



Hotel Management System Requirements Specification

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A.1. Executive Summary

A.1.1. Project Overview

The Hotel Management System (HMS) project has a goal to create an all-inclusive software program that will automate and streamline a variety of hotel functions, hence boosting guest satisfaction, staff productivity, and overall efficiency. The system would combine important features including housekeeping, billing, reservations, front desk operations, and reporting onto a single platform, giving hotels an effective management tool.

Hotels nowadays are focusing on maximizing their revenues as all other businesses do and the main reason for that is the ever-increasing competition. The online world has made it difficult for hotels and resorts to compete by providing guests a plenty of choices including Homestay, Hostel with bunk beds or even a modular option. Therefore there is an increasing demand for best hotel management system in order to facilitate the management of hotel operations and functions. Operating a successful hotel business today is a challenge in itself. A hotelier has to manage various of proposals such as operations, staff and maintenance, meanwhile keeping costs under control and balances as it is one of the most important and critical issues for a hotel business to increase their revenues and to compete with other hotels. To improve the efficiency of this process, a good hotel management system which uses the modernizing techniques must be provided. The key to reaping the benefits of an effective hotel management software system is to select the right one for your property. It's critical that you know exactly what this hotel management technology is, and why it is important for you to implement it at your hotel. These days every person can find different options of the hotel reservation software free on the internet, however one has to judge the solution with the quantum of features and quality that it is providing. There should be a complete functionality as a hotel management system can be both basic and advanced based on the pricing options that are available as well. Also we can say that the developers are making such software as per the pocket of the business and this is one of the main reasons why we have so many different options in the online world.

Hotel management is a key element for a very important branch of economy, which is tourism. Knowing this, two members of our group were familiar with different types of management software and they had analyzed the deficiencies that they have and decided to make this project based on the improvement of these deficiencies.

Our software aims to have all the features that a hotel needs in order to adapt to the management structure of the business, and by making practical and effective use of these features every hotelier's work life will be much easier than they have ever imagined by using this product.

A.1.2. Purpose and Scope of this Specification

This documentation's main goal is to provide a thorough guide for all project stakeholders regarding the Hotel Management System (HMS). It guarantees that all parties involved in the project—developers, hotel management, and employees—have a common knowledge of its goals, parameters, and deliverables. It sets explicit expectations and directs the design and development process by elucidating the functionality and features required to meet operational needs.

The System should also ensure that accurate and precise information is consistently shared with the guest about the inclusions and amenities to him/her so there will be no room for misunderstanding by providing a complete transparency and this should be as much as possible human independent. Happy guests pay long term dividends. Apart from all these functionalities our Software will also ensure that the front office manager will not fumble with

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his day to day operations, his operations will be automated to the maximum so that there will be no possibility for human errors. The software will also have a feature of room allocation and monitoring so that the room allocation will be done right from the time the booking is picked up and occupied into the system, but at the same time there will be a feature which will let these room allocations to be interchanged if required by giving an option of interchanging or updating the category and room.

In scope

Check-in/Check-out Operations:

- Automation and messaging of Check-in/Check-out
- Managing of dates and date requirements

Reservation Management:

- The management of reservation requests
- The automation of reservation requirements

Billing and Invoicing:

- Fee and invoice calculation based on reservation date, staying time, extra fees regarding hotel regulations.
- Revenue and financial management.

Reporting and Analytics:

- The automatic tracking of different performance metrics
- Managing and showing reports based on analytics

Out of Scope

- Restaurant or point-of-sale (POS) system integration
- Payroll processing
- Inventory management beyond housekeeping supplies

A.2. Product/Service Description

Hotels nowadays differ in size, culture and management structure. So, the perfect Software provided, needs to be adapted to specific business which will implement and use it. Hotel Management System is a web application which

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aims to facilitate the management system of a Hotel . It will keep track of hotel reservations, rooms to be cleaned and so much more.

A.2.1. Product Context

With the use of this technology, hotel owners and operators may increase both short- and long-term bookings while streamlining administrative work with the help of the Hotel Management System (HMS).

HMS is a crucial component of the entire visitor experience, not only for daily operations.

The hotel management system must improve the customer experience with the brand from the start of the guests' online booking process to the end of their stay and their feedback after they return home.

The goal of this solution is to unite all potential Hotel stakeholders while providing flexibility and streamlining the management process. The primary goals of the product are reliability and ease of use.

A.2.2. User Characteristics

The web version of the Software has multiple users with different functionalities such as:

1. Admin – the administrator of the HMS running this product - - - -

Is able to see booked rooms,

Is able to Add/Remove users of the system

Is able to observe Statistics

Inventory

2. Front desk - the person who deals with guests checking-in & checking out of the hotel, answers calls - - - -

Is able to view Rooms to be cleaned

Rooms available to customers

check-in , check-out dates

Make and view reservations

Have access to notifications

3. Guest - any user who is interested to the hotel and tend to make reservation - - -

Can Make Booking

While is in its stay can view if the room is ready by the cleaner or not

Can modify his booking and edit his credentials

4. Housekeeping - employer/s who take care of the cleaning part of the interior of the building. - -

Can see the rooms to be cleaned

Can make changes to the status of the room regarding cleaning services. (E.g. Room

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ready or not)

5. Manager – Take responsibility for certain operational parts of the hotel

Can see performance metrics and reports

Integration of different marketing channels

6. Accounting -Responsibility of invoicing and billing

7. Facilitators – Provide required inventory

Can be messaged or can message when it comes to inventory

A.2.3. Assumptions

1. All users have basic knowledge in English language;
2. All users have basic knowledge in computer and smartphone usage;
3. Stakeholders of the hotel have basic knowledge on how to use the system due to previous experiences with other systems;
4. Hotel is equipped with PC/Laptop/Tablet, printer, mobile phone;
5. Hotel must have internet connection all the time;
6. It is assumed that the Hotel provides Credit Card payments.

A.2.4. Constraints

1. All users have to be logged in in order to use the product and to access the information
2. The system must follow all Albanian and international legal restrictions, regarding aviation regulations set by certain institutions.

A.2.5. Dependencies

-Stakeholder Support and Engagement

Active involvement and backing from hotel management and key stakeholders to ensure alignment with business goals and priorities.

-User Training and Adoption

Comprehensive training programs for hotel staff to ensure they are proficient in using the new system and can maximize its benefits.

-Clear Requirements and Communication

Effective communication channels between project teams and stakeholders to gather detailed requirements and provide regular updates.

-Budget and Funding

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Adequate financial resources allocated for the development, deployment, and maintenance of the HMS.

-Legal and Regulatory Compliance

Ensuring the system complies with relevant legal and industry regulations, such as data protection laws (e.g., GDPR) and local hospitality regulations.

-Vendor and Partner Collaboration

Coordination with external vendors and partners, such as software providers, payment processors, and OTA platforms, for seamless integration and support.

A.3. Requirements

- Describe all system requirements in enough detail for designers to design a system satisfying the requirements and testers to verify that the system satisfies requirements.
- Organize these requirements in a way that works best for your project. See [Appendix D](#) Organizing the Requirements for different ways to organize these requirements.
- Describe every input into the system, every output from the system, and every function performed by the system in response to an input or in support of an output. (Specify what functions are to be performed on what data to produce what results at what location for whom.)
- Each requirement should be numbered (or uniquely identifiable) and prioritized.

See the sample requirements in Functional Requirements, and System Interface/Integration, as well as these example priority definitions:

Priority Definitions

The following definitions are intended as a guideline to prioritize requirements.

- Priority 1 – The requirement is a “must have” as outlined by policy/law
- Priority 2 – The requirement is needed for improved processing, and the fulfillment of the requirement will create immediate benefits
- Priority 3 – The requirement is a “nice to have” which may include new functionality

It may be helpful to phrase the requirement in terms of its priority, e.g., "The value of the employee status sent to DIS **must be** either A or I" or "It **would be nice** if the application warned the user that the expiration date was 3 business days away". Another approach would be to group requirements by priority category.

- A good requirement is:
- Correct
- Unambiguous (all statements have exactly one interpretation)
- Complete (where TBDs are absolutely necessary, document why the information is unknown, who is responsible for resolution, and the deadline)
- Consistent

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- Ranked for importance and/or stability
- Verifiable (avoid soft descriptions like “works well”, “is user friendly”; use concrete terms and specify measurable quantities)
- Modifiable (evolve the Requirements Specification only via a formal change process, preserving a complete audit trail of changes)
- Does not specify any particular design
- Traceable (cross-reference with source documents and spawned documents).

A.3.1. Functional Requirements

In the example below, the requirement numbering has a scheme - BR_LR_0## (BR for Business Requirement, LR for Labor Relations). For small projects simply BR-## would suffice. Keep in mind that if no prefix is used, the traceability matrix may be difficult to create (e.g., no differentiation between '02' as a business requirement vs. a test case)

The following table is an example format for requirements. Choose whatever format works best for your project.

For Example:

Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_LR_01	Login Constraint.	All users have to be logged in	1	5/22/24	Borian Llukacaj, Ermin Lilaj
BR_LR_02	Different Views for different controllers	Depending on the user level(Client,Admin,Employee,)	1	5/22/24	Borian Llukacaj, Ermin Lilaj
BR_LR_03	Add/Remove users	The Admin can add or remove users	1	5/22/24	Borian Llukacaj, Ermin Lilaj
BR_LR_04	View booked rooms and check-in/check-out date	The admin and front desk have the ability to view booked rooms and check-in/check-out date	1	5/22/24	Borian Llukacaj, Ermin Lilaj
BR_LR_05	The system should provide email notifications	The client will be notified with an email for each successful booking	2	5/22/24	Borian Llukacaj, Ermin Lilaj
BR_LR_06	Provide statistics	The Admin can view a statistics tab	3	5/22/2024	Borian Llukacaj, Ermin Lilaj

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_LR_07	Room Assignment	Assigning rooms based on preference	2	5/22/2024	Borian Llukacaj, Luis Koni
BR_LR_08	Notification Handling	E-mail system integrated and notifications regarding check-in/check-out or guest requests are accessible	2	5/22/2024	Borian Llukacaj, Luis Koni
BR_LR_09	Reporting	Managers can access reports	2	5/22/2024	Luis Koni, Denis Lala
BR_LR_10	Performance Metrics	Managers can see employee performances in a graphical manner	2	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_11	Room Availability	Front Desk can see if room is available or not	1	5/22/2024	Atea Caslli, Enio Zeqja
BR_LR_12	View Payment	Accounting can view payment	1	5/22/2024	Atea Caslli, Enio Zeqja
BR_LR_13	Print Invoice	System prints daily, monthly Or yearly invoices	1	5/22/2024	Atea Caslli, Enio Zeqja
BR_LR_14	Monitor Occupancy and Revenue	Manager can see occupancy rates and revenue/revenue projections	1	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_15	Market Segmentation	Manager can apply market segmentation based on guest preferences	2	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_16	Notify Housekeeping	Notify housekeeping staff based on required rooms to be cleaned	1	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_17	Notify Guest on room status	Guest get notified on if room is cleaned	2	5/22/2024	Borian Llukacaj, Ermin Lilaj

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Req#	Requirement	Comments	Priority	Date Rvwd	SME Reviewed / Approved
BR_LR_18	User Account Creation	User creates account based on credentials	1	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_19	Reservation Modification	Guest can modify reservation date or specific reservation request	1	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_20	Feedback Submission	Guest submits feedback after stay. Feedback provided by the client is successfully recorded and stored in the system for analysis	3	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_21	Cancellation Request	Guest can request cancellation before due date	1	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_22	Schedule Maintenance	Facilitators can schedule maintenance for inventory	2	5/22/2024	Borian Llukacaj, Ermin Lilaj
BR_LR_23	Block dates for specific rooms	Some rooms may need to be renovated thus guests should not be able to book those rooms	1	5/22/2024	Klejdi Gjyzeli, Ermin Lilaj

A.3.2. Non-Functional Requirements

A.3.2.1. Product Requirements

Requirements which specify that the delivered product must behave in a particular way e.g. execution speed, reliability, etc.

A.3.2.1.1 User Interface Requirements

- A simple and responsive system in a short time
- Web app, consistent in all interfacing screens or devices
- Details of any user (Client, Admin, Receptionist) will be activated in the displayed mode and in the database real quick

- Flexible navigation to and from displayed panels or pages.

A.3.2.1.2 *Usability*

Every user of this Web application will be able to interact with it easily from any device using an internet connection, regardless of the browser or platform. Each user will have a unique interface, complete with features and functions, to use. To make the software easily accessible, the most crucial commands for each kind of interface will be visible at first view. The design will facilitate future modifications, as it will need to be updated frequently to meet hotel management requirements and handle potential error occurrences.

Learnability

- Our product is user friendly – everyone can easily learn the commands following the guidelines provided by us.
- Even though the software is in English, it can be understood by someone with basic knowledge of English since every functionality will be graphically shown.

A.3.2.1.3 *Efficiency*

Performance Requirements

-Transaction Processing Time:

- 95% of the booking transactions shall be processed in less than 2 seconds during normal workload conditions.
- 90% of the booking transactions shall be processed in less than 3 seconds during peak workload conditions.

- Task Handling Capacity:

- The system shall handle up to 1,000 check-in and check-out tasks per hour during normal workload conditions.
- The system shall handle up to 500 check-in and check-out tasks per hour during peak workload conditions.

-Data Processing Volume:

- The system shall process up to 5 GB of data per day under normal workload conditions.
- The system shall process up to 10 GB of data per day under peak workload conditions.

-Response Time for Reports:

- 95% of the standard reports (e.g., daily occupancy report) shall be generated in less than 5 seconds.
- 90% of the complex reports (e.g., annual financial report) shall be generated in less than 30 seconds.

A.3.2.1.4 *Dependability*

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Availability

- The website will ensure to be available all the time, everyday 24/7. It will have a high availability to achieve the higher as possible the percentage of time the system is functioning.
- Even though it is in English language the system can be used wide world as it is a web application, the same for the android application
- Our product will have a downtime as minimal as possible as long as the software will be used with reliable web browsers.

Monitoring

The software will be evaluated often. In case of errors the administrator will be able to follow specific validations because everything will be well documented in files.

Maintenance

System is maintainable and useable, it is made in the form that later on if required it can be improved by adding more functionalities. The system will be updated continuously with different features and extra features based on guests reviews and business requirements. Moreover, the software will be observed and maintained by the administrator of the system. In case there is any error in the system in the site will appear a message informing users to be patient while the system is being maintained.

Integrity

The system will implement strong data validation and security measures to protect guest information and ensure data accuracy.

Regular audits and security checks will be conducted to maintain data integrity and compliance with privacy standards.

A.3.2.1.5 Security

Our web application:

- Ensures that users and client applications are identified and that their identities are properly verified.
- Ensures that users and client applications can only access data and services for which they have been properly authorized.
- Detects attempted intrusions by unauthorized persons and client applications.
- Ensures that unauthorized malicious programs do not infect the application or component.
- Ensure that parties to interactions with the application or component cannot later repudiate those interactions.
- Ensure that confidential communications and data are kept private.
- Enable security personnel to audit the status and usage of the security mechanisms.
- Ensure that applications and centers survive attack, possibly in degraded mode.

- Ensure that centers and their components and personnel are protected against destruction, damage, theft, or surreptitious replacement.

A.3.2.2. Organizational Requirements

A.3.2.2.1 Environmental Requirements

Hardware Compatibility: The system must be compatible with the organization's existing hardware infrastructure, including servers, workstations, and mobile devices.

Operating Environment: The system should operate efficiently in the organization's current network environment, including LAN, WAN, and wireless networks.

Sustainability: The system must adhere to the organization's environmental sustainability policies, including energy-efficient operations and electronic waste reduction.

A.3.2.2. Operational Requirements

Process Standards: The system must align with the organization's standard operating procedures and business processes, including guest check-in/check-out, booking management, and billing.

User Training: Training programs must be provided to ensure that staff can effectively use the system.

Support and Maintenance: The system should include provisions for ongoing support and maintenance, with defined SLAs for issue resolution.

A.3.2.2.3 Development Requirements

Coding Standards: Developers must adhere to the organization's coding standards and best practices to ensure code quality and maintainability.

Documentation: Comprehensive documentation must be provided, including user manuals, technical documentation, and API references.

A.3.2.3. External Requirements

A.3.2.3.1 Regulatory Requirements

Compliance: The system must comply with all relevant industry regulations, such as PCI DSS for payment processing and GDPR for data protection.

Audit Trails: The system must maintain detailed audit trails for all transactions, including user actions, changes to guest information, and financial transactions.

A.3.2.3.2 Ethical Requirements

Data Privacy: The system must ensure the privacy and confidentiality of guest data, in accordance with the organization's data privacy policy.

Transparency: The system must provide transparent processes for data handling, allowing guests to understand how their data is used and stored.

Non-discrimination: The system must ensure fair and equal access for all users, without discrimination based on race, gender, or other factors.

A.3.2.3.3 Legislative Requirements

Data Protection: The system must adhere to data protection laws, such as GDPR or CCPA, ensuring guest data is stored securely and used appropriately.

Taxation Compliance: The system must correctly calculate and apply local taxes and fees in accordance with regional tax laws.

Health and Safety: The system must support compliance with health and safety regulations, including any requirements for guest health data collection in response to pandemics.

A.3.2.3.3.1 Accounting Requirements

Financial Reporting: The system must generate financial reports that comply with accounting standards and regulations.

Transaction Logging: All financial transactions must be logged with before and after values to facilitate auditing and ensure accuracy.

A.3.2.3.3.2 Security Requirements

Access Control: The system must implement robust access control mechanisms to ensure only authorized personnel can access sensitive information.

Data Encryption: All sensitive data must be encrypted both in transit and at rest to protect against unauthorized access.

Incident Response: The system must include procedures for incident detection, response, and reporting to handle potential security breaches effectively.

A.3.3. Domain Requirements

Only admin can create, update and delete employees. If sign up option is clicked in the web application the user will be of type "Guest" of the hotel. Rooms to be cleaned are automatically assigned to the worker by the system, if the worker is absent in a specific day, its work will be distributed to its coworkers. The user interface will be standard for all types of users. System should take into account the exact time of check-out of the leaving guest and check-in of the new guest in order to avoid collisions between bookings. The system should also take into account that there will be different currencies for online payments.

A.4. User Scenarios

Number	User Scenario	Description
1.	Admin logs into the system	Admin user insert his/her own credentials (username/email and password) to login into the system

2.	Admin fails to login into the system	Admin provides wrong username/email or password thus the login will fail
3.	Receptionist replies to guest messages.	Receptionist gets messages of the guests in the system and replies in the real time.
4.	Guest clicks Book Now	Guest will have to fill out its credentials to make the request valid
5.	Guest clicks Send Message	Guest can Contact in real time with the receptionist or manager of the hotel
6.	Cleaner clicks tick or cross button in the rooms to be cleaned section	Cleaner changes the state of the room as clean or unclean due to certain reasons.

A.4.1. User Scenarios Extended:

1. Admin logs into the system

- Admin opens the login page of the system
- Admin is asked to enter his/her credentials (username/password)
- Admin proves that he/she is not a robot by checking the Captcha
- Admin clicks Login button
- If his/her credentials matches with any of the data in the current database, the admin is successfully logged in f. Admin gets redirected to the main view (dashboard) of the web page

2. Admin fails to login into the system

- Admin opens the login page of the system
- Admin is asked to enter his/her credentials (username/password)
- Admin proves that he/she is not a robot by checking the Captcha
- Admin clicks Login button
- Admin types one of his/her credentials wrong therefore these data are not found on the database.
- Admin will get a message error telling him/her that he has typed wrong credentials
- thus he will have to try to login again

3. Receptionist replies to guest messages

- Receptionist is logged in

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- Receptionist sees that he/she has received a new message and clicks on the messages panel in the dashboard page
- Receptionist sees all the messages and clicks on the guest that he/she wants to reply
- Receptionist writes a reply message for the guest and clicks Send Message button

4. Guest books one or several rooms

- Guest is logged in
- Guest performs scenario 40 to view rooms availability for the period that he/she wants to stay on the hotel
- Guest clicks book room within the dates that he/she has chosen
- Guest will be notified that the room is successfully booked

5. Guest sends message

- Guest is logged in
- Guest clicks on send message button to open an text area where he/she can write his/her message
- Guest types the message with any issue or need that he/she has and clicks on the send button to send the message to the receptionist

7. Cleaner sets room status to cleaned

- Cleaner is logged in
- Cleaner check for the rooms that he/she has to clean
- After cleaning one of the assigned rooms he/she sets the status of the room to cleaned

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A.4.2. USE CASES

UC Name	UC01 Efficient Check-in
Summary	This use case involves the process of quickly and easily checking in guests.
Dependency	None.
Actors	Front desk staff, guests.
Preconditions	Guest has a reservation, front desk staff are available and logged into the system.
Description of the Main Sequence	<ul style="list-style-type: none"> ● 1. Front desk staff selects the check-in option in the system. ● 2. System prompts staff to input guest reservation details or scan guest identification. ● 3. System verifies guest information and displays available rooms. ● 4. Front desk staff selects a room based on guest preferences and confirms check-in. ● 5. System processes payment and issues room key.
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If guest information is incomplete or inaccurate, system prompts staff to manually verify details and may require additional input from the guest.
Non functional requirements	Response time for check-in process should be under 3 minutes. System should be user-friendly and require minimal training for staff.
Postconditions	Guest is checked in, room assignment is updated in the system, and payment is processed.

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UC Name	UC02 Room Assignment
Summary	This use case involves assigning rooms to guests based on availability and preferences.
Dependency	Efficient Check-in.
Actors	Front desk staff, guests.
Preconditions	Guest has a reservation, available rooms are listed in the system.
Description of the Main Sequence	<ul style="list-style-type: none"> ● 1. Front desk staff selects the room assignment option in the system. ● 2. System displays available rooms based on guest preferences and reservation details. ● 3. Front desk staff selects a room and assigns it to the guest.
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If preferred room type is not available, system suggests alternative options or prompts staff to check with the guest for their preference.
Non functional requirements	Room assignment process should not exceed 1 minute per guest. System should prioritize room assignments based on guest preferences and special requests.
Postconditions	Room is assigned to the guest, and room availability is updated in the system.

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UC Name	UC03 Notification Handling
Summary	This use case involves managing email notifications related to reservations and guest requests.
Dependency	None.
Actors	Front desk staff, email system
Preconditions	System is integrated with the hotel's email service, notifications are enabled.
Description of the Main Sequence	<ul style="list-style-type: none"> ● 1. System receives email notifications related to reservations and guest requests. ● 2. Front desk staff access the notification dashboard in the system. ● 3. Staff prioritize and manage notifications, taking appropriate actions as needed
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If email notifications fail to be received, staff manually check for updates or contact guests directly
Non functional requirements	<p>Notification handling should be real-time, with emails received and processed within 30 seconds.</p> <p>System should provide a user-friendly interface for managing notifications.</p>
Postconditions	Notifications are processed, and relevant actions are taken by front desk staff.

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UC Name	UC04 Guest Complaint Management
Summary	This use case involves recording, tracking, and resolving guest complaints effectively.
Dependency	None.
Actors	Front desk staff, guests, management.
Preconditions	Guest complaint is received or identified, staff are logged into the complaint management system.
Description of the Main Sequence	<ul style="list-style-type: none"> ● 1. Front desk staff log the details of the guest complaint into the system. ● 2. System assigns a priority level to the complaint based on severity. ● 3. Staff take appropriate actions to address the complaint, such as offering compensation or resolving the issue. ● 4. System tracks the status of the complaint and sends alerts for unresolved issues.
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If a complaint cannot be resolved immediately, system escalates the issue to management for further assistance.
Non functional requirements	Complaint resolution process should be completed within 24 hours for nonurgent issues and immediately for urgent matters. System should provide reporting capabilities for analyzing trends in guest complaints.
Postconditions	Guest complaint is resolved to the satisfaction of the guest, and any necessary follow-up actions are taken.

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UC Name	UC05 Reporting
Summary	This use case enables management to access detailed reports on occupancy rates and revenue.
Dependency	This use case is dependent on the availability and accuracy of data within the system. It relies on the system's ability to collect, store, and update information related to occupancy rates and revenue. If the necessary data is not accessible or is outdated, the system will not be able to generate accurate reports. Therefore, ensuring data integrity and reliability is crucial for the successful execution of this use case. Additionally, the functionality of generating reports should be integrated into the overall system architecture to enable seamless access for the Hotel Management and other authorized stakeholders.
Actors	<p>Primary Actor: Hotel Management</p> <p>Secondary Actor: Hotel Owners, Investors and Shareholders</p>
Preconditions	<ol style="list-style-type: none"> 1. The user must be authenticated and authorized with appropriate permissions. 2. Data regarding occupancy rates and revenue must be available and up-to-date in the system.
Description of the Main Sequence	<ul style="list-style-type: none"> ● The Hotel Management selects the reporting option from the system's main menu. ● The system presents a list of available report types, including occupancy rates and revenue. ● The Hotel Management selects the desired report type. ● The system generates the selected report based on the current data stored in the system. ● The report is displayed to the Hotel Management, providing detailed insights into the selected metrics.

Hotel Management System Requirements Specification

Description of the Alternative Sequence	<ul style="list-style-type: none">● If the selected report type is not available or cannot be generated due to missing data, the system notifies the Hotel Management and prompts them to try again later.
Non functional requirements	<ol style="list-style-type: none">1. Performance: Reports should be generated within no more than 1 minute per report, ensuring a smooth user experience.

Hotel Management System Requirements Specification

	2. Security: Access to reporting functionalities should be restricted to authorized users only, maintaining the confidentiality and integrity of sensitive data.
Postconditions	The Hotel Management successfully accesses the desired report, gaining valuable insights into occupancy rates and revenue, depending on the selected report type.

Hotel Management System Requirements Specification

C Name	UC06 Performance Metrics
Summary	This use case allows management to track staff performance and efficiency in managing reservations and guest interactions within the hotel management system.
Dependency	This use case relies on the availability of up-to-date data on staff activities, reservations, and guest interactions within the system. Data integrity is essential for accurate performance tracking. Additionally, the system must integrate performance measurement tools to capture relevant data efficiently.
Actors	Primary Actor: Hotel Management Secondary Actor: Employees (Front Desk, Housekeeping, Maintenance Workers, Chefs, etc.), Hotel Owners
Preconditions	<ol style="list-style-type: none">1. The user must be authenticated and authorized with appropriate permissions.2. Data regarding occupancy rates, revenue, and other key metrics must be available and up-to-date in the system.

Hotel Management System Requirements Specification

Description of the Main Sequence	<ul style="list-style-type: none">● The Hotel Management selects the performance metrics option from the system's main menu.● The system presents a list of available metrics for tracking staff performance, such as reservation handling time, guest satisfaction ratings, and task completion rates.● The Hotel Management selects the desired performance metric to analyze.● The system retrieves relevant data from the system's database, including staff activities, reservation logs, and guest feedback.● The system analyzes the data and generates a performance report for the selected metric.● The performance report is displayed to the Hotel Management, providing insights into staff performance and efficiency in managing reservations and guest interactions.
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Hotel Management System Requirements Specification

Description of the Alternative Sequence	<ul style="list-style-type: none">● If the selected performance metric requires additional data that is not available or incomplete, the system notifies the Hotel Management and prompts them to review the data collection processes or try a different metric.
Non functional requirements	<ol style="list-style-type: none">1. Performance: The system should efficiently process and analyze large volumes of data . Staff performance reports should be generated within no more than 1 minute per report, ensuring a smooth user experience.2. Security: Access to performance metrics should be restricted to authorized users only, ensuring the confidentiality of staff and guest information.3. User Interface: The performance reporting interface should be user-friendly and intuitive, facilitating easy interpretation of performance metrics by the Hotel Management.
Postconditions	The Hotel Management successfully accesses the performance metrics, gaining insights into staff performance and efficiency in managing reservations and guest interactions. This information can be used to identify areas for improvement, provide targeted training, and optimize overall service quality.

Hotel Management System Requirements Specification

UC Name	UC07 Monitor Occupancy and Revenue
Summary	This use case enables management to access real-time insights into occupancy rates and revenue within the hotel management system.
Dependency	This use case relies on the availability and compatibility of APIs provided by selected marketing channels. Successful integration requires stable connections and compatibility between the hotel management system and external platforms. Collaboration with third-party service providers may be necessary for smooth implementation and troubleshooting.
Actors	<p>Primary Actor: Hotel Management</p> <p>Secondary Actor: Hotel Owners, Investors and Shareholders</p>
Preconditions	<ol style="list-style-type: none"> 1. The user must be authenticated and authorized with appropriate permissions. 2. Data regarding occupancy rates and revenue must be available and continuously updated in the system.
Description of the Main Sequence	<ol style="list-style-type: none"> 1. The Hotel Management selects the monitoring option for occupancy and revenue from the system's main menu. 2. The system retrieves real-time data on occupancy rates and revenue from the database. 3. The system presents the current occupancy rate and revenue figures to the Hotel Management in a user-friendly format. 4. The Hotel Management can further analyze the data through interactive graphs or charts provided by the system. 5. The system continuously updates the displayed information to reflect the most recent changes in occupancy and revenue.

Hotel Management System Requirements Specification

Description of the Alternative Sequence	If the system encounters issues retrieving real-time data, such as connectivity problems or database errors, it notifies the Hotel Management and prompts them to retry accessing the information later.
Non functional requirements	<ol style="list-style-type: none">1. Performance: The system should efficiently retrieve and display real-time data on occupancy rates and revenue, ensuring minimal latency for the Hotel Management.2. Security: Access to monitoring functionalities should be restricted to authorized users only, maintaining the confidentiality of occupancy and revenue data.3. User Interface: The monitoring interface should be intuitive and visually appealing, facilitating easy interpretation of occupancy and revenue metrics.
Postconditions	The Hotel Management successfully accesses real-time insights into occupancy rates and revenue, enabling informed decision-making to optimize hotel operations and maximize revenue generation.

Hotel Management System Requirements Specification

UC Name	UC09 Market Segmentation
Summary	This use case involves supporting guest segmentation based on preferences, booking history, and demographics within the hotel management system.
Dependency	This use case depends on the availability and accuracy of guest data within the hotel management system. Effective market segmentation relies on up-to-date information on guest preferences, booking history, and demographics. Integration of segmentation tools into the system and collaboration with relevant departments are necessary for successful implementation.
Actors	Primary Actor: Hotel Management
Preconditions	<ol style="list-style-type: none">1. The user must be authenticated and authorized with appropriate permissions.2. Guest data, including preferences, booking history, and demographics, must be available and up-to-date in the system.

Hotel Management System Requirements Specification

Description of the Main Sequence	<ol style="list-style-type: none">1. The Hotel Management selects the market segmentation option from the system's main menu.2. The system provides guests segmenting tools for analyzing booking history, guest feedback, and demographic data based on various criteria, such as preferences, booking history, and demographics.3. The Hotel Management selects the segmentation criteria and defines segments accordingly.4. The system analyzes guest data based on the defined criteria and categorizes guests into different segments.5. Hotel Management can view and manage segmented guest lists, enabling targeted marketing strategies and personalized guest experiences.
Description of the Alternative Sequence	If guest data is incomplete or outdated, the system notifies the Hotel Management and prompts them to ensure data accuracy for effective segmentation.
Non functional requirements	<ol style="list-style-type: none">1. Accuracy: The system should accurately analyze guest data for precise segmentation.2. Performance: Segmenting guest data should be efficient to support timely marketing strategies.3. Usability: The segmentation tools should be user-friendly for easy configuration and management by Hotel Management.
Postconditions	The hotel management system successfully supports guest segmentation based on preferences, booking history, and demographics, empowering Hotel Management to implement targeted marketing campaigns and enhance guest satisfaction.

