Report -1

PMS- (Property Management Software)

A project of: MicroMerger (Pvt.) Ltd.

IT Services, Consulting & Business Solution

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Software Requirements Specification

for

<Property Management System>

Version 1.0 approved.

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Revision History

Name	Date	Reason For Changes	Version
Muhammad Hassaan	9-8-23	Added 6 more functions related to Front desk management. 1. Guest Management. 2. Check-in and Check-out support by front desk. 3. Guest Communication and Notifications. 4. Channel Management. 5. Occupancy Check 6. Room and Rate Plan Configuration & assistance	1.1
Muhammad Hassaan	17-8-23	General Process Flow is Updated & Process Flow for Revenue Managment	1.2

1. Introduction

1.1 Purpose

This SRS document specifies the software requirements for the Property Management System (PMS), version 1.0. The system aims to facilitate hotel reservations and management processes. It covers the functional and non-functional requirements, interface specifications, and constraints for the development of the entire system.

1.2 Document Conventions

The following standards and typographical conventions were followed when writing this Software Requirements Specification (SRS):

Priority: "Must," "Should," and "May" are used to indicate the priority of requirements.
Priorities for higher-level requirements is assigned under each feature in *Description and Priority* Section (e.g., High, Medium, or Low).
Requirement Numbering: Each requirement is uniquely identified with a sequence number or a meaningful tag. For example, requirements are labelled as REQ-1, REQ-2, REQ-3, and so on, to facilitate easy referencing and traceability.
Placeholder for Unavailable Information: In cases where necessary information is not yet available, the placeholder "TBD" (To Be Determined) is used to indicate that the specific details will be provided at a later stage.
Formatting and Styling: The whole document is written using 'Time New Roman' Styling and for text font size 11 is used while main heading are in 14-18 font size, the requirements are presented in a clear and concise manner, ensuring readability, and understanding.

1.3 Intended Audience and Reading Suggestions

The intended audience for this document includes software developers, testers, project managers, and stakeholders involved in the development and implementation of the Housekeeping Module.

1.4 Product Scope

The Property Management System (PMS) is a software solution that aims to streamline and optimize hotel and property management operations. The system will cover a wide range of functionalities, including accommodation reservation, room availability management, reservation modifications and cancellations, payment processing, staff coordination, and reporting. The primary goal of the PMS is to enhance operational efficiency, improve guest experience, and empower hotel staff to manage day-to-day operations effectively. By automating key processes, the PMS aims to reduce manual effort and errors, leading to increased customer satisfaction and profitability for the hotel.

1.5 References

- https://www.altexsoft.com
- IEEE

2. Overall Description

2.1 Product Perspective

TBD
//dummy statements
The Property Management System (PMS) is a new, self-contained product developed as a standalone solution for hotels and other property management businesses. It is not a replacement for any existing system but will integrate with various other property management modules, such as housekeeping and front desk management systems, to ensure seamless coordination between different departments. The PMS will also have interfaces with third-party components, such as payment gateways, to enable secure and efficient payment processing.

2.2 Product Functions

- **Search for accommodation options** (dates, number of guests, room types).
- **Availability check and response** (for requested room types and dates).
- **Easy reservation request** (number of guests, arrival and departure dates, room type, contact details, special requests, etc.).
- **Confirmation email generation:** with payment details and cancellation policy information.
- Optional secure **payment tool for prepayment.**
- **Reservation modification** or **cancellation functionality**.
- **Allow Access to all reservation details and booking records.**
- **Management of room availability and updates in the CRS.**
- **Coordination with other PMS modules** (e.g., housekeeping, front desk, reporting).
- **Task Assignment.**
- **Guest Management.**
- **Check-in and Check-out support by front desk.**
- **Guest Communication and Notifications.**
- **Channel Management.**
- **Occupancy Check**
- **Room and Rate Plan Configuration**
- **Assist Receptionist.**

2.3 User Classes and Characteristics

- **Front Desk Staff**: Responsible for managing guest check-ins, check-outs, and room assignments.
- **Housekeeping Staff:** Tasked with room cleaning and maintenance.
- **Management and Administrators**: Oversee overall property operations and access comprehensive reporting and analytics.
- **Guests:** Interact with the system to search for accommodations, make reservations, and manage their bookings.

2.4 Operating Environment

TBD

2.5 Design and Implementation Constraints

- Front-end for the system should be developed using flutter.
- A backend should be developed using Frappe software.

2.6 User Documentation

TBD

The user documentation for the PMS will include comprehensive user manuals, on-line help, and tutorials. It will provide step-by-step instructions for using different features of the system and assist users in maximizing its capabilities. The user documentation will be available in digital format and may include interactive guides for better user engagement.

2.7 Assumptions and Dependencies

Assumptions:

- The PMS assumes the availability of stable internet connectivity for users to access the system.
- It assumes that the hardware and network infrastructure meet the minimum system requirements for smooth operation.
- The PMS assumes that hotel staff and administrators have the required technical knowledge to operate the software effectively.

Dependencies:

- The successful implementation of the PMS depends on the integration of third-party or commercial components, such as payment gateways and communication APIs.
- It relies on the timely delivery of hardware components, including servers, for deployment.

