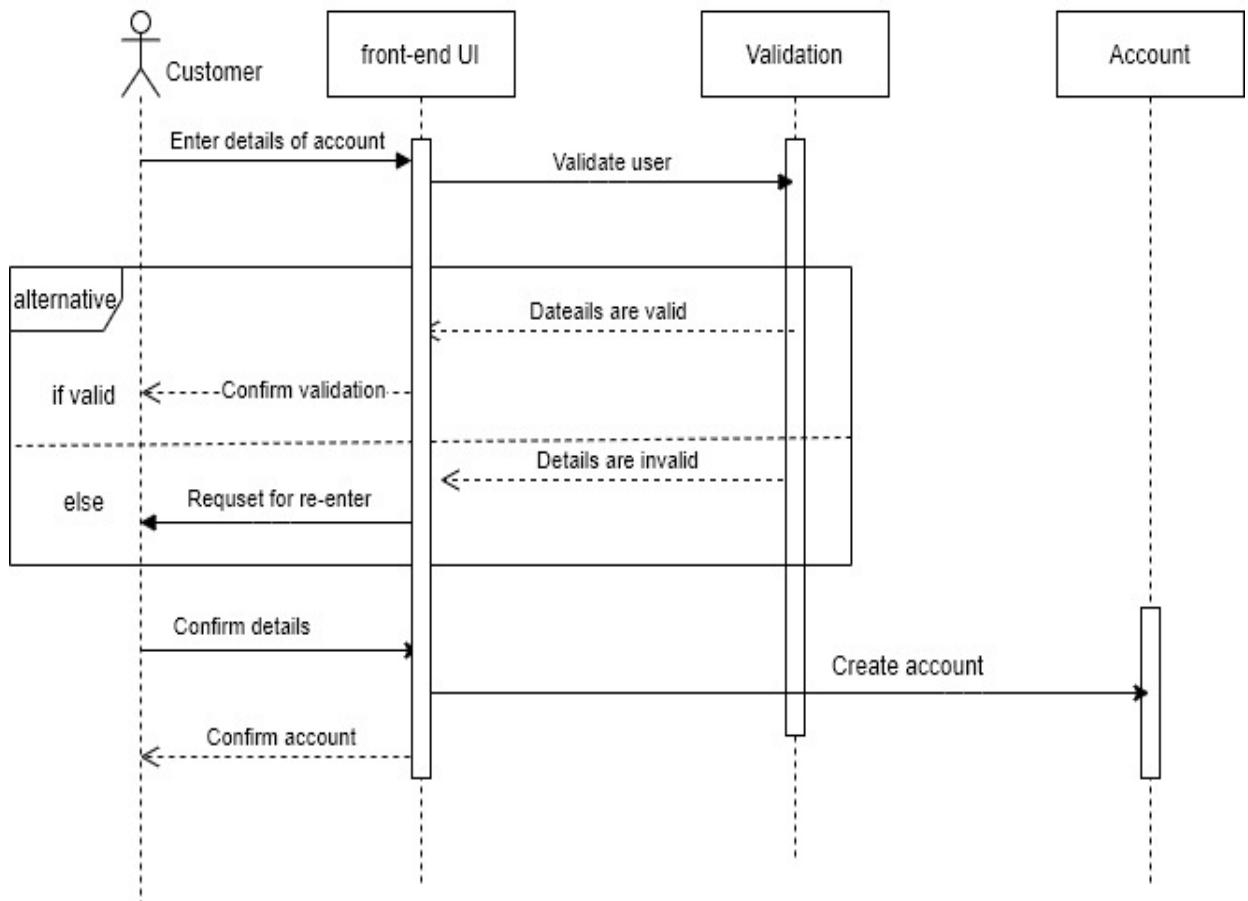
Surf_package_booked(Package_id, Booked_id, Customer_id)