Hotel Management System Requirements Specification

UC Name	UC10 Admin User Management and Configuration
Summary	The Admin User Management and Configuration use case enables administrators to manage user accounts and customize system settings within the Hotel Management System (HMS).
Dependency	This optional section describes whether the UC depends on other UCs.
Actors	Administrator
Preconditions	<p>1- The administrator is logged into the HMS.</p> <p>2- Access privileges are granted to the administrator to perform user management and configuration tasks.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> • The administrator accesses the User Management section of the HMS. • The administrator selects the option to add a new user account. • The administrator enters the necessary details for the new user, including username, password, and access level. • The HMS validates the entered information and adds the new user account to the system. • If editing or removing an existing user account, the administrator selects the respective option, makes the necessary changes, and confirms the action. • The administrator accesses the Statistics Dashboard to view graphical representations of occupancy trends and financial performance. • The HMS retrieves relevant data and presents it in graphical form for easy analysis. • The administrator navigates to the System Configuration section to customize settings. • Within the System Configuration, the administrator adjusts room rates, availability rules, and email templates as needed.

Hotel Management System Requirements Specification

	<ul style="list-style-type: none">• The HMS saves the configuration changes.
Description of the Alternative Sequence	<ul style="list-style-type: none">• If the entered user details are incomplete or invalid during user addition, the HMS prompts the administrator to correct the errors before proceeding.• If the administrator encounters any issues with accessing or modifying system settings, they may contact technical support for assistance.
Non functional requirements	<p>The system should ensure secure user authentication and authorization mechanisms.</p> <p>The User Management and Configuration functionalities should be intuitive and easy to use.</p> <p>The Statistics Dashboard should provide real-time data updates and be visually appealing for better comprehension.</p>
Postconditions	<p>The administrator successfully adds, edits, or removes user accounts according to the specified access levels.</p> <p>The administrator views relevant statistics through the dashboard and customizes system settings as required.</p>

Hotel Management System Requirements Specification

UC Name	UC11 System Configuration Management
Summary	The System Configuration Management use case enables authorized users to customize system settings, such as roomrates, availability rules, and email templates, within the Hotel Management System (HMS).
Dependency	This optional section describes whether the UC depends on other UCs.
Actors	Admin
Preconditions	<p>1- The Admin is logged into the HMS.</p> <p>2- Access privileges are granted to the authorized user to modify system configuration settings.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> • The authorized user navigates to the System Configuration section within the HMS. • The HMS presents various configurable settings, such as room rates, availability rules, and email templates, for the user to modify. • The authorized user selects the specific setting they wish to adjust, such as updating room rates for different seasons or setting availability rules for specific room types. • The user enters the new configuration values or selects options from predefined lists. • The HMS validates the entered configuration data to ensure it meets the required format and constraints. • If the entered data is valid, the HMS applies the configuration changes to the system. • The authorized user confirms the successful application of the configuration changes and exits the System Configuration section.
Description of the Alternative Sequence	<ul style="list-style-type: none"> • If there are any issues with data validation or system performance during configuration changes, the authorized user may encounter error messages or delays. In such cases, technical support may be contacted for assistance.

Hotel Management System Requirements Specification

Non functional requirements	<p>1- The System Configuration interface should be user-friendly and intuitive to facilitate easy navigation and configuration adjustments.</p> <p>2- Configuration changes should be applied promptly and accurately to ensure the smooth operation of the HMS.</p> <p>3- The system should maintain an audit trail of configuration changes for accountability and troubleshooting purposes.</p>
Postconditions	The authorized user successfully customizes system settings according to the hotel's requirements, ensuring optimal functionality and performance of the HMS.

Hotel Management System Requirements Specification

UC Name	UC12 Statistics Dashboard Access
Summary	The Statistics Dashboard Access use case enables authorized users to access graphical representations of occupancy trends and financial performance within the HotelManagement System (HMS).
Dependency	This optional section describes whether the UC depends on other UCs.
Actors	Admin, Owner
Preconditions	<p>1- The authorized user is logged into the HMS.</p> <p>2- Access privileges are granted to the authorized user to view statistics through the dashboard.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> • The authorized user navigates to the Statistics Dashboard section within the HMS. • The HMS retrieves relevant statistical data, including occupancy rates and financial performance metrics. • The Statistics Dashboard presents graphical representations of the retrieved data, such as charts and graphs, for easy analysis. • The authorized user interacts with the dashboard to view specific metrics, trends, or time periods as needed.
Description of the Alternative Sequence	<ul style="list-style-type: none"> • If there are any issues with data retrieval or dashboard functionality, the authorized user may encounter error messages or be unable to access certain features. In such cases, technical support may be contacted for assistance.

Hotel Management System Requirements Specification

Non functional requirements	<p>1- The Statistics Dashboard should provide real-time updates and be responsive to user interactions for seamless navigation and analysis.</p> <p>2- Graphical representations should be visually appealing and easy to interpret to facilitate data analysis.</p>
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Hotel Management System Requirements Specification

	3-The system should ensure secure user authentication and authorization mechanisms to protect sensitive statistical data.
Postconditions	The authorized user successfully accesses and analyzes statistics through the dashboard, gaining insights into occupancy trends and financial performance within the hotel.

UC Name	UC13 Notify staff when rooms require cleaning
Dependency	None
Actors	Housekeeping staff, Front-Desk Staff
Preconditions	None
Description of the Main Sequence	<ol style="list-style-type: none"> 1. System receives notification of room vacancy 2. System updates room status to "Requires Cleaning" 3. System notifies housekeeping staff about the room requiring cleaning 4. Housekeeping staff confirm receipt of notification
Description of Alternative Sequence	None
Non-Functional Requirements	Real-time notification delivery
Postconditions	Room status updated to "Requires Cleaning"

Hotel Management System Requirements Specification

Hotel Management System Requirements Specification

UC Name	UC14 Promptly handle guests' cleaning or repair requests
Dependency	None
Actors	Housekeeping Staff, Front-Desk Staff
Preconditions	Preconditions
Description of the Main Sequence	<ol style="list-style-type: none"> 1. Guest submits a cleaning or repair request through the system 2. System notifies housekeeping about the request 3. Housekeeping staff acknowledge receipt of the request 4. Housekeeping staff update the request status upon completion
Description of Alternative Sequence	None
Non-Functional Requirements	Timely response to requests; Secure handling to guests information
Postconditions	Request status updated upon completion
UC Name	UC15 Communication between housekeeping and Front-Desk
Dependency	None
Actors	Housekeeping Staff, Front-Desk Staff
Preconditions	None

Hotel Management System Requirements Specification

Description of the Main Sequence	<ol style="list-style-type: none">1. Housekeeping staff send room status updates to the front-desk staff2. Front-desk staff receive and acknowledge receipt of updates3. Front-desk may request additional information if needed4. Housekeeping staff responds to any inquiries or requests raised by the front-desk staff
Description of Alternative Sequence	None
Non-Functional Requirements	Secure communication channels; Real-Time updates
Postconditions	Front -desk informed of status room updates

Hotel Management System Requirements Specification

UC Name	UC 16 Room cleanup
Summary	Perform tidying and organization of individual rooms and update room status
Dependency	Availability of cleaning supplies
Actors	Housekeeper, Clients
Preconditions	Room must be accessible and occupants not present
Description of the Main Sequence	<ul style="list-style-type: none"> ● 1. Housekeeper enters the room. ● 2. Housekeeper picks up and puts away items in designated places. ● 3. Housekeeper dusts surfaces and vacuums or sweeps floors. ● 4. Housekeeper checks for any items needing repair or replacement ● 5. Housekeeper changes the room status as cleaned. ● 6. System notifies the client about the room status
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If occupants are present, housekeeper asks for permission to enter and clean the room and changes the room status as pending.
Non functional requirements	The system should display the room status at real-time.
Postconditions	Room is clean and arranged according to predefined standards.

Hotel Management System Requirements Specification

Preconditions	Home must be accessible and homeowner's cleaning preferences must be provided
Description of the Main Sequence	<ul style="list-style-type: none"> • 1. Housekeeper reviews the cleaning schedule and tasks. • 2. Housekeeper gathers required cleaning supplies and equipment. • 3. Housekeeper enters the residence and begins cleaning, starting from designated areas (e.g., kitchen, living room). • 4. Housekeeper follows specific cleaning instructions provided by the homeowner, such as using eco-friendly products or avoiding certain areas.
Description of the Alternative Sequence	If homeowner's preferences are not available, housekeeper follows standard cleaning procedures.
Non functional requirements	Ensure cleaning supplies are eco-friendly and safe for pets and children. - Adhere to a specific cleaning time frame provided by the homeowner. - Maintain a professional demeanor and appearance.
Postconditions	Residence is thoroughly cleaned according to the homeowner's preferences and schedule.

Hotel Management System Requirements Specification

UC Name	UC18 Client Account Creation
Summary	Involves the process of creating a client account in the hotel system, allowing clients to manage their reservation and credentials.
Dependency	None
Actors	Client
Preconditions	Client must agree to the terms and conditions.
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: Client enters sign up page. ● Step 2: Client selects “Create new account”. ● Step 3: Client enters their personal details. ● Step 4: The system validates the entered information. ● Step 5: After information validation system proceeds to create client account. ● Step 6: The system sends to the client a confirmation email with their account details.
Description of the Alternative Sequence	<p>The entered email is associated with an existing account The system redirects the client to log in or reset the password</p>
Nonfunctional requirements	The system should prevent unauthorized access to accounts information, by encrypting their information.
Postconditions	The guest's account is successfully created, allowing the guests to log in and manage their reservations and information.

Hotel Management System Requirements Specification

UC Name	UC19 Check Availability
Summary	Client checks the availability of rooms for specific dates in the hotel system.
Dependency	None.
Actors	Primary Actor: Client
Preconditions	None.
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: Client accesses the room availability check feature in the system ● Step 2: Client selects the desired dates for their stay. ● Step 3: The system checks the database for available rooms for the selected dates ● Step4: The system displays the available rooms to the client
Description of the Alternative Sequence	<p>There are no rooms available for the selected dates.</p> <p>The system notifies the client that no rooms are available and may provide alternative dates</p>
Nonfunctional requirements	The system must reflect real-time room viability to prevent overbooking.
Postconditions	The client views the viability of rooms.

Hotel Management System Requirements Specification

UC Name	UC20 Reservation Access
Summary	Involves guests accessing their reservation detail, including check-in/check-out dates, rate and room type.
Dependency	Client Account Creation
Actors	Primary Actor: Client
Preconditions	<ul style="list-style-type: none"> ● Client must have an active account in the system. ● Client must be logged into their account.
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The client logs in the system using their credentials. ● Step 2: The client navigates to the reservation section of the account ● Step 3: The system provides the guest with their reservation details.
Description of the Alternative Sequence	The client has no existing reservation. System displays a message showing that there were no reservations found.
Nonfunctional requirements	System should efficiently retrieve and display reservation details.
Postconditions	The client successfully accesses their reservation details.

Hotel Management System Requirements Specification

UC Name	UC21 Modification of Reservation
Summary	Clients modify their existing reservation within the system.
Dependency	Reservation Access
Actors	Primary Actor: Client
Preconditions	<p>The client must be logged into their account</p> <p>The client must have accessed their reservation details.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The client accesses their reservation details through their account. ● Step 2: The client selects the option to modify their reservation ● Step 3: The system provides modification options, like changing dates, room types etc. ● Step 4: The client selects the desired option. ● Step 5: The system checks for viability ● Step 6: The system updates the reservation. ● Step 7: The client receives a confirmation of the modified reservation.
Description of the Alternative Sequence	<p>The requested modification is not available.</p> <p>The system notifies the client and provides additional options.</p>
Nonfunctional requirements	The system should immediately update the reservation to prevent overbooking.
Postconditions	The client reservation is successfully modified and updated details are reflected in the system.

Hotel Management System Requirements Specification

UC Name	UC22 Special Request Submission
Summary	The client submits special requests related to their reservation, such as room preferences or addition amenities.
Dependency	Reservation Access
Actors	Primary Actor: Client
Preconditions	The client must have logged in into their accounts
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The client accesses their reservation details through their account. ● Step 2: The client selects the option to submit special requests. ● Step 3: The client enters the details of their special requests. ● Step 4: The system records the special requests associated with the reservation. ● Step 5: The system provides the client with a confirmation of submission
Description of the Alternative Sequence	The clients decide not to submit any requests.
Nonfunctional requirements	Special requests submitted by clients must be handled securely to maintain privacy
Postconditions	Special requests submitted by the client are successfully recorded.

Hotel Management System Requirements Specification

UC Name	UC23 Feedback Submission
Summary	Client provides feedback on their stay.
Dependency	This optional section describes whether the UC depends on other UCs.
Actors	Primary Actor: Client
Preconditions	<p>The client must have completed their stay and have an active reservation history in the system.</p> <p>The client must be logged in their account</p>
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The client accesses their reservation history through their account. ● Step 2: The client selects the reservation for which they want to provide feedback. ● Step 3: The client enters their feedback regarding their stay. ● Step 4: The system records the feedback provided by the client.
Description of the Alternative Sequence	The client decides not to provide feedback
Nonfunctional requirements	Analysis: The system should store feedback data for analysis.
Postconditions	Feedback provided by the guest is successfully recorded and stored in the system for analysis.

Hotel Management System Requirements Specification

UC Name	UC24 Cancellation of Reservation
Summary	Involves client cancelling their existing reservation
Dependency	Reservation Access
Actors	Primary Actor: Client
Preconditions	The client must be logged into their account.
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The client accesses their reservation details through their account. ● Step 2: The client selects the option to cancel the reservation. ● Step 3: The system checks the cancellation request if it is against the policy time constraints. ● Step 4: If the cancellation request is within policy time constraints, the system cancels the reservation.
Description of the Alternative Sequence	<p>If the cancellation request is outside the policy time constraints. The system notifies the client that the reservation cannot be canceled.</p>
Nonfunctional requirements	<p>The system must enforce policy time constraints. The system should notify clients of the outcome of their cancellation request.</p>
Postconditions	The client's reservation is successfully canceled within the policy time constraints, and the room becomes available for booking

Hotel Management System Requirements Specification

UC Name	UC25 Update Reservation Calendar
Summary	Involves automatically updating the reservation calendar to reflect changes.
Dependency	None
Actors	Nonfunctional Client
Preconditions	<p>The administrator and manager must have access to the system configuration settings.</p> <p>All data should be stored in a database</p>
Description of the Main Sequence	<ul style="list-style-type: none"> ● Step 1: The administrator configures the system to automate reservation calendar updates. ● Step 2: When a reservation is made by the front desk, the system automatically updates the reservation calendar. ● Step 3: When a reservation is created/modified/cancelled, the system automatically reflects the changes in the database.
Description of the Alternative Sequence	<p>If there is a failure in updating the reservation calendar, the system generates an error notification.</p> <p>The administrator should intervene to resolve the issue.</p>
Nonfunctional requirements	<p>Reliability: The system must reliably update the reservation calendar to ensure accurate representation of bookings and room statuses.</p> <p>Real-time Updates:</p>
Postconditions	The reservation calendar is accurately updated to reflect new bookings, cancellations, modifications.

Hotel Management System Requirements Specification

UC Name	UC26 Manage Billing and Invoicing
Summary	The Manage Billing and Invoicing use case enables authorized users to generate, manage, and process billing and invoicing transactions within the Hotel Management System (HMS).
Dependency	None
Actors	Accountant
Preconditions	<p>The authorized user is logged into the HMS.</p> <p>Access privileges are granted to the authorized user to manage billing and invoicing transactions.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> ● The authorized user navigates to the Billing and Invoicing section within the HMS. ● The HMS presents various billing and invoicing options, such as generating invoices, updating billing details, and processing payments. ● The authorized user selects the specific billing or invoicing task they wish to perform. ● For invoice generation, the user selects the relevant booking or transaction data and specifies the billing details, such as payment methods and due dates. ● The HMS validates the entered billing data to ensure accuracy and compliance with billing policies. ● If the entered data is valid, the HMS generates the invoice and updates the billing records accordingly. ● For payment processing, the user selects the payment method, enters payment details, and confirms the payment transaction. ● The HMS verifies the payment information and updates the payment records to reflect the completed transaction. ● The authorized user confirms the successful completion of the billing or invoicing task and exits the Billing and Invoicing section.

Hotel Management System Requirements Specification

Description of the Alternative Sequence	<ul style="list-style-type: none">● If there are any issues with data validation or payment processing during billing and invoicing tasks, the authorized user may encounter error messages or delays. In such cases, technical support may be contacted for assistance.
Non functional requirements	<ul style="list-style-type: none">-The Billing and Invoicing interface should be user-friendly and intuitive to facilitate easy navigation and transaction processing.-Billing and invoicing tasks should be completed accurately and efficiently to maintain financial integrity and customer satisfaction.-The system should maintain an audit trail of billing and invoicing transactions for accountability and reconciliation purposes..
Postconditions	The authorized user successfully manages billing and invoicing transactions within the HMS, ensuring accurate invoicing, timely payments, and financial transparency.

Hotel Management System Requirements Specification

UC Name	UC27 Schedule Maintenance
Summary	The Schedule Maintenance use case enables authorized users to schedule and manage maintenance tasks for hotel facilities and equipment within the Hotel Management System (HMS).
Dependency	None
Actors	Managers, Housekeepers, Facilitators
Preconditions	<p>1- The authorized user is logged into the HMS.</p> <p>2- Access privileges are granted to the authorized user to schedule and manage maintenance tasks.</p> <p>3- Maintenance staff members are available and notified of scheduled maintenance tasks.</p>
Description of the Main Sequence	<ul style="list-style-type: none"> ● The authorized user navigates to the Maintenance Management section within the HMS. ● The HMS presents options for scheduling and managing maintenance tasks, including creating new maintenance schedules and assigning tasks to maintenance staff. ● The authorized user selects the option to schedule a new maintenance task. ● The user enters the details of the maintenance task, including the type of maintenance required, location, equipment involved, and scheduled date and time. ● The HMS validates the entered maintenance task details to ensure accuracy and feasibility. ● If the entered data is valid, the HMS schedules the maintenance task and notifies maintenance staff members assigned to the task. ● Maintenance staff members receive notifications of the scheduled task and acknowledge their availability to perform the maintenance. ● On the scheduled date and time, maintenance staff members execute the maintenance task as per the instructions provided within the HMS.

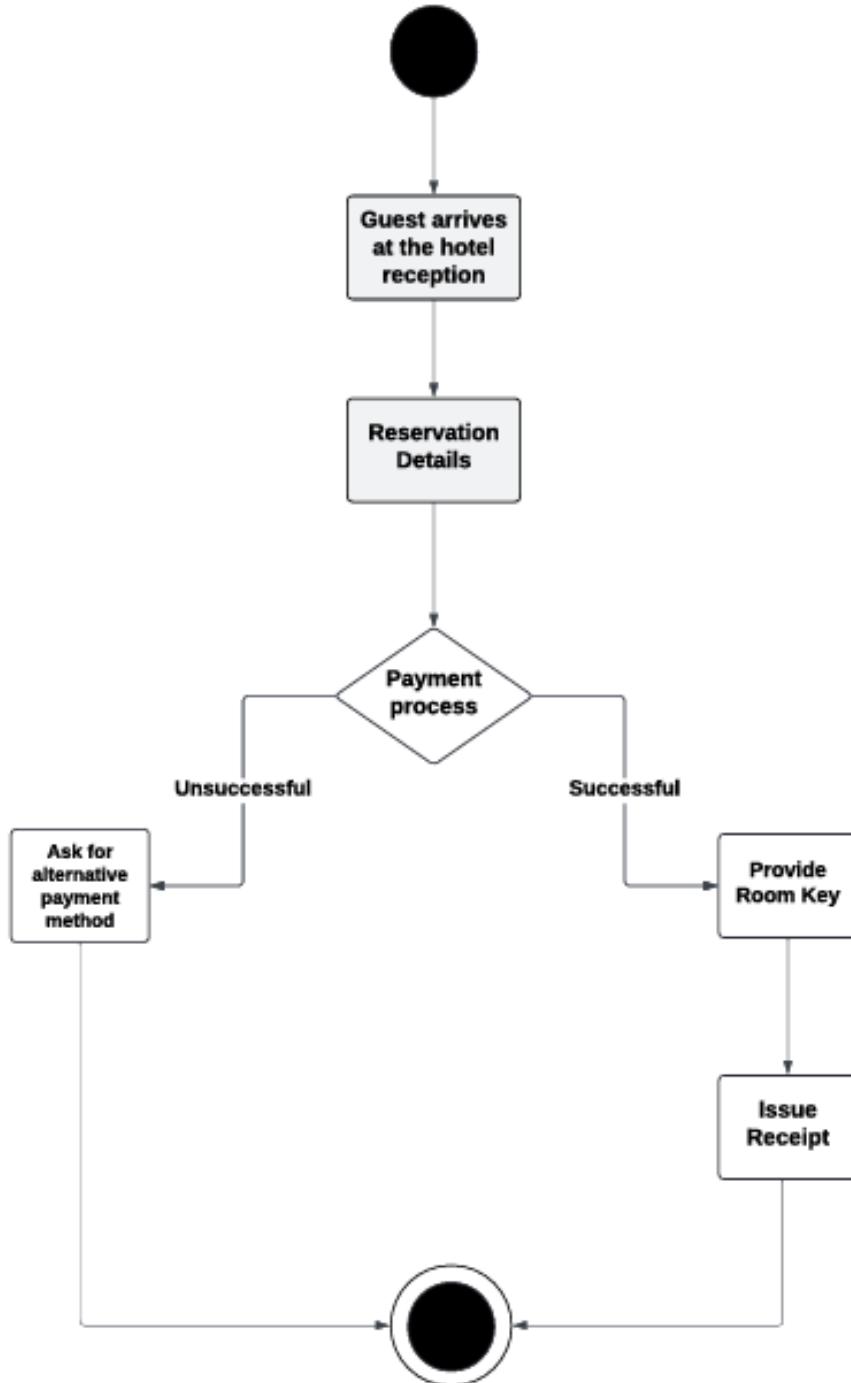
Hotel Management System Requirements Specification

	<ul style="list-style-type: none"> ● The HMS records the completion of the maintenance task and updates the maintenance records accordingly.
Description of the Alternative Sequence	<ul style="list-style-type: none"> ● If there are any issues with scheduling the maintenance task, such as conflicting schedules or unavailable maintenance staff, the authorized user may need to reschedule the task or assign it to different staff members. ● If maintenance staff encounter unexpected issues or delays during the execution of the maintenance task, they may need to communicate with the authorized user for further instructions or assistance.
Non functional requirements	<ol style="list-style-type: none"> 1- The Maintenance Management interface should be user-friendly and intuitive to facilitate easy scheduling and management of maintenance tasks. 2- Maintenance tasks should be scheduled and executed efficiently to minimize downtime and disruptions to hotel operations. 3- The system should provide real-time notifications and updates to authorized users and maintenance staff regarding scheduled maintenance tasks and their status.
Postconditions	<p>The authorized user successfully schedules and manages maintenance tasks within the HMS, ensuring timely maintenance of hotel facilities and equipment, and maintaining the overall operational efficiency of the hotel.</p>

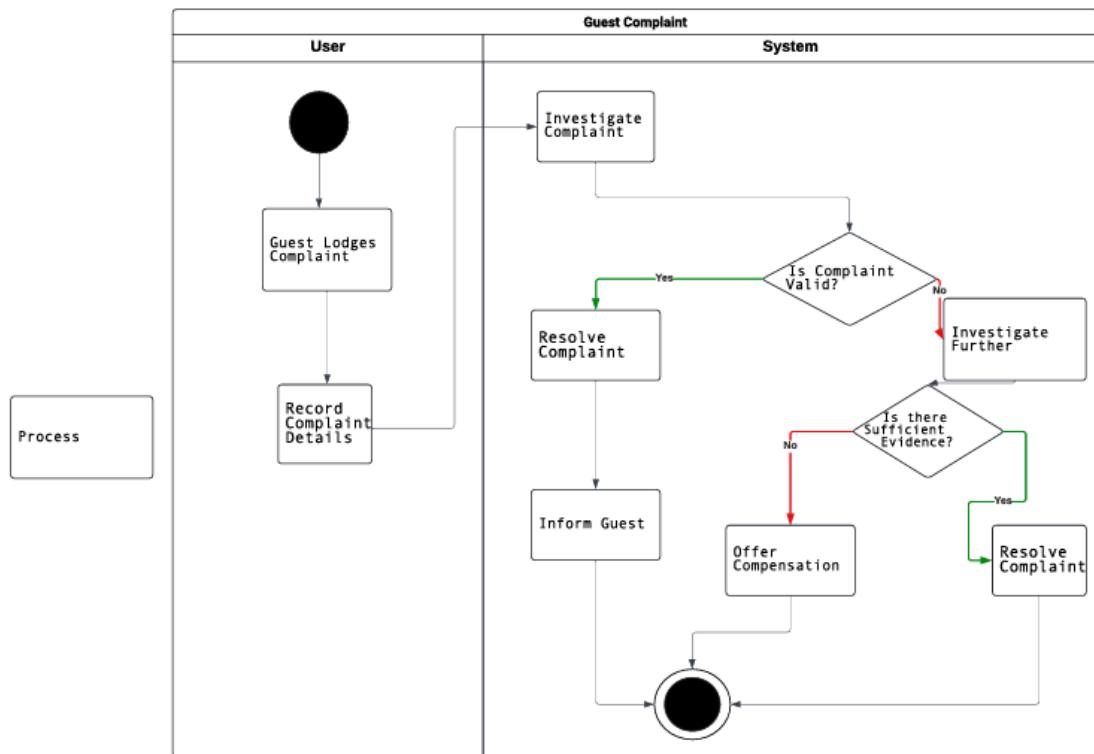
A.5. DIAGRAMS

A.5.1. Activity Diagrams

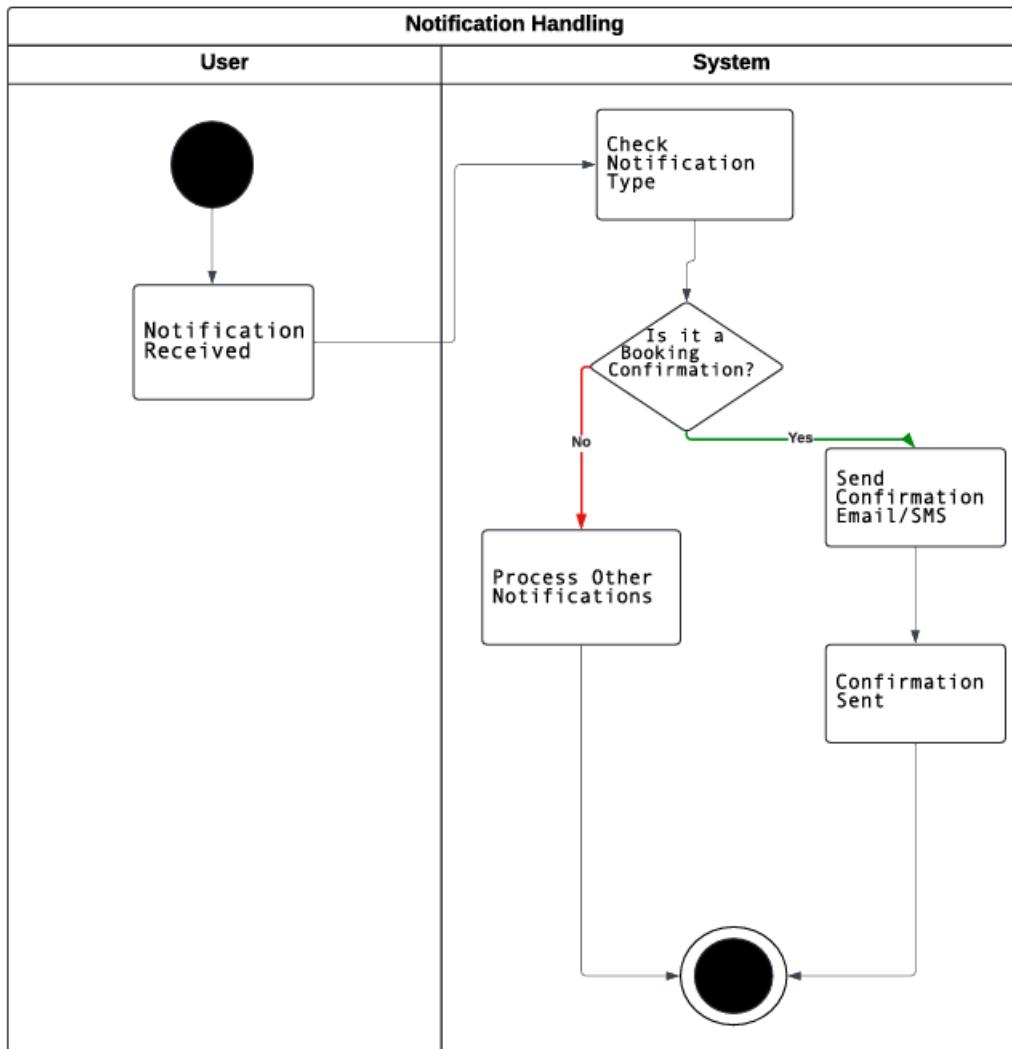
A.5.1.1. Front desk- Activity diagrams



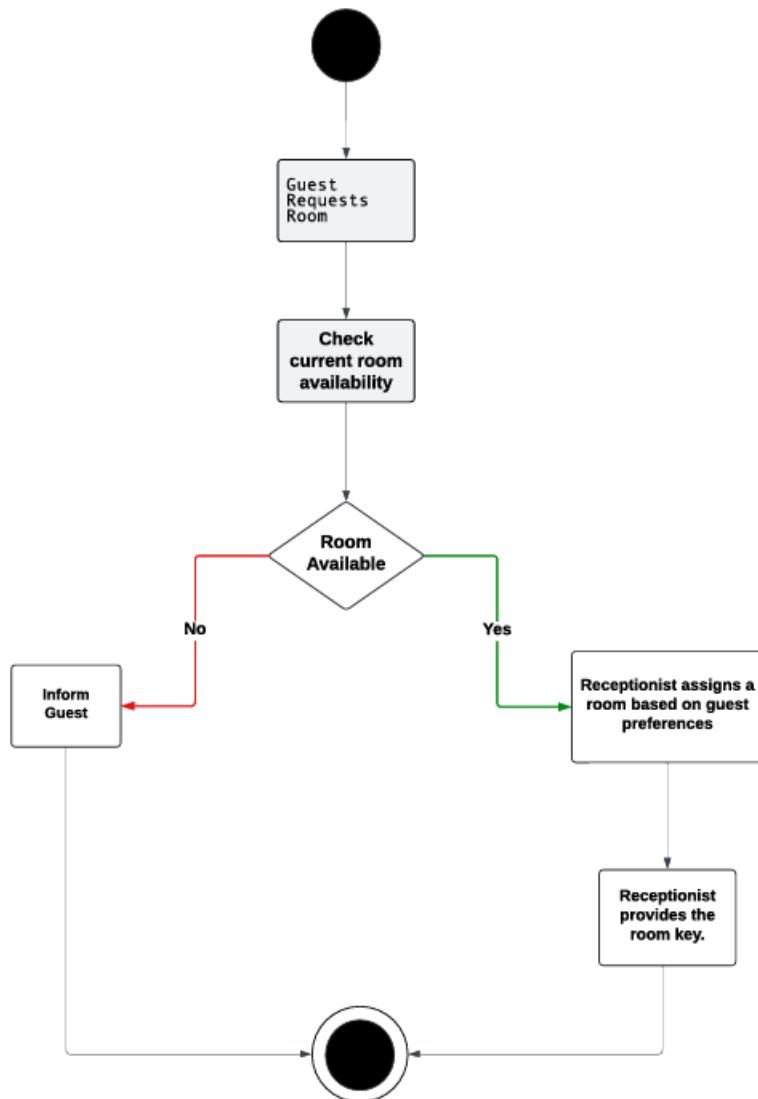
Hotel Management System Requirements Specification