3. External Interface Requirements

3.1 User Interfaces

The user interface of the Hotel Reservation System will be designed with a user-friendly approach, following industry-standard GUI conventions. It will include the following components:

- **Home Screen:** Displaying options for accommodation search, reservation, and account management.
- **Search Results Screen:** Showing available accommodation options based on user preferences.
- **Reservation Form**: Allowing users to input essential information for reservation requests.
- **Payment Interface:** For secure payment processing, if the customer chooses the prepayment option.
- **Reservation Management Dashboard:** For hotel staff and administrators to view and manage reservations.
- **Front Desk Management:**
- **Housekeeping interface:**
- **Cleaning staff interface:**

3.2 Hardware Interfaces

- **Servers:** The system will run on dedicated servers to handle user requests and data storage.
- **Payment Devices:** To facilitate secure payment processing, the system will interact with payment terminals or gateways.

3.3 Software Interfaces

TBD

3.4 Communications Interfaces

The Property System will require the following communication functions:
HTTP/HTTPS: For secure communication between the system and web browsers.
SMTP: To send confirmation emails to customers and notifications to hotel staff.
REST API: For communication with external software components and services.
FTP: For file transfer, if needed, for data synchronization.

4. System Features

This section illustrates organizing the functional requirements for the product by system features, the major services provided by the product and the features are represented.

4.1 Search for Accommodation Options

4.1.1 Description and Priority

This feature allows users to search for accommodation options based on specified dates, the number of guests, and room types. It is of High priority as it is a core functionality for guests to find suitable accommodation.

4.1.2 Stimulus/Response Sequences

- User enters preferred dates, room type, and the number of guests.
- System processes the search criteria.
- System displays available accommodation options matching the search criteria.

4.1.3 Functional Requirements

Requirement	Description
REQ-1:	The User shall be able to enter preferred dates, room type, and the number of guests for the accommodation search on hotel website or on specific channels.
REQ-2:	The system shall validate the entered search criteria to ensure they are within valid ranges and formats.
REQ-3:	The system shall process the search criteria and retrieve available accommodation options.
REQ-4:	The system shall display a list of accommodation options that match the user's search criteria.
REQ-5:	The shall be able to view available options on hotels web side or other specific channels
REQ-6:	The system shall allow users to refine the search criteria and update the search results accordingly.
REQ-7:	The system shall provide clear error messages if there are technical issues preventing the search operation
REQ-8:	The system shall log and store search requests and responses for monitoring and analysis purposes.

4.2 Availability Check and Response

4.2.1 Description and Priority:

This feature enables users to instantly check the availability of rooms for requested room types and dates and provides immediate responses. It is of High priority as it is essential for guests to quickly determine room availability during the booking process.

4.2.2 Stimulus/Response Sequences:

- User selects desired room type and enters preferred dates.
- System checks room availability and status in real-time.
- System responds with the availability status (e.g., available, sold out).

4.2.3 Functional Requirements:

Requirement	Description
REQ-9:	The system shall provide a real-time availability check for the requested room types and dates.
REQ-10:	The system shall update room availability status in real-time to prevent overbooking.
REQ-11:	The system shall display the availability status to the user (e.g., available, sold out).
REQ-12:	If the requested room type and dates are available, the system shall allow users to proceed with the booking process.
REQ-13:	If the requested room type and dates are not available, the system shall provide alternative options or suggest nearby dates with availability.

4.3 Easy Reservation Request Creation

4.3.1 Description and Priority

This feature allows users to create reservation requests with essential information, including the number of guests, arrival and departure dates, room type, contact details, special requests, etc. It is of High priority as it is a core functionality for guests to make reservation requests seamlessly.

4.3.2 Stimulus/Response Sequences

- User selects preferred dates, room type, and enters the number of guests.
- User provides contact details and any special requests.
- System processes the reservation request.
- System generates a confirmation page with all the reservation details for review.

4.3.3 Functional Requirements

Requirement	Description
REQ-14:	The system shall provide a interface to enter preferred dates, room type, and the number of guests for the reservation request
REQ-15:	The system shall allow users to provide contact details (e.g., name, email, phone number) for communication purposes.
REQ-16:	The system shall allow users to include any special requests or preferences in the reservation request.
REQ-17:	The system shall generate a confirmation page displaying all the reservation details (e.g., dates, room type, contact details) for users to review before submission.
REQ-18:	The system shall allow users to edit the reservation request before final submission.
REQ-19:	The system shall provide clear error messages for any missing or invalid information during the reservation request creation process.
REQ-20:	The system shall capture and store the reservation request data securely for further processing.

4.4 Confirmation Email Generation

4.4.1 Description and Priority

This feature allows the system to generate confirmation emails for successful reservations. The emails will include payment details and cancellation policy information. It is of High priority as it is essential to provide guests with a formal confirmation of their bookings.

4.4.2 Stimulus/Response Sequences

- User completes the reservation process.
- System validates the reservation details.
- System generates a confirmation email with payment details and cancellation policy.
- System sends the confirmation email to the guest.