5.2 Class Diagram

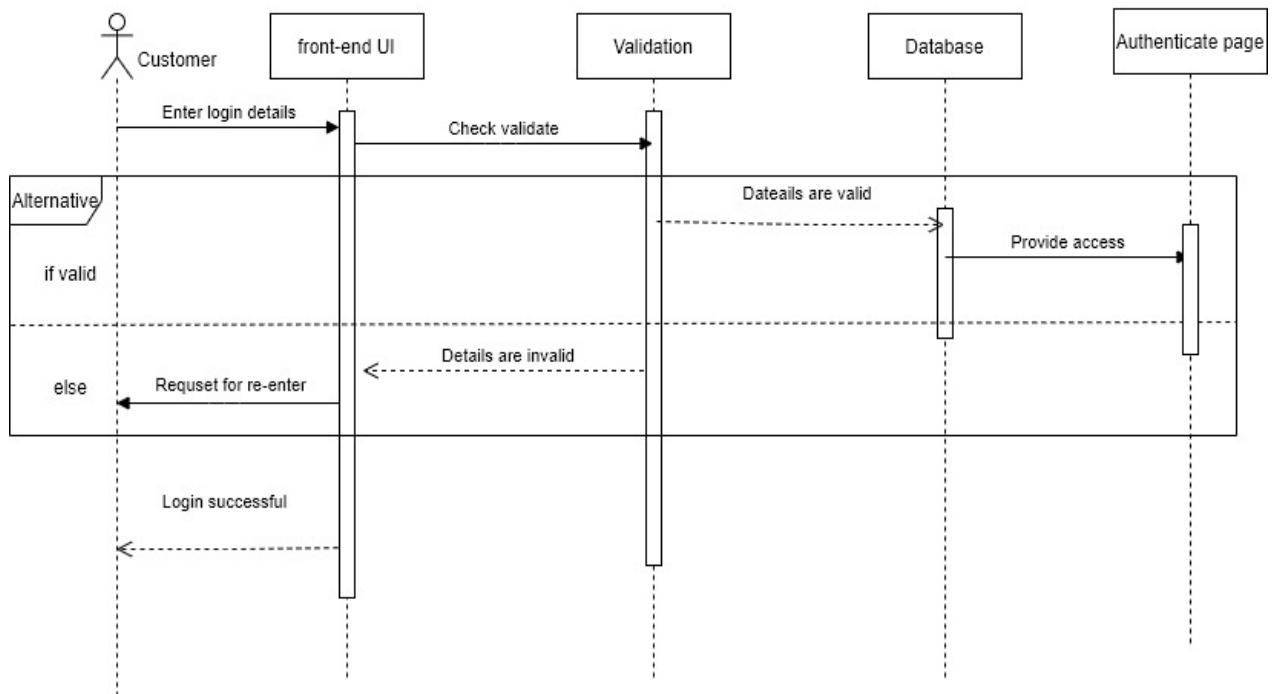


5.3 Sequence Diagrams

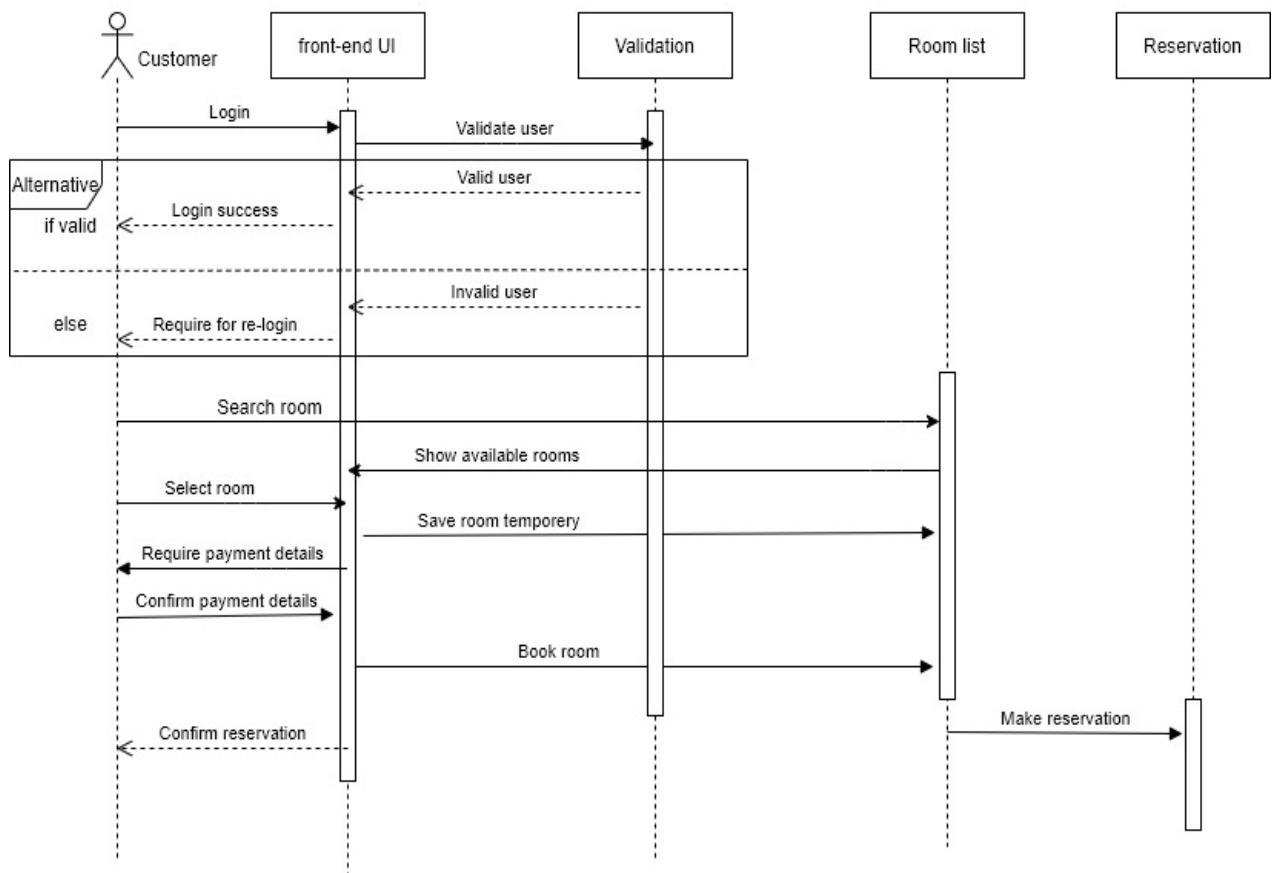
5.3.1 Create Account



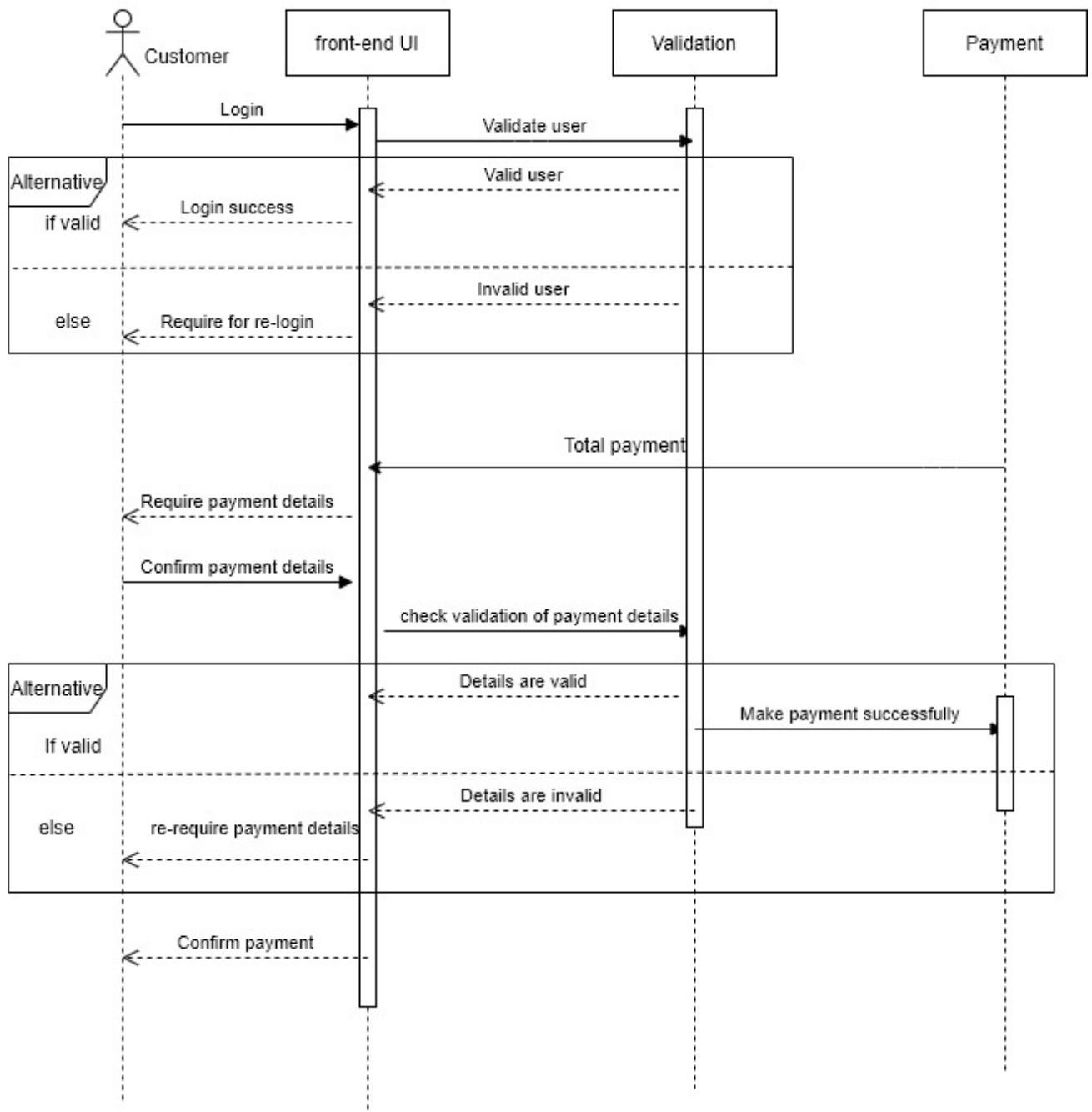
5.3.2 Login



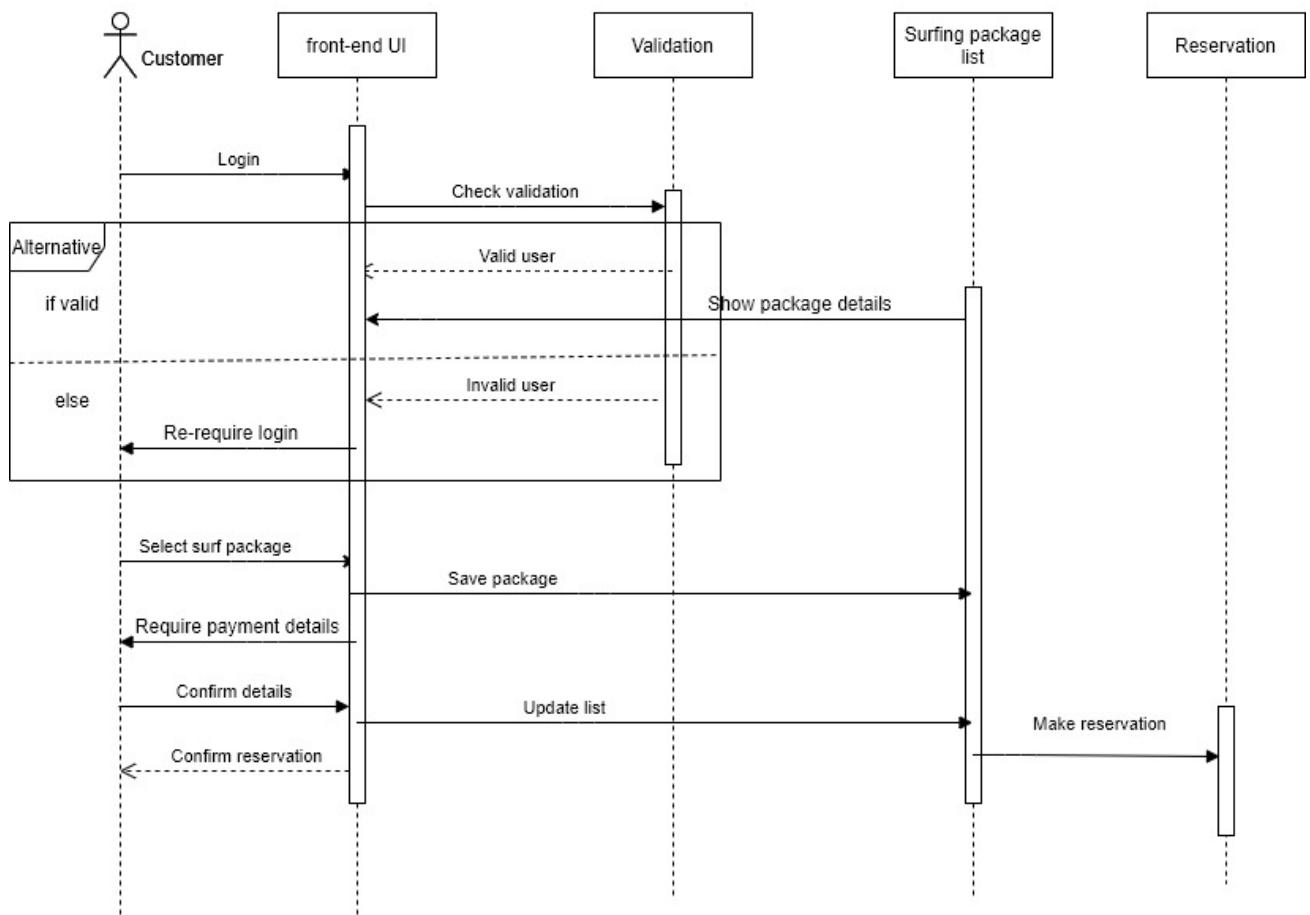
5.3.3 Online reservation



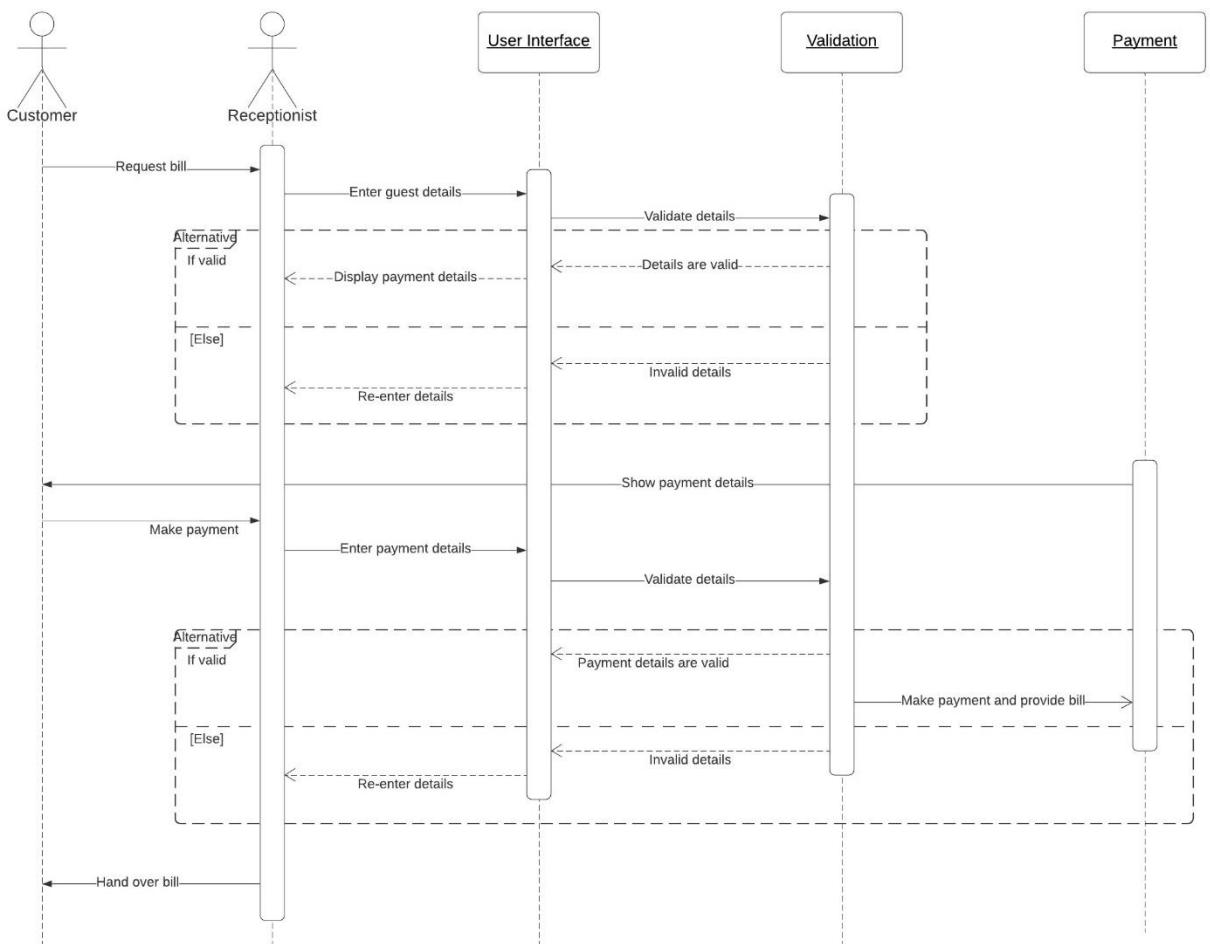
5.3.4 Online payment



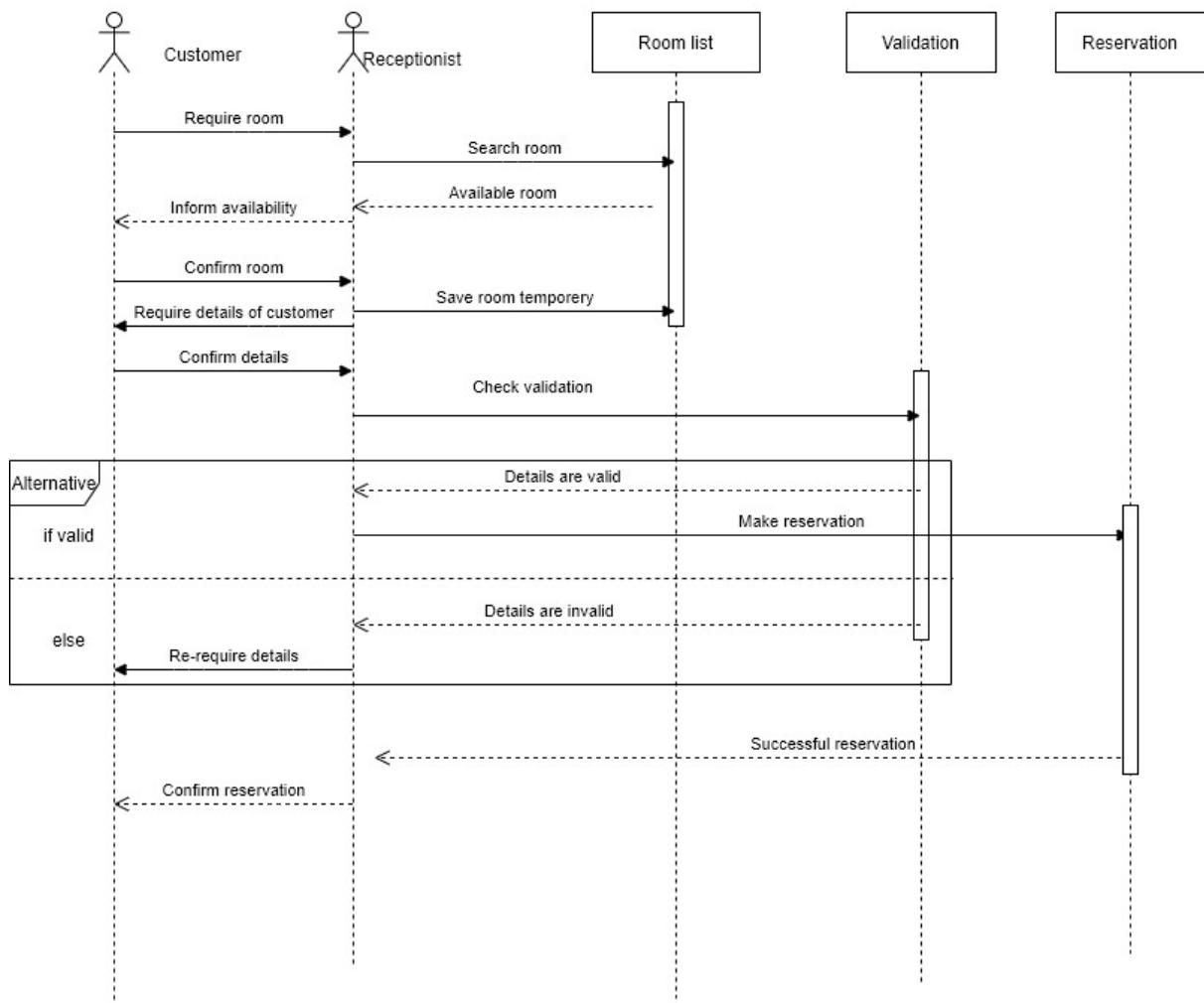
5.3.5 Booking surfing packages



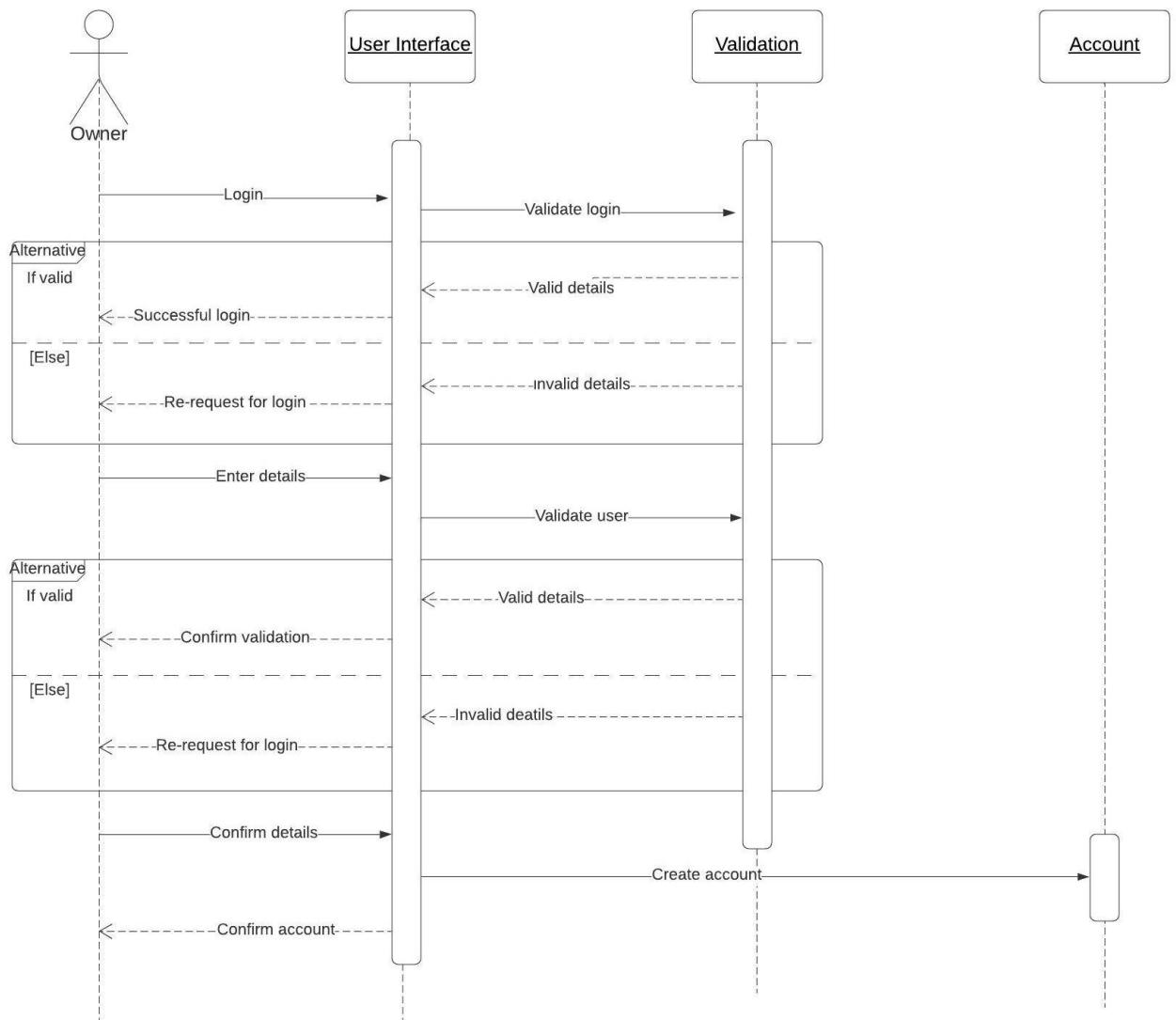
5.3.6 Monitor cash payments