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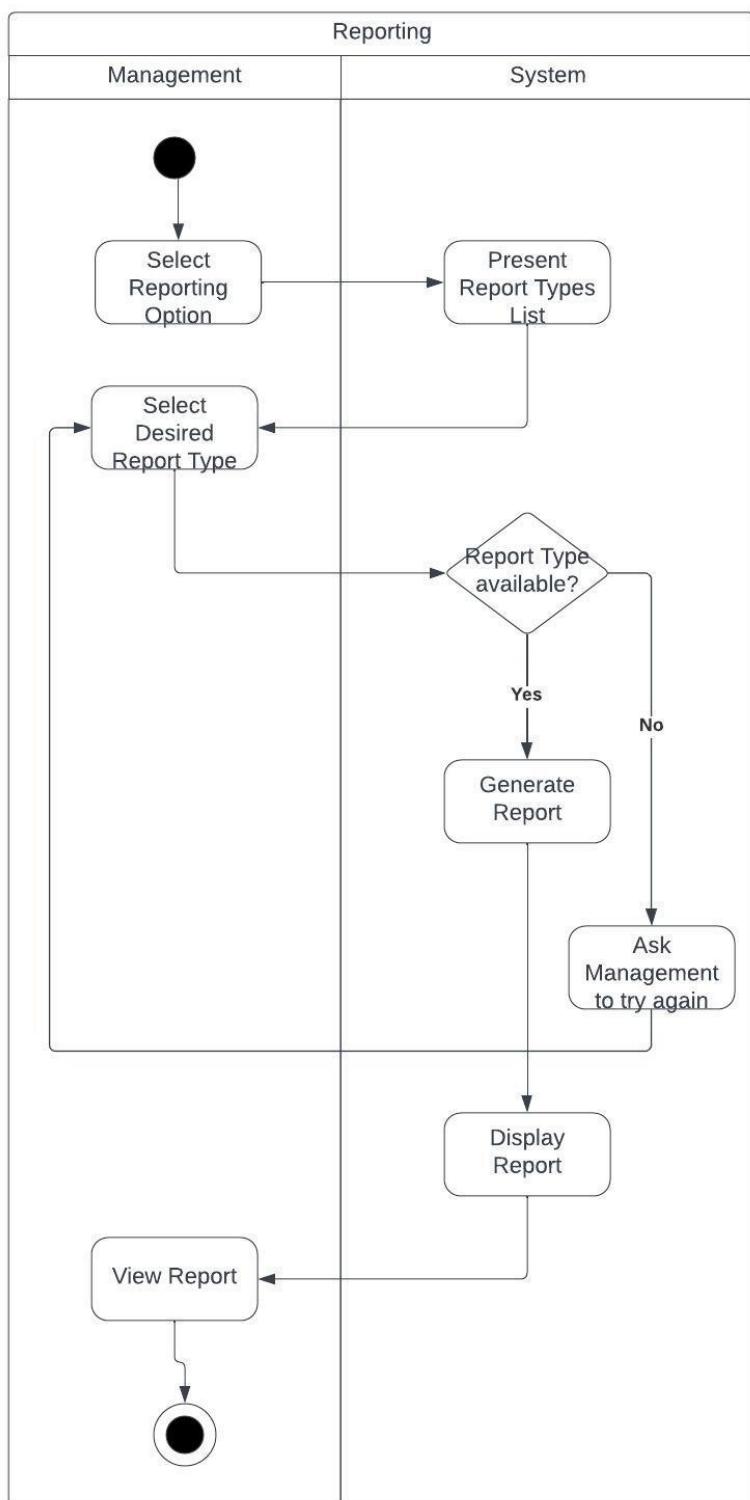


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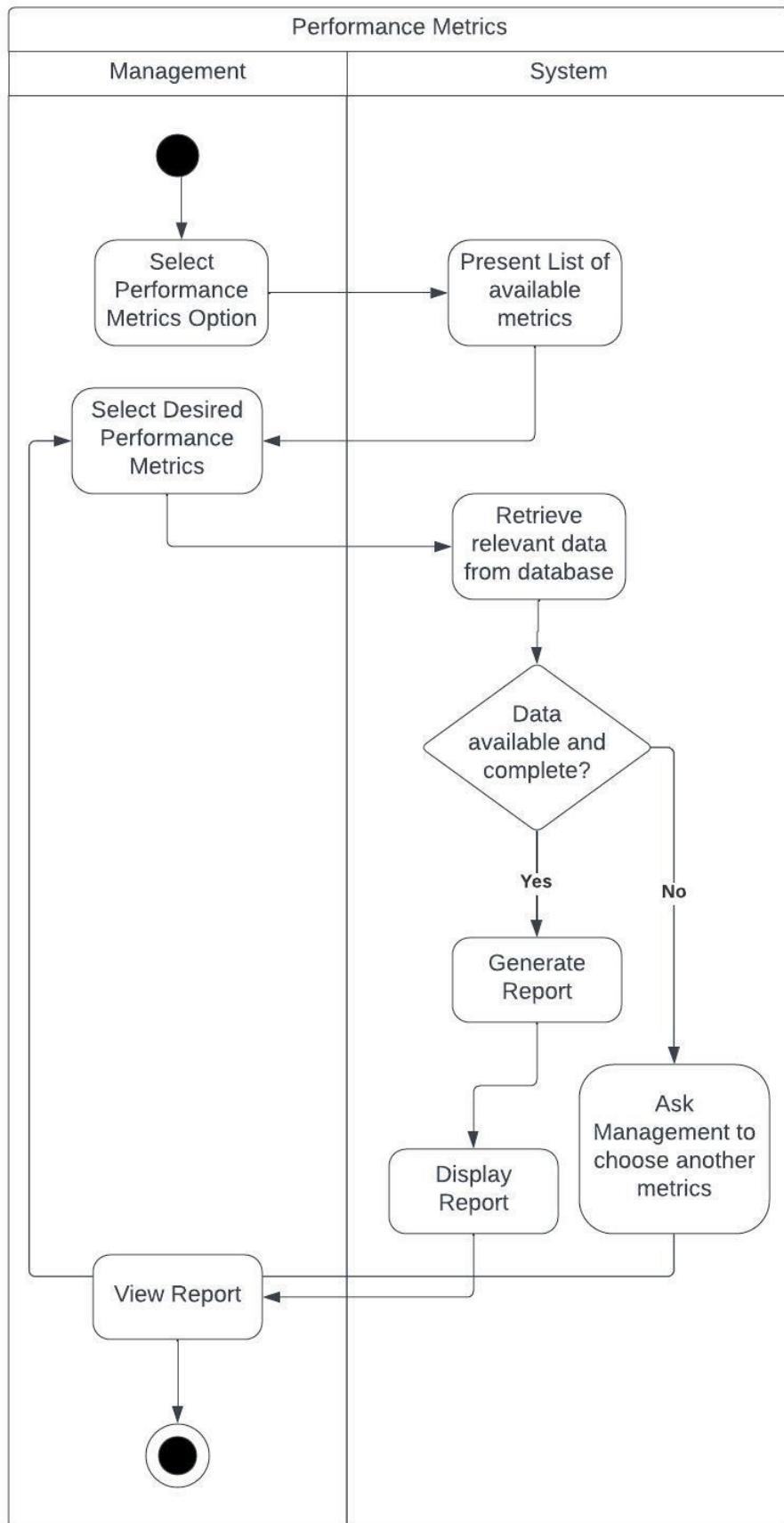
Hotel Management System Requirements Specification

A.5.1.2. Manager Activity Diagrams

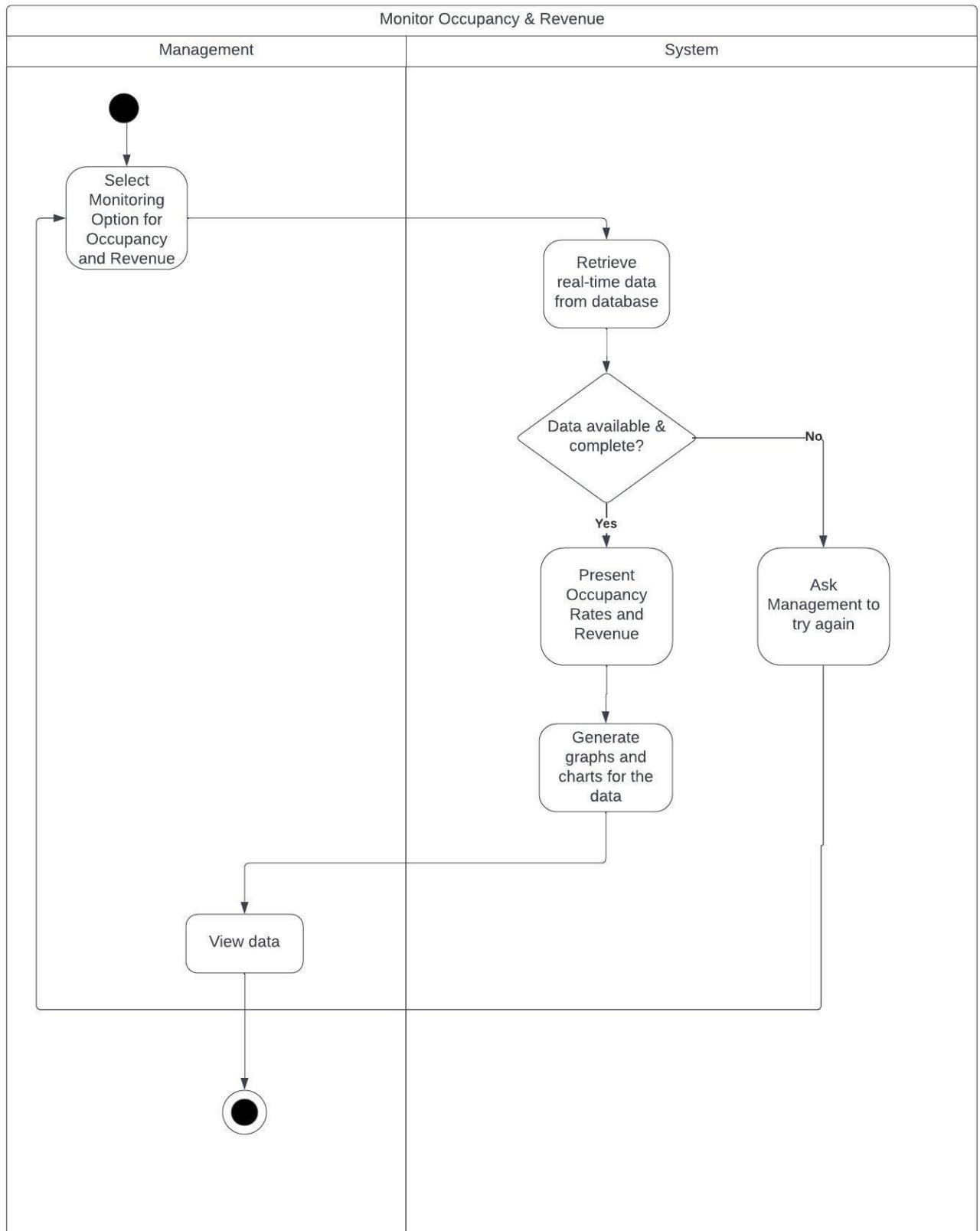


Hotel Management System Requirements Specification

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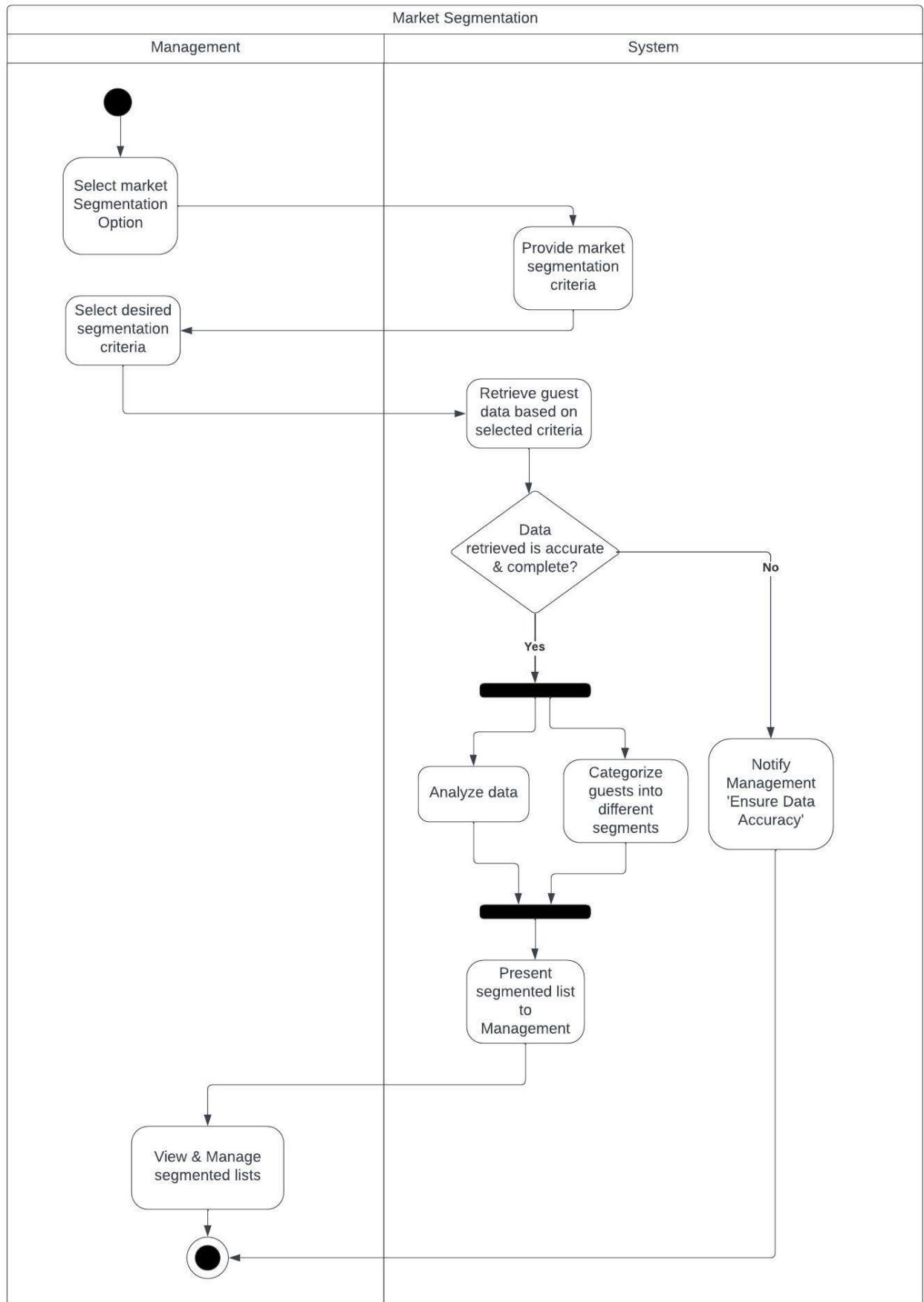


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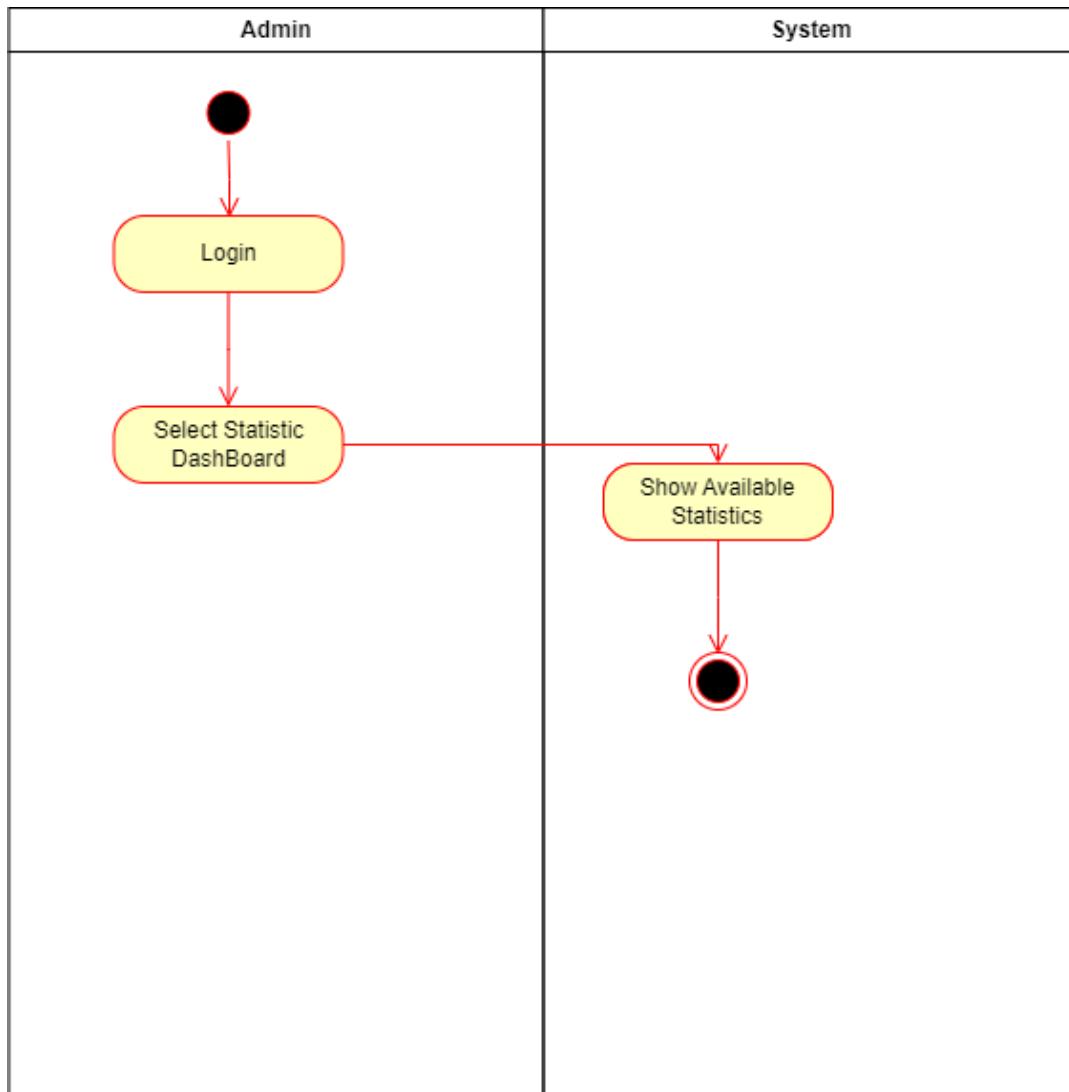
Hotel Management System Requirements Specification

Hotel Management System Requirements Specification

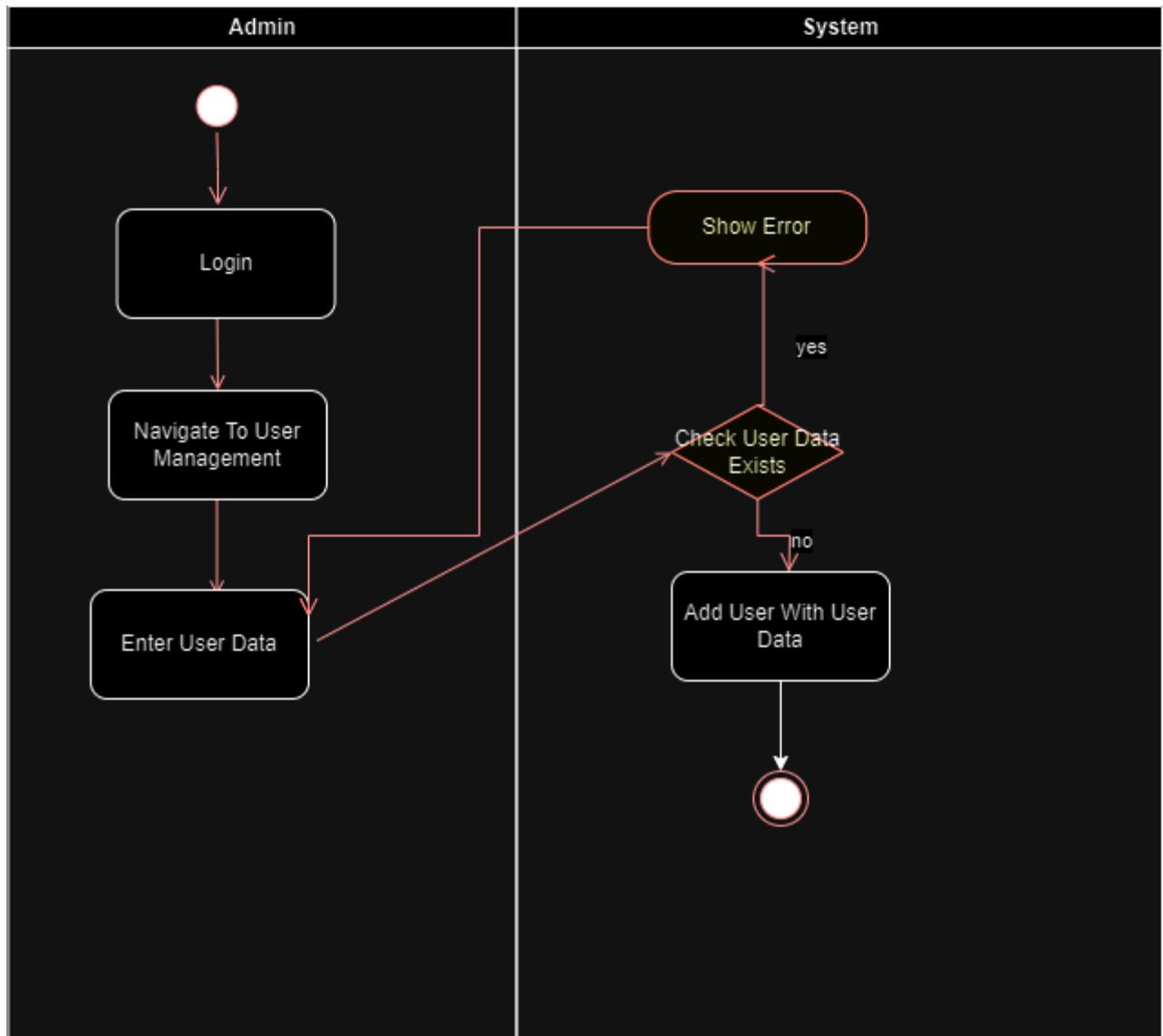


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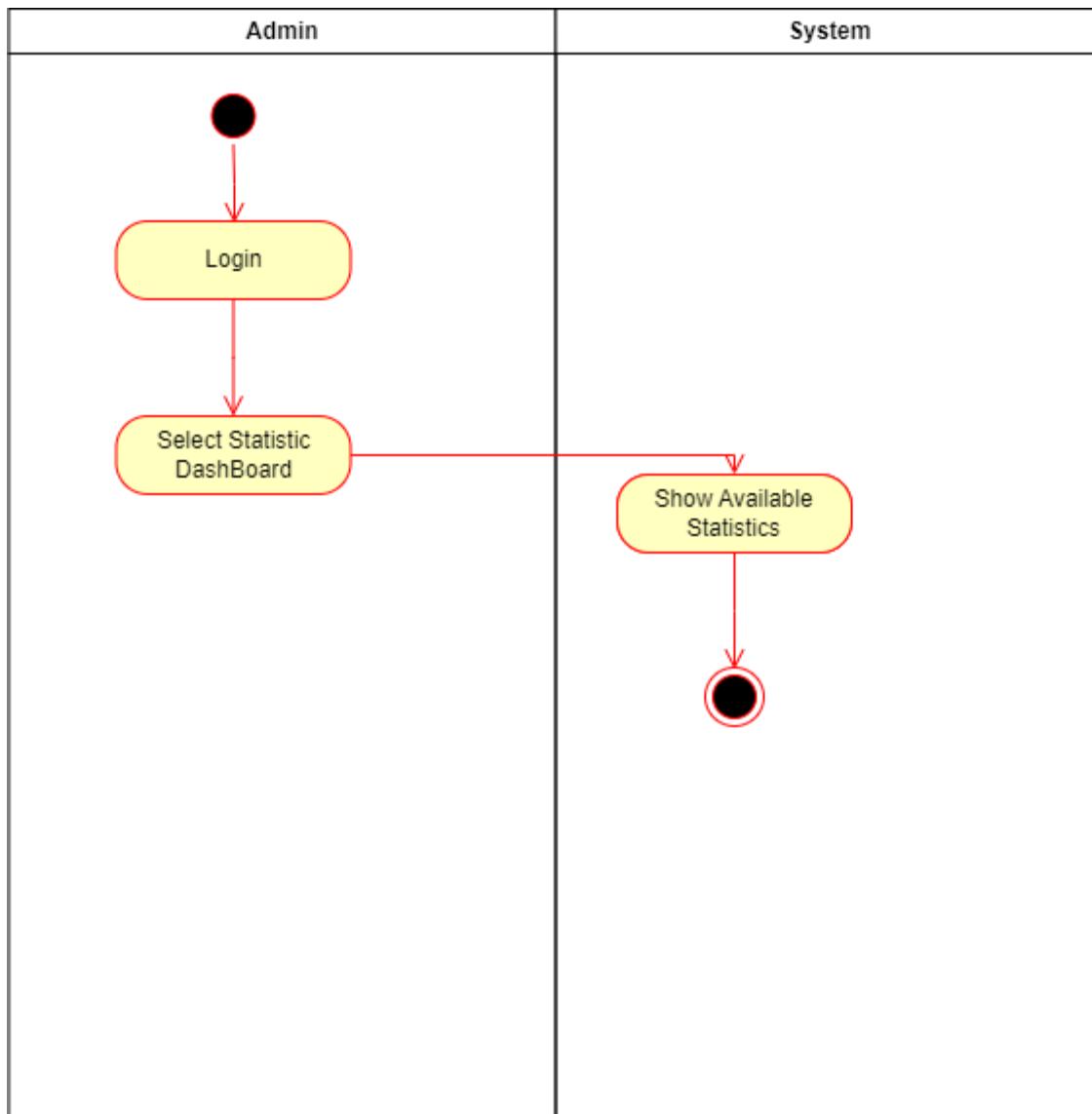
A.5.1.3. Admin&Owner Activity Diagrams



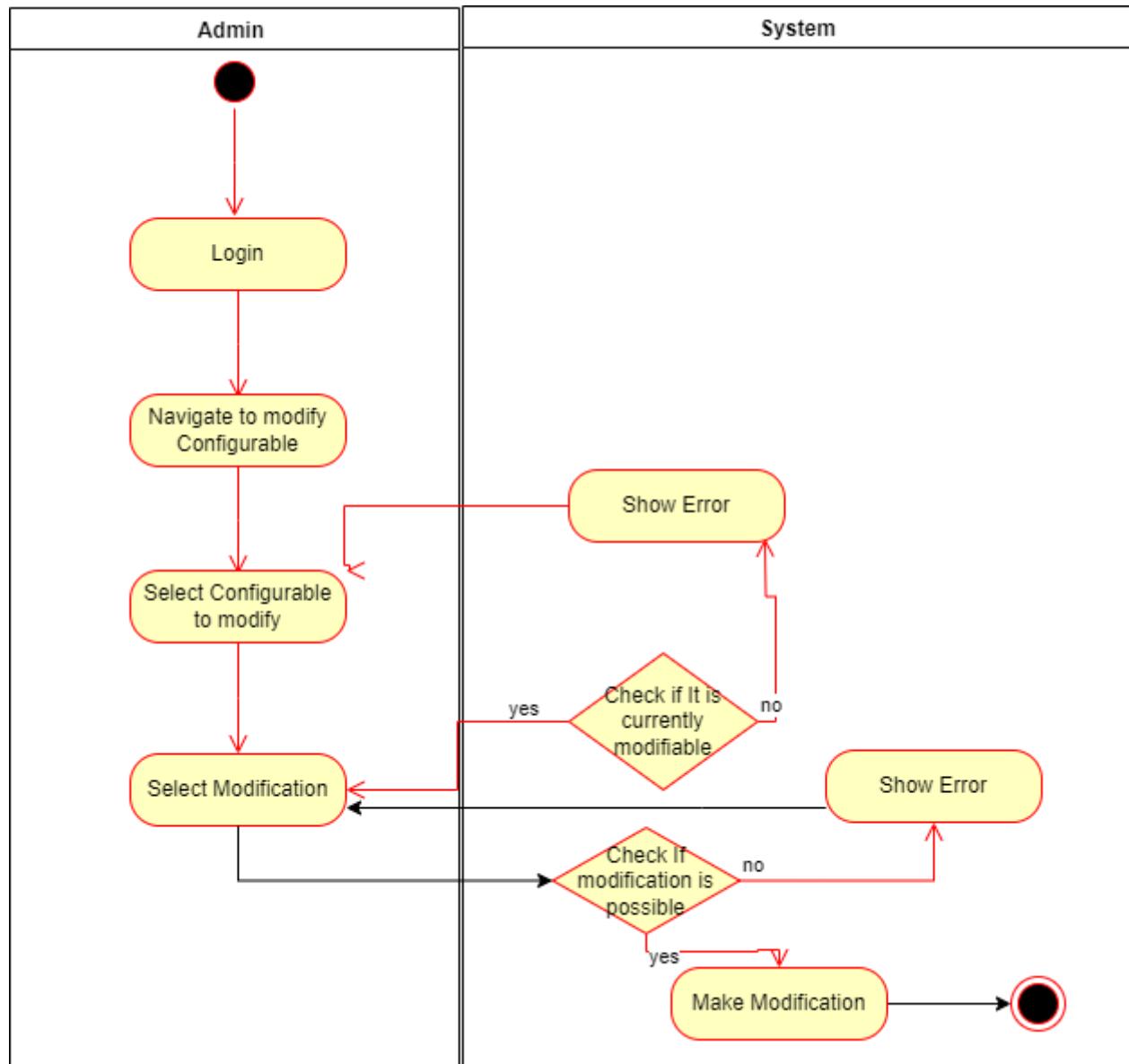
Hotel Management System Requirements Specification