4.4.3 Functional Requirements

Requirement	Description
REQ-21:	The system shall automatically generate a confirmation email for every successful reservation.
REQ-22:	The confirmation email shall include all reservation details (e.g., dates, room type, number of guests).
REQ-23:	The confirmation email shall clearly display the payment details, including the total amount, payment method, and any applicable charges or taxes.
REQ-24:	The confirmation email shall provide information about the hotel's cancellation policy, including any cancellation deadlines and associated penalties.
REQ-25:	The confirmation email shall be sent to the guest's provided email address.
REQ-26:	The system shall log and store confirmation email generation for audit and monitoring purposes.

4.5 Optional Secure Payment Tool for Prepayment

4.5.1 Description and Priority

This feature provides an optional secure payment tool that allow to make guests to make prepayments for their reservations.it is of medium priority as it offers an additional convenience for guest who prefer to make advance payments.

4.5.2 Stimulus/Response Sequences

- User selects the option for prepayment during the reservation process.
- System prompts the user to enter payment details securely.
- User enters payment information.
- System validates the payment details.
- System processes the payment and generates a payment confirmation.
- System sends a payment confirmation email to the guest.

4.5.3 Functional Requirements

Requirement	Description
REQ-27:	The user shall be able to make prepayments during the reservation process.
REQ-28:	The system shall support multiple payment methods (e.g., credit/debit cards, digital wallets) for prepayment.
REQ-29:	The system shall validate the entered payment details to ensure accuracy and completeness.
REQ-30:	The User shall receive shall payment confirmation that includes the payment amount, method, and transaction reference.
REQ-31:	The system shall allow guests to view their prepayment status and history through their accounts (if applicable).

4.6 Modification or Cancellation Functionality

4.6.1 Description and Priority

This feature enables users to modify or cancel their existing reservations. It is of High priority as it is a critical functionality that directly affects guest experience and satisfaction.

4.6.2 Stimulus/Response Sequences

Reservation Modification:

- User selects the reservation they wish to modify.
- System displays the reservation details.
- User selects the modification option (e.g., change dates, room type).
- System prompts the user to enter the new reservation details.
- User provides the updated information.
- System validates the changes and updates the reservation.
- System sends a modification confirmation email to the guest.

Reservation Cancellation:

- User selects the reservation they wish to cancel.
- System displays the reservation details and confirms the cancellation request.
- User confirms the cancellation.
- System updates the reservation status to "cancelled."
- System sends a cancellation confirmation email to the guest.

4.6.3 Functional Requirements

Requirement	Description
REQ-32:	The system shall allow users to view their existing reservations and select the one they want to modify or cancel.
REQ-33:	The system shall allow users to have options for reservation modification (e.g., change dates, room type) and cancellation
REQ-34:	The system shall verify the user's identity and reservation details before allowing modifications or cancellations.
REQ-35:	The system shall update the reservation details accurately and promptly after successful modifications or cancellations.
REQ-36:	The system shall handle any conflicts or issues that may arise due to modifications (e.g., overlapping reservations).
REQ-37:	The User shall receive a reservation modification confirmation email/message from system on provided email address.
REQ-38:	The User shall receive a reservation cancellation confirmation email/message from system on provided email address.
REQ-39:	The system shall maintain a record of reservation modifications and cancellations for auditing and reporting purposes.

4.7 Access to All Reservation Details and Booking Records

4.7.1 Description and Priority

This feature allows staff members to access all reservation details and booking records. It is of High priority as it is essential for staff members to efficiently manage and coordinate hotel operations.

4.7.2 Stimulus/Response Sequences

- Staff member logs in to the system using their unique credentials.
- System verifies the staff member's identity and role permissions.
- System grants access to reservation details and booking records based on the staff member's role and access level.
- Staff member searches for a specific reservation or booking record.
- System retrieves and displays the relevant reservation details and booking record.
- Staff member can view, update, or modify reservation information as necessary.
- System logs the staff member's actions for auditing purposes.

4.7.3 Functional Requirements

Requirement	Description
REQ40:	The system shall provide secure login functionality for staff members with unique credentials for each user.
REQ-41:	The system shall authenticate staff members and verify their role permissions before granting access to reservation details and booking records
REQ-42:	The system shall implement role-based access control to restrict access to reservation information based on staff members' roles and responsibilities.
REQ-43:	The system shall allow staff members to search and retrieve reservation details and booking records based on various criteria (e.g., guest name, booking date, reservation status).
REQ-44:	The system shall provide staff members with the ability to view the complete reservation history for individual guests.
REQ-45:	The system shall allow staff members to update reservation details, such as guest information, room assignments, and special requests, while maintaining an audit trail of changes.
REQ-46	The system shall allow staff members to delete details, such as room specifications, and Inventory details.
REQ-47:	The system shall provide staff members with access to real-time reservation status and availability information.
REQ-48:	The system shall allow staff members to add items/deal, in available list so that customer can see it, such as room specifications (beds, qsofa, heater, Ac etc.), and Inventory details, special items/offers.
REQ-49:	The system shall allow staff members to generate reports and summaries of reservation data for management and analysis purposes.

4.8 Management of Room Availability and Updates in the CRS

4.8.1 Description and Priority

This feature enables the system to manage room availability and updates in the Central Reservation System (CRS). It is of High priority as it is critical for ensuring accurate and real-time availability of rooms across different distribution channels.