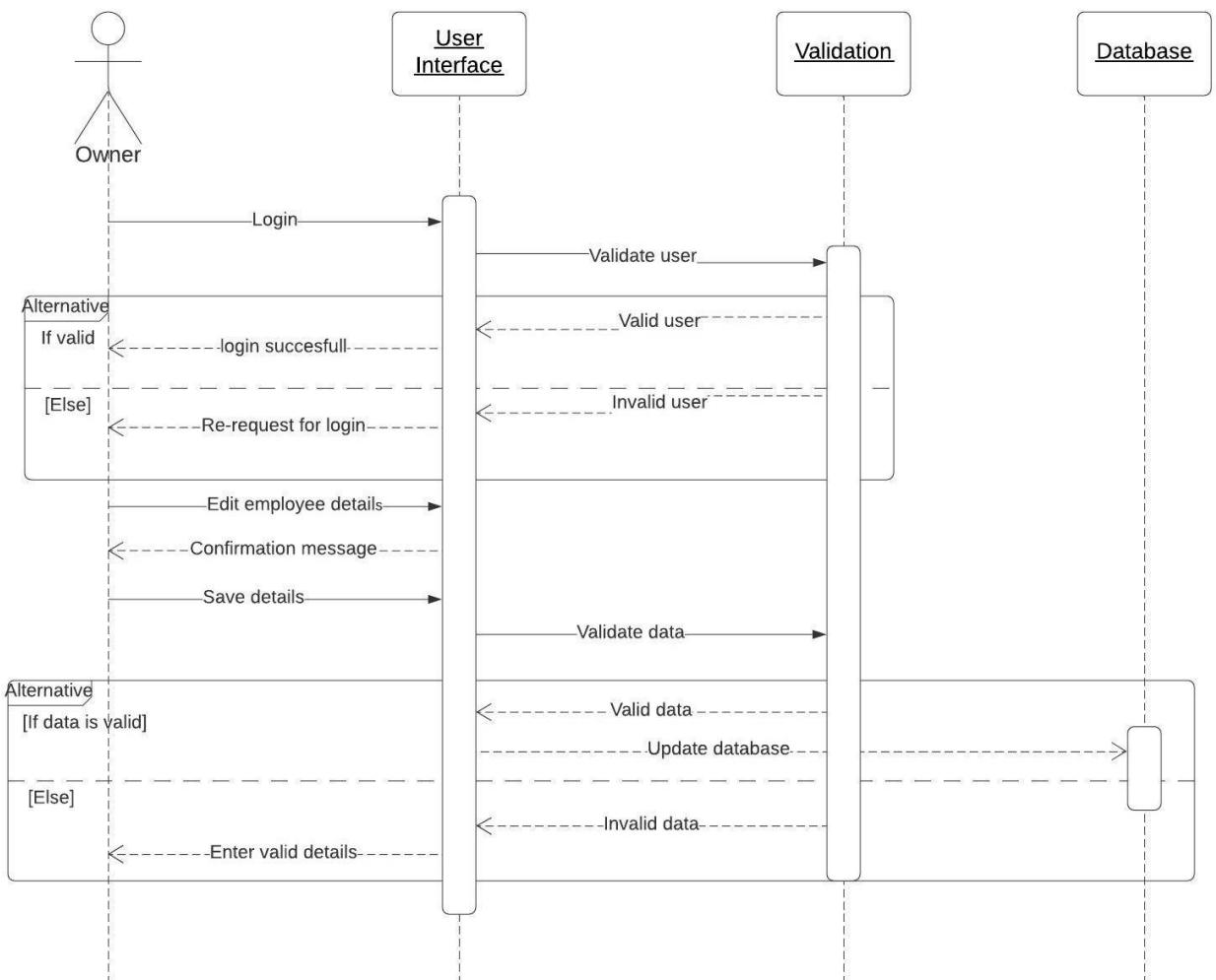
5.3.7 Walk-in guest handling



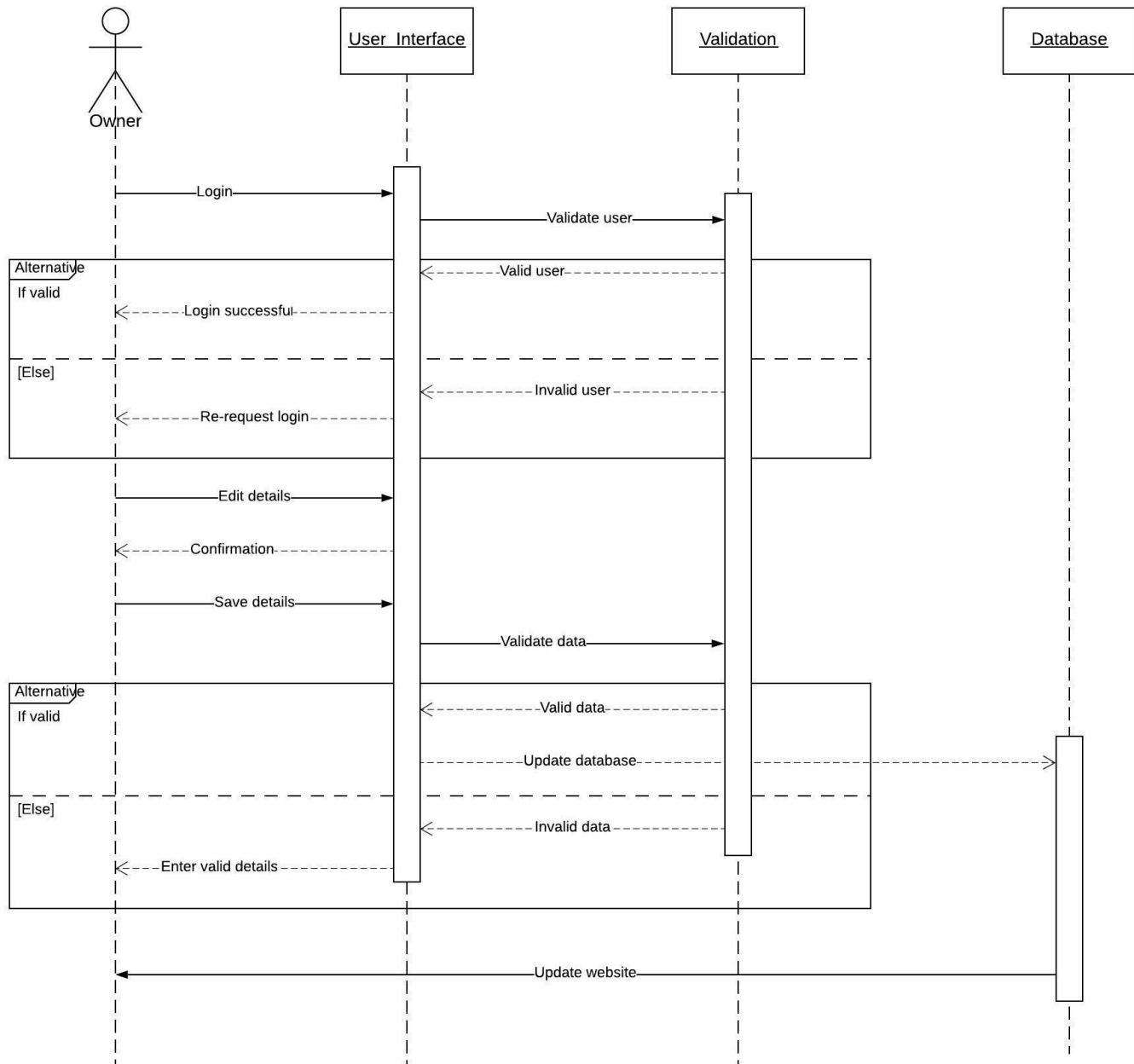
5.3.8 Create employee Account



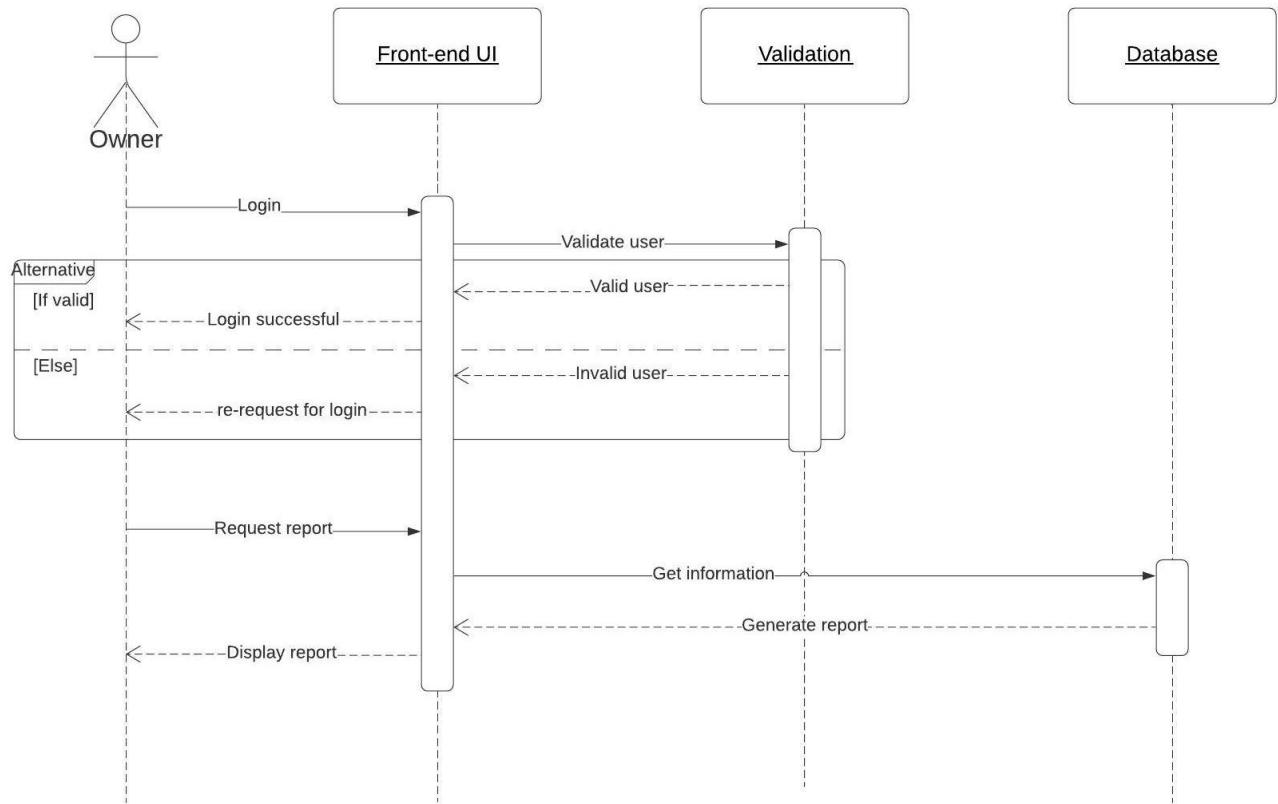
5.3.9 Edit employee details



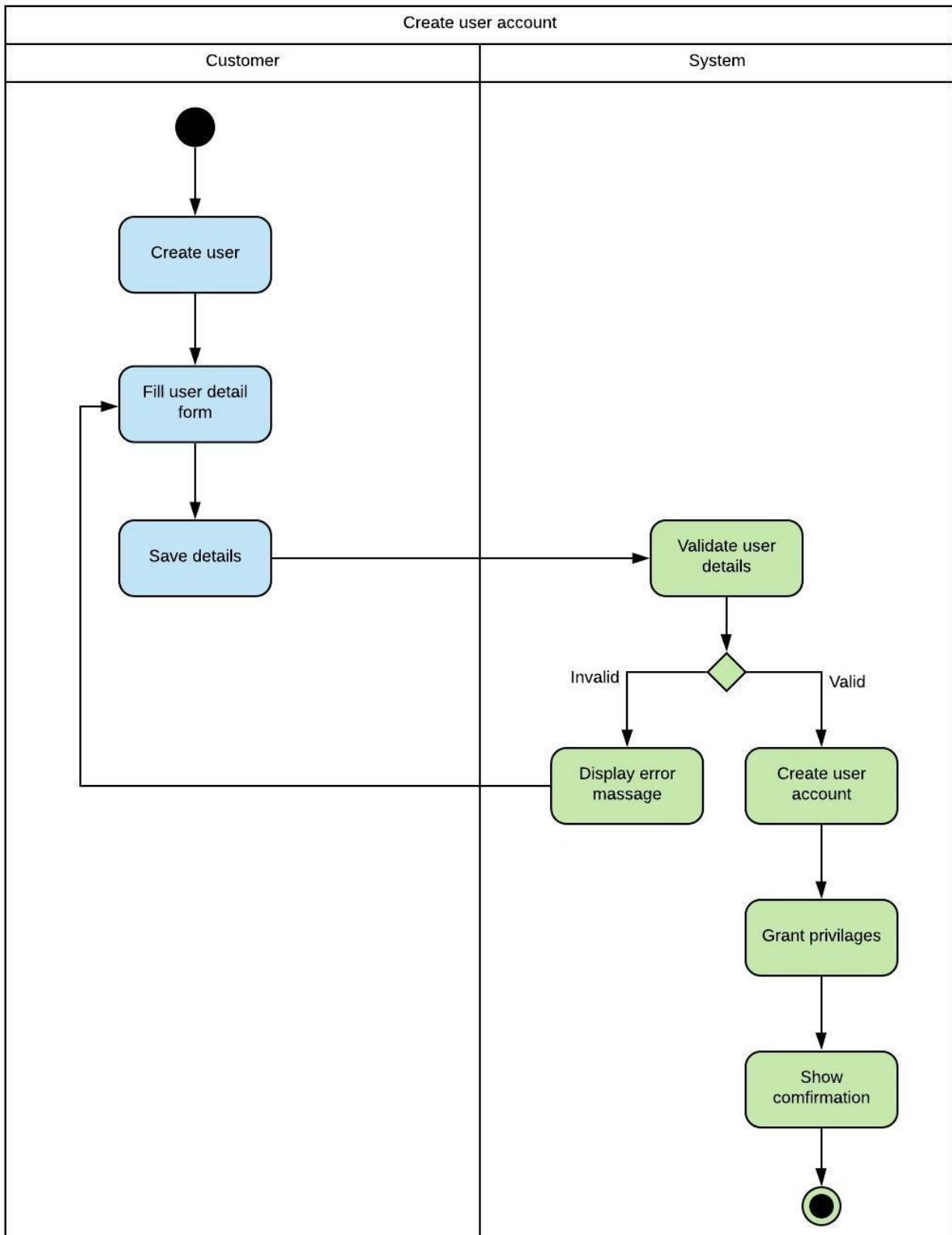
5.3.10 Edit website



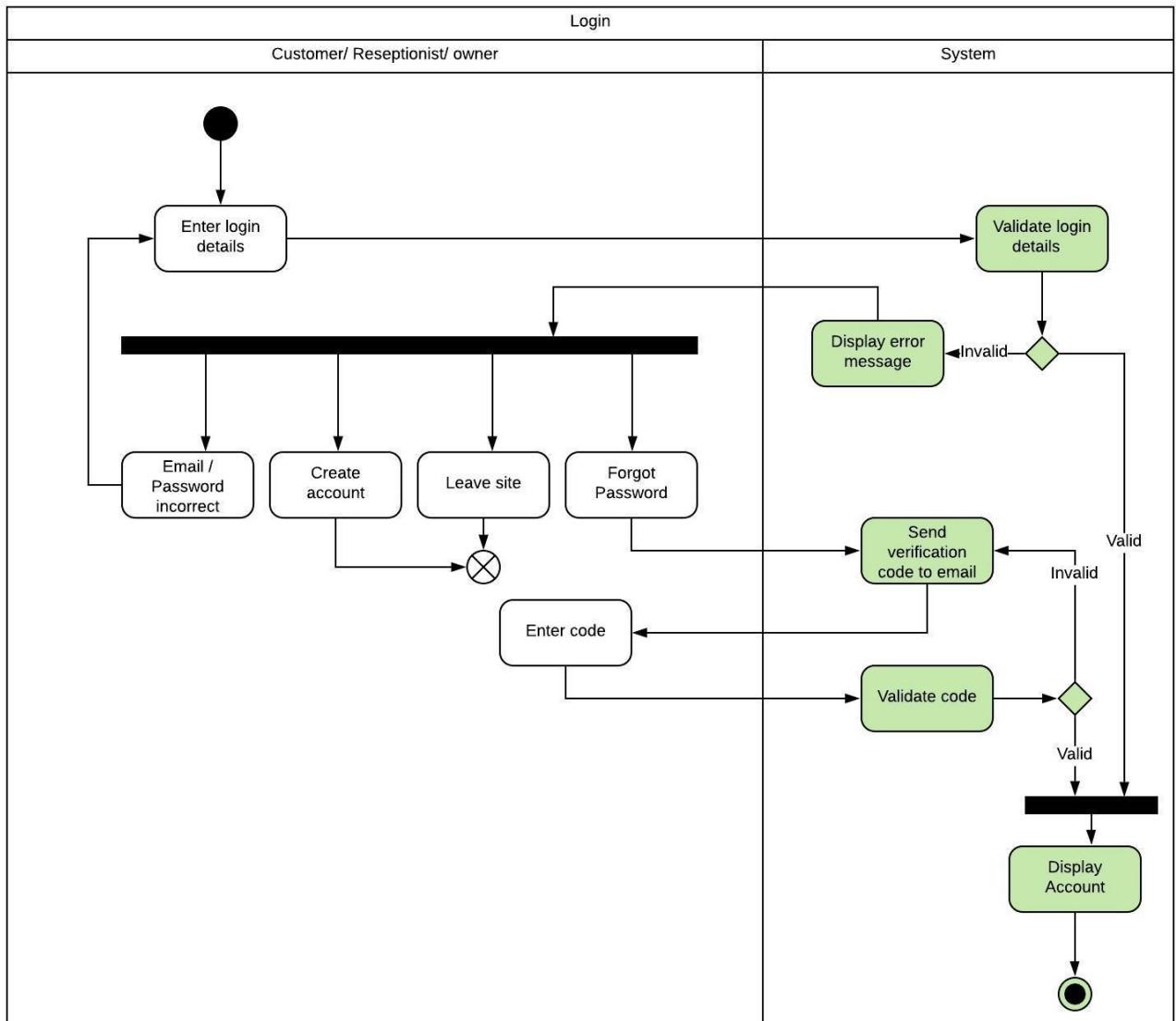
5.3.11 Generate summary reports



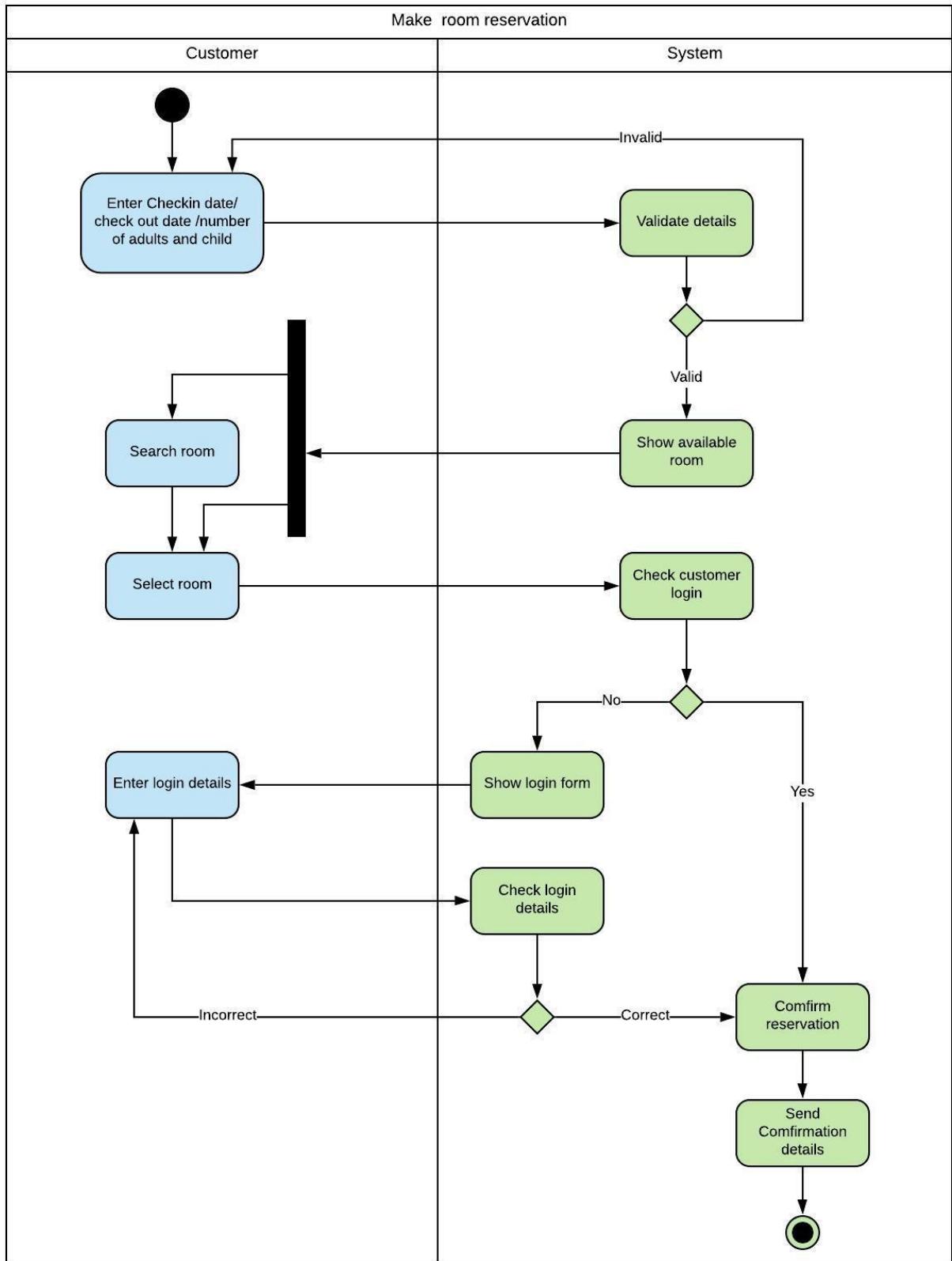
5.4 Activity Diagrams



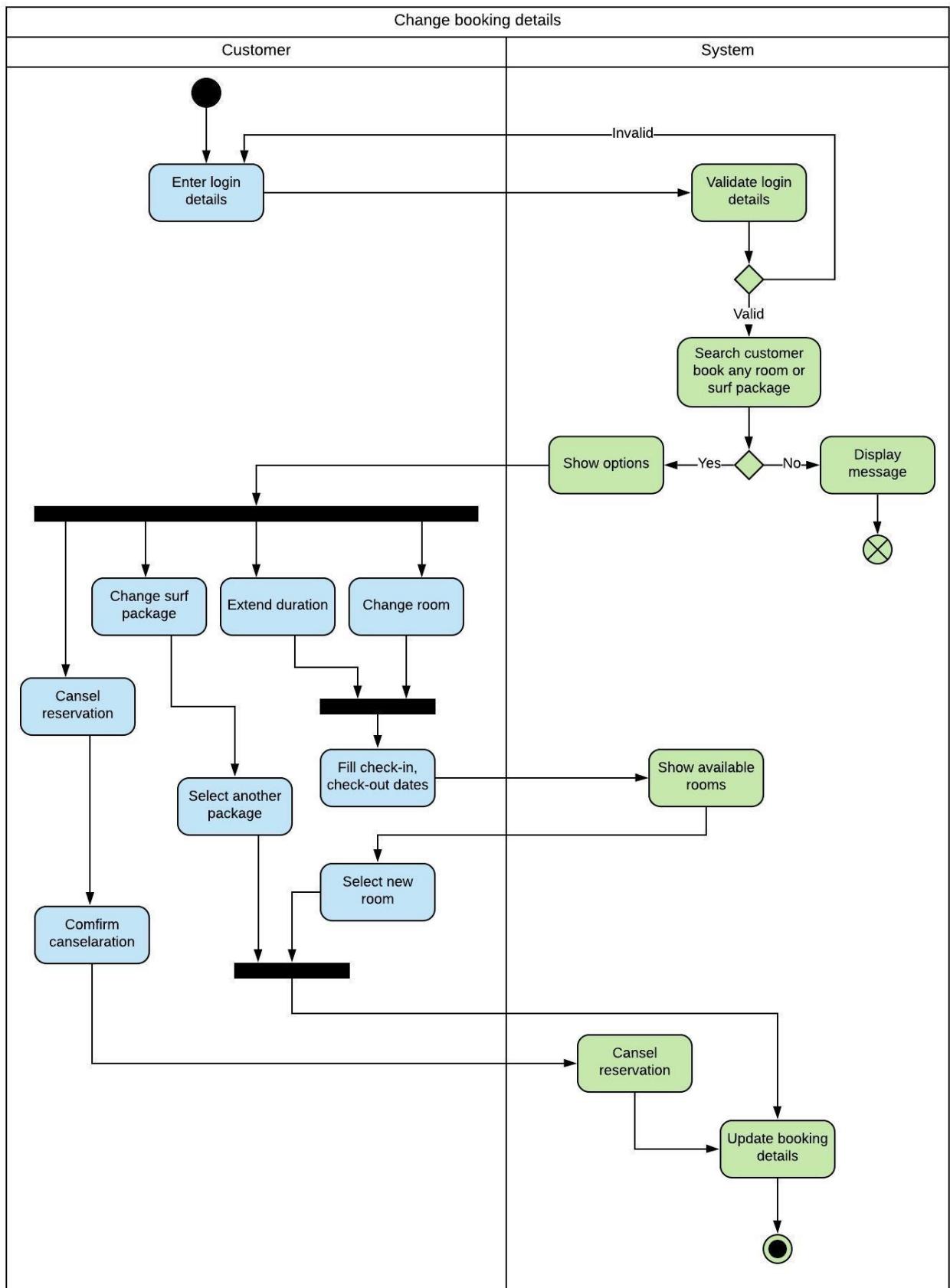