Hotel Management System Requirements Specification

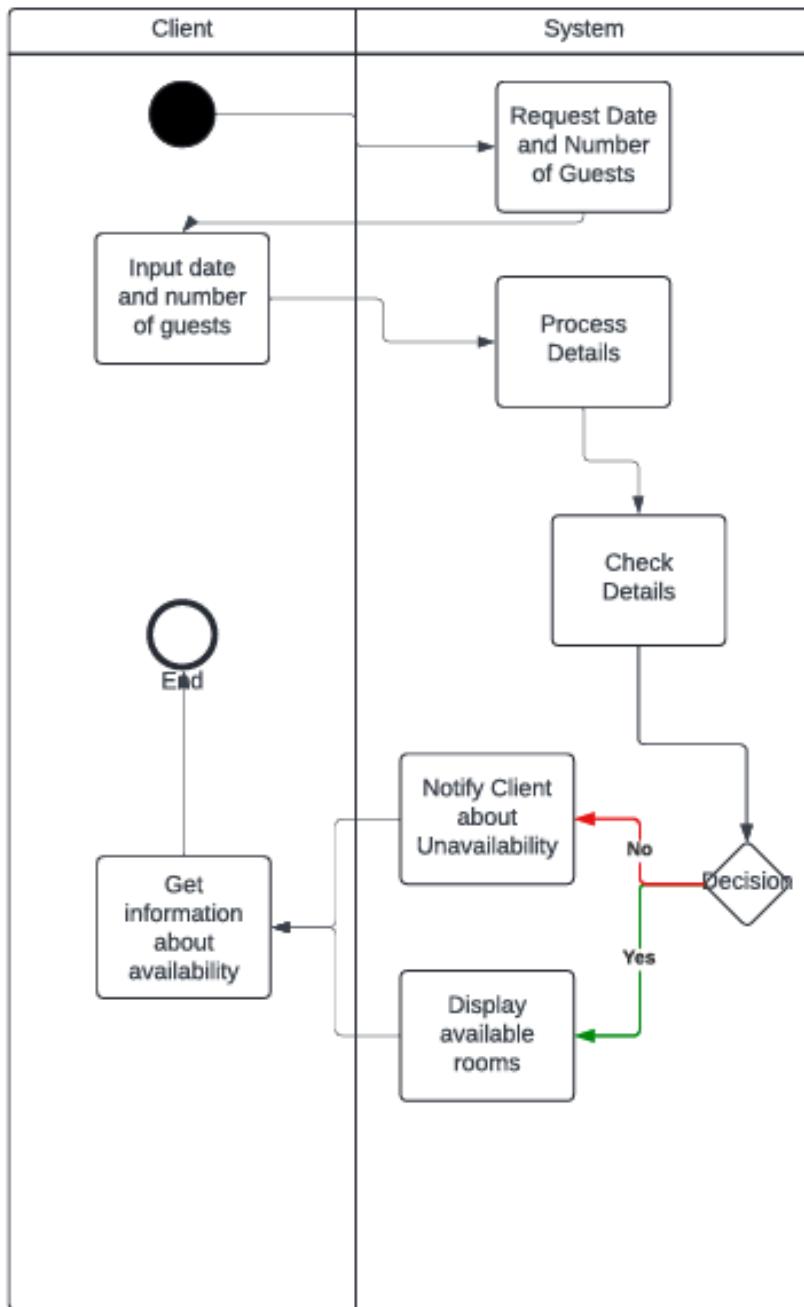


Hotel Management System Requirements Specification

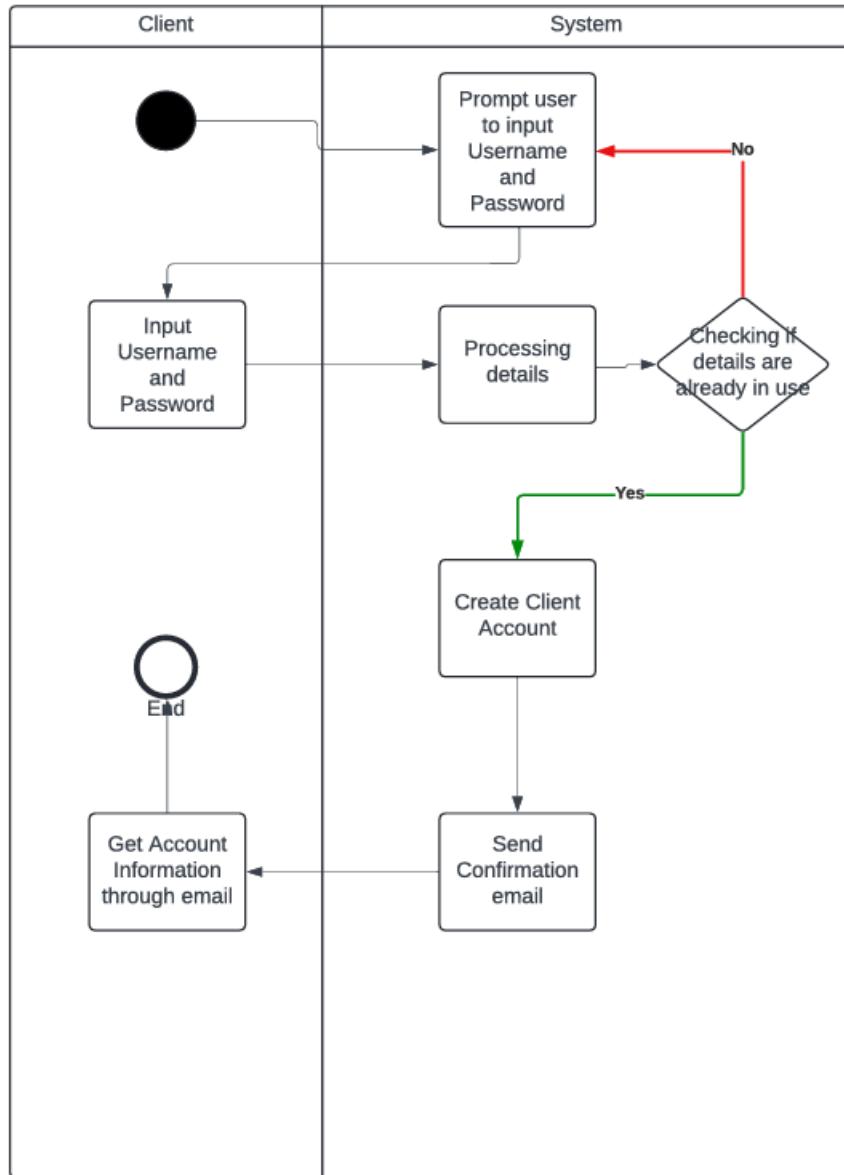


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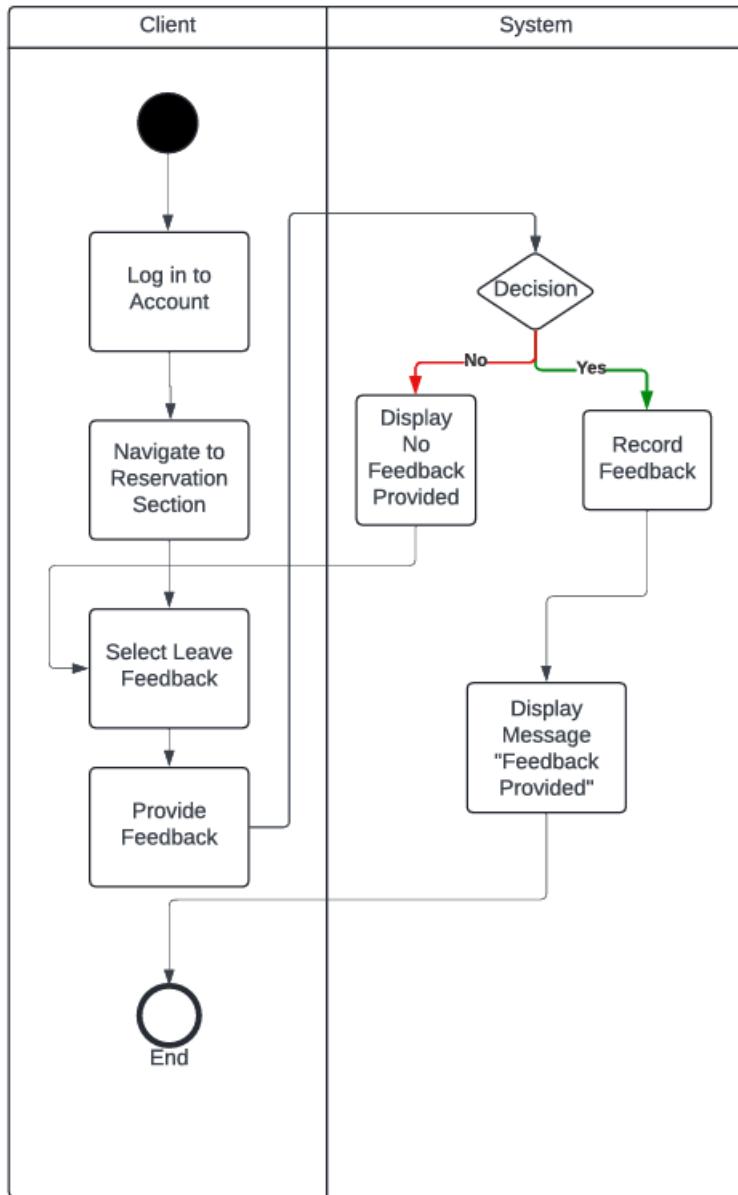
A.5.1.4. Client Activity Diagrams



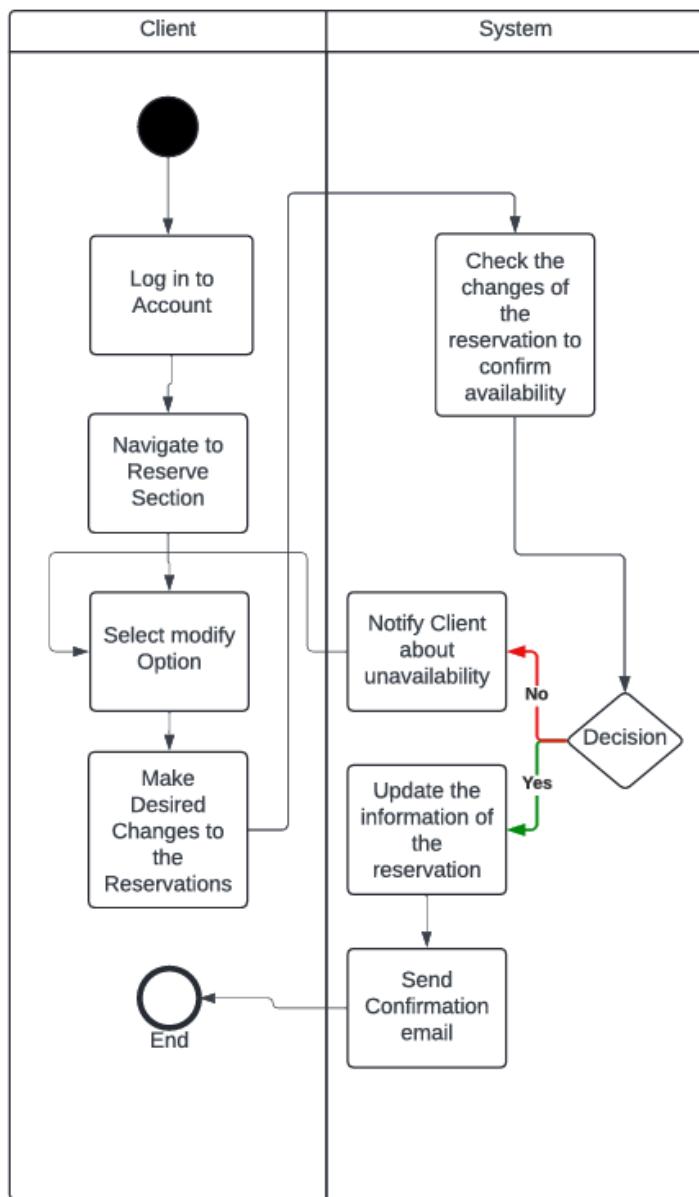
Hotel Management System Requirements Specification



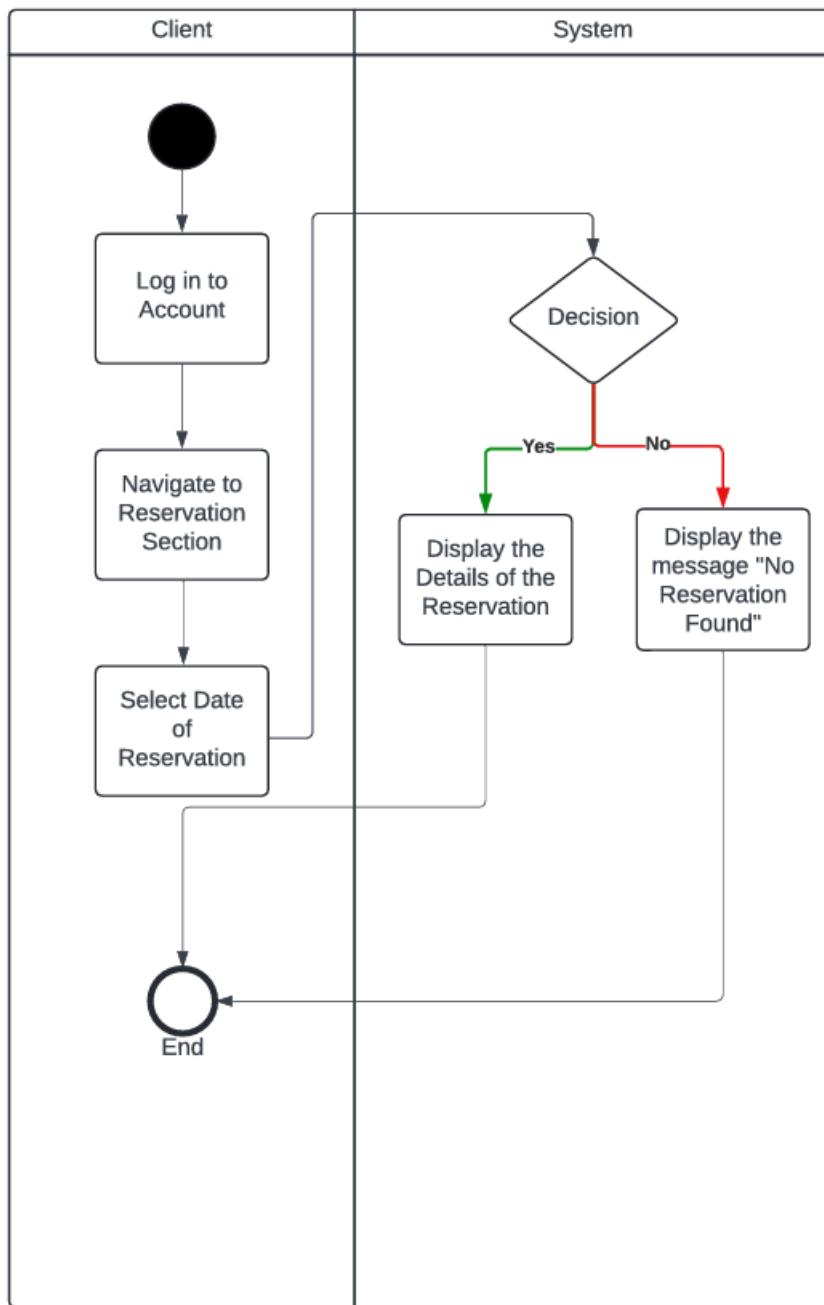
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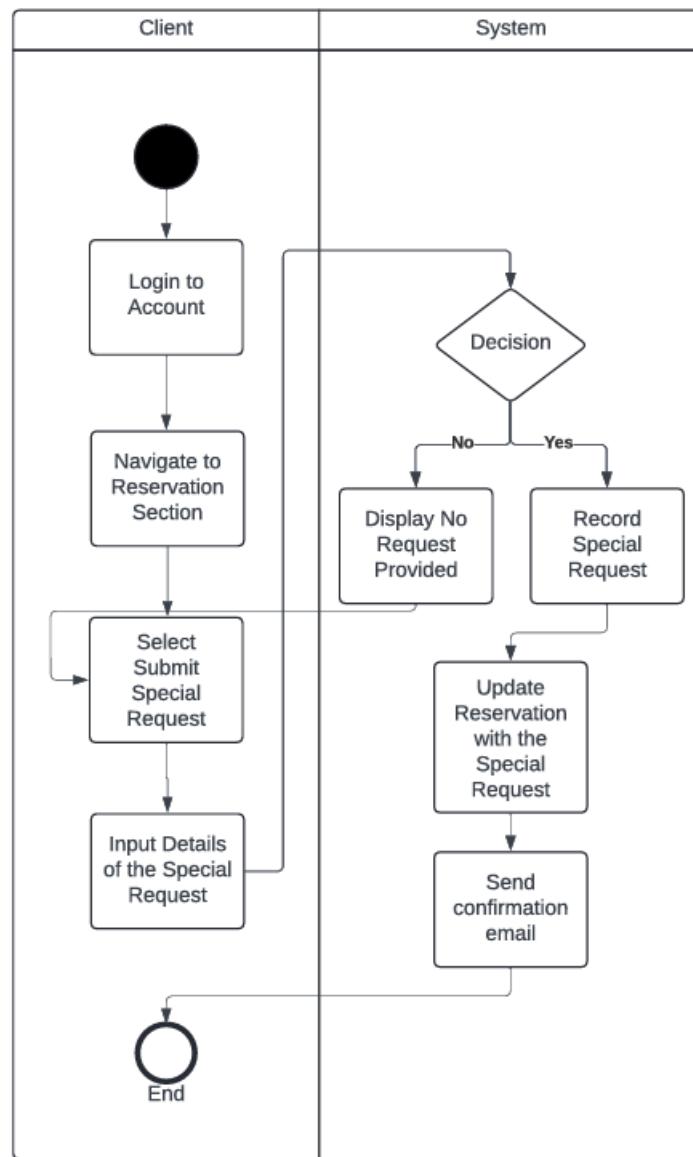
Hotel Management System Requirements Specification



Hotel Management System Requirements Specification

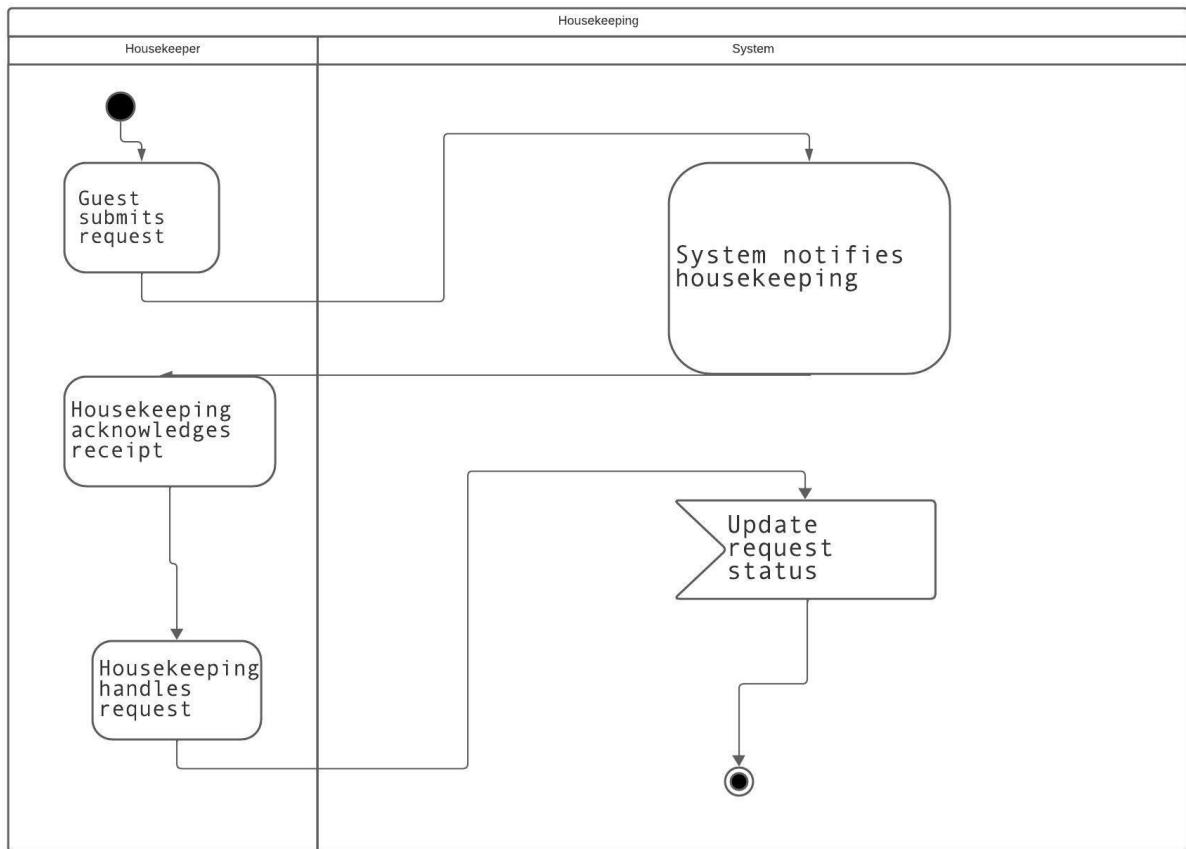


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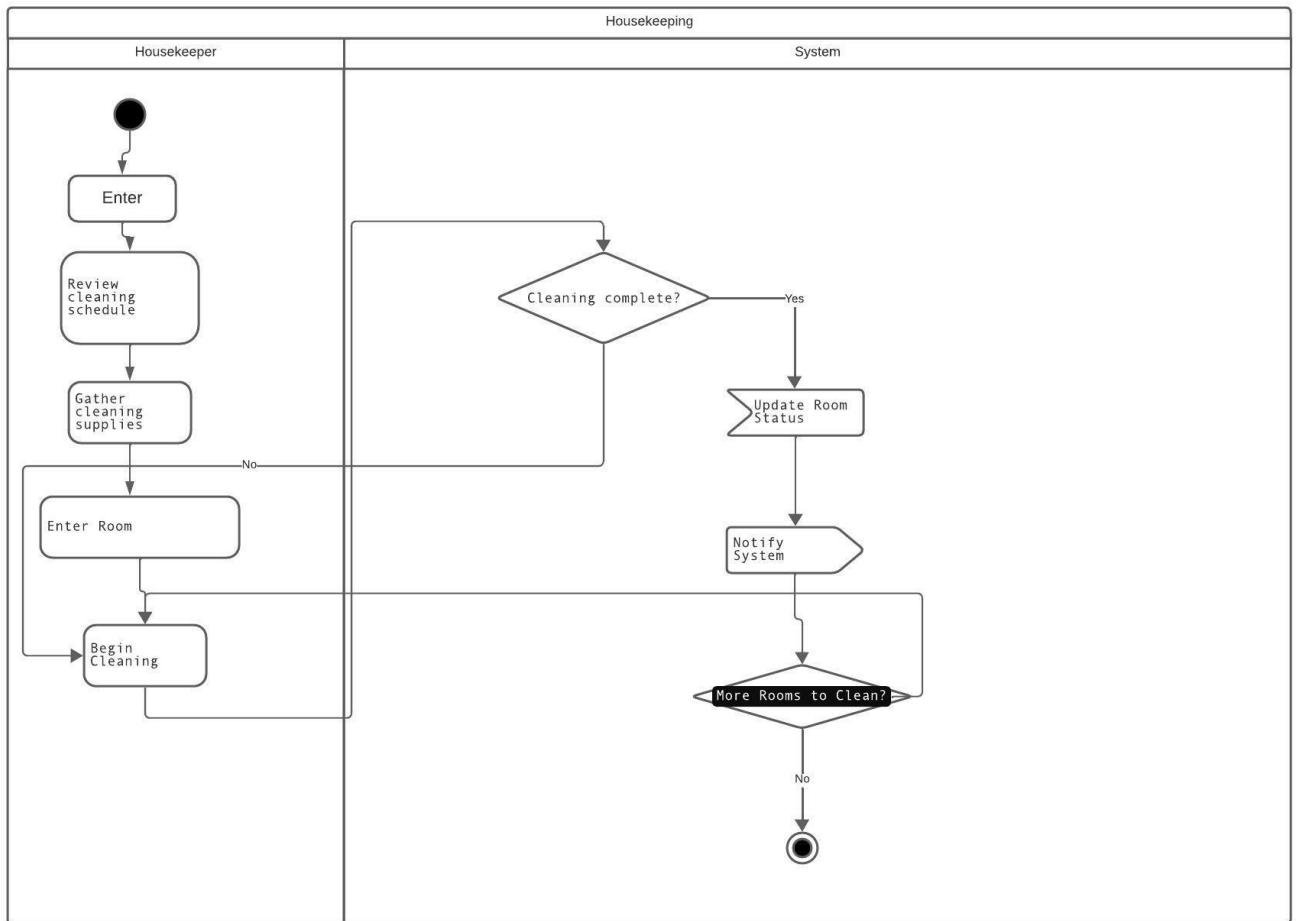


Hotel Management System Requirements Specification

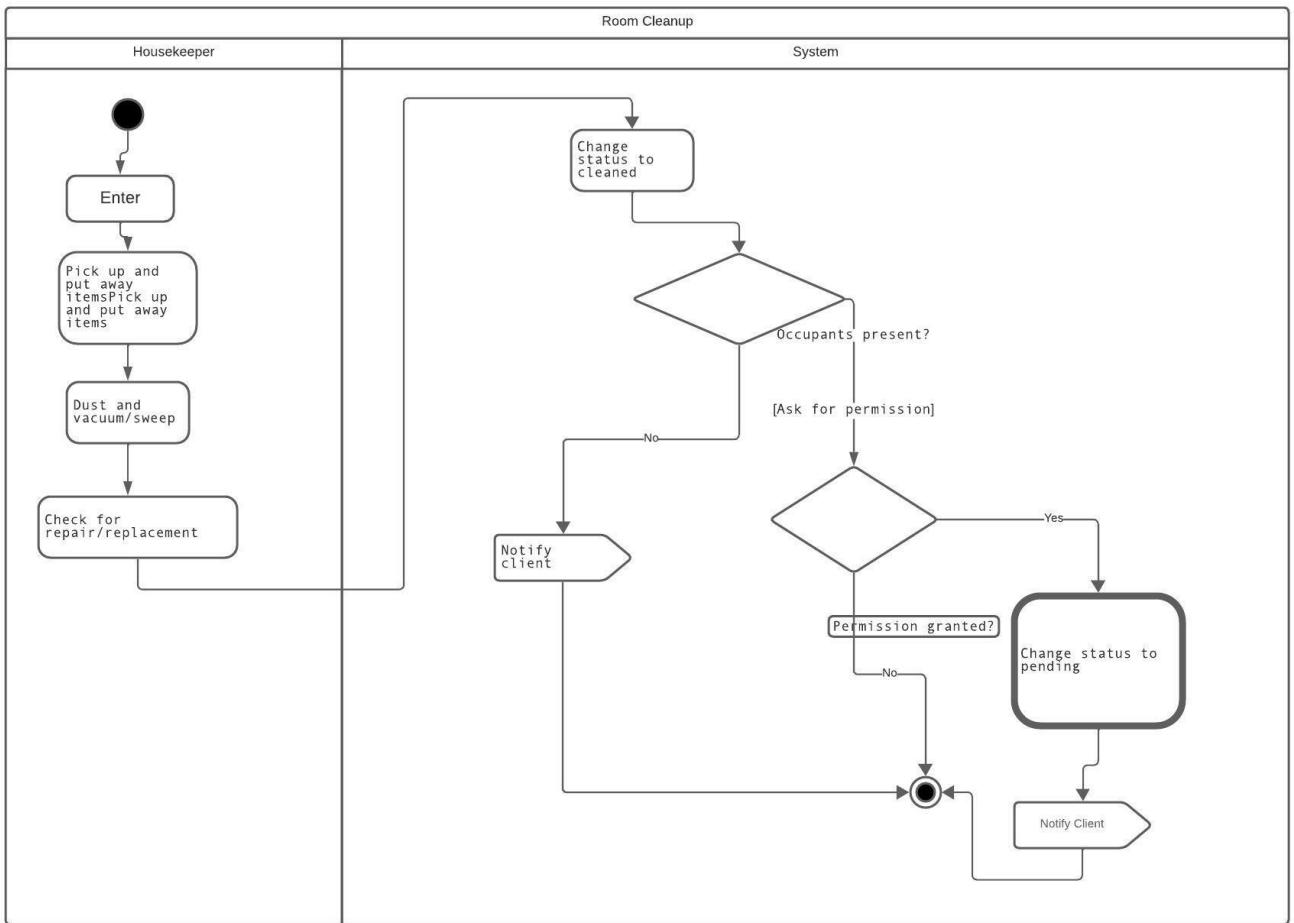
A.5.1.5. House Keeping Activity Diagram



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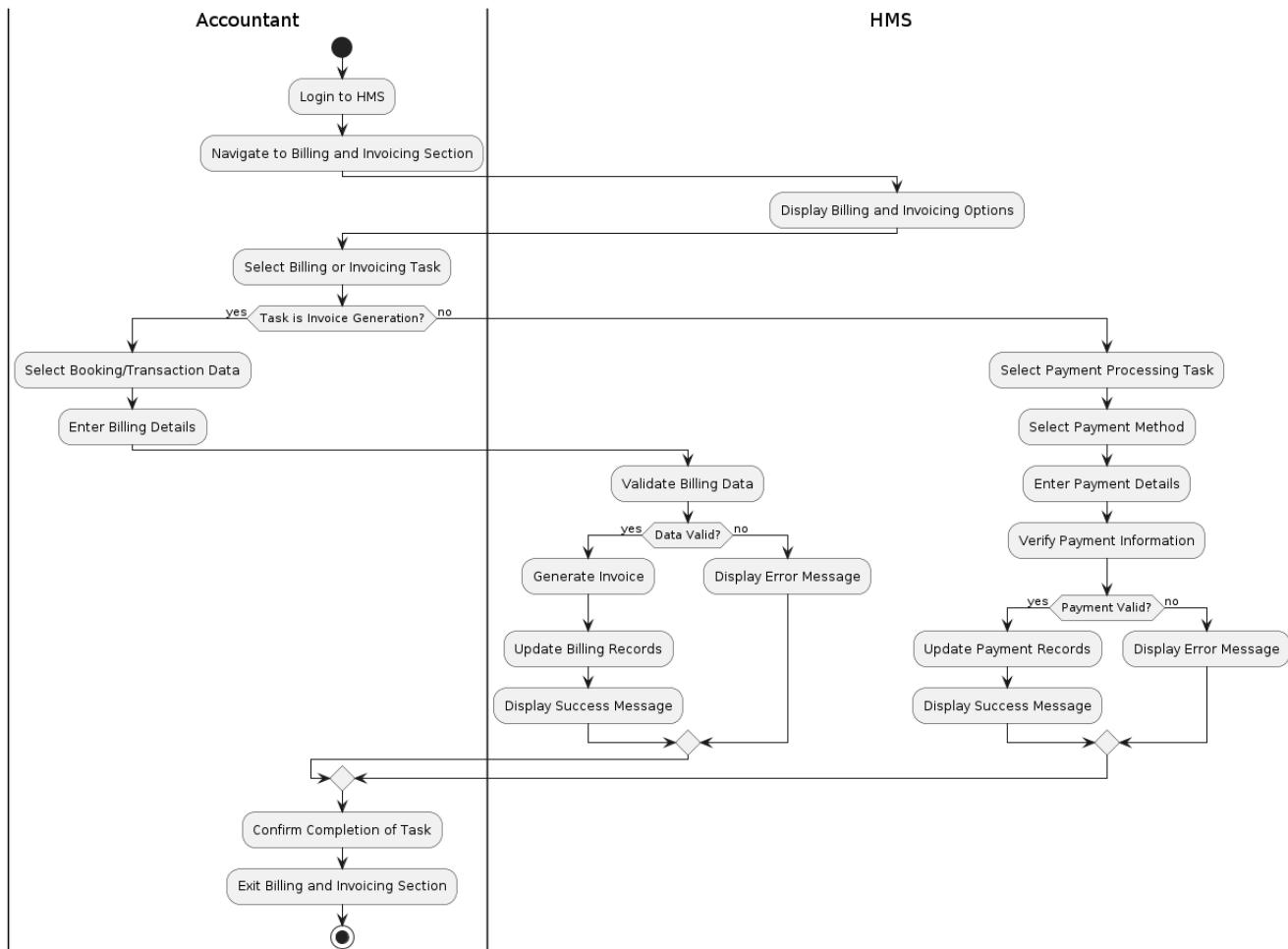