4.8.2 Stimulus/Response Sequences

- The system constantly monitors the occupancy status of each room in real-time.
- When a new reservation is made, the system checks the availability of the requested room type and dates.
- If the room is available, the system reserves the room for the specified dates and updates the CRS accordingly.
- If the room is not available, the system suggests alternative room options based on availability and guest preferences.

Room Updates in the CRS:

- When a reservation is modified or cancelled, the system updates the CRS to reflect the changes in room availability.
- If a reservation is cancelled, the system releases the reserved room and updates the availability status immediately.
- The system synchronizes the room availability data with all connected distribution channels to ensure consistency.

4.8.3 Functional Requirements

Requirement	Description
REQ50:	The system shall continuously monitor the real-time occupancy status of each room in the hotel
REQ-51:	The system shall update the CRS with the availability status of each room in real-time.
REQ-52:	The system shall reserve rooms for new bookings based on availability, room type, and specified dates.
REQ-53:	The system shall update the CRS when a reservation is modified to reflect changes in room availability.
REQ-54:	The system shall immediately release reserved rooms and update availability status when a reservation is canceled.
REQ-55:	The system shall suggest alternative room options to guests when their preferred room type is not available.
REQ-56	The system shall synchronize room availability data with all connected distribution channels to ensure consistency.
REQ-57:	The system shall implement automated checks to prevent overbooking or double bookings of rooms.
REQ-58:	The system shall maintain a log of all room availability updates for auditing and tracking purposes.
REQ-59:	The system shall allow users to request refunds for canceled reservations and send refund confirmation via email/message.

4.9 Coordination with Other PMS Modules

4.9.1 Description and Priority

This feature enables seamless coordination and integration between the property management system PMS) and other modules such as housekeeping, front desk, and reporting. It is It is of High priority as it is crucial for smooth operation and efficiency in managing hotel operations.

4.9.2 Stimulus/Response Sequences

Coordination with Housekeeping Module:

- When a new reservation is made or an existing reservation is modified, the PMS notifies the housekeeping module to prepare the room accordingly.
- The housekeeping module updates the room status in real-time, indicating if the room is ready for check-in, in progress, or requires cleaning.
- The PMS displays the latest room status to the front desk staff for check-in and assignment purposes.

Coordination with Front Desk Module:

- When a guest checks in or checks out, the front desk module updates the reservation status and room availability in the PMS.
- The PMS communicates with the front desk module to process payments, generate invoices, and issue receipts.
- In case of any reservation modifications or cancellations, the PMS updates the front desk module with the latest information.

Coordination with Reporting Module:

- The PMS provides data and information to the reporting module for generating various reports such as occupancy rates, revenue reports, and guest demographics.
- The reporting module accesses reservation and booking records from the PMS to generate comprehensive reports for hotel management.

4.9.3 Functional Requirements

Requirement	Description
REQ60:	The PMS shall integrate and communicate with the housekeeping module to update room statuses based on reservation information.
REQ-61:	The PMS shall notify the housekeeping module when a new reservation is made or an existing reservation is modified.
REQ-62:	The housekeeping module shall provide real-time updates on room statuses (e.g., cleaned, in progress, ready for check-in) to the PMS.
REQ-63:	The PMS shall display the latest room statuses from the housekeeping module to the front desk staff for efficient room assignment during check-in.
REQ-64:	The PMS shall integrate and communicate with the front desk module to update reservation status, room availability, and process payments.
REQ-65:	The PMS shall notify the front desk module of any reservation modifications or cancellations.
REQ-66	The PMS shall provide reservation and booking records to the reporting module for generating comprehensive reports on occupancy rates, revenue, and guest demographics.

4.10 Task Assignment

4.10.1 Description and Priority

Task Assignment is a crucial feature within the Housekeeping Module that allows front desk staff to efficiently assign cleaning tasks to housekeepers. The priority of this feature is rated as High because it directly impacts the overall cleanliness and maintenance of the hotel, which is essential for guest satisfaction and operational efficiency.

4.10.2 Stimulus/Response Sequences

- **Stimulus:** Housekeeping Manager selects the Block/floor option and then "Task Assignment"
- option from the Housekeeping Module's menu.
- **Response:** The system displays a list of available cleaning tasks and rooms that require
- cleaning.
- **Stimulus:** Front desk staff selects a specific cleaning task from the list.
- **Response:** The system prompts the staff to assign the task to a housekeeper.
- **Stimulus:** Front desk staff assigns the selected task to a specific housekeeper.
- **Response:** The system records the assignment and updates the housekeeper's task list.
- **Stimulus**: Housekeeper logs in to the Housekeeping Module.
- **Response:** The system displays the list of tasks assigned to the housekeeper.
- **Stimulus:** Housekeeper selects a completed task from the list.
- **Response:** The system updates the task status as "completed."
- **Stimulus:** Housekeeper selects an ongoing task from the list.
- **Response:** The system displays the task details and status, allowing the housekeeper to
- update the progress (e.g., "in progress," "paused," "completed").
- **Stimulus:** Front desk staff assigns a new task based on room location or cleaning priority.
- **Response:** The system allocates the task to the most suitable housekeeper based on the
- specified criteria.