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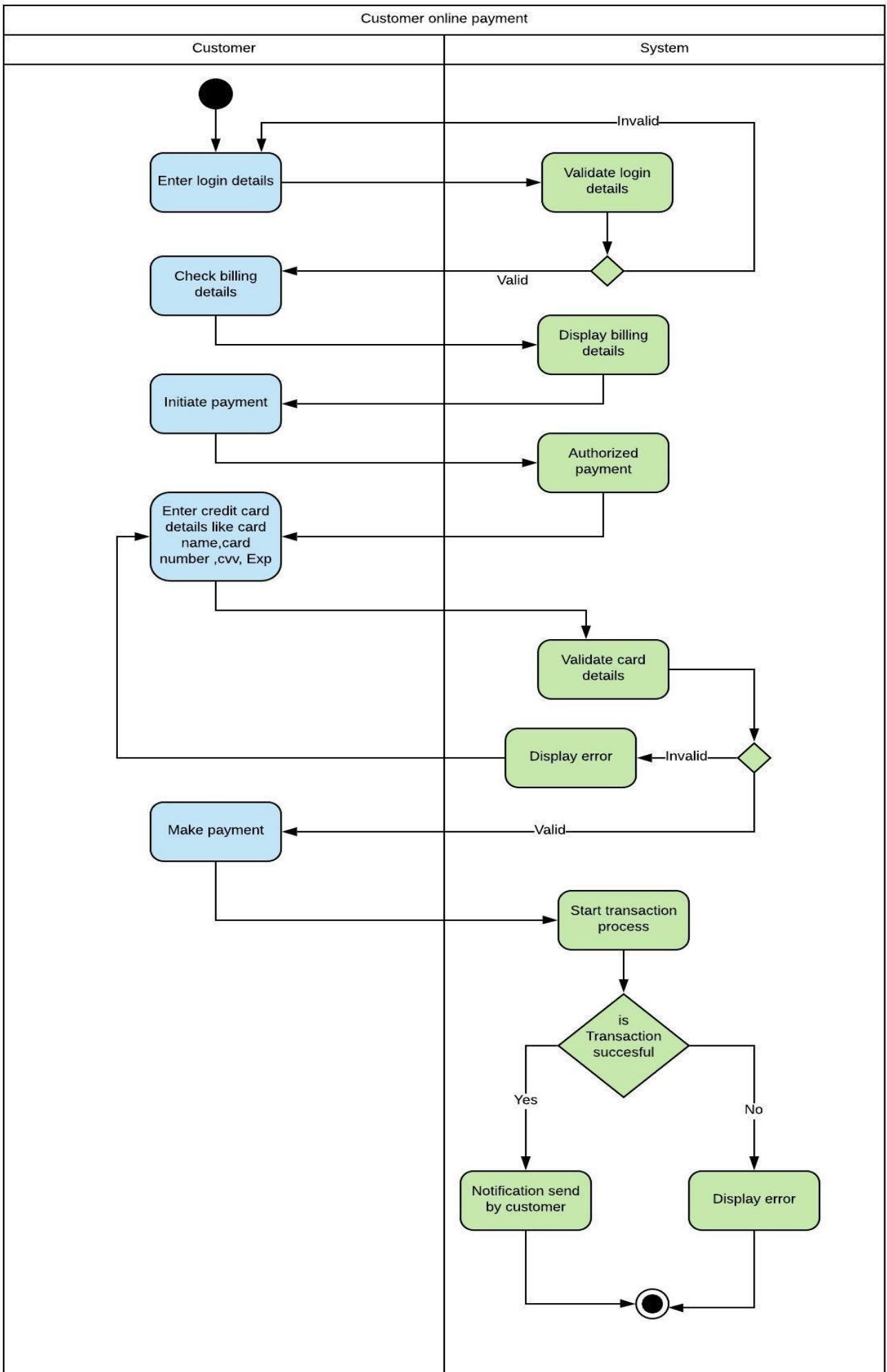
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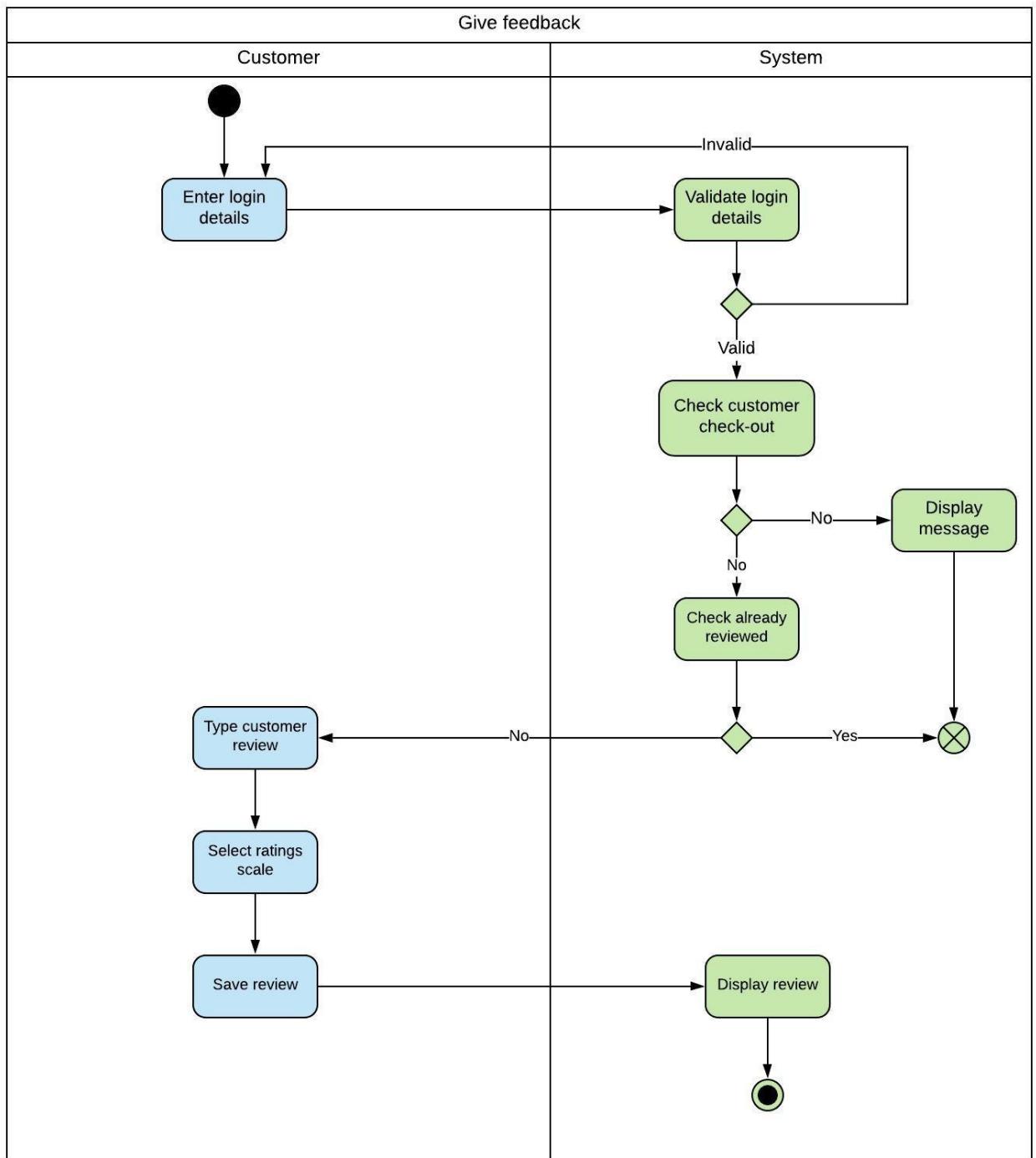
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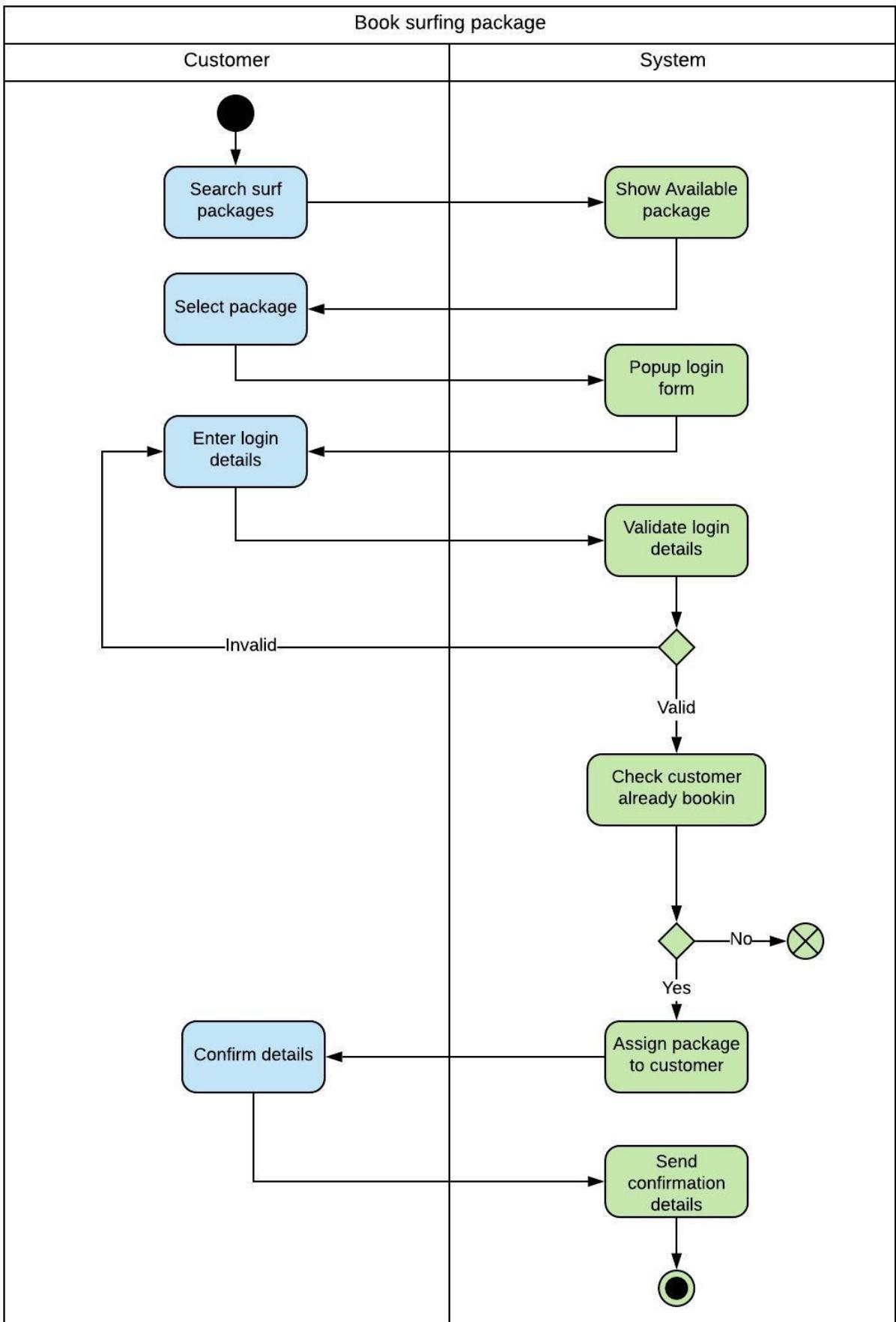
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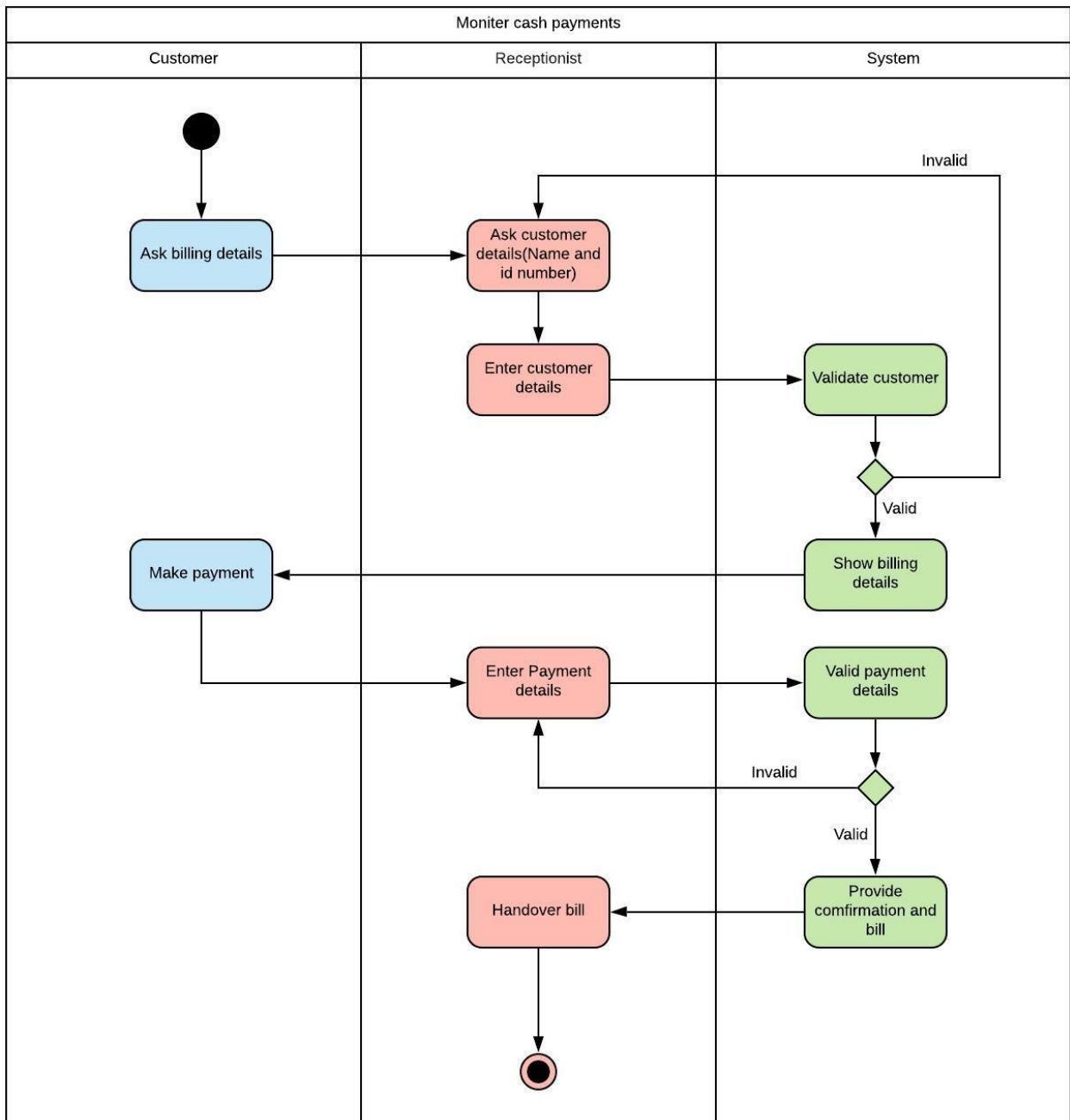
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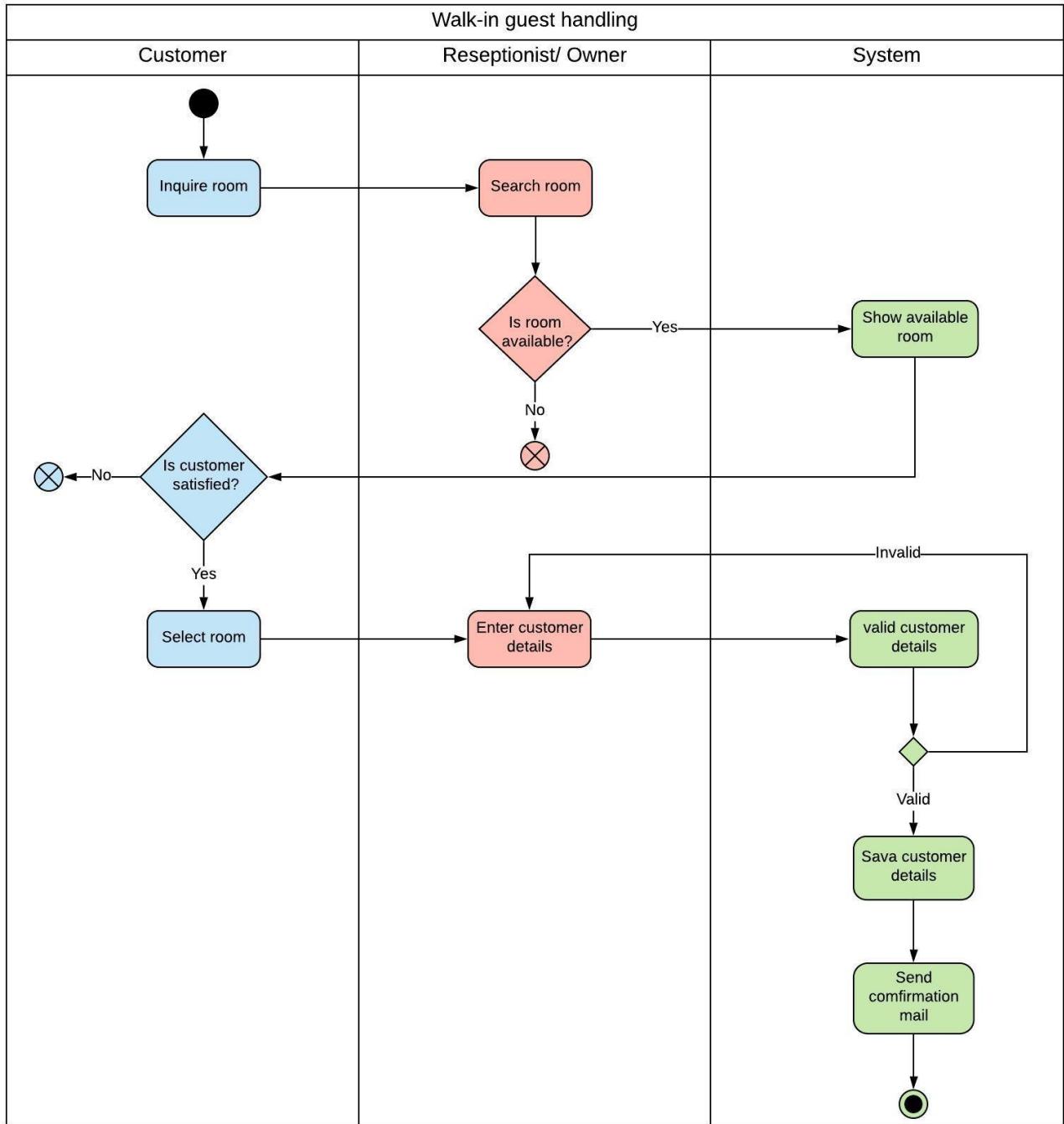