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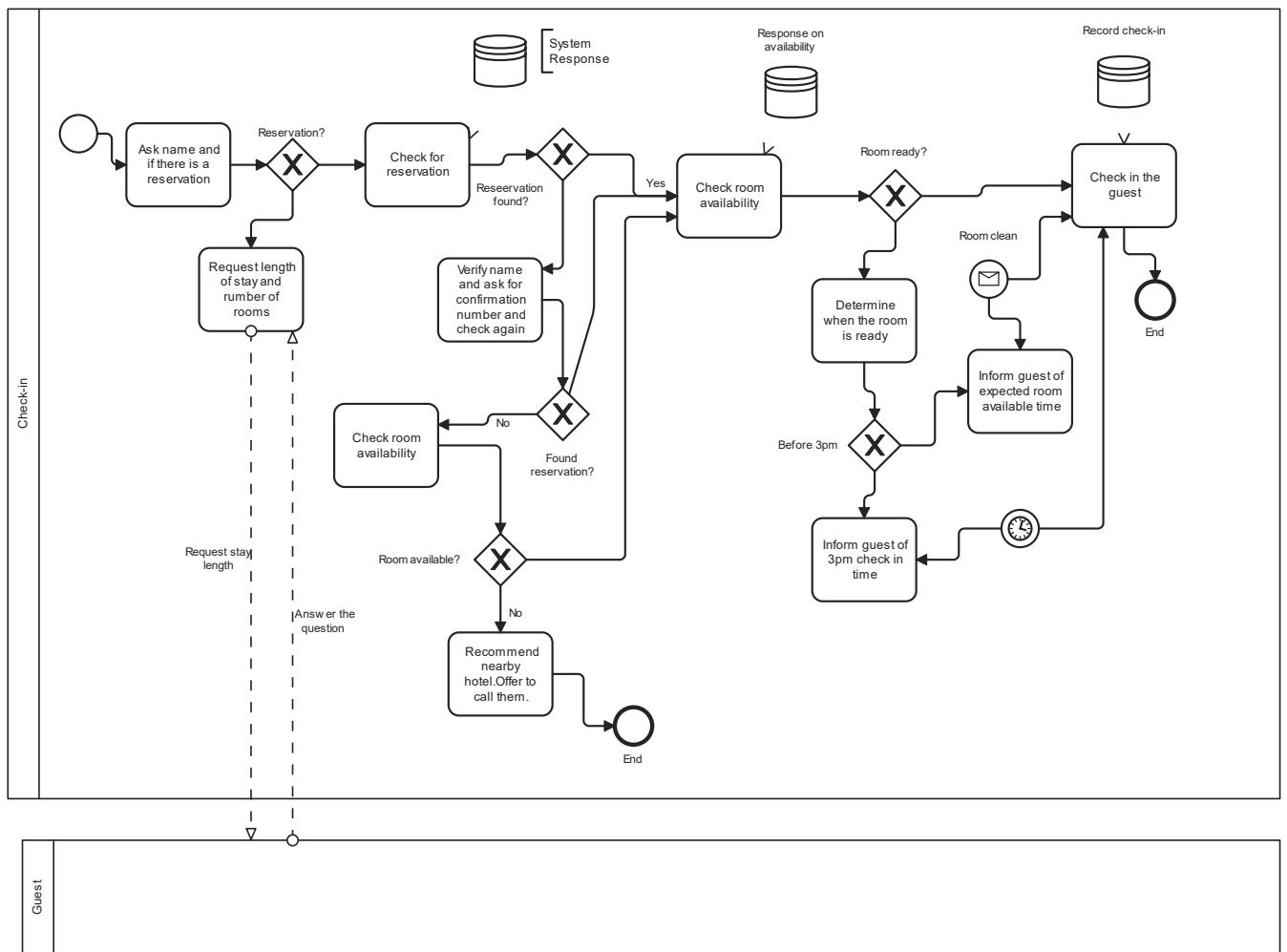
Hotel Management System Requirements Specification

A.5.1.6. Accountant – Activity Diagram

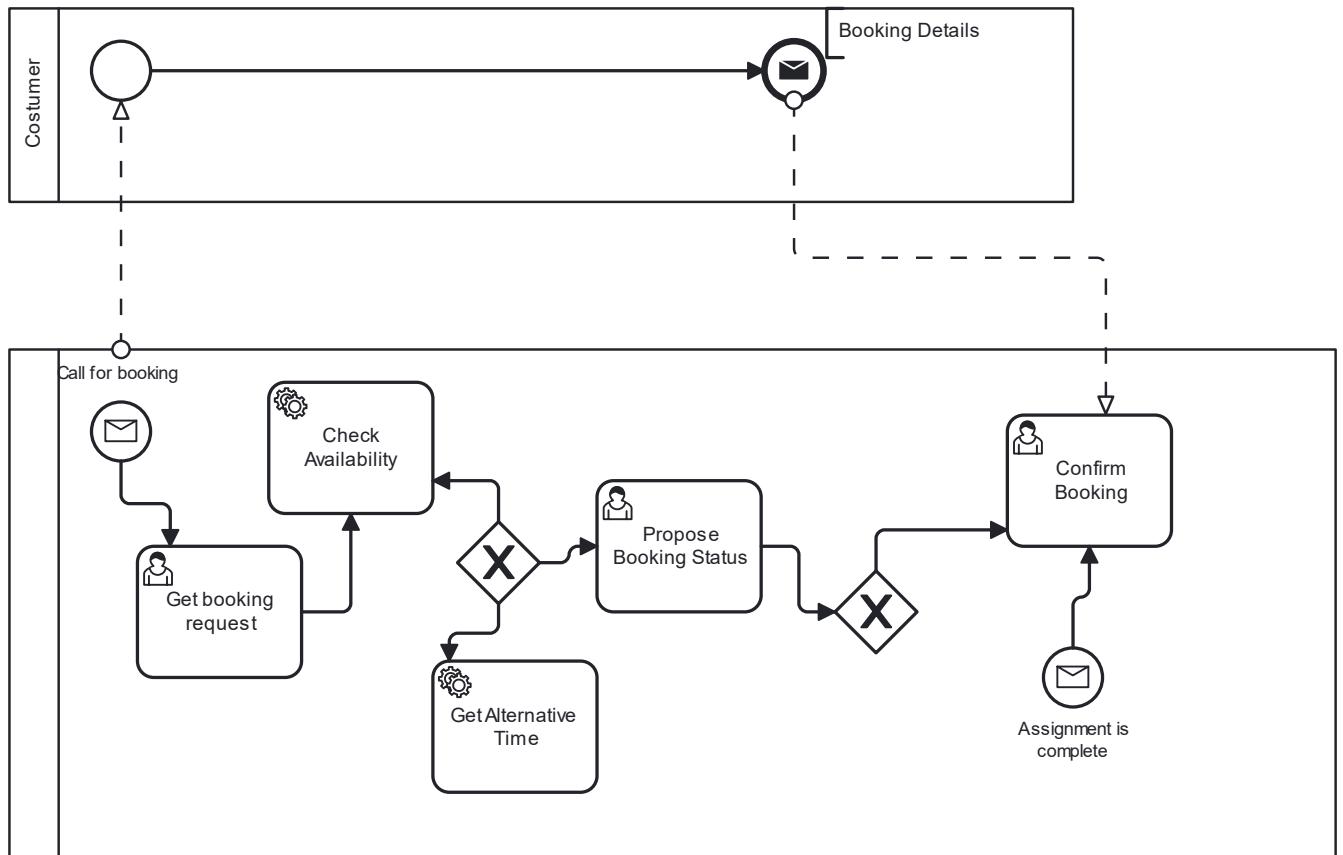


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A.5.2. BPMN



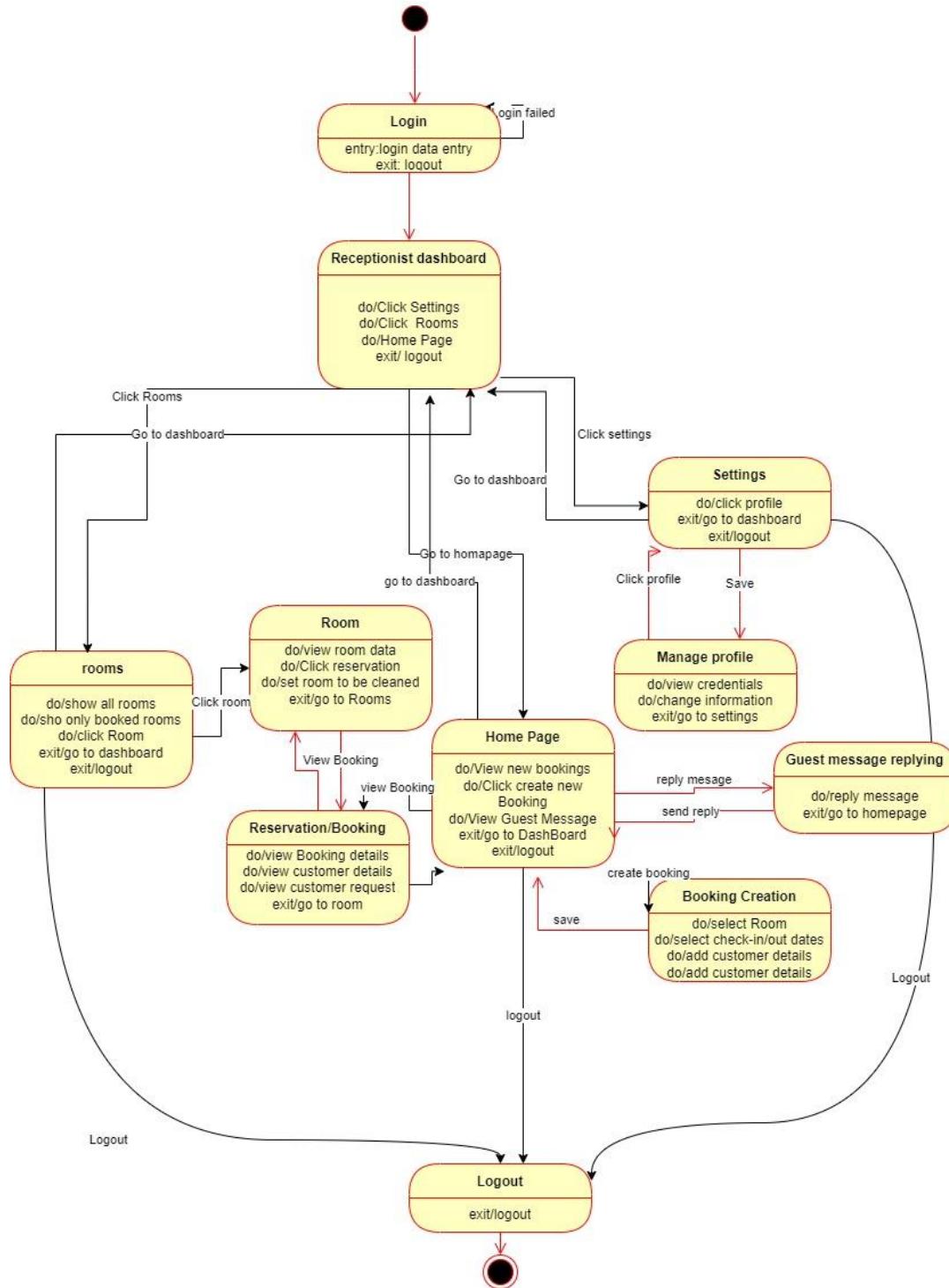
Hotel Management System Requirements Specification



Hotel Management System Requirements Specification

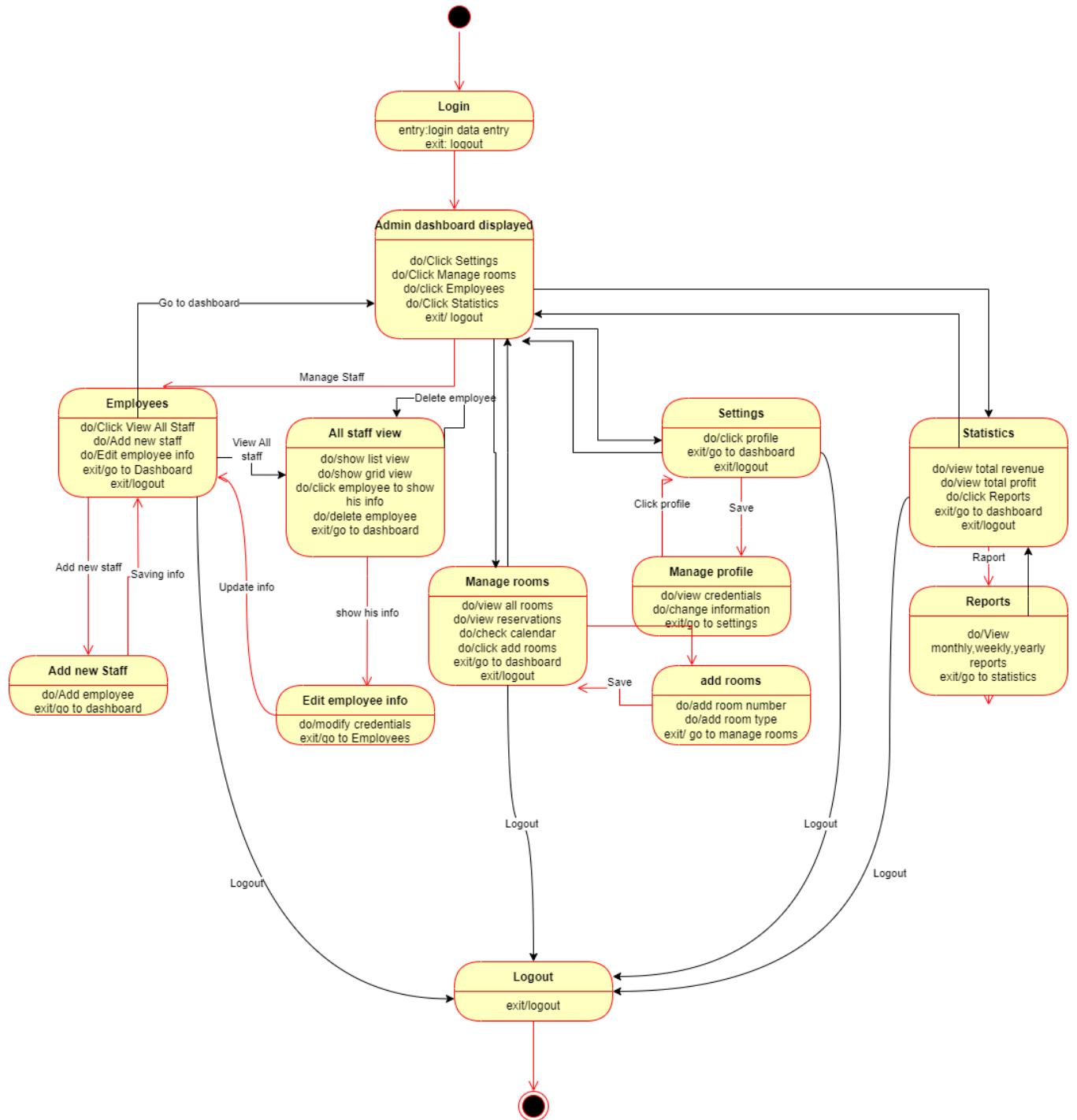
A.5.3. STATE DIAGRAMS

A.5.3.1. Frontdesk



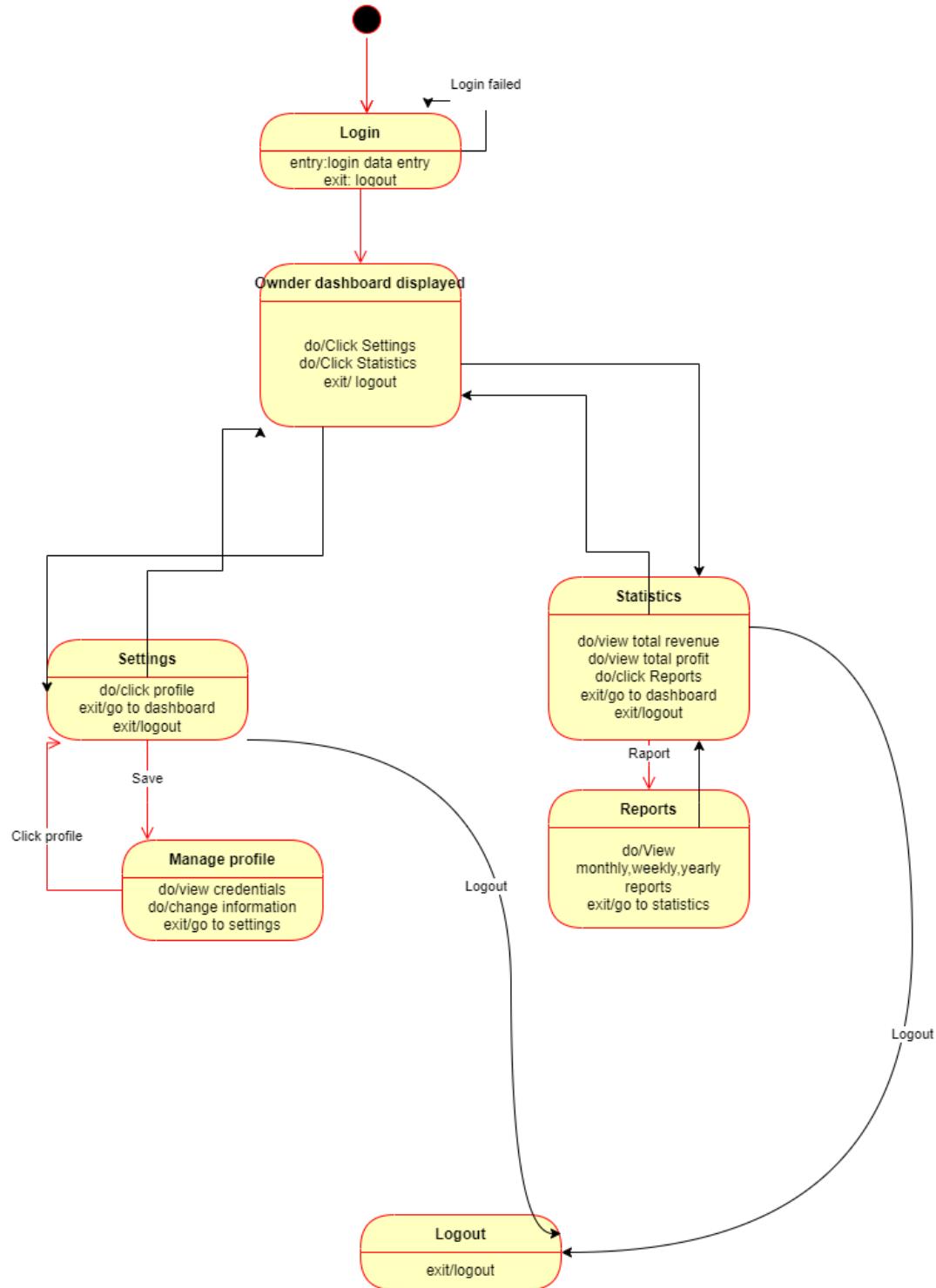
Hotel Management System Requirements Specification

A.5.3.2. Admin



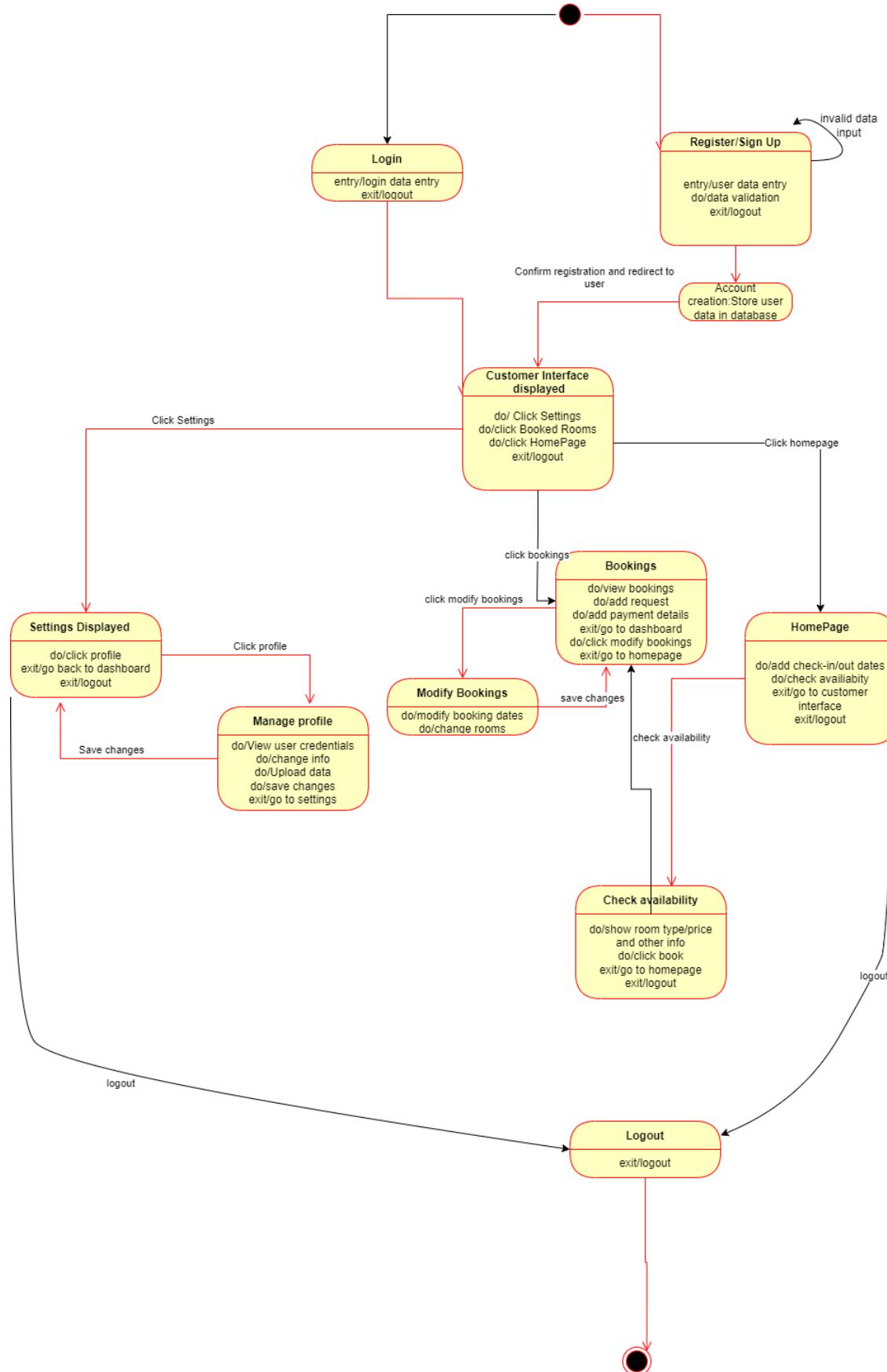
Hotel Management System Requirements Specification

A.5.3.3. Owner



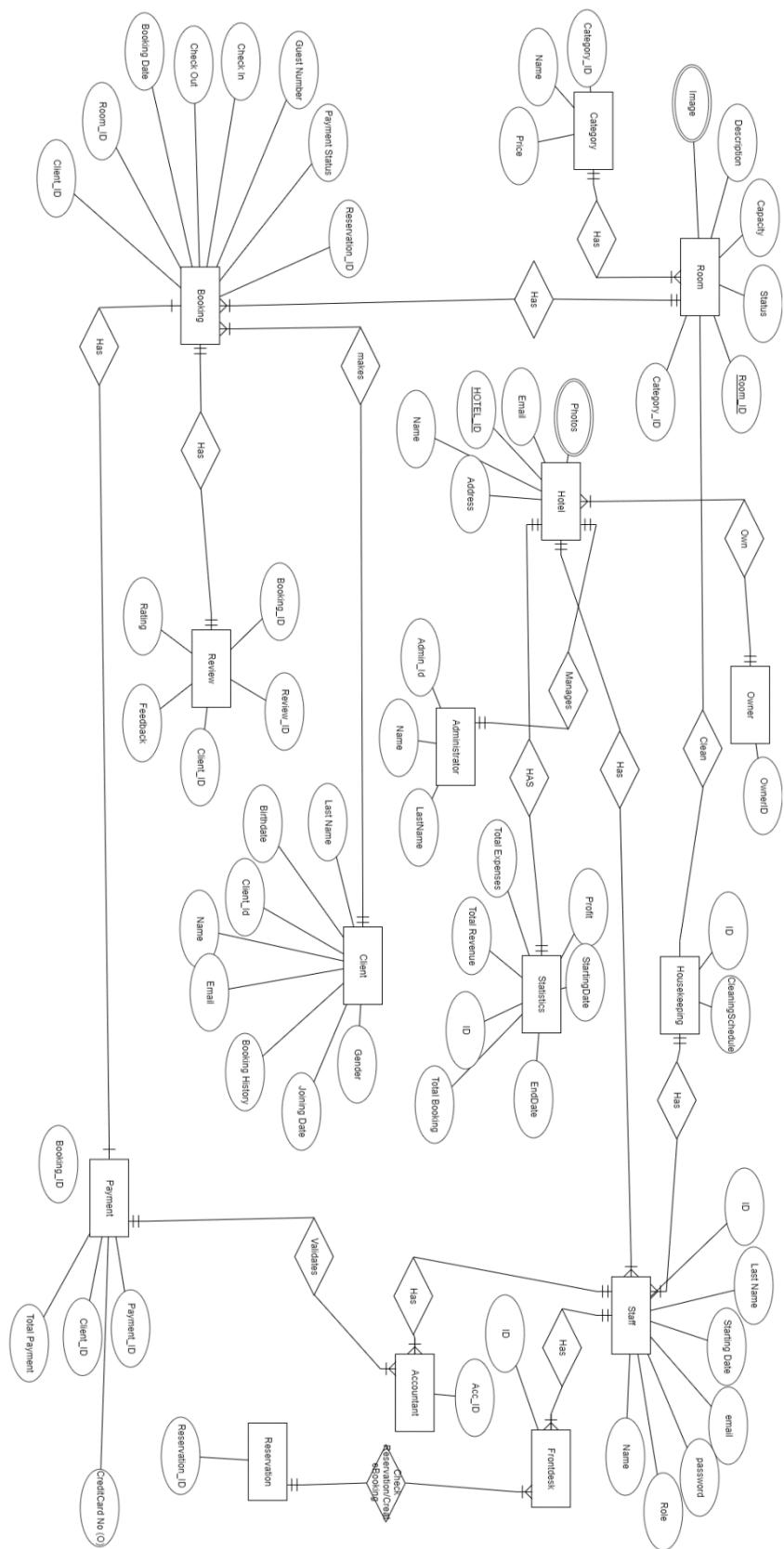
Hotel Management System Requirements Specification

A.5.3.4. Client



Hotel Management System Requirements Specification

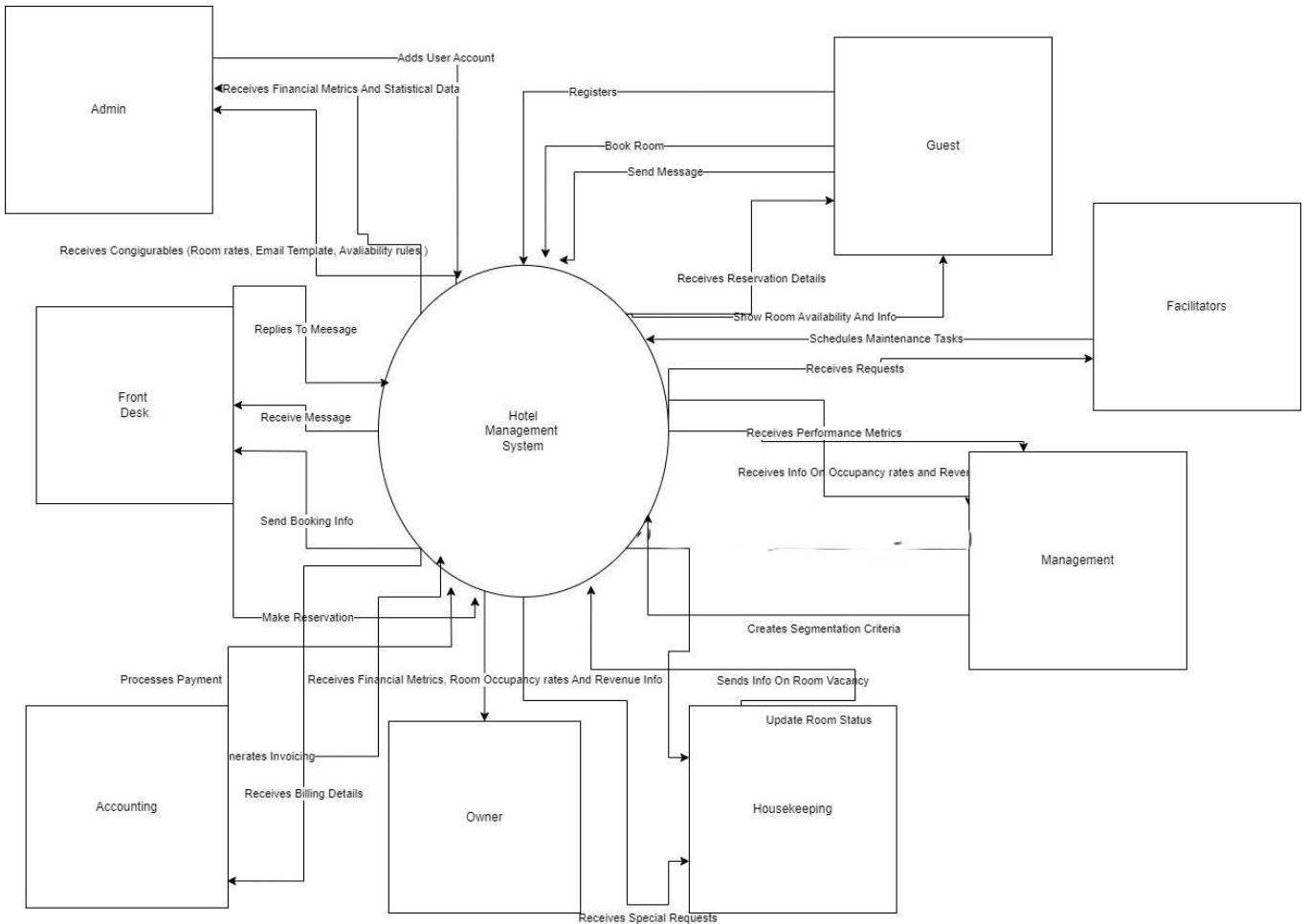
A.5.4. ERD



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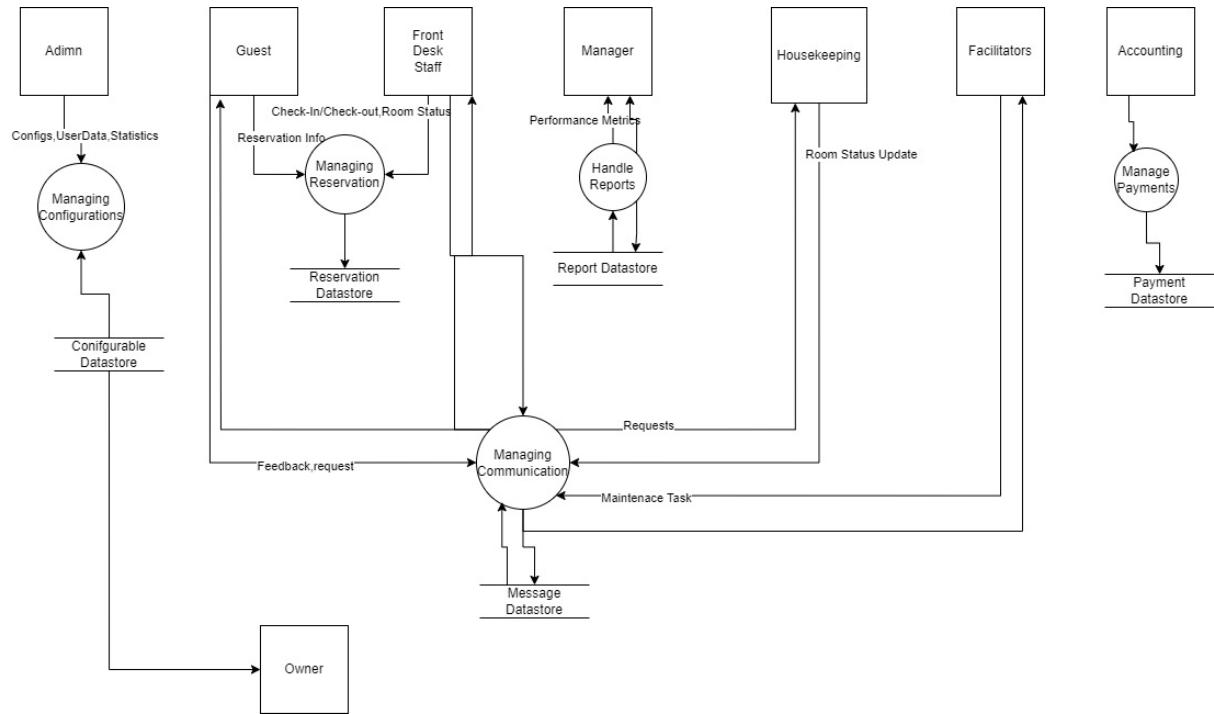
A.5.5. DFD