4.10.3 Functional Requirements

Requirement	Description
REQ67:	Housekeeping (Manager) shall be able to selects Block/floor option to make a list of tasks(i.e. cleaning) to assign to housekeepers.
REQ-68:	The system shall enable Housekeeping (Manager) to make a list of tasks (i.e., cleaning) for assignment.
REQ-69:	The system shall enable Housekeeping (Manager) to assign tasks (i.e. cleaning) to housekeepers.
REQ-70:	Housekeeping manager shall be able to view their assigned tasks to Cleaning staff.
REQ-71:	Housekeeping manager shall be able to delete their assigned tasks to Cleaning staff.
REQ-72:	Housekeepers shall be updating their status upon completion of tasks by housekeepers.
REQ-73:	Cleaning staff shall be able to view their assigned task list.
REQ-74:	Cleaning Staff shall be able to update their task status from list and send to housekeeping manager upon completion.

4.11 Guest Management

4.11.1 Description and Priority

The Guest Management feature allows the front desk to efficiently manage guest information and interactions throughout their stay.

4.11.2 Stimulus/Response Sequences

- **Stimulus:** A guest arrives at the hotel for check-in.
- **Response:** The front desk staff retrieves the guest's reservation and personal information from the system and initiates the check-in process.
- **Stimulus:** A guest provides feedback or requests assistance during their stay.
- **Response:** The front desk staff logs the guest's feedback or request in the system and takes appropriate action.
- **Stimulus:** A guest requests a change in their stay duration or room type.
- **Response:** The front desk staff accesses the guest's reservation and modifies the booking as requested.

4.11.3 Functional Requirements

Requirement	Description
REQ75:	The system should allow front desk staff to create guest profiles during the check-in process.
REQ-76:	Guest profiles should include personal information, contact details, preferences, and any special requests.
REQ-77:	The system should provide room assignment recommendations based on guest preferences and availability.
REQ-78:	Front desk staff should be able to manually override recommendations if needed.
REQ-79:	Front desk staff should be able to log and manage guest requests for services such as housekeeping, room service, or concierge assistance.
REQ-80:	The system should allow front desk staff to process room change requests and upgrades based on availability and guest preferences.

REQ-81:	The system should store guest preferences, such as room location, bed type, and amenities.
REQ-82:	Front desk staff should be able to record guest feedback and comments in the system.

4.12 Check-in & Check-out support by front desk

4.12.1 Description and Priority

The Check-in and Check-out Automation feature streamlines the check-in and check-out processes for guests, reducing manual intervention and enhancing guest experience, although there is also support for semi-manual process with the help of staff.

4.12.2 Stimulus/Response Sequences

- A guest arrives at the hotel for check-in.
- The system prompts the guest to complete the check-in process through a self-service kiosk or mobile app, capturing necessary information and payment details or staff do customer check-in.
- A guest requests an early check-out.
- The system calculates the early check-out charges, processes payment, and provides the guest with a digital receipt.
- A guest initiates the check-out process.
- The system generates the final bill, staff/System displays it to the guest, and offers options for payment.

4.12.3 Functional Requirements

Requirement	Description
REQ-83:	The system should allow front desk staff to collect guest details, including name, contact information, and reservation details.
REQ-84:	Staff should be able to input guest preferences and special requests
REQ-85:	The system should provide method for guest i.e., QR-code etc. to verify their identification directly, ensuring accuracy and compliance with regulations.
REQ-86:	The system should also provide a secure method for staff to verify guest identification, ensuring accuracy and compliance with regulations.
REQ-87:	Front desk staff should be able to assign available rooms to guests based on preferences, reservation type, and availability
REQ-88:	The system should capture the guest's electronic signature during the check-in process for confirmation and agreement to hotel policies.
REQ-89:	In case customer already booked room online system shall allow customers to get key by email on successful check-in.
REQ-90:	The system should support the handling of late check-out requests, allowing staff to communicate charges and confirm arrangements with guests.
REQ-91:	Front desk staff should be able to issue physical keys or key cards to guests upon check-in.
REQ-92:	The system should facilitate a smooth departure process, updating room availability and guest status after check-out8
REQ-93:	Staff should guide guests through the check-out process, reviewing charges, assisting with payment, and confirming the departure.

REQ-94:	System should also provide customers to directly check-out. i.e. Guests should have the option to opt for express check-out, where the system automatically settles their bill and sends a digital receipt.
REQ-95:	The system should allow front desk staff to prioritize which rooms require cleaning based on check-in schedules and guest preferences.
REQ-96:	The system should track and display the acknowledgment of cleaning notifications by housekeeping staff.
REQ-97:	If a room remains uncleaned close to a guest's expected check-in time, the system should automatically escalate the notification to higher-level staff for resolution.
REQ-98:	The system should integrate the housekeeping coordination data with the front desk's daily calendar.The calendar should display room cleaning and readiness status alongside guest check-in and check-out information.

4.13 Guest Communication and Notifications

4.13.1 Description and Priority

The Guest Communication and Notifications feature enables efficient communication between the front desk and guests, enhancing their experience and ensuring timely updates. Priority: Medium

Stimulus/Response Sequences

- Customer request something
- Front desks receive request and process it.
- Front desks send time to time updates and packages or promos to customers.
- Front desks notify near departure dates to guests.