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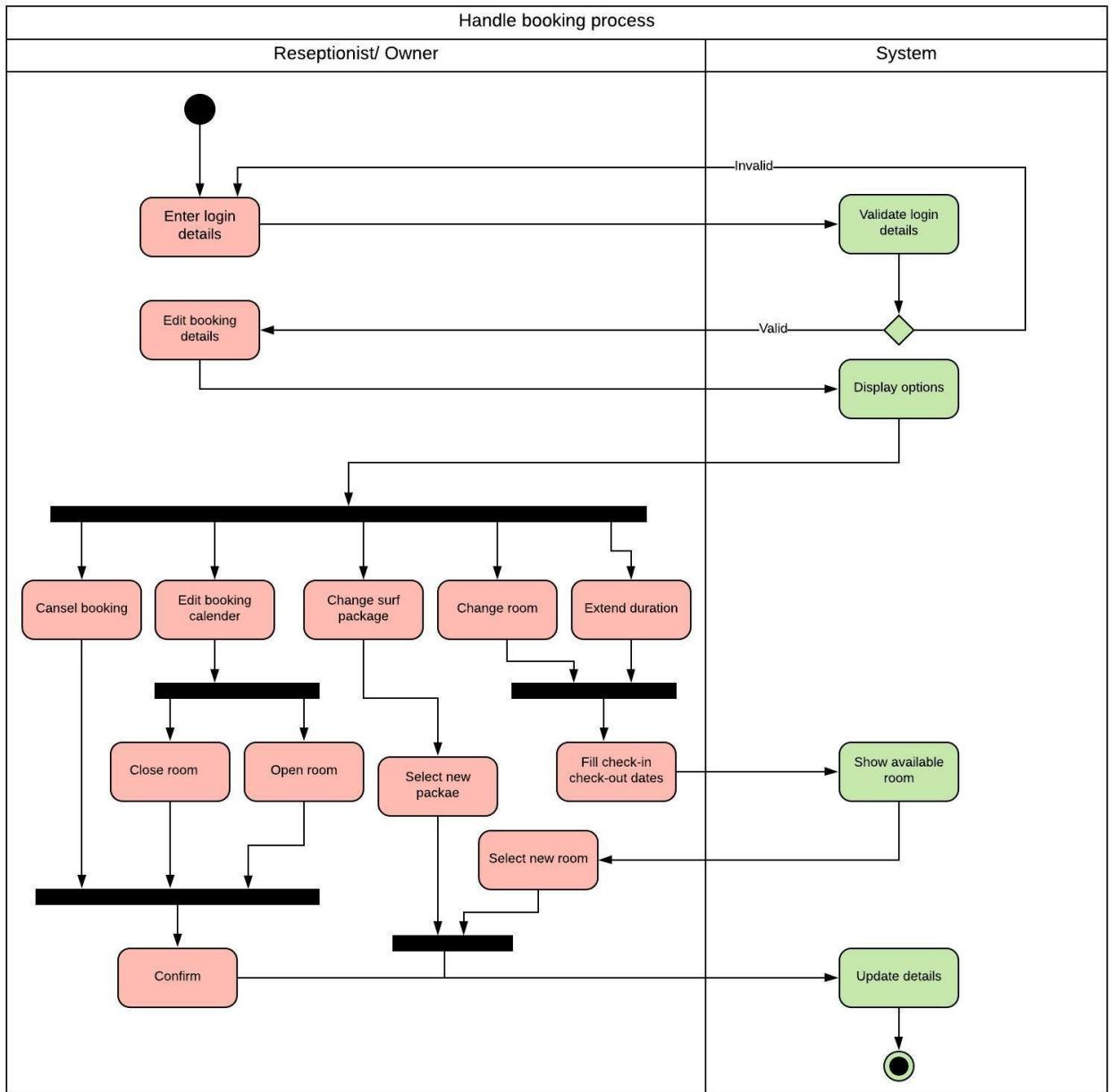