A.5.5.1. DFD LVL 0

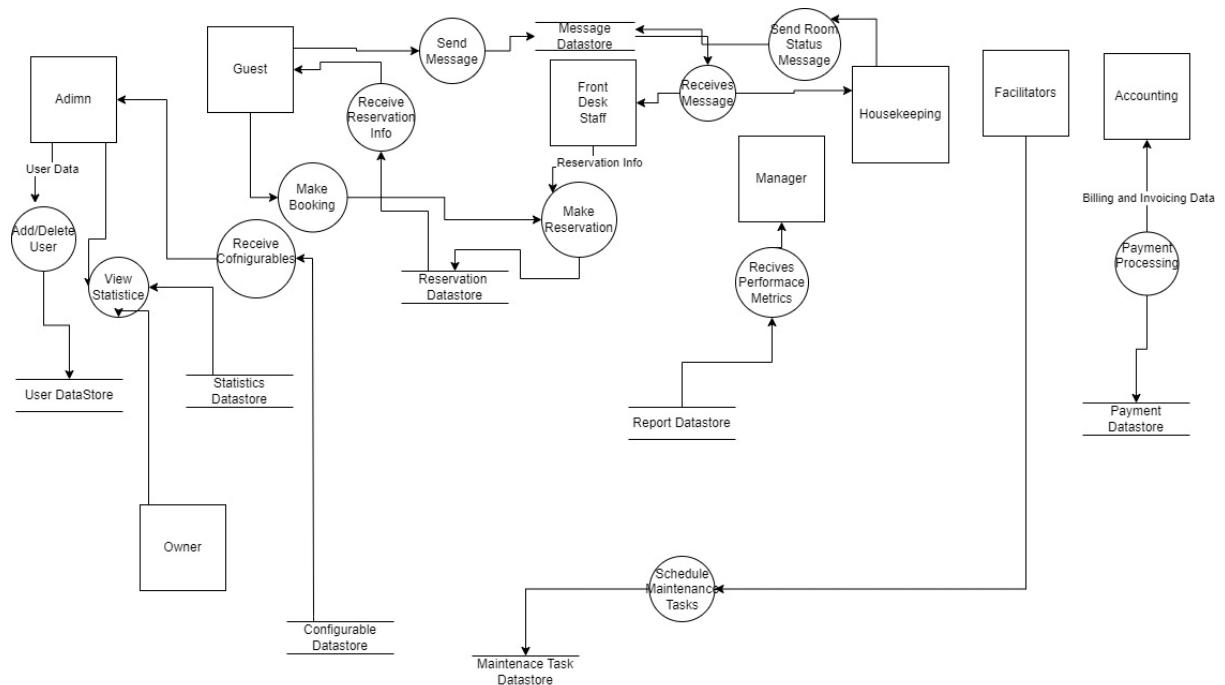


Hotel Management System Requirements Specification

A.5.5.2. DFD LVL1

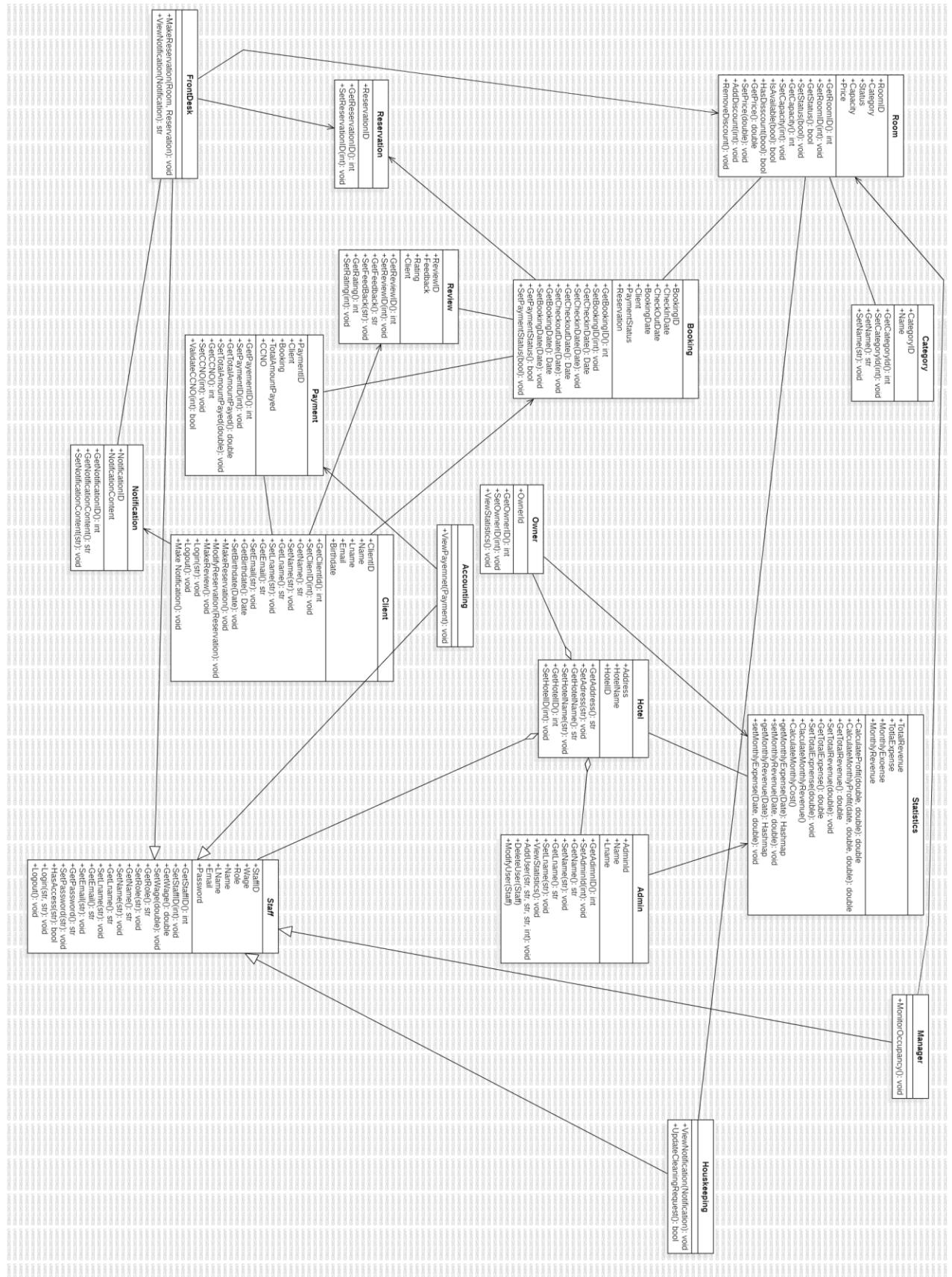


A.5.5.3. DFD LVL 2



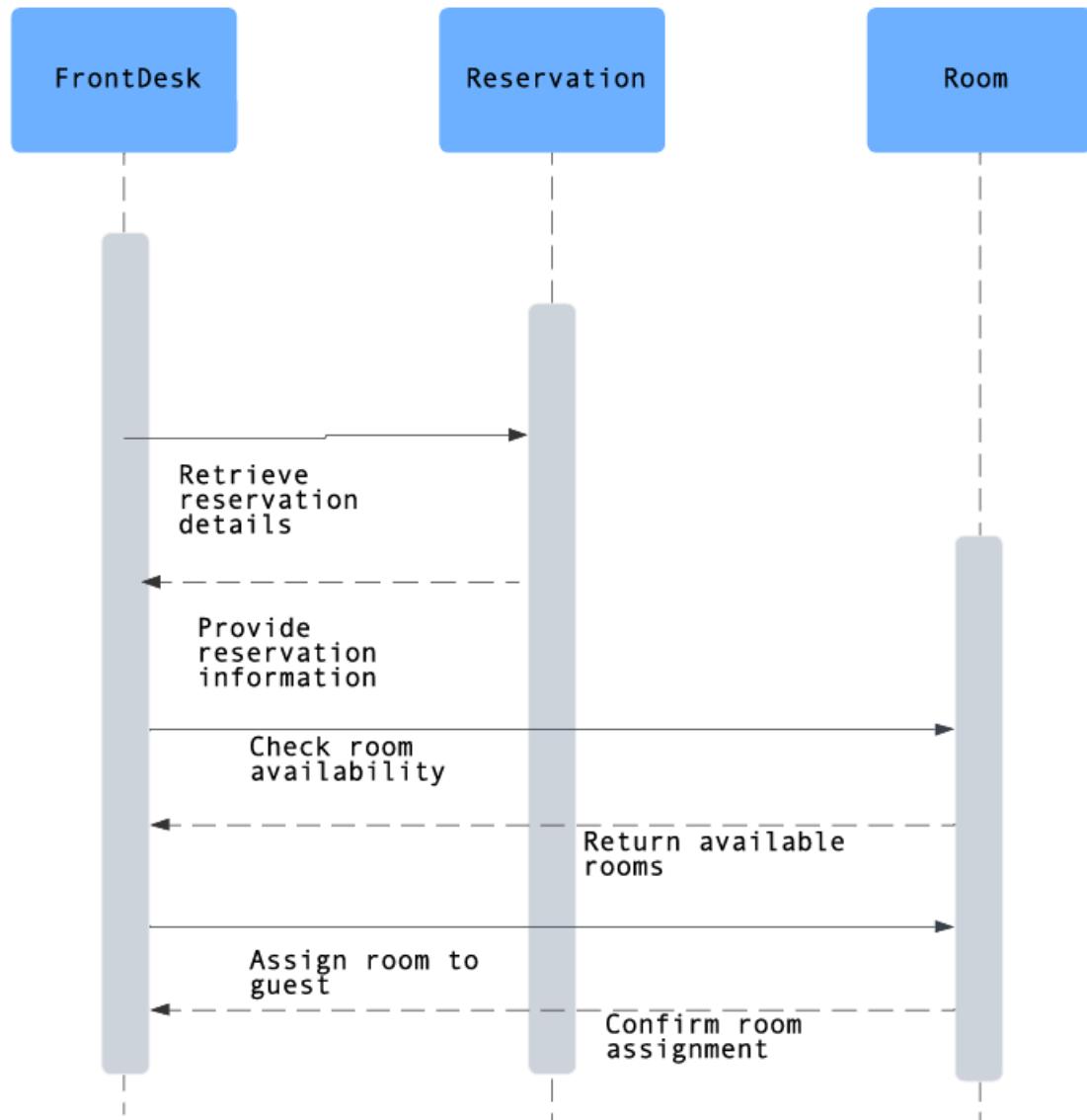
Hotel Management System Requirements Specification

A.5.6. CLASS DIAGRAM

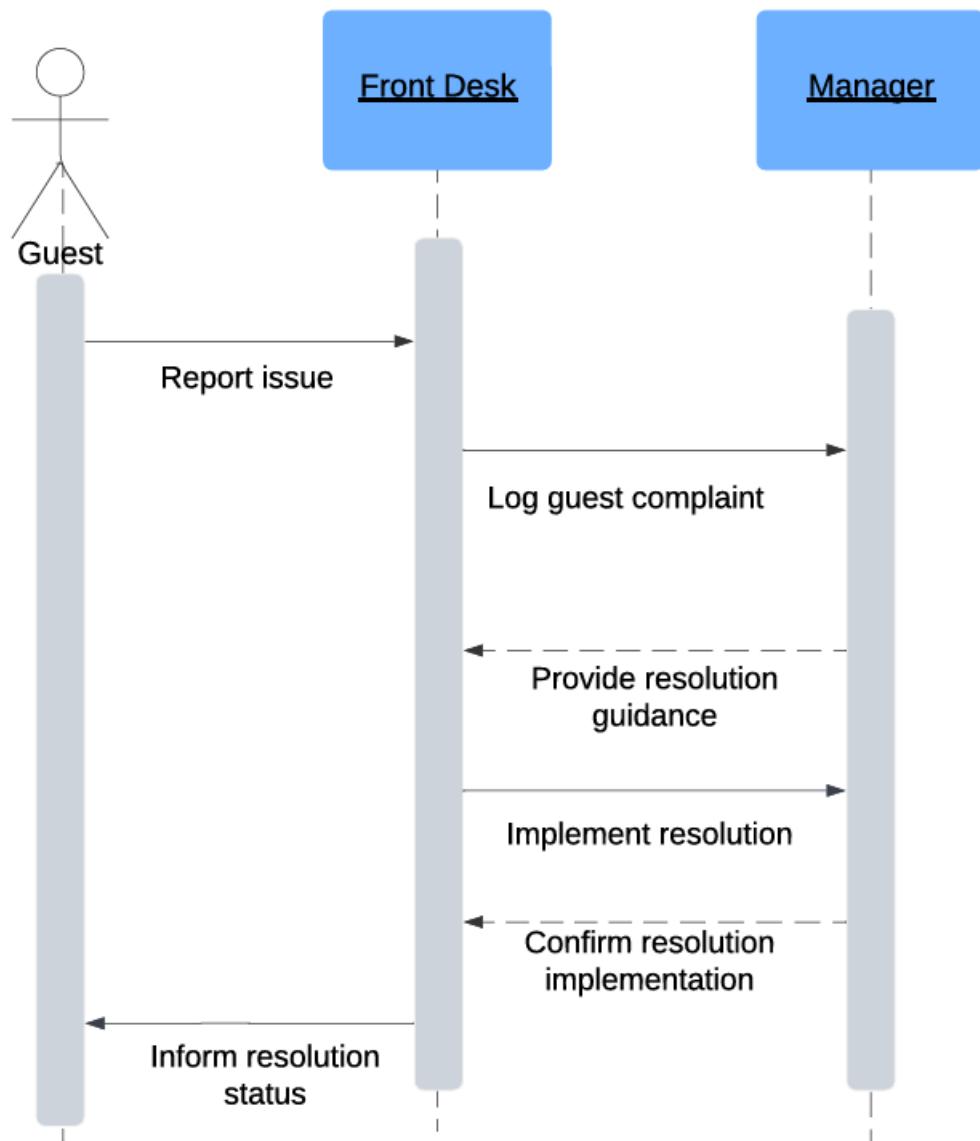


A.5.7. SEQUENCE DIAGRAMS

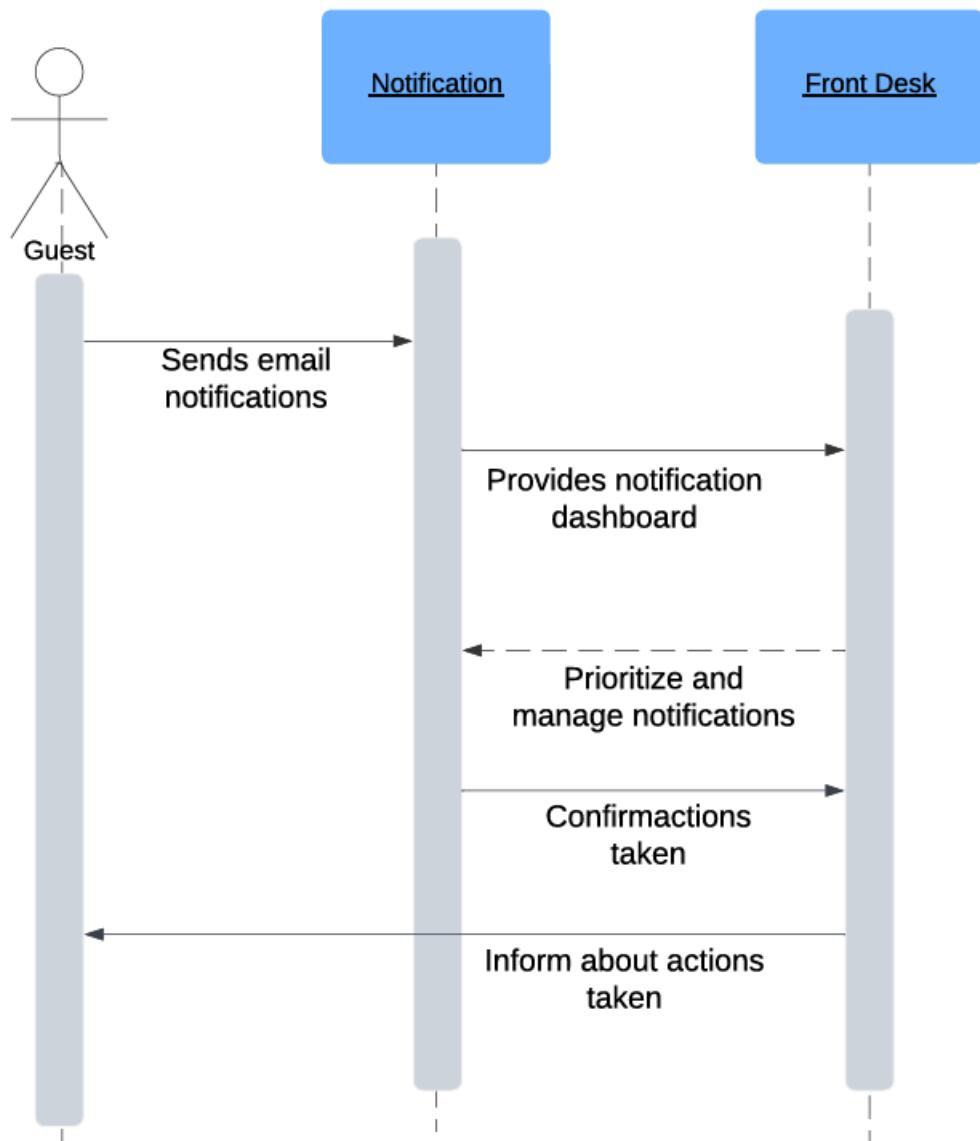
A.5.7.1. FRONT DESK



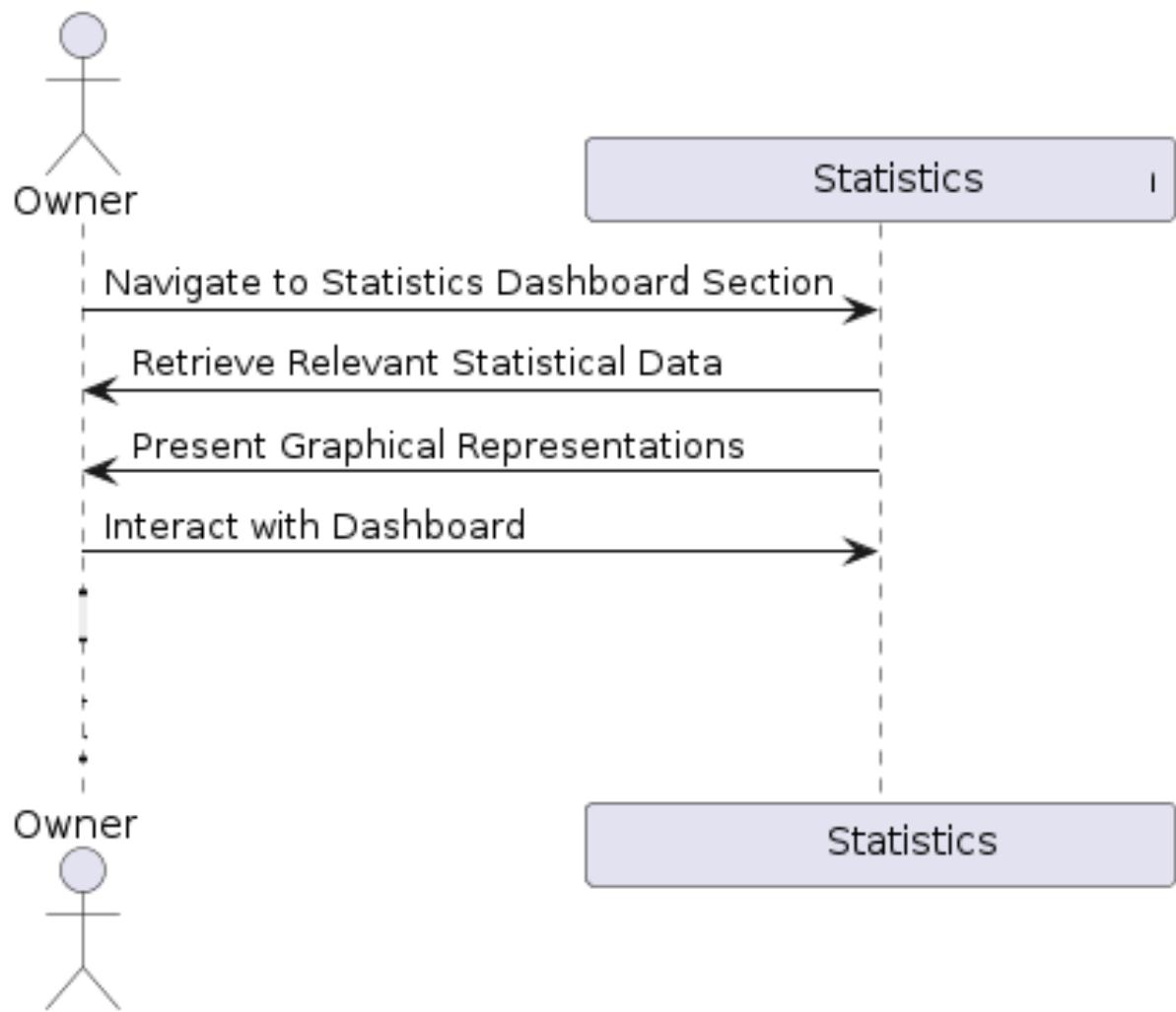
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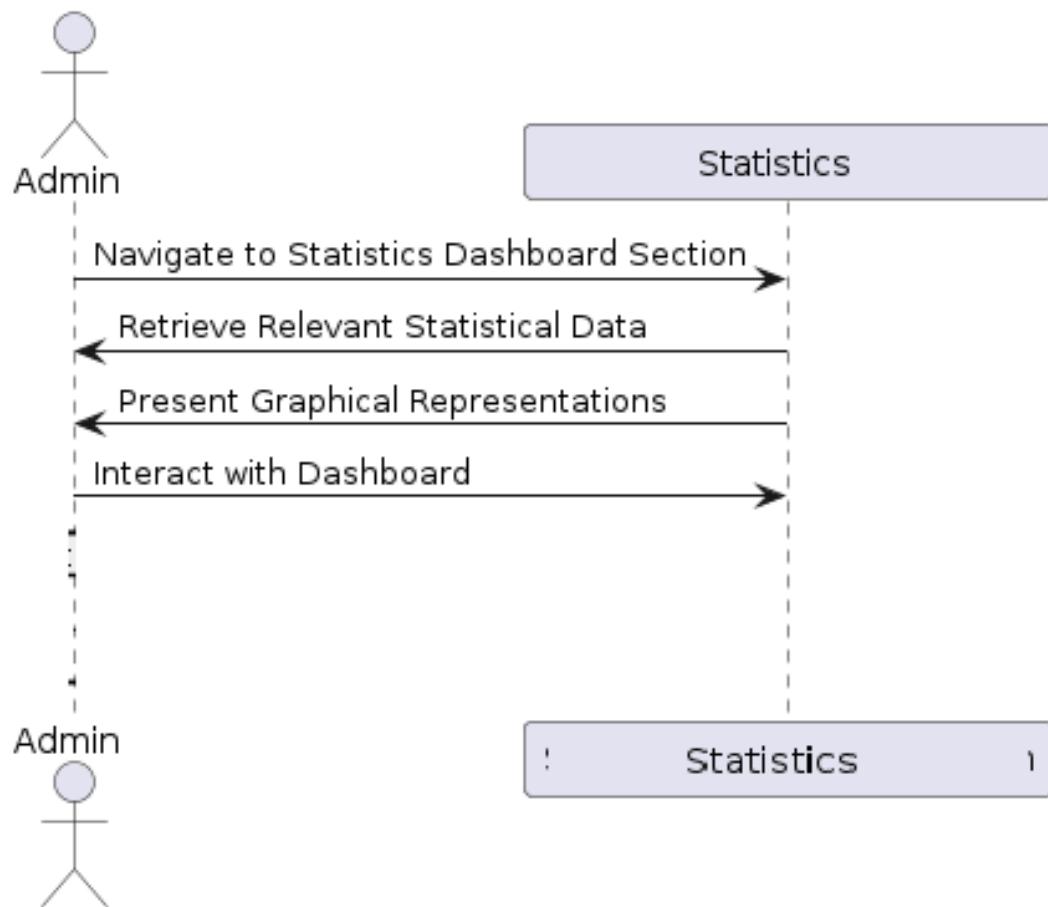
Hotel Management System Requirements Specification



A.5.7.2. ADMIN&OWNER

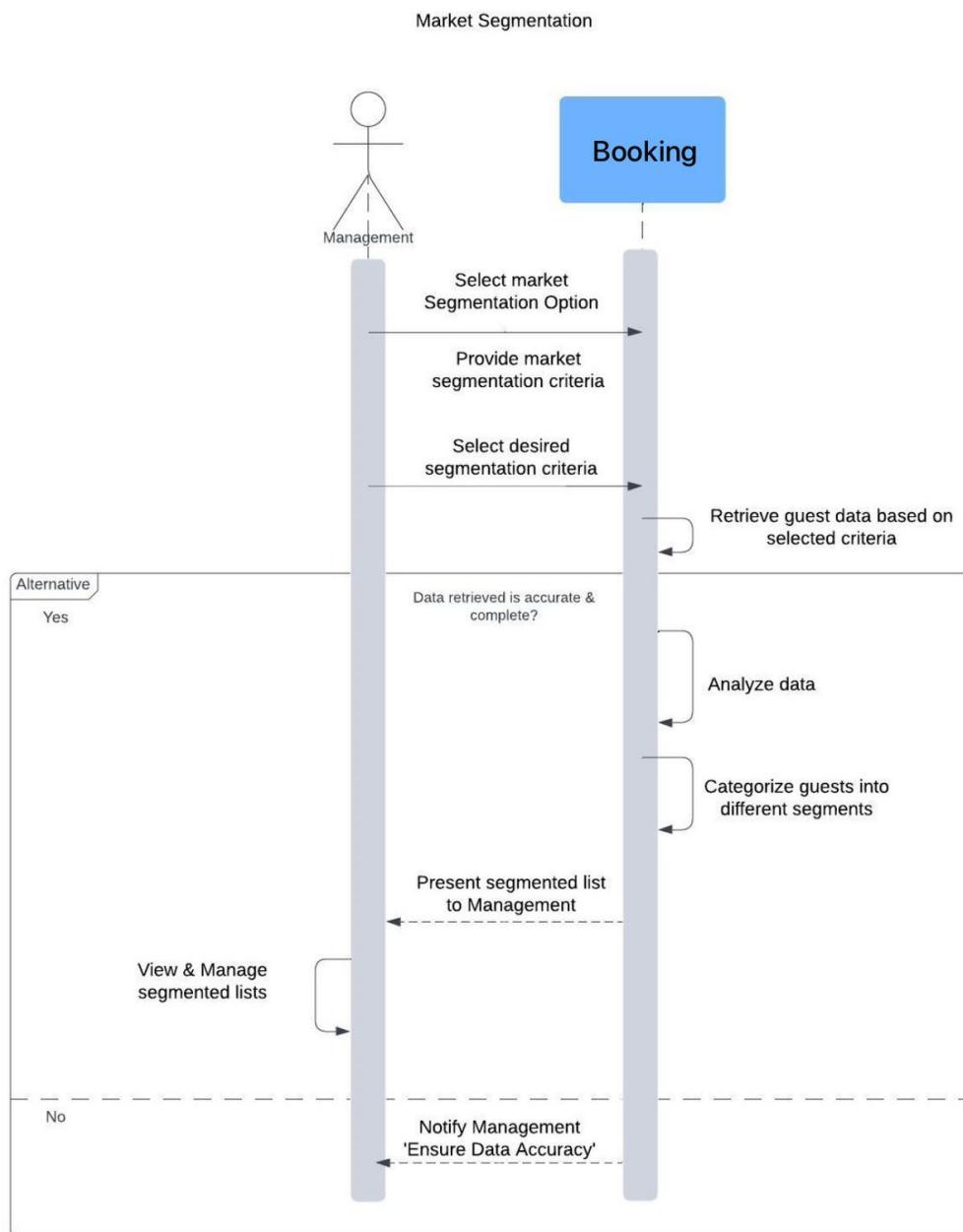


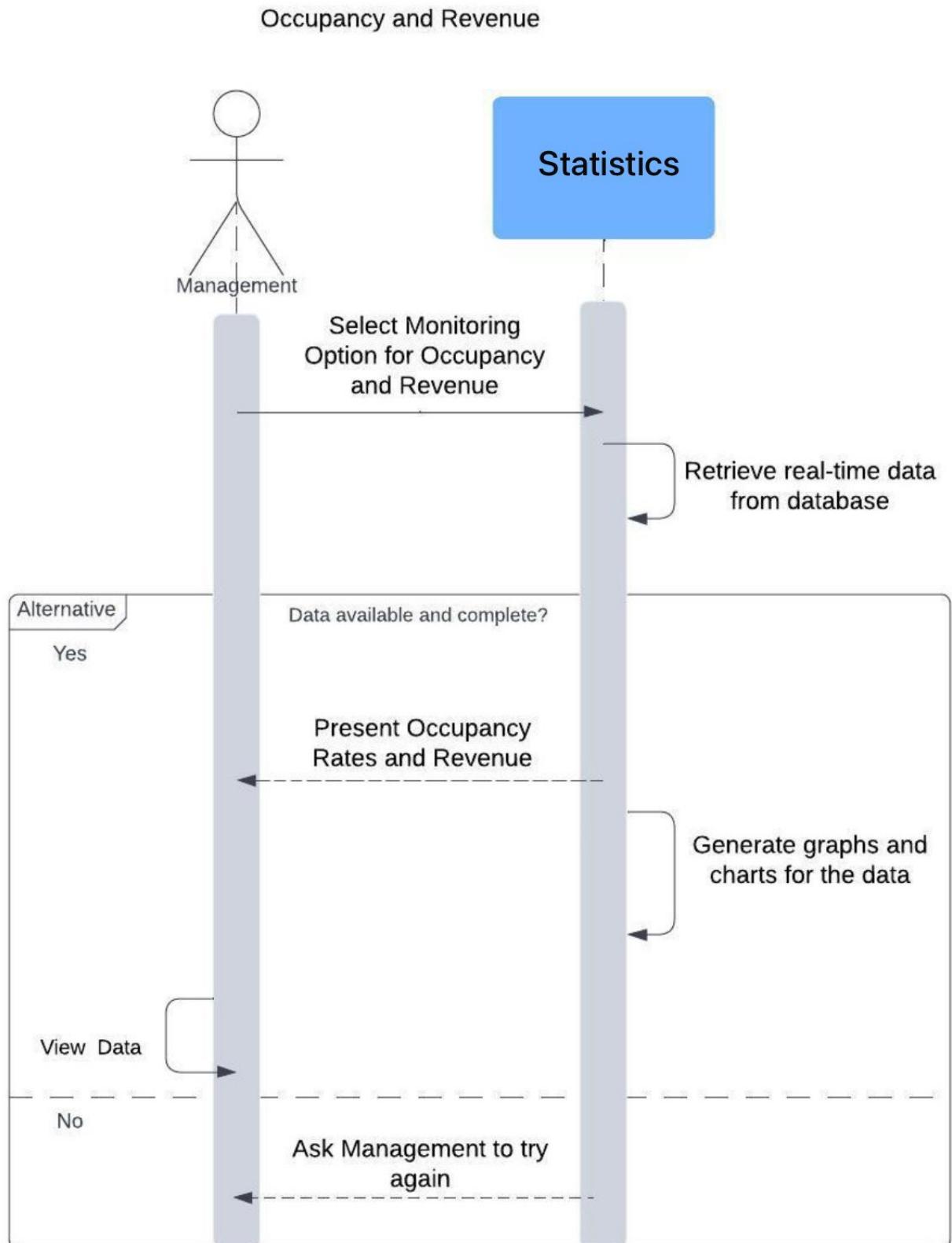
Hotel Management System Requirements Specification