4.13.2 Functional Requirements

Requirement	Description
REQ-99	Upon check-in, the system should send automated welcome messages to guests, providing information about their stay and relevant instructions.
REQ-100:	Guests should be able to request room service through the system, and the front desk staff should communicate service details and timing to guests.
REQ-101:	After check-out, the system should send departure messages to guests, expressing gratitude for their stay and inviting them to provide feedback.
REQ-102:	The system should allow staff to personalize messages based on guest preferences and history.
REQ-103:	Messages and notifications should be delivered to guests in a timely manner, enhancing their overall experience.
REQ-104:	The system should facilitate the communication of special offers, promotions, and packages to guests
REQ-105:	Guests should receive notifications about any changes or updates to their reservation, such as room upgrades or modifications.

4.14 Channel Management by front desk.

4.14.1 Description and Priority

The Channel Management feature empowers the front desk to efficiently manage and synchronize room availability and reservations across various distribution channels. Priority: Medium.

4.14.2 Stimulus/Response Sequences

- A new reservation is made through an external channel (e.g., Expedia).
- The system automatically updates the availability calendar, and the front desk is notified of the new reservation.
- A guest modifies or cancels a reservation via an online channel.
- The system reflects the changes in availability and notifies the front desk to ensure synchronization.
- A reservation is made directly at the front desk.
- The system updates the availability on both the front desk interface and external channels

4.14.3 Functional Requirements

Requirement	Description
REQ-106:	Any modifications or cancellations to reservations made through external channels should be synchronized with the front desk system
REQ-107:	The system should automatically notify the front desk staff when new reservations are made through external channels
REQ-108:	The system should facilitate two-way communication between the front desk and external channels for reservation updates.
REQ-109:	The system should ensure that updates from the front desk are instantly reflected across all connected external channels.
REQ-110:	The system should allow the front desk to configure channel-specific settings to tailor the distribution strategy.

4.15 Occupancy Check by Front Desk

4.15.1 Description and Priority

The Occupancy Check feature enables front desk staff to monitor and manage the occupancy status of rooms in real-time. Priority: High (8 out of 10).

4.15.2 Stimulus/Response Sequences

- A guest checks out and vacates a room.
- The system updates the room's occupancy status to "vacant" and makes it available for new reservations.
- A new reservation is made or a guest checks in.
- The system updates the room's occupancy status to "occupied" and blocks it from further reservations.

4.15.3 Functional Requirements

Requirement Description	Requirement Description
REQ-111:	The system should provide updates of room occupancy status based on check-in and check-out activities.
REQ-112:	Upon new reservations, the system should automatically mark the room as occupied and block it from further reservations
REQ-113:	The front desk interface should visually display the occupancy status of all rooms for easy monitoring
REQ-114:	Front desk staff should have the ability to manually update room occupancy status in case of any discrepancies.
REQ-115:	In case of delays or issues with room cleaning, the system should alert the front desk to prevent check-in errors
REQ-116:	The system should maintain historical data on room occupancy for analysis and reporting

4.16 Room and Rate Plan Configuration

4.16.1 Description and Priority

The Room and Rate Plan Configuration feature allows authorized users to define room types and set up various rate plans for those rooms. Priority: High (8 out of 10)

4.16.2 Stimulus/Response Sequences

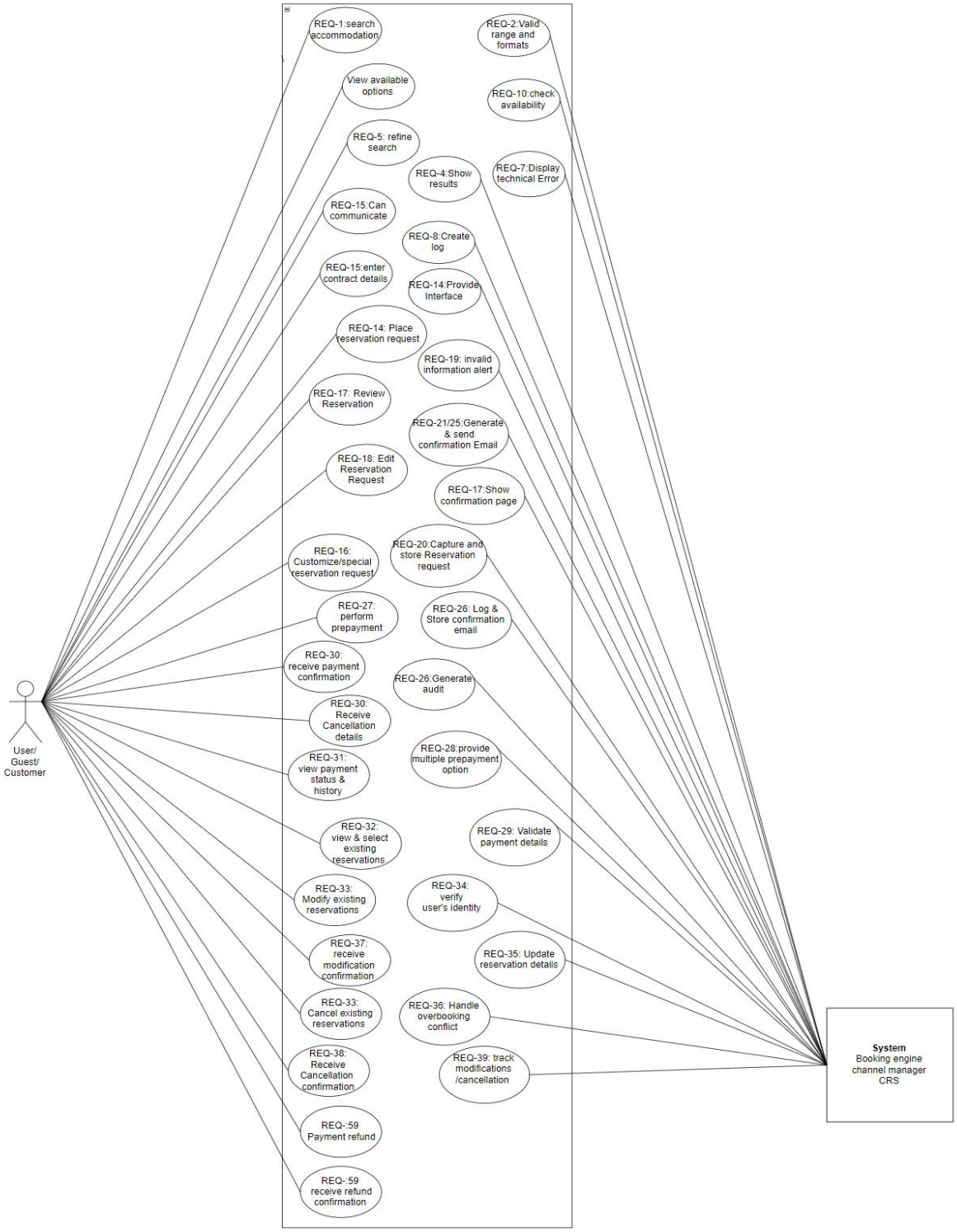
- Front desk management wants to add a new room type.
- The system prompts the user to enter room type details, such as name, description, and occupancy capacity.
- Front desk management wants to create a new rate plan.
- The system guides the user through rate plan setup, including rate details, applicable dates, and restrictions