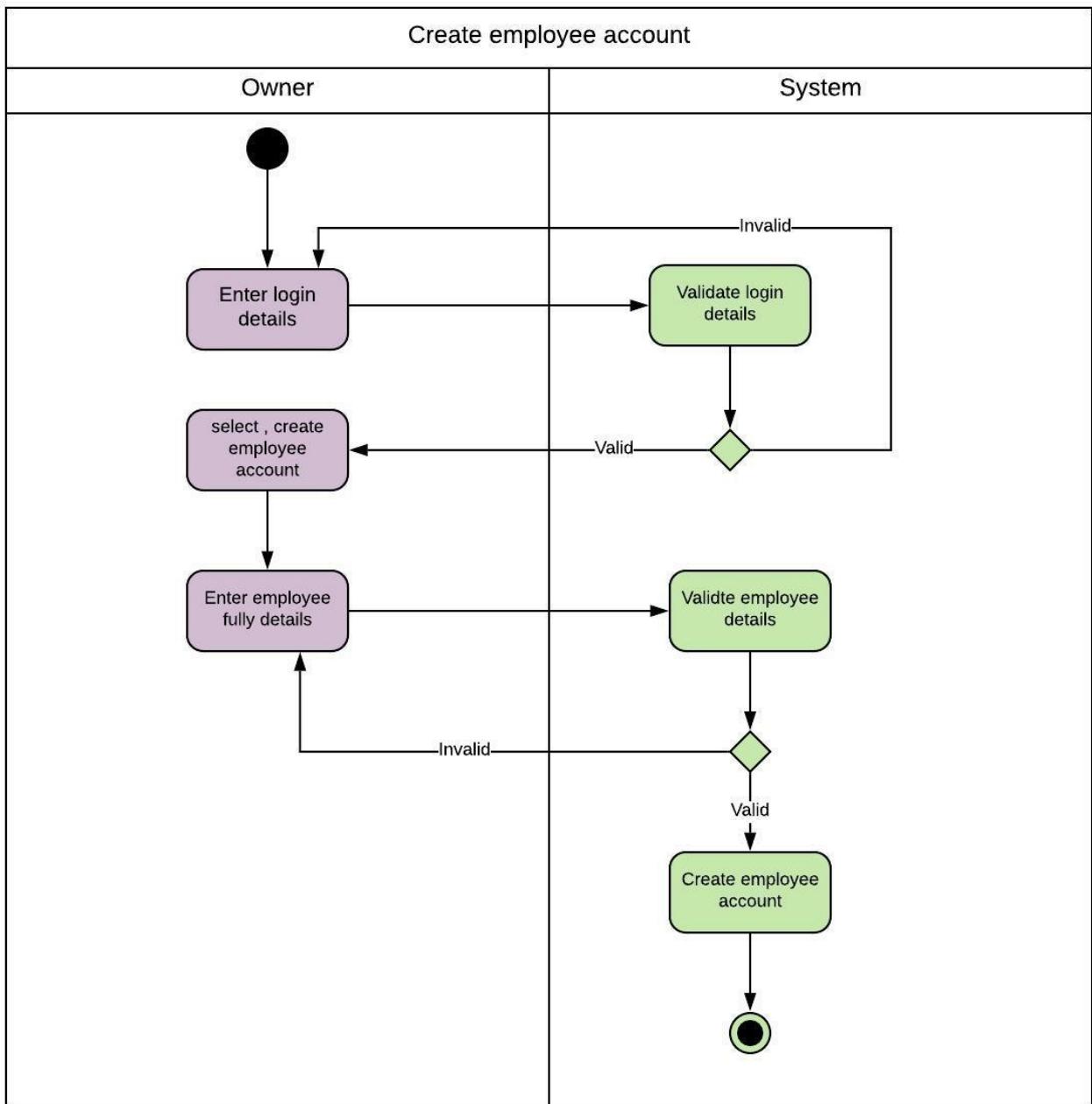
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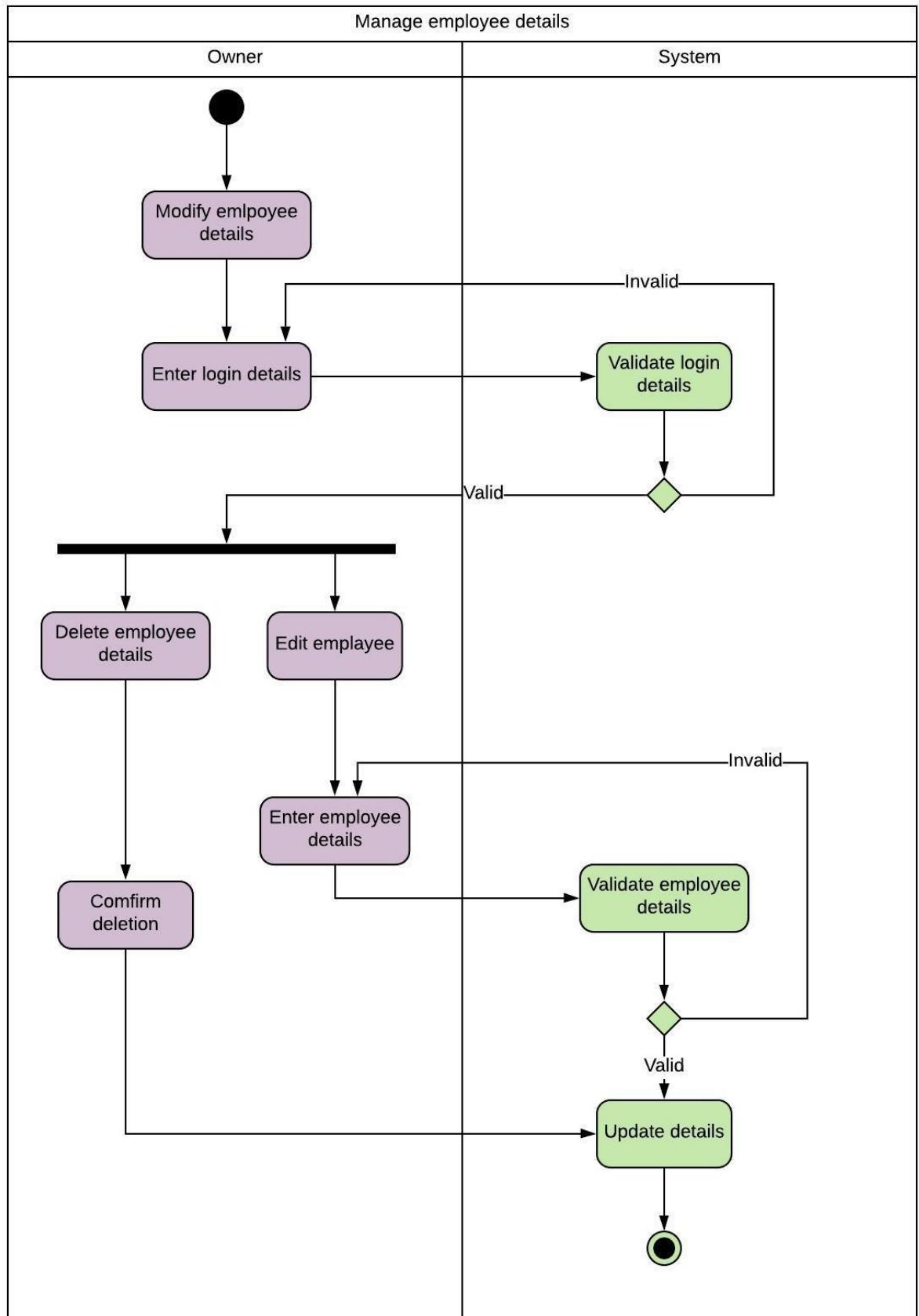




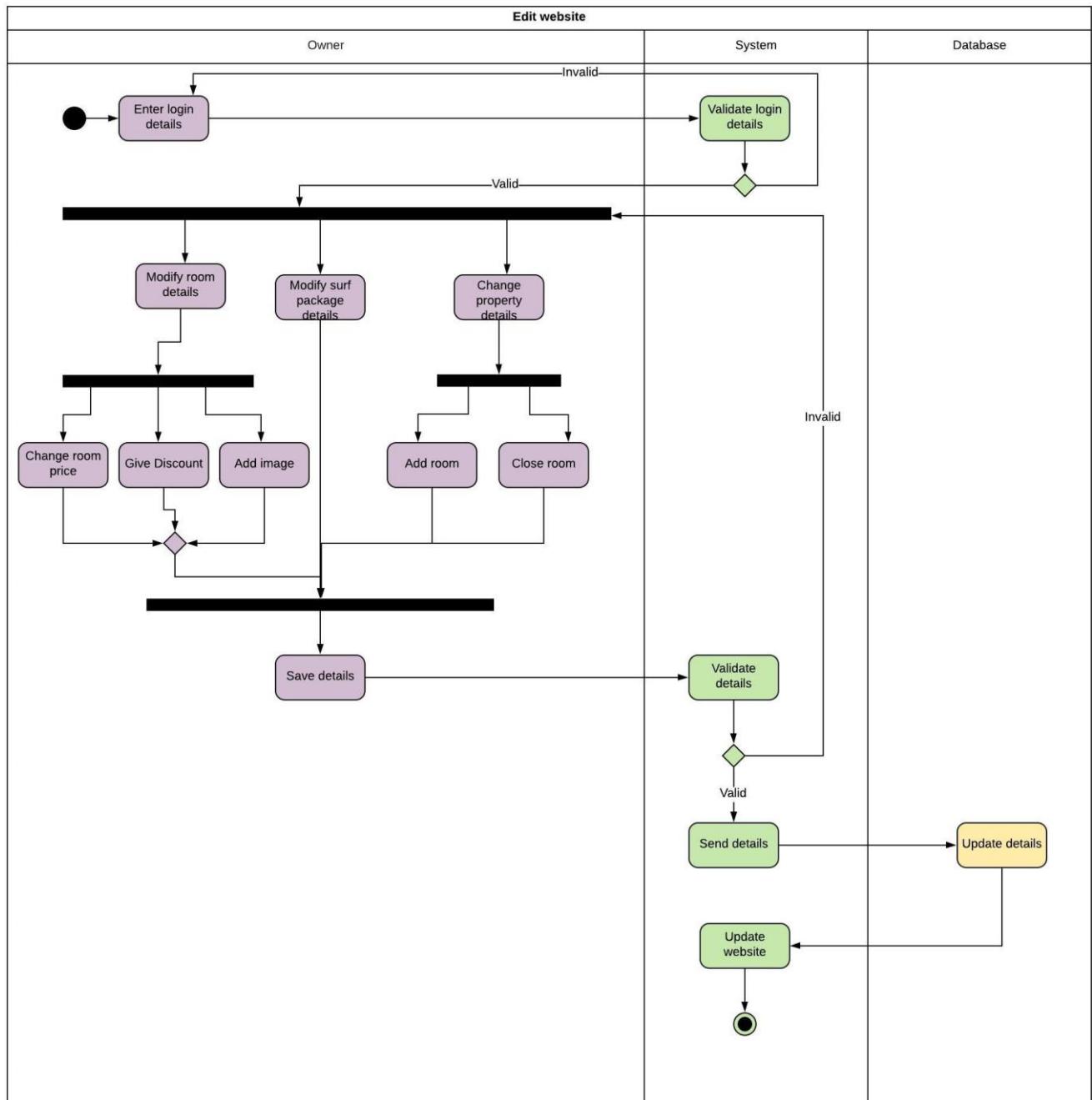
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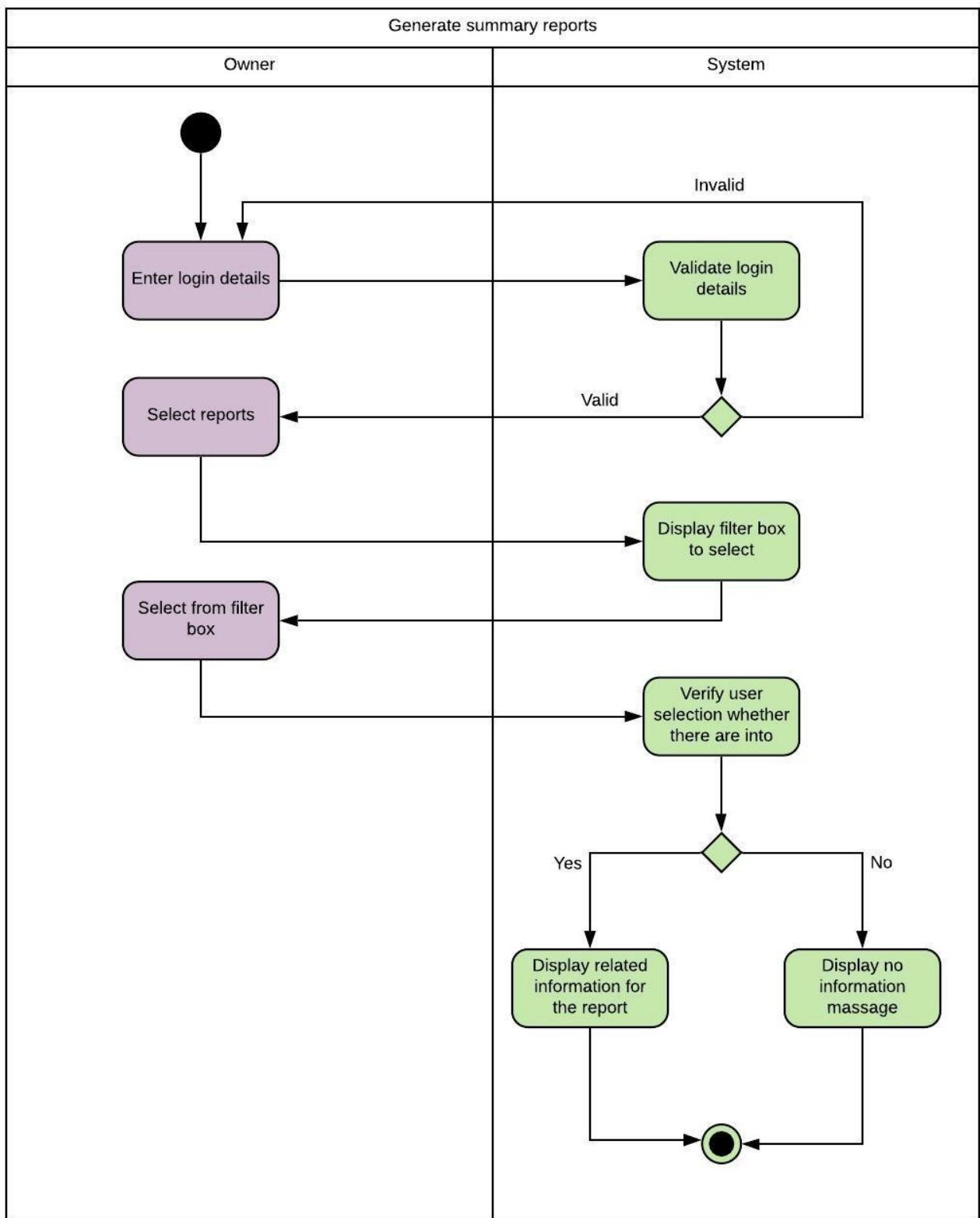