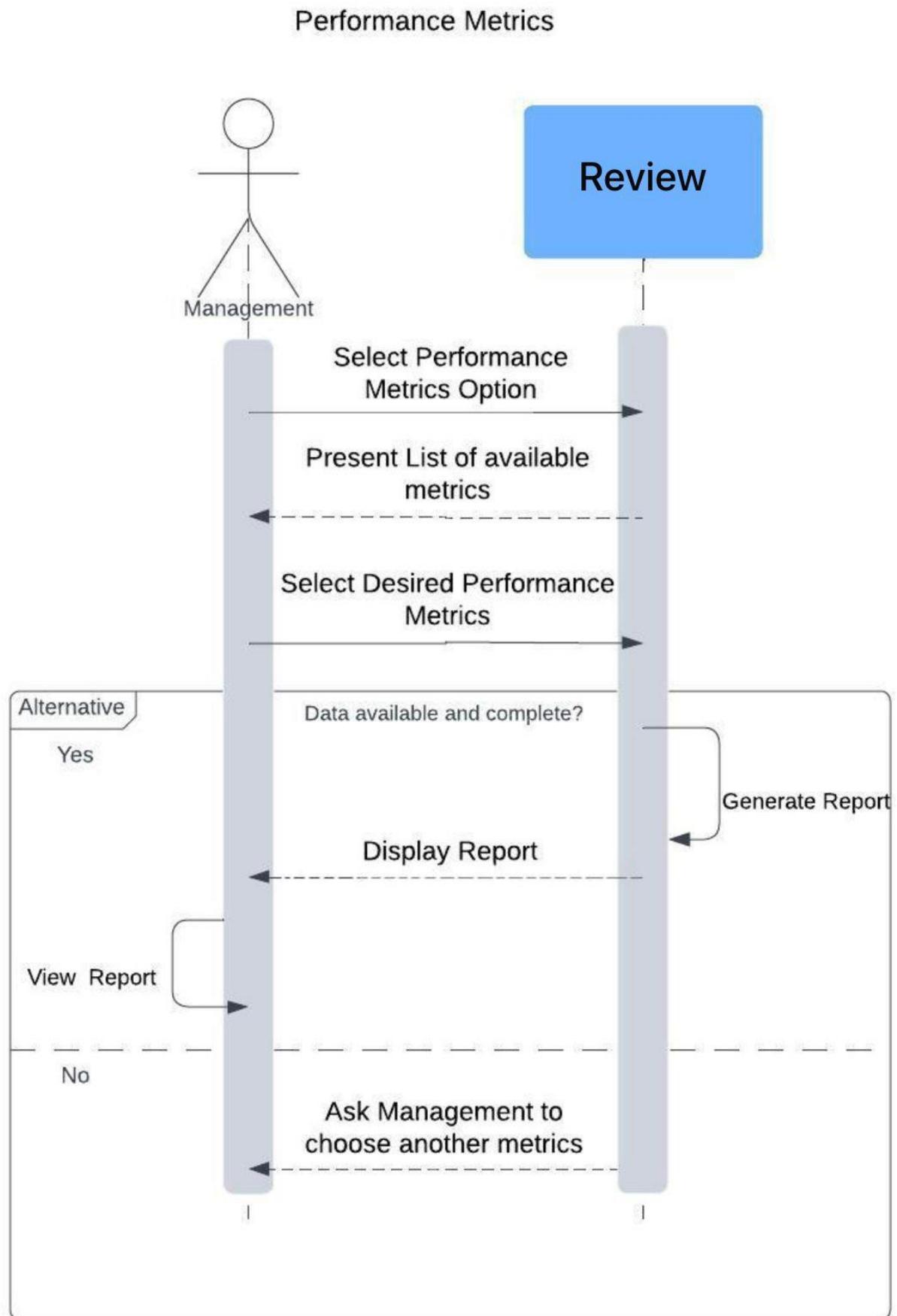


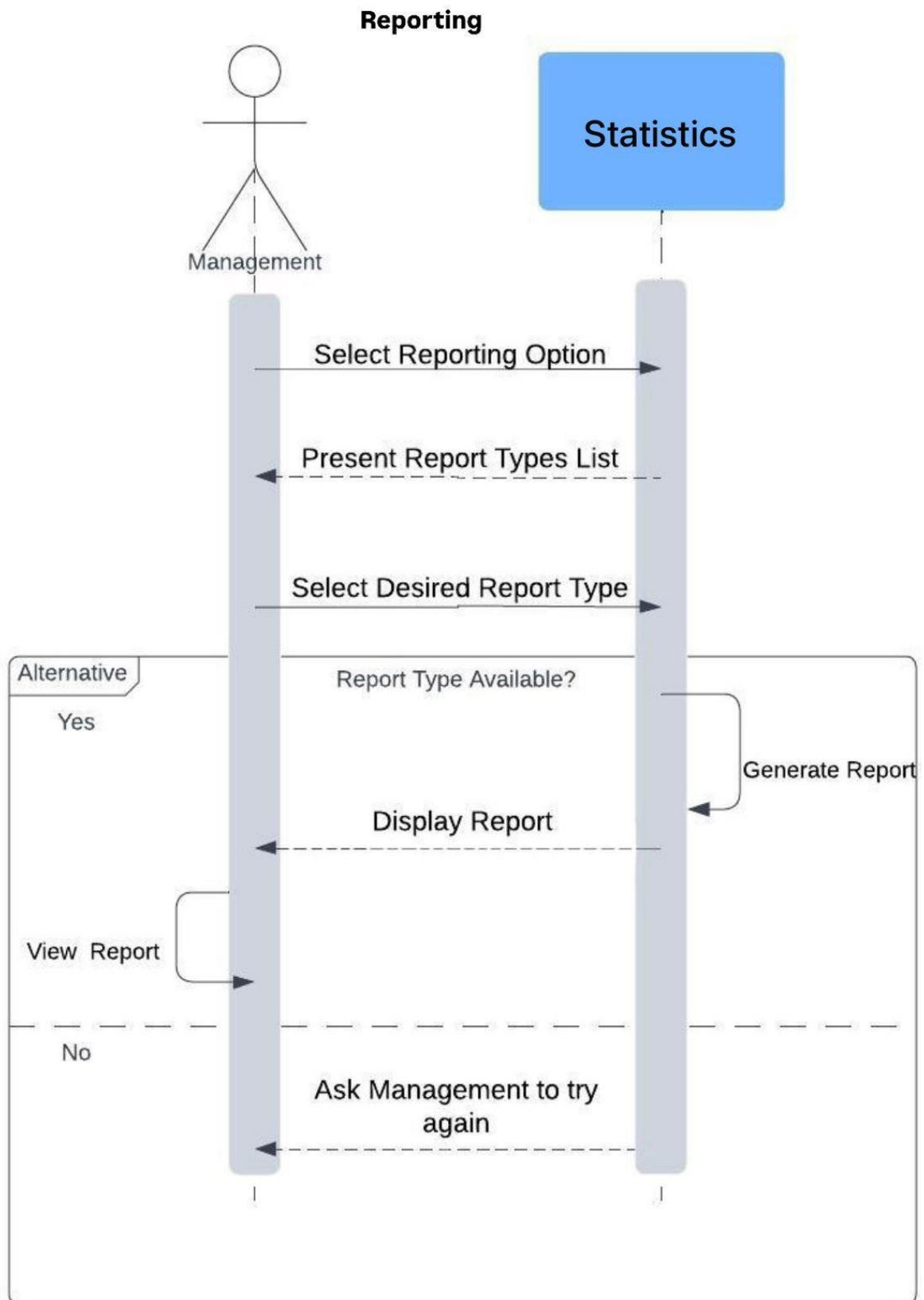
Hotel Management System Requirements Specification

A.5.7.3. MANAGER



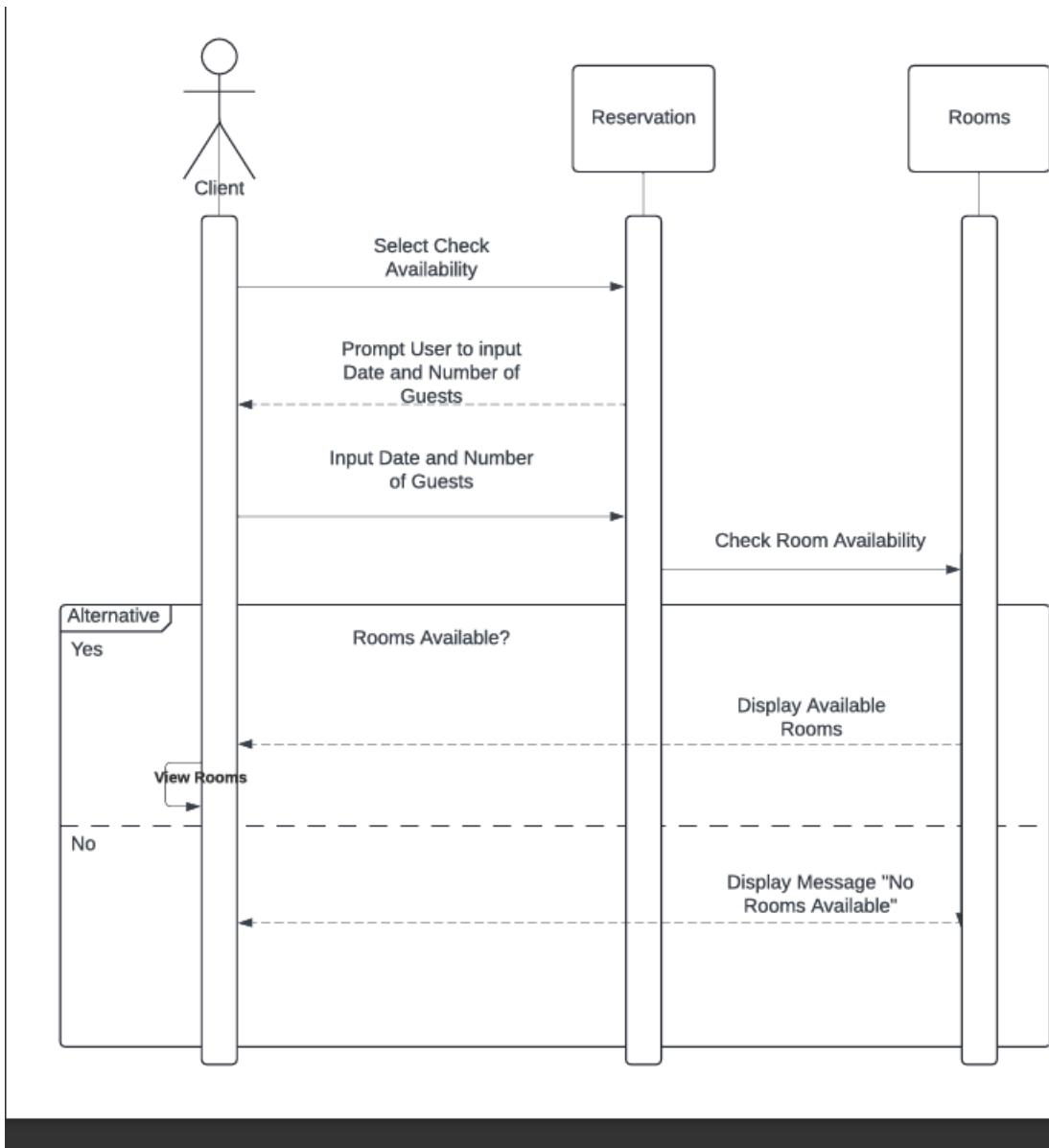




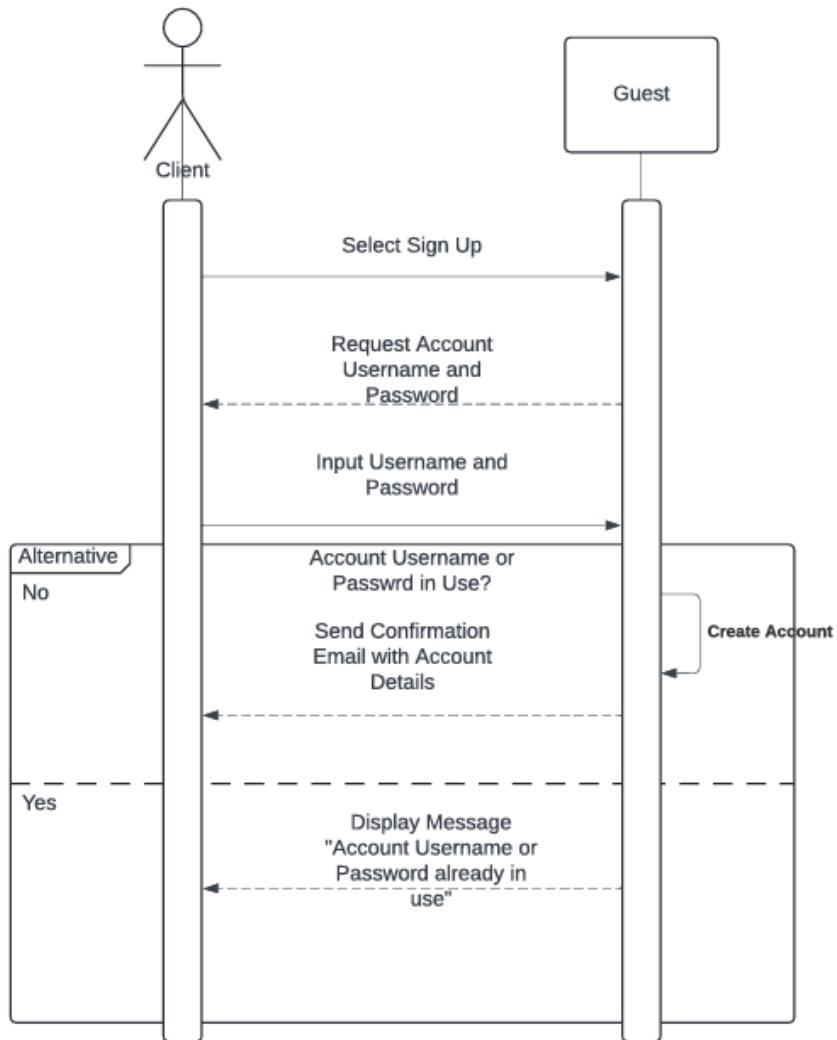


Hotel Management System Requirements Specification

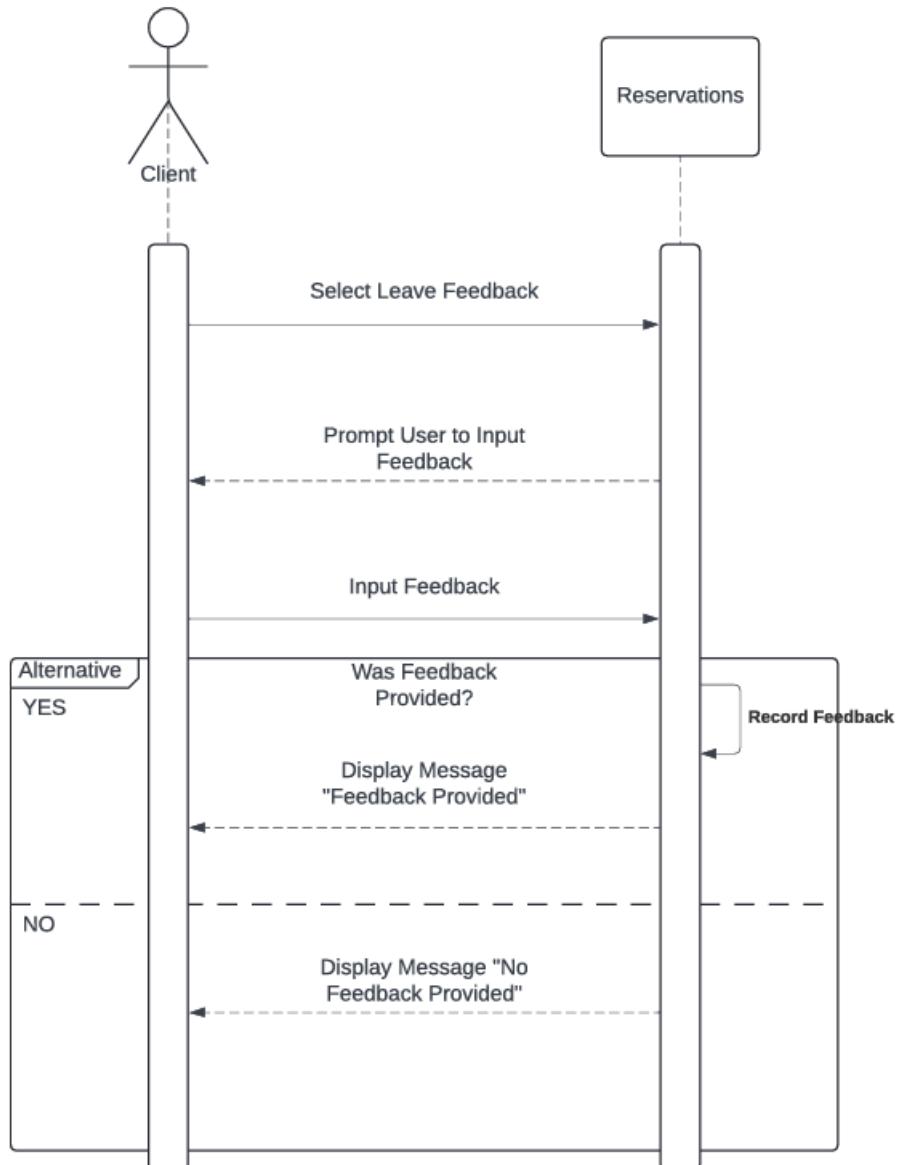
A.5.7.4. CLIENT



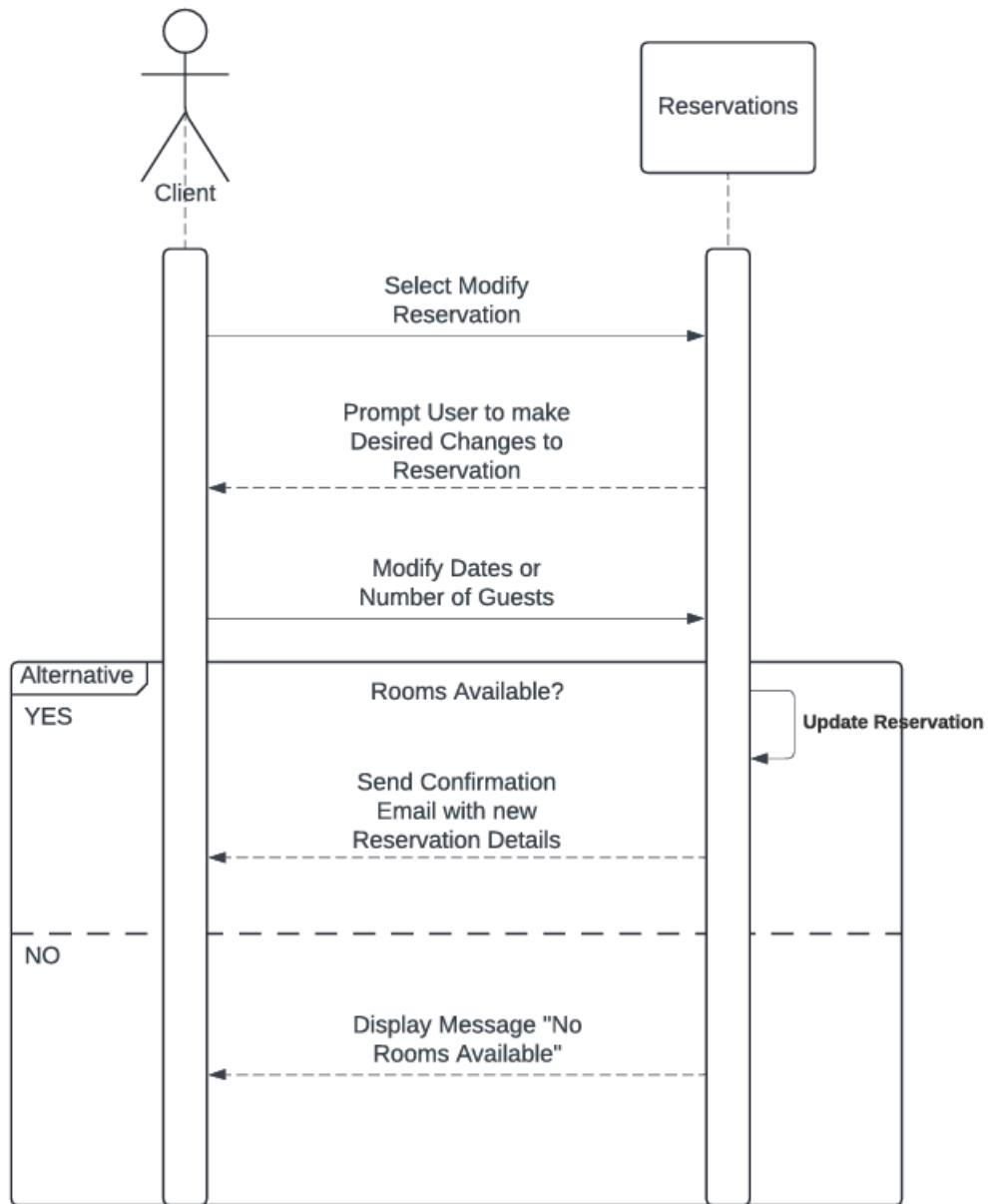
Hotel Management System Requirements Specification



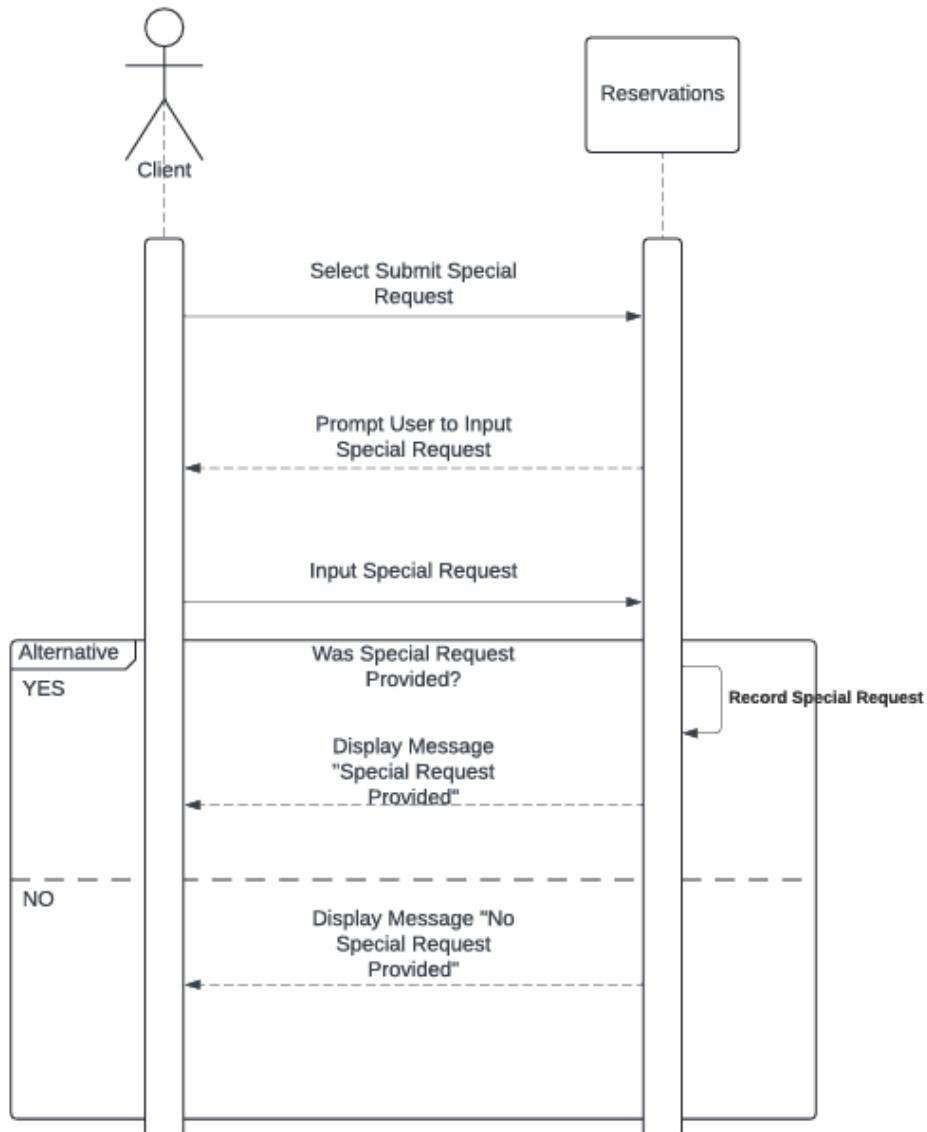
Hotel Management System Requirements Specification



Hotel Management System Requirements Specification

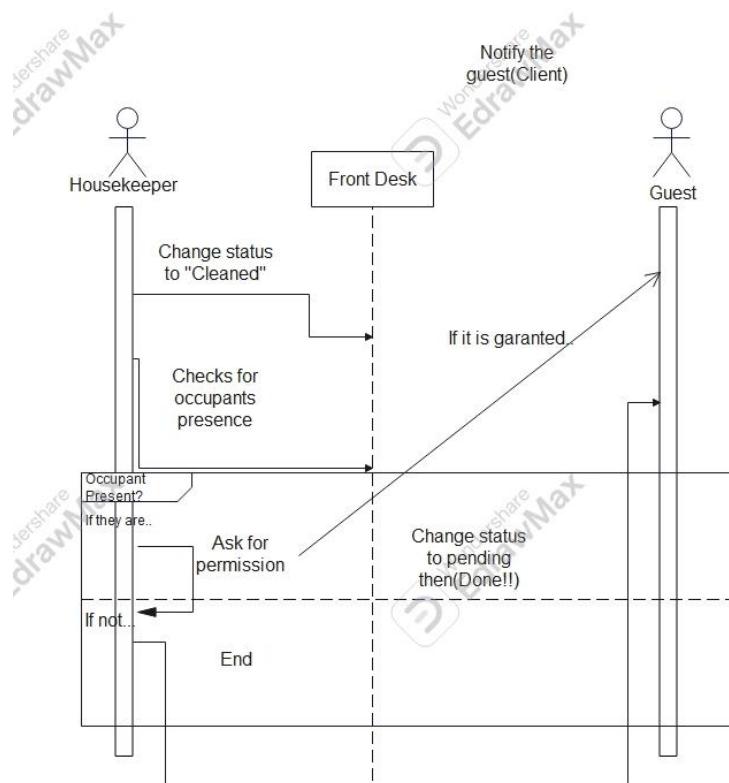
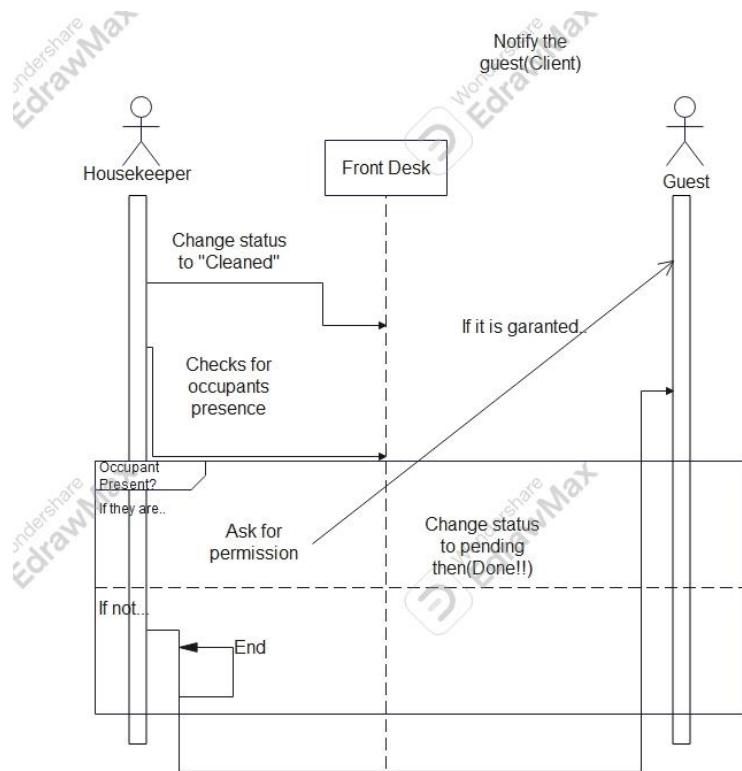