4.16.3 Functional Requirements

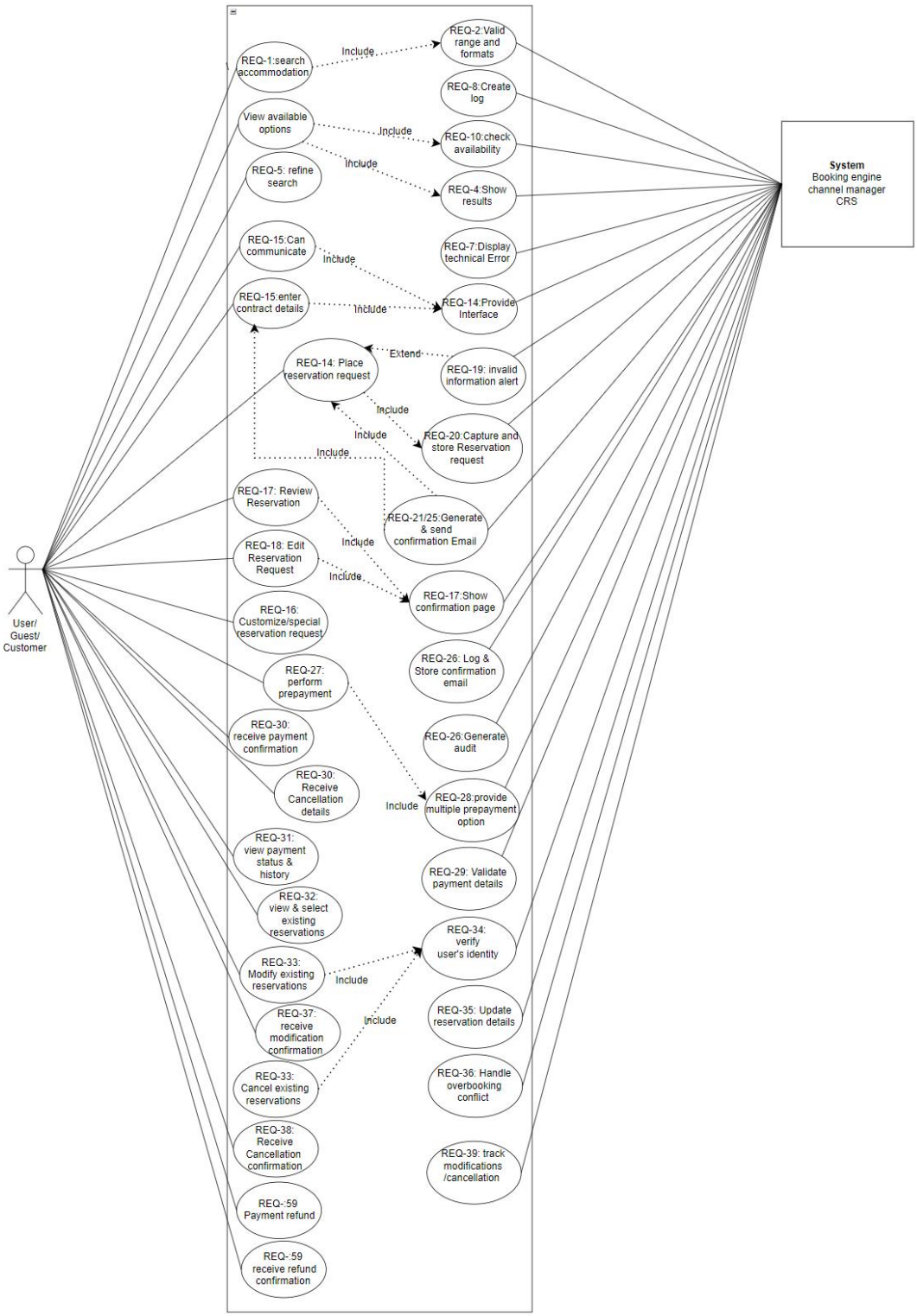
Requirement Description	Requirement Description
REQ-117:	The system should allow authorized users or manager to define and add new room types, including details like name, description, and occupancy capacity.
REQ-118:	Authorized users should be able to create new rate plans with customizable pricing, restrictions, and applicable dates.
REQ-119:	Users should have the ability to adjust rates for different seasons, weekdays, weekends, and special events.
REQ-120:	The system should support dynamic pricing strategies that adjust rates based on demand, occupancy, and other factors
REQ-121:	Users should be able to associate rate plans with specific room types, allowing flexibility in pricing based on room characteristics
REQ-122:	Users should be able to define minimum and maximum stay requirements for specific rate plans.
REQ-123:	Users should be able to create package deals that include room rates along with additional services or amenities
REQ-124:	The system should enable users to define different rates for specific dates, holidays, and events
REQ-125:	Users should be able to control the visibility of rate plans based on different distribution channels.
REQ-126:	The system should offer a training mode that allows new receptionists to practice using the system without affecting real data.
REQ-127:	Receptionists should be able to customize the level of assistance and guidance provided by the system based on their familiarity with the tasks.
REQ-128:	The system should provide step-by-step guidance for common front desk tasks, such as guest check-in, check-out, and reservation modifications