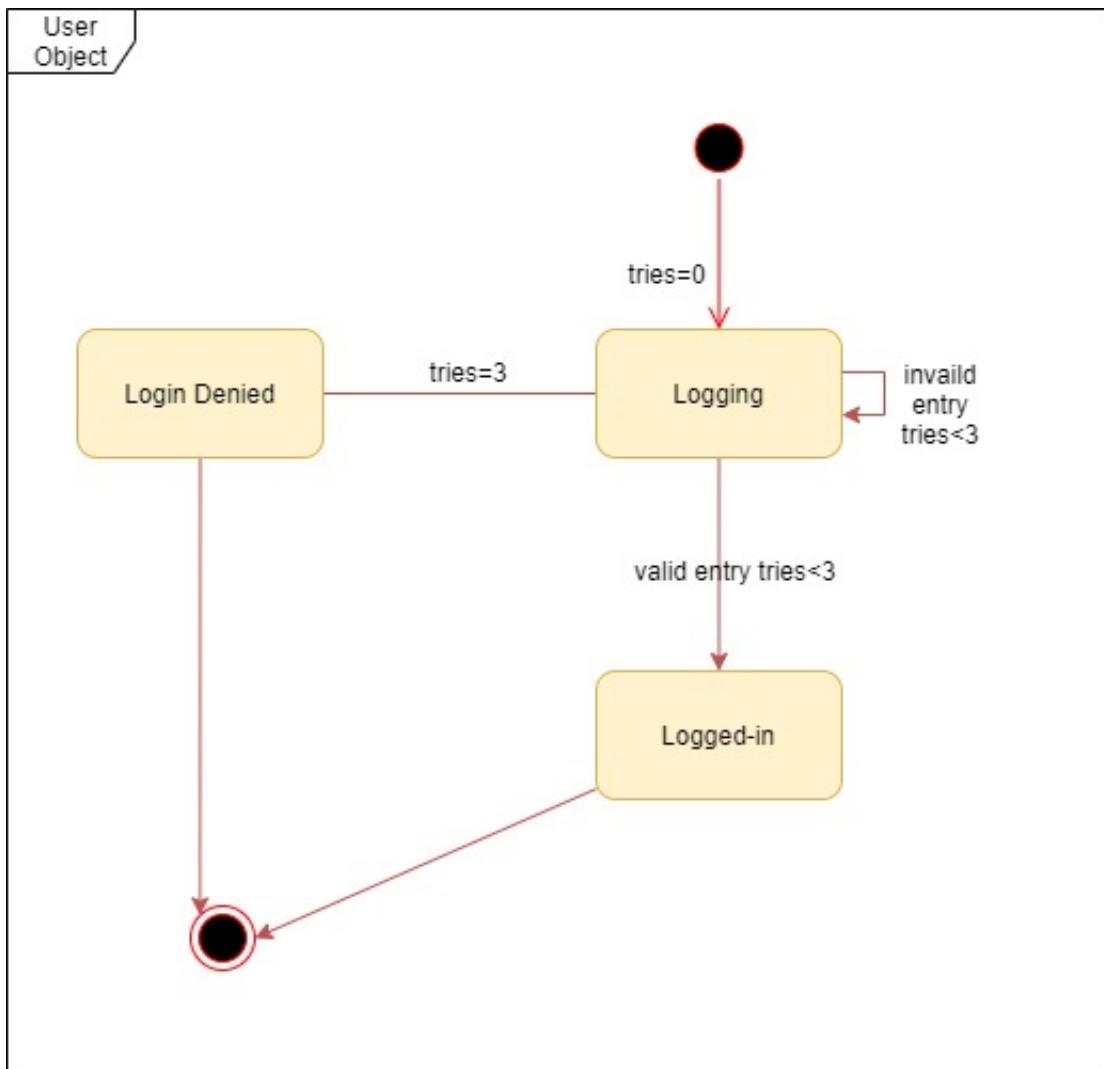
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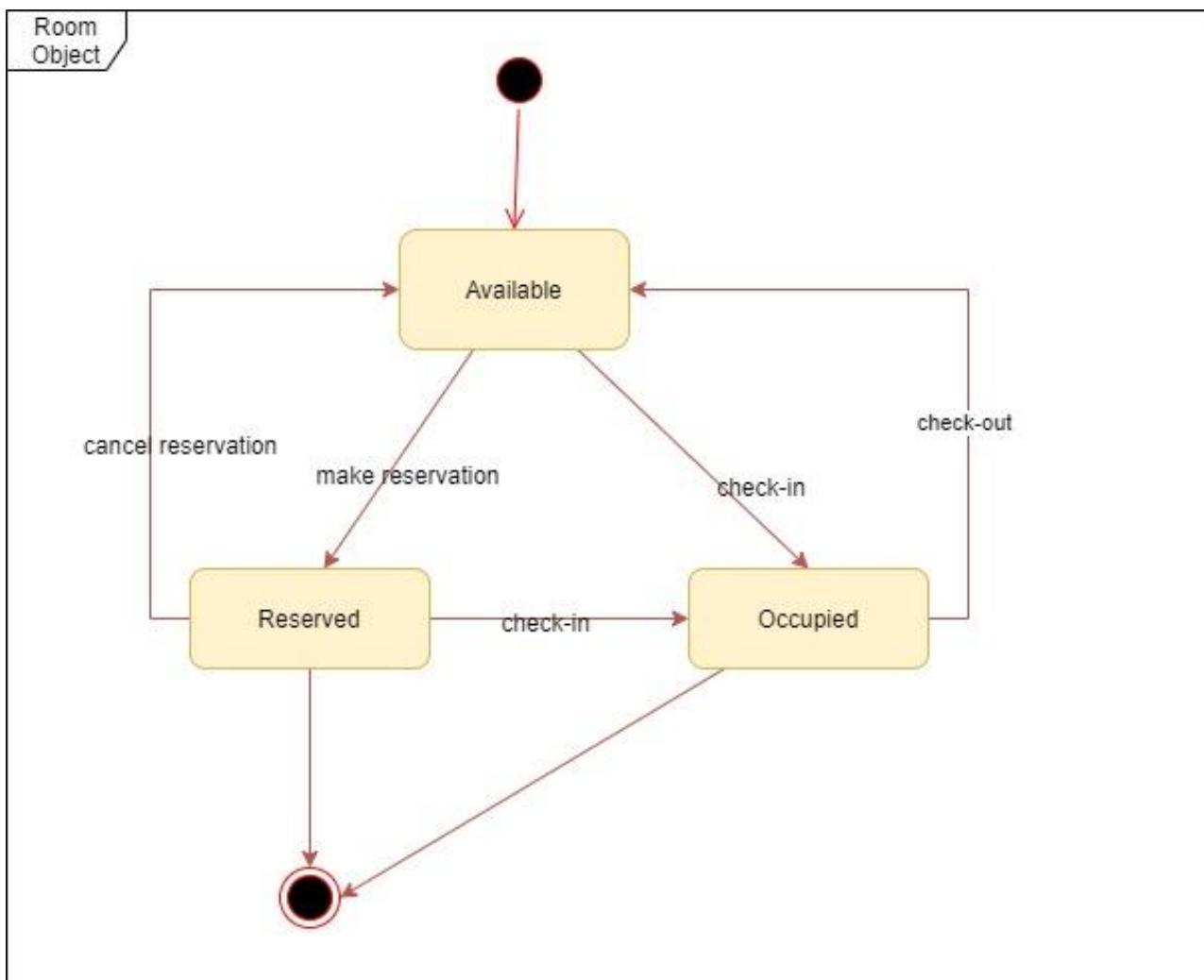
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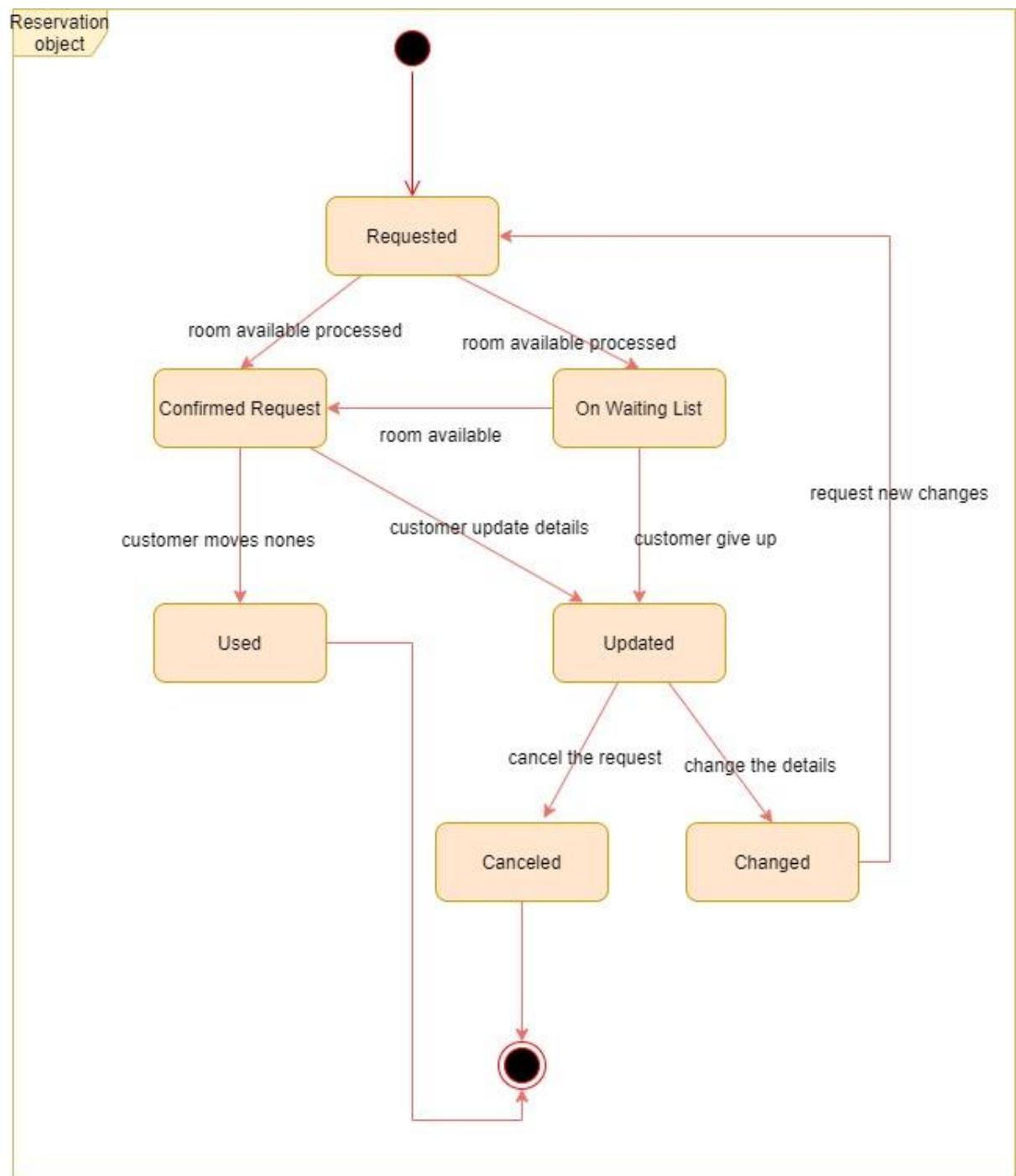
5.5 State Transition Diagrams



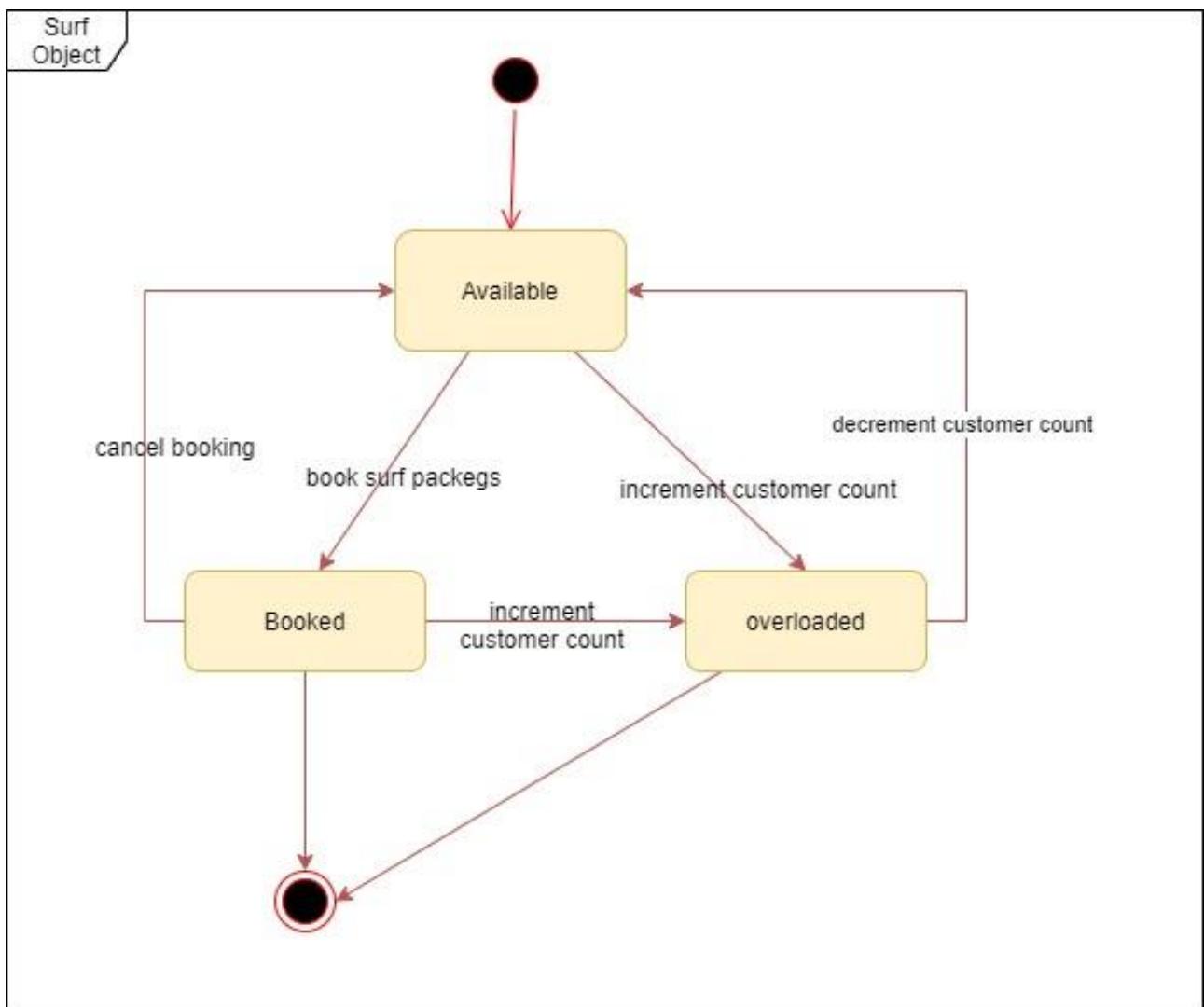
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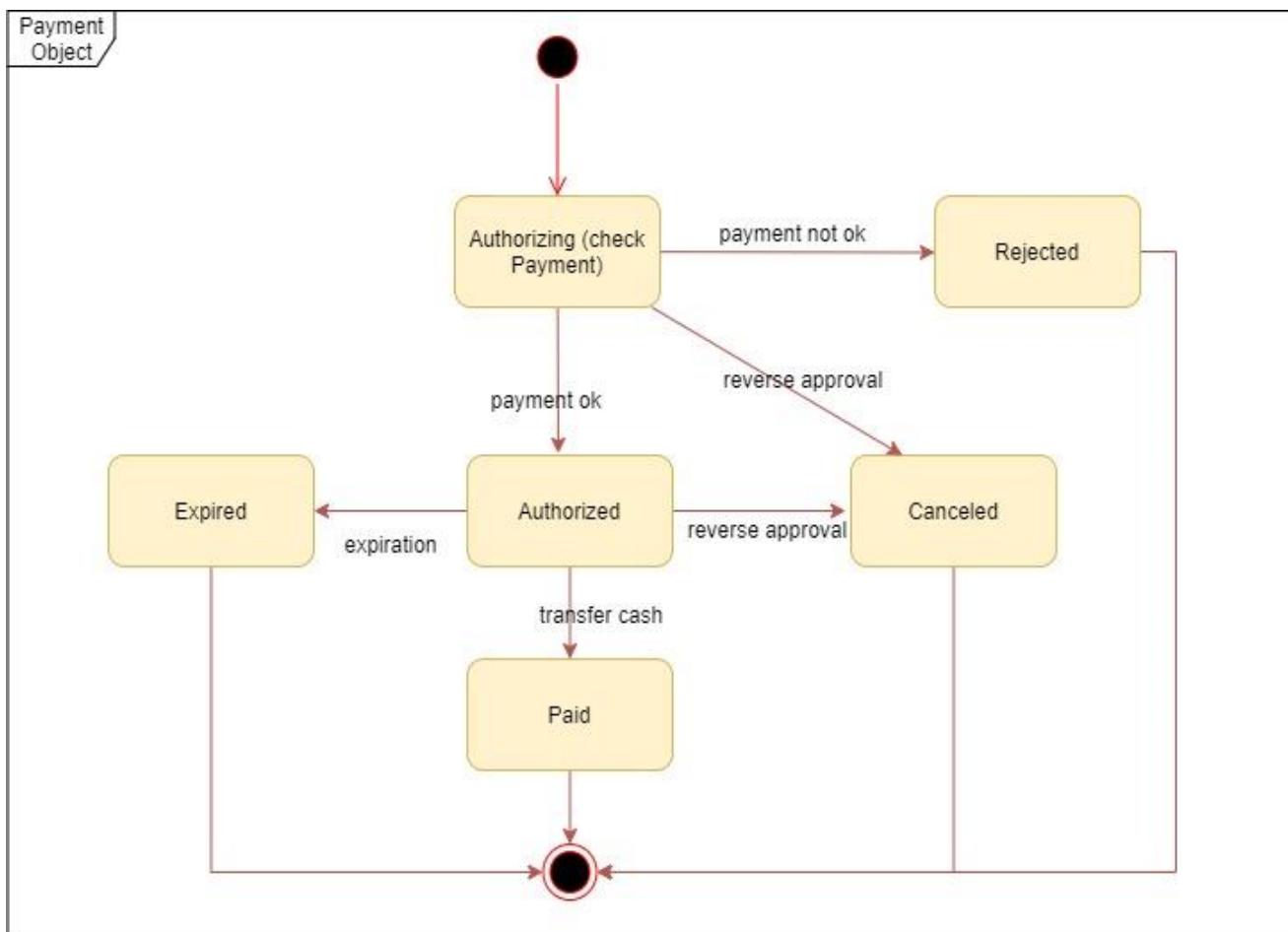
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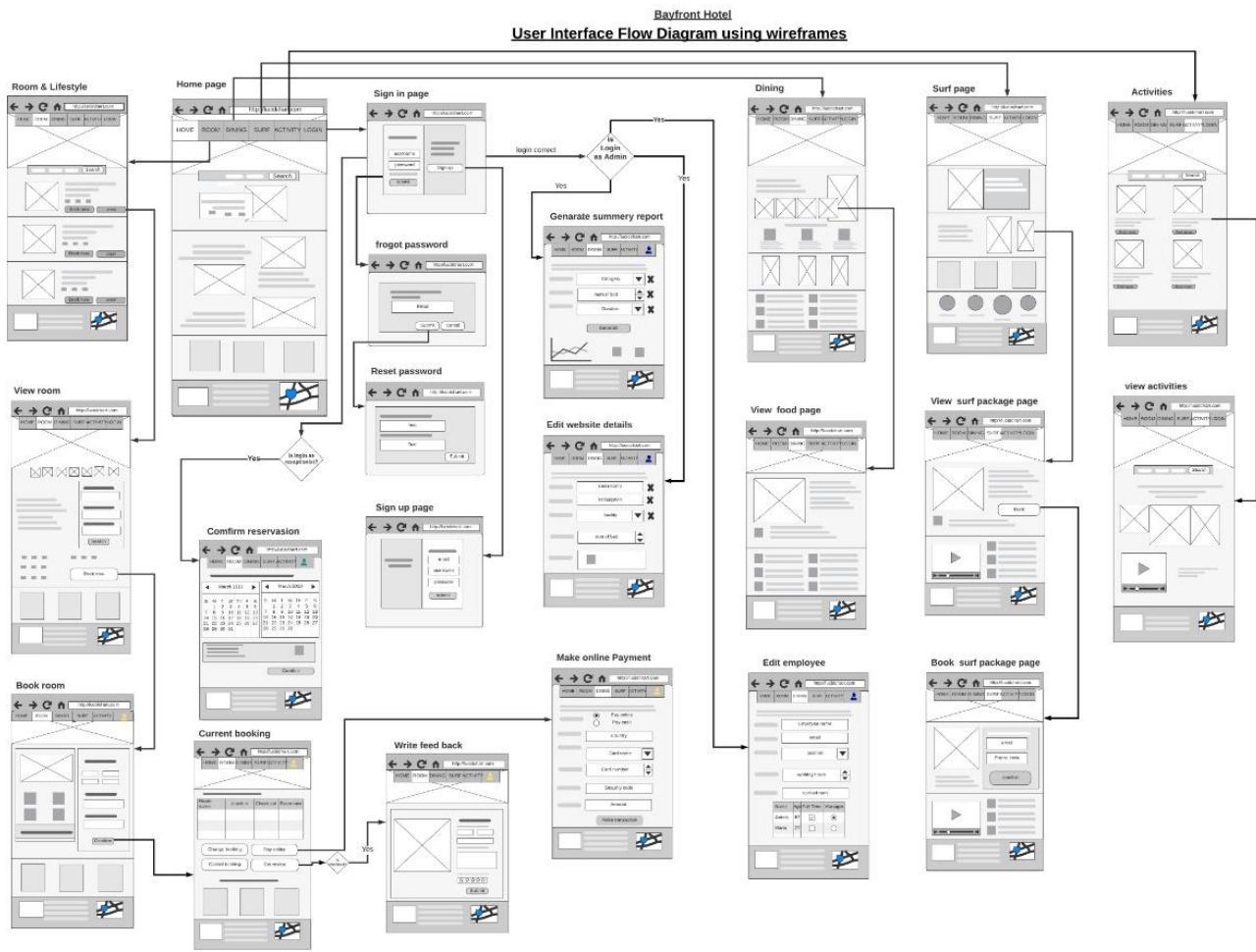
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5.6 User Interface Flow Diagrams Using Wireframes