Hotel Management System Requirements Specification

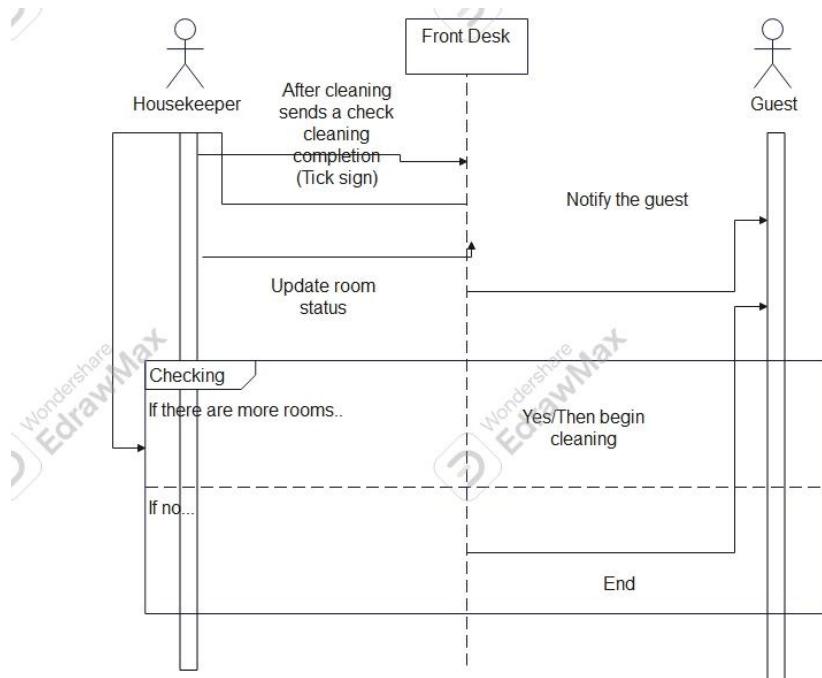


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A.5.7.5. HOUSE KEEPER

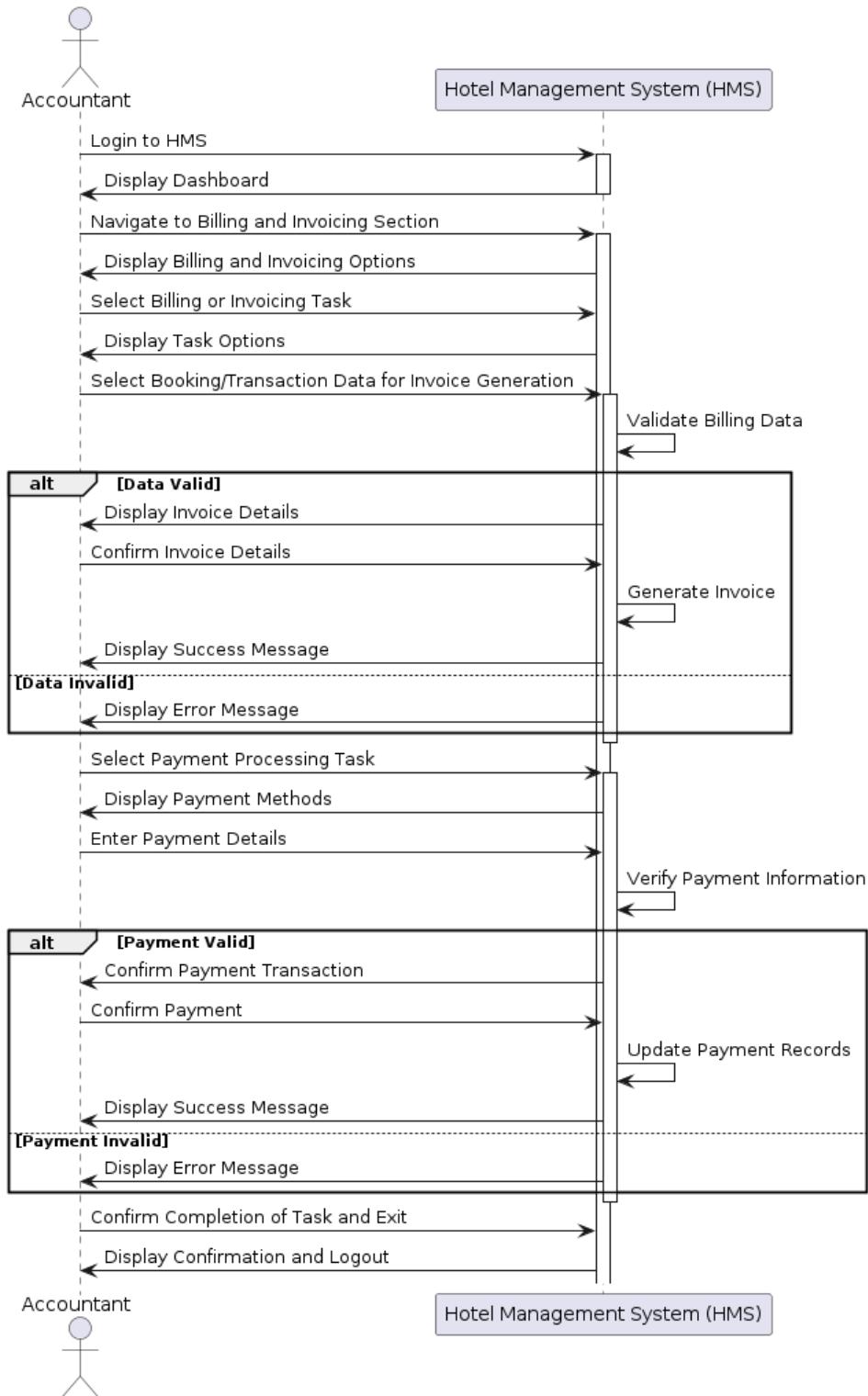


Hotel Management System Requirements Specification



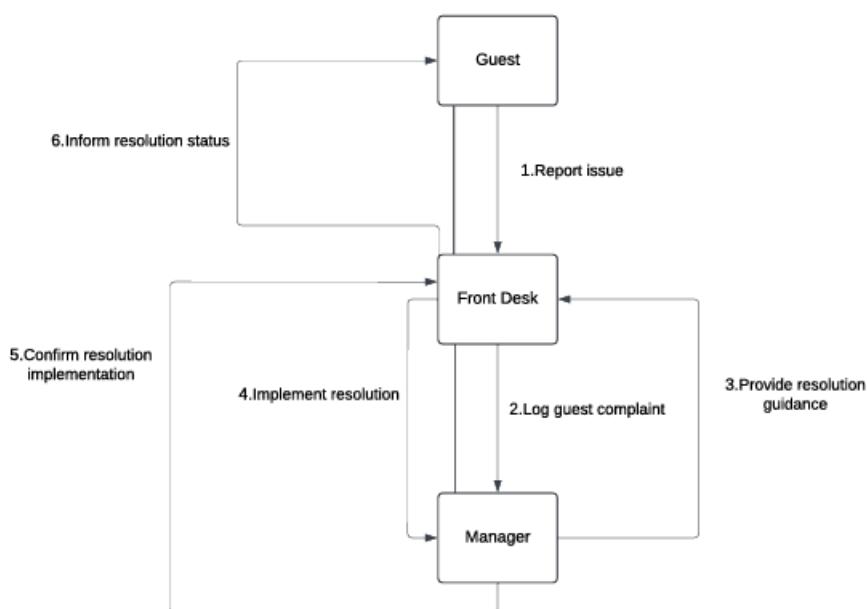
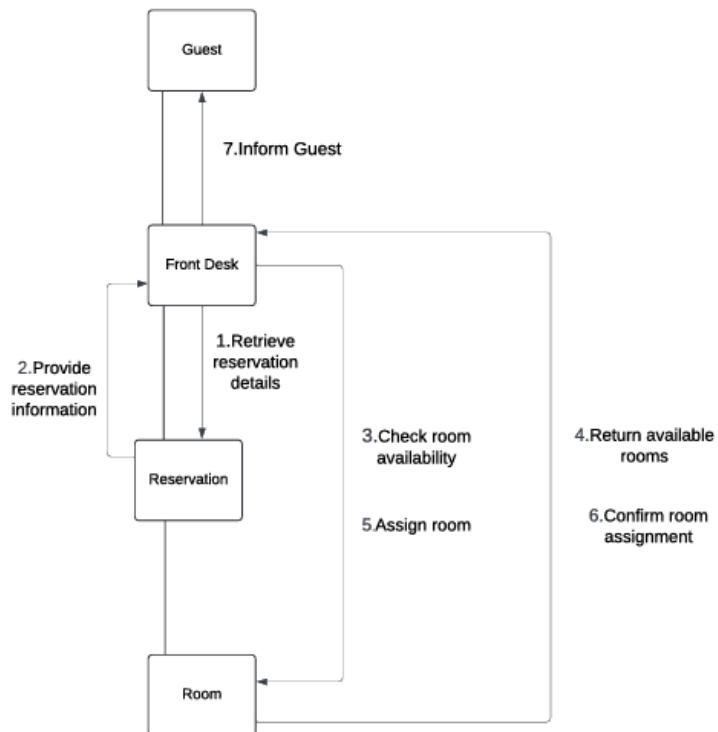
Hotel Management System Requirements Specification

A.5.7.6. ACCOUNTANT

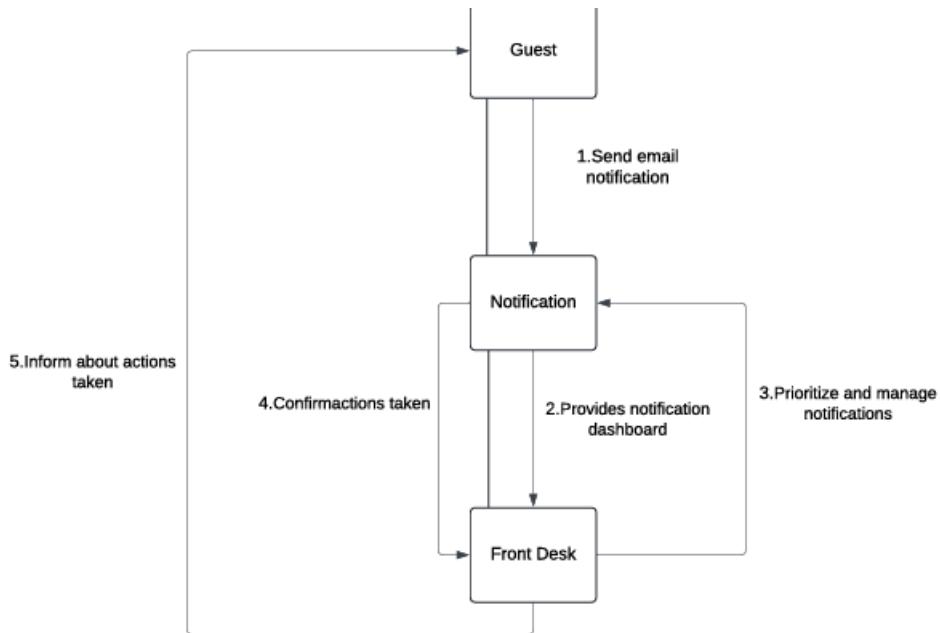


A.5.8. COLLABORATION DIAGRAMS

A.5.8.1. FRONT DESK

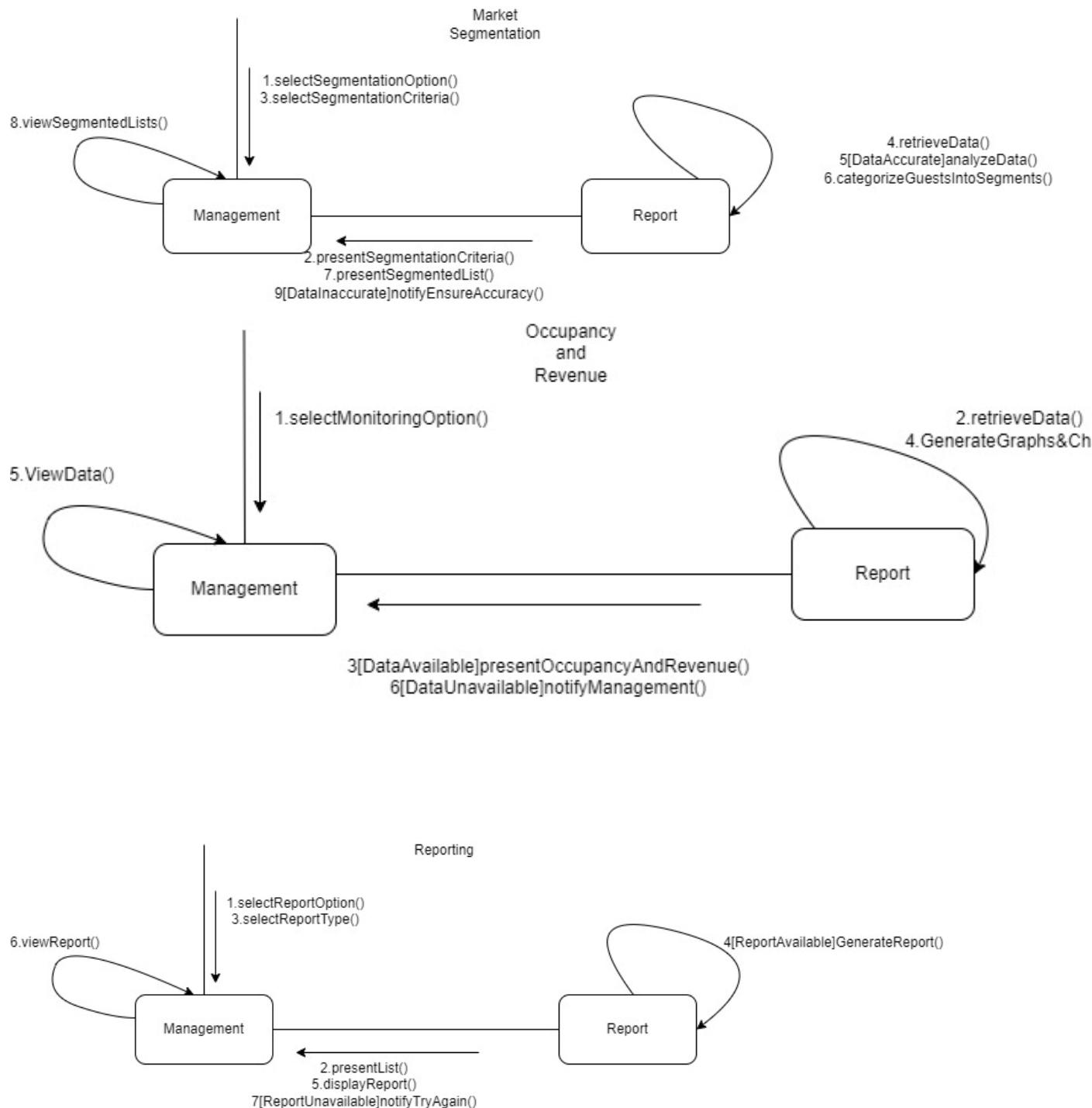


Hotel Management System Requirements Specification

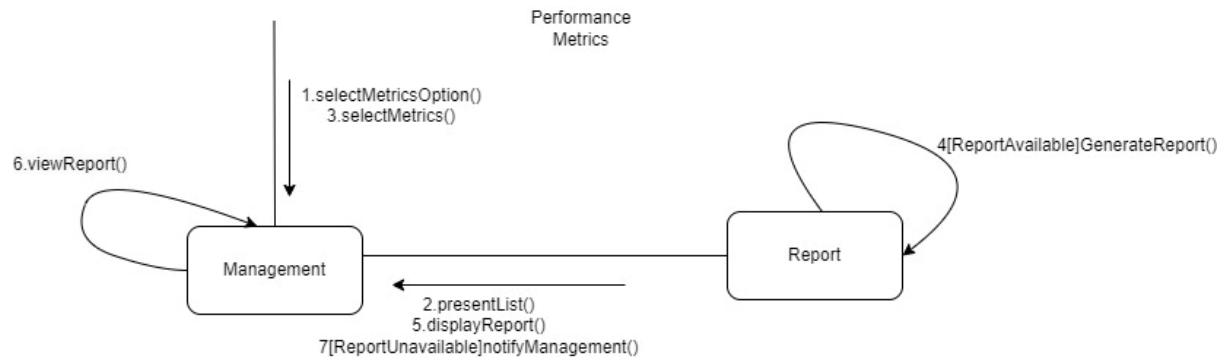


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A.5.8.2. MANAGER

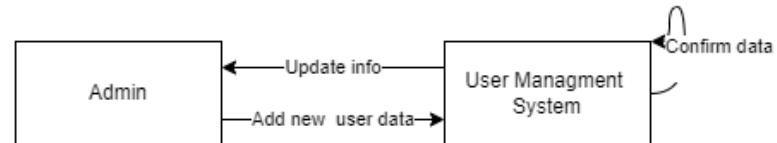
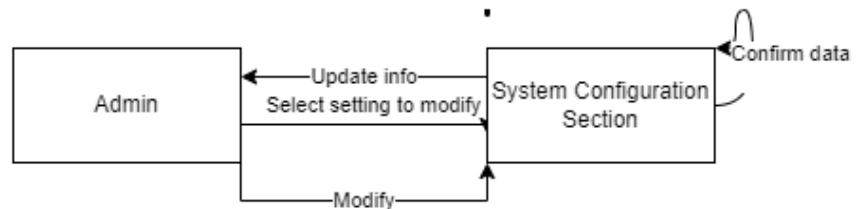
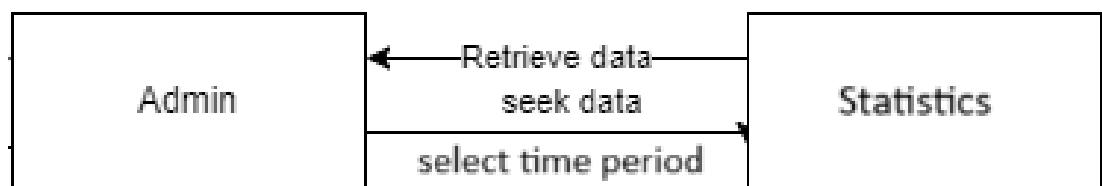
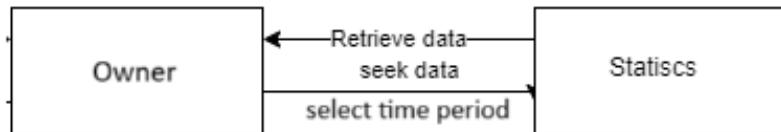


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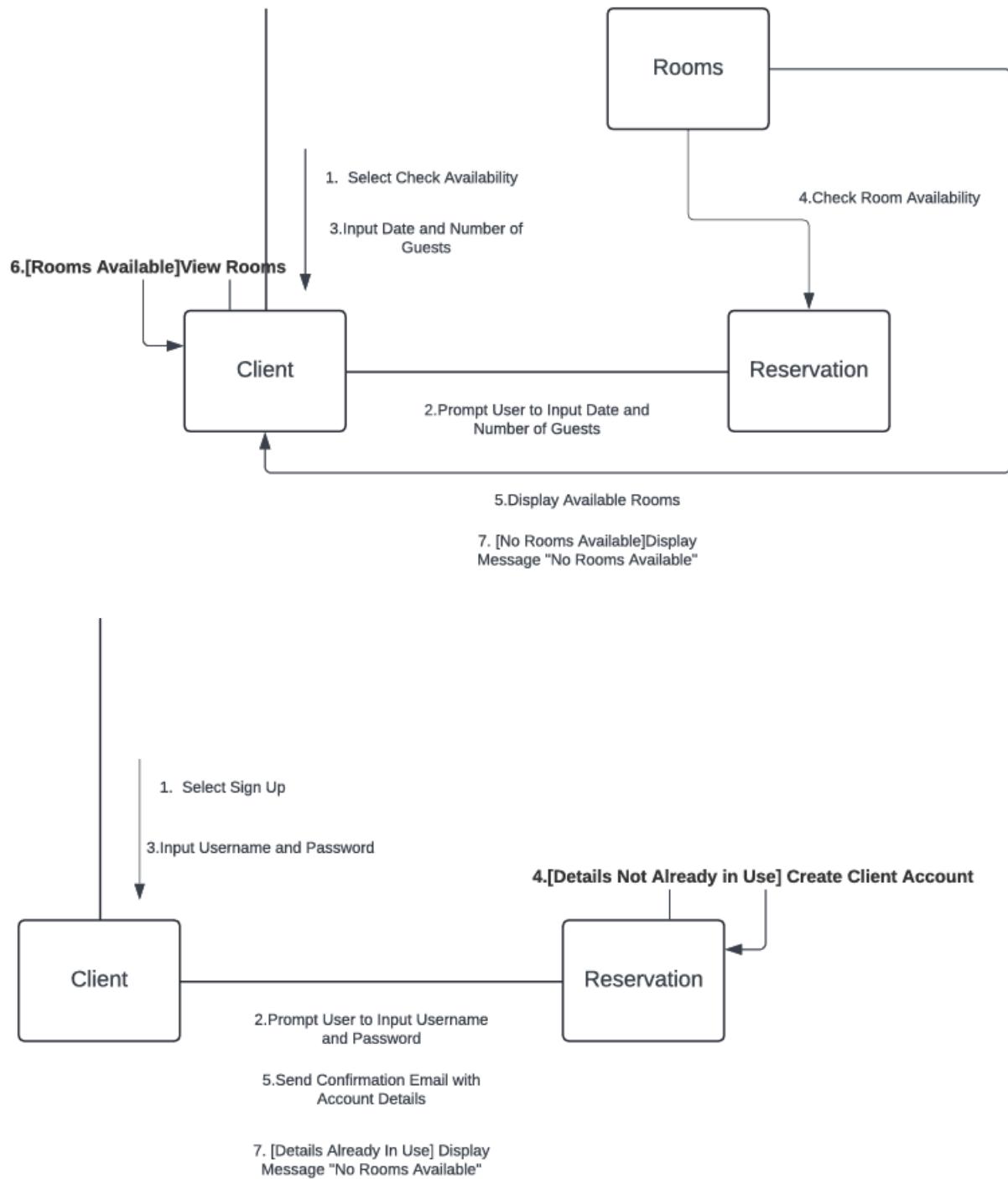
Hotel Management System Requirements Specification

A.5.8.3. ADMIN & OWNER

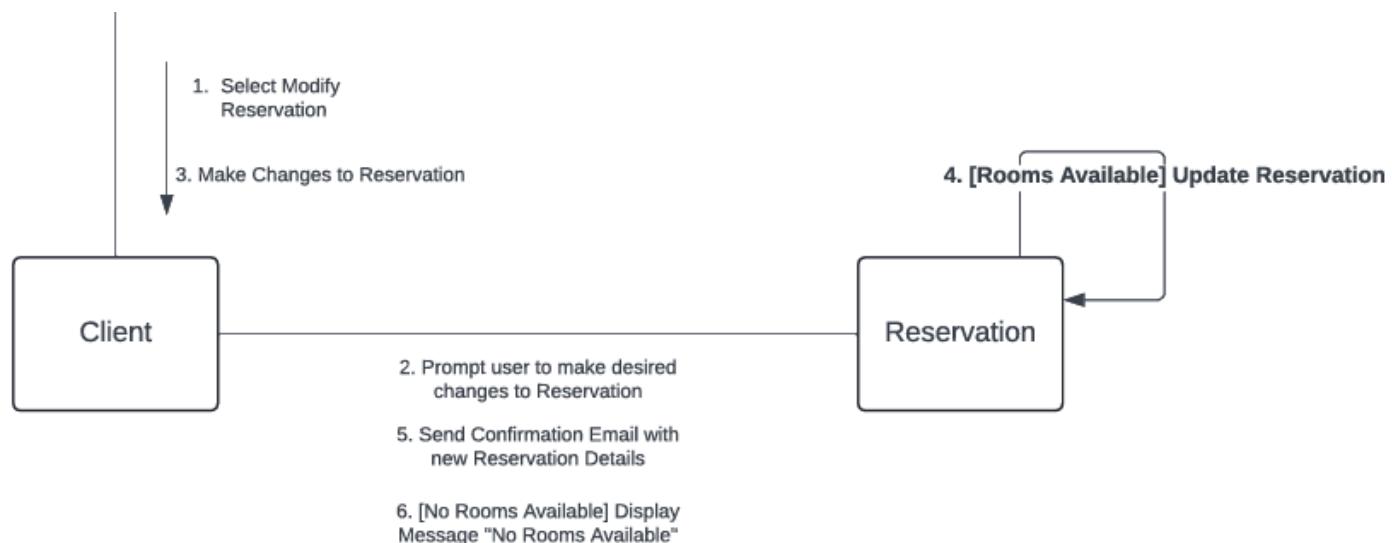
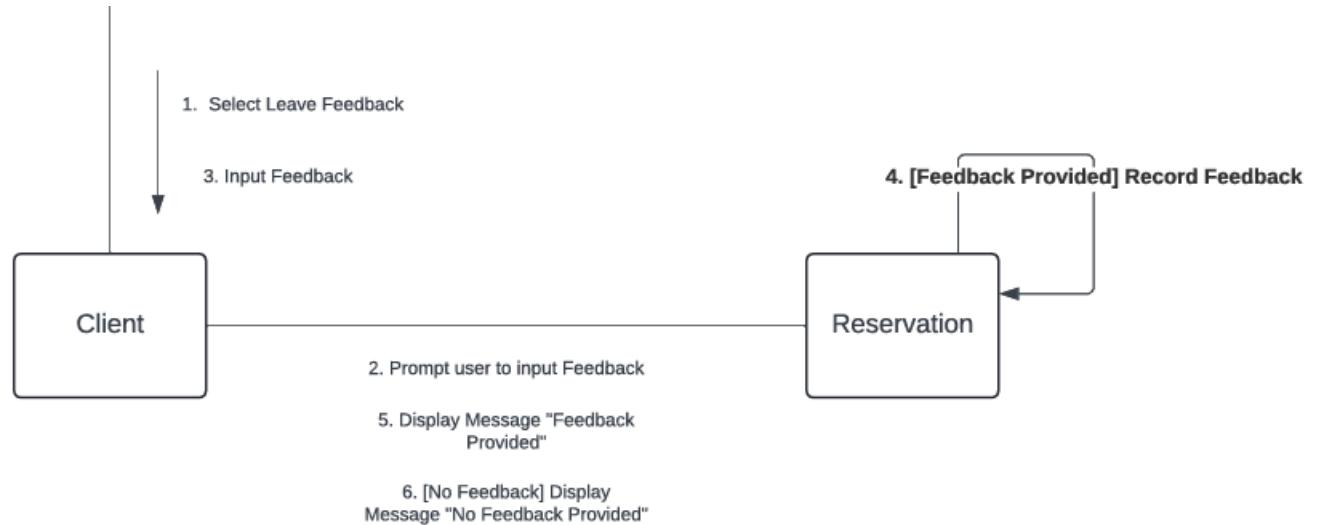


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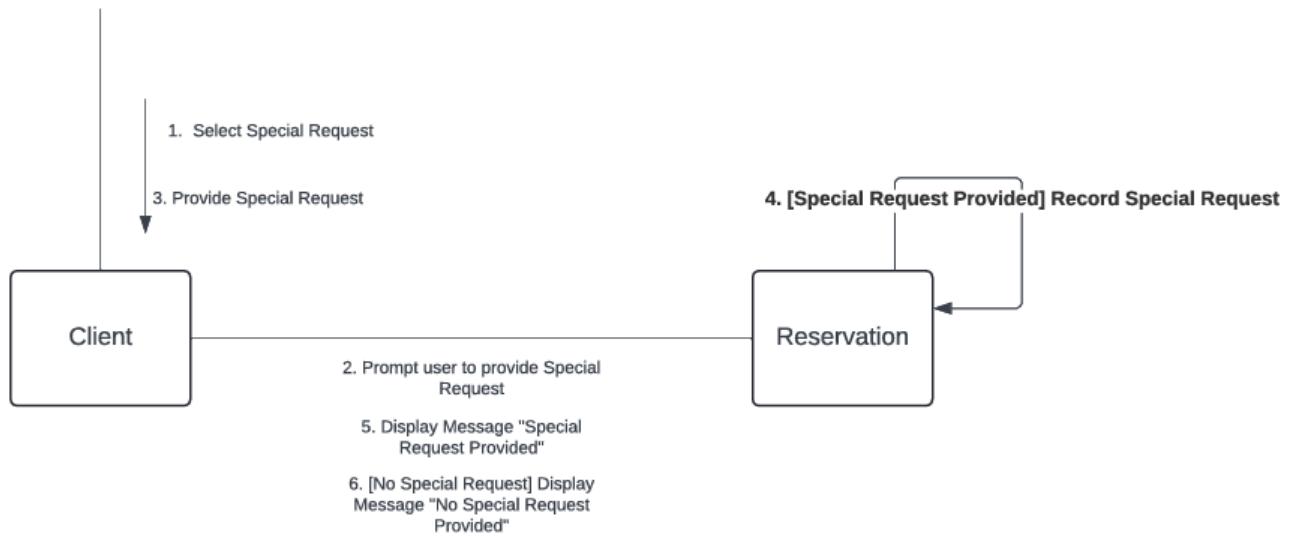
A.5.8.4. CLIENT



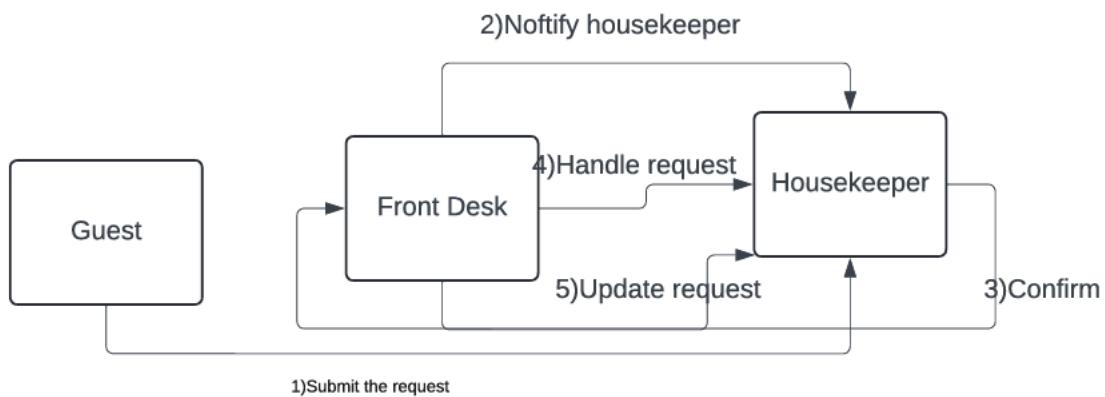
Hotel Management System Requirements Specification



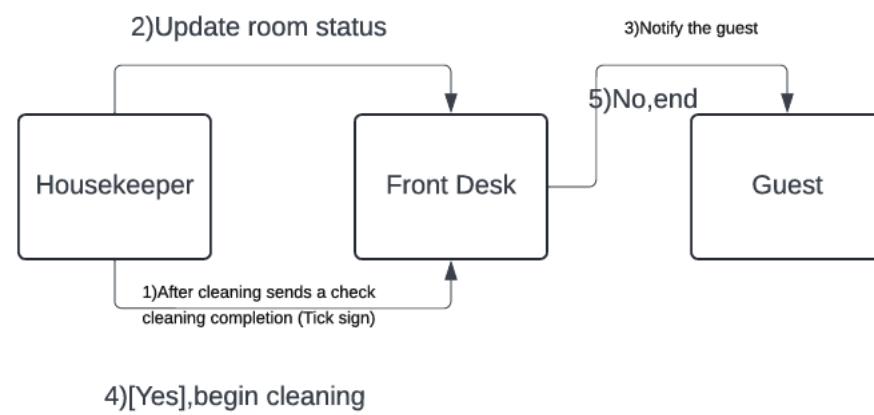
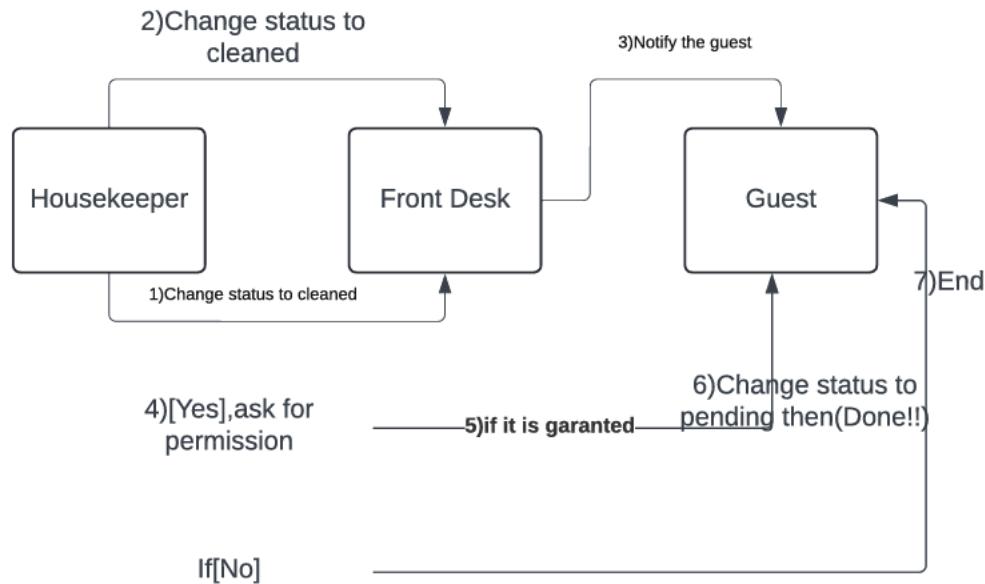
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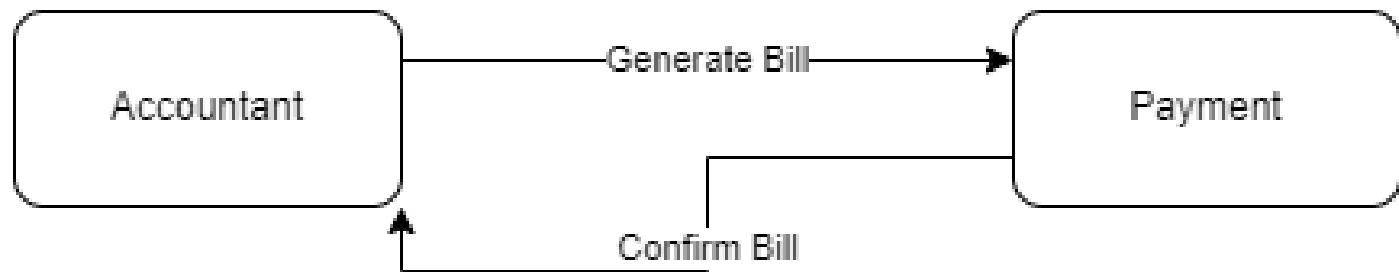
A.5.8.5. HOUSE KEEPER



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A.5.8.6. ACCOUNTANT



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A.5.9. DESIGN PATTERNS