5.7 User interface mockups

Figure 1 - Home page

The home page features a large header image of a tropical resort with palm trees and a swimming pool. Below the image is a search bar with fields for Check In, Check Out, Adults, Children, and a SEARCH button. A modal window titled 'ROOM' displays a room interior with a double bed, a chandelier, and a balcony. Buttons for 'BOOK ROOM' and 'VIEW ROOM' are present. Below the room image are sections for 'Spa and yoga', 'Dining', 'Activity', and 'Surf'. Each section includes a small image, a title, a brief description, and a 'FIND MORE' button. At the bottom, there are three circular profile pictures with star ratings and names: Tom, John, and Anna.

Check In: [] **Check Out:** [] **Adults:** [] **Children:** [] **SEARCH**

ROOM
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit animus et labore magna aliqua.

BOOK ROOM **VIEW ROOM**

Spa and yoga
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut est aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequitur.

FIND MORE

Dining
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequitur.

FIND MORE

Activity
Nemo enim ipsam voluptatem quia voluptas sit aspernatur aut fugit, sed quia consequuntur magni dolores eos qui ratione voluptatem sequitur.

FIND MORE

Surf
Tom John Anna

FIND MORE

Surf
John Tom Anna

FIND MORE

Surf
Anna Tom John

FIND MORE

LOGO

123 Calle de la Roca
+34 962 345 678
info@bayfront.es

Follow us

Home
Rooms and Suites
Dining
Surf
Activities

Software Requirement Specification: Hotel 'Bayfront'

Figure 2- Dining page



RESTAURANT

lorem ipsum dolor sit amet
consectetur adipiscing elit
Praesent id enim etiam
necus in esti utiles.



OUR SERVICES



SPECIALITIES



PIZZA MARGHERITA



NOMADIC

\$76



BBQ RIBS



ROASTED TURKEY

\$76



SPAGHETTI



FUSION

\$76



VEGAN RIBS



SHRIMP FUSION

\$76



LOGO



Av. 21 Colombia, 31
Bogotá



+57 320 234 5678



bayfrontbogota.com



Home
Rooms and Lifestyle
Dining
Surf
Activities



Software Requirement Specification: Hotel 'Bayfront'

Figure 3- Surf page



SURFERS PARADISE

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad.

[FIND OUT MORE](#)

TOP SURF LESSONS

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad.

PRIVATE SURF LESSONS

0.45 HRS [0.45]

PRO SURFING CLASSES

0.30 HRS [0.30]

Surf
Nemo anim ipsam
voluptatum quis voluptas
sit aspernatur aut odit aut
fugit, sed quia.
[FIND MORE](#)

Surf
Nemo enim ipsam
voluptatum quis voluptas
sit aspernatur aut odit aut
fugit, sed quia.
[FIND MORE](#)

Surf
Nemo anim ipsam
voluptatum quis voluptas
sit aspernatur aut odit aut
fugit, sed quia.
[FIND MORE](#)

YOUR SURF COACHING

Ex gubergren consequat forensibus mea, primis tritani dissentivit ad mea,
per id habeo utamur erroribus.



MOVEMENT

Lorum ipsum dolor sit amet, consectetur adipisciing.

TECHNIQUE

Lorum ipsum dolor sit amet, consectetur adipisciing.

PRACTICE

Lorum ipsum dolor sit amet, consectetur adipisciing.

HAVING A BLAST

Lorum ipsum dolor sit amet, consectetur adipisciing.



LOGO



no 12, colombo, Sri Lanka



+9412345678



bayfront@gmail.com

Home

Rooms and Lifestyle
Dining
Surf
Activities



Software Requirement Specification: Hotel 'Bayfront'

Figure 4- Room and lifestyle

The screenshot displays the Hotel Bayfront website's room and lifestyle sections. At the top, there is a navigation bar with links for Home, Rooms & Lifestyle, Dining, Surf, Activities, and Login. Below the navigation is a decorative banner featuring a shield with a sunburst design.

Room Options:

- Check In: [date] Check Out: [date] All 1s ▾ SEARCH
- DELUXE ROOM
- FAMILY ROOM
- SINGLE ROOM

Below the room options, there is placeholder text: "Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book."

Lifestyle Sections:

- Lorèm ipsum**
Placeholder text: "Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book."
VIEW ROOM **BOOK NOW**
- Lorèm ipsum**
Placeholder text: "Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book."
VIEW ROOM **BOOK NOW**
- Lorèm ipsum**
Placeholder text: "Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book."
VIEW ROOM **BOOK NOW**
- Lorèm ipsum**
Placeholder text: "Lorem ipsum, or lipsum as it is sometimes known, is dummy text used in laying out print, graphic or web designs. The passage is attributed to an unknown typesetter in the 15th century who is thought to have scrambled parts of Cicero's De Finibus Bonorum et Malorum for use in a type specimen book."
VIEW ROOM **BOOK NOW**



LOGO



5072 Colombo 54
Anura



0112345678



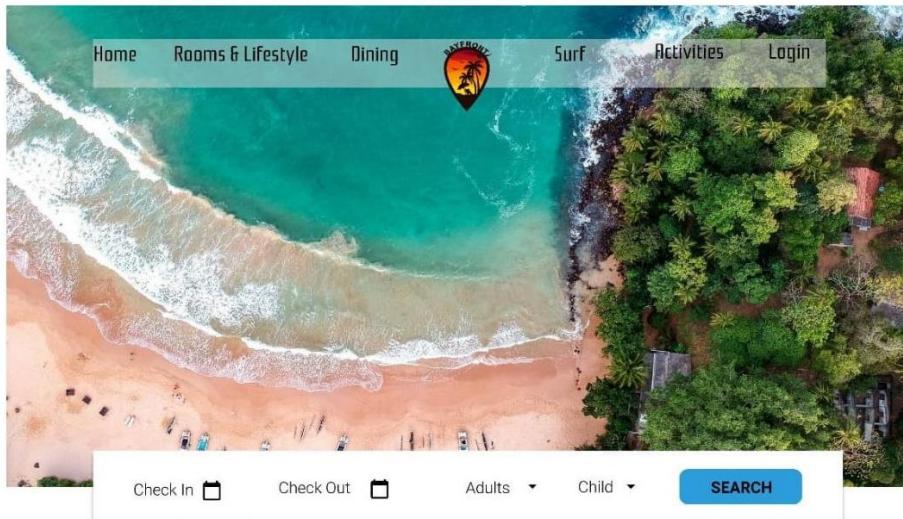
bayfront@mp.com

Home
Rooms and Lifestyle
Dining
Surf
Activities



Software Requirement Specification: Hotel 'Bayfront'

Figure 5- Activity page



Lorem ipsum

Nemo enim ipsam voluptatem
quia voluptas sit aspernatur aut
odit aut fugit, sed quia.



Lorem ipsum

Nemo enim ipsam voluptatem
quia voluptas sit aspernatur aut
odit aut fugit, sed quia.



Lorem ipsum

Nemo enim ipsam voluptatem
quia voluptas sit aspernatur aut
odit aut fugit, sed quia.



Lorem ipsum

Nemo enim ipsam voluptatem
quia voluptas sit aspernatur aut
odit aut fugit, sed quia.



LOGO



no 12, colombo, Sri
lanka



+9412345678



byfront@gmail.com

[Home](#)
[Rooms and Lifestyle](#)
[Dining](#)
[Surf](#)
[Activities](#)

Software Requirement Specification: Hotel 'Bayfront'

Figure 6- Sign up

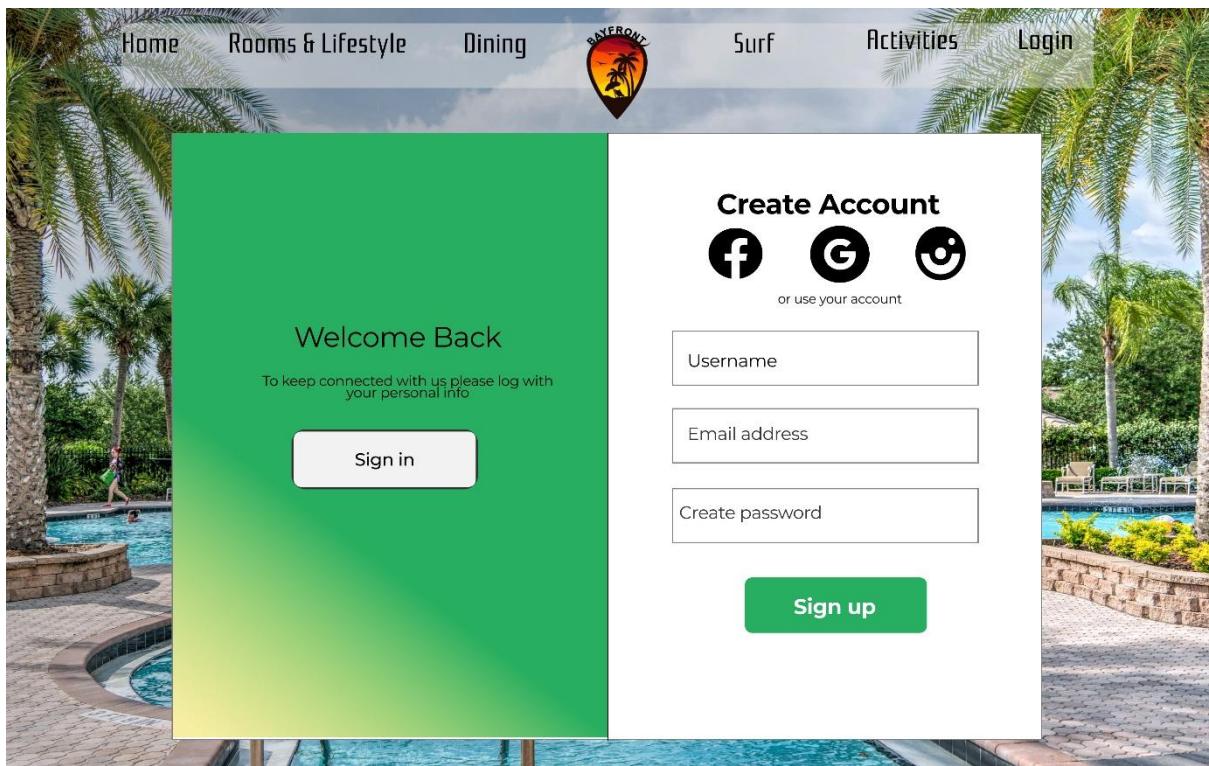


Figure 7- Sign in