4.17 Use Case Diagram

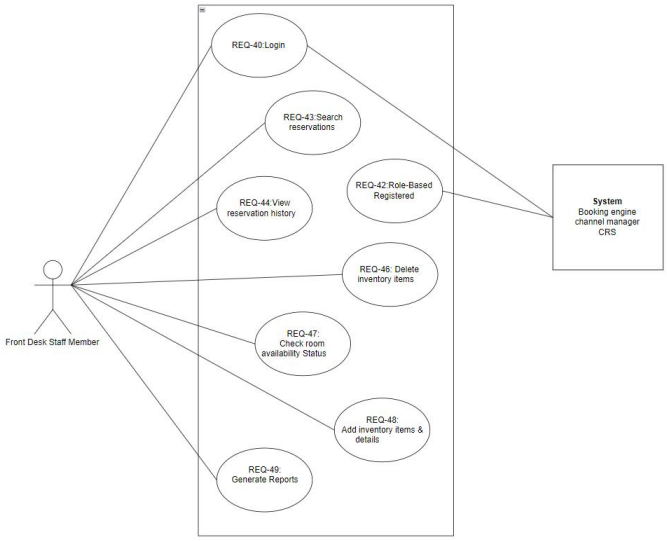
Top Level view

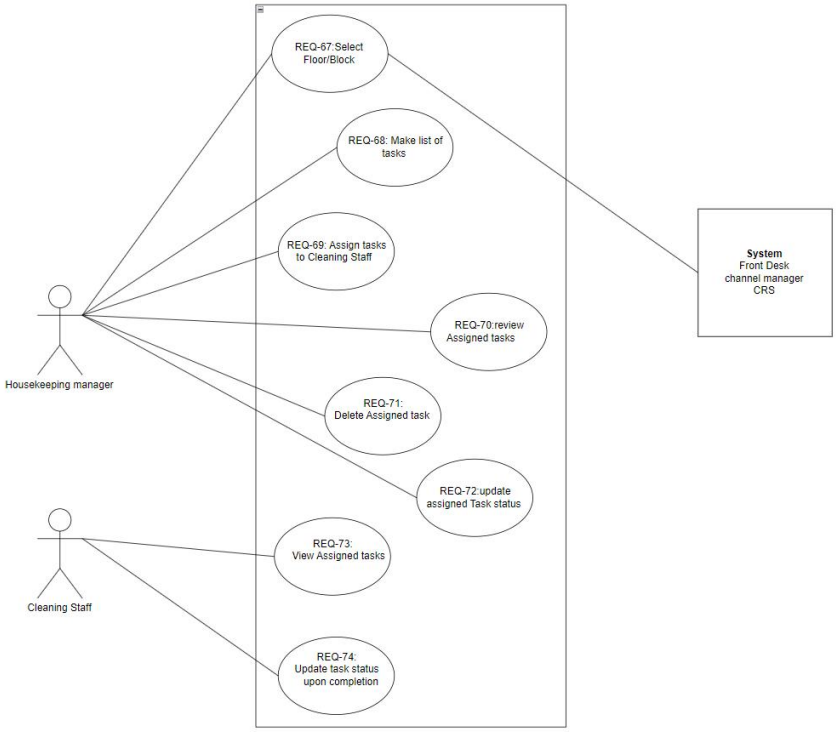


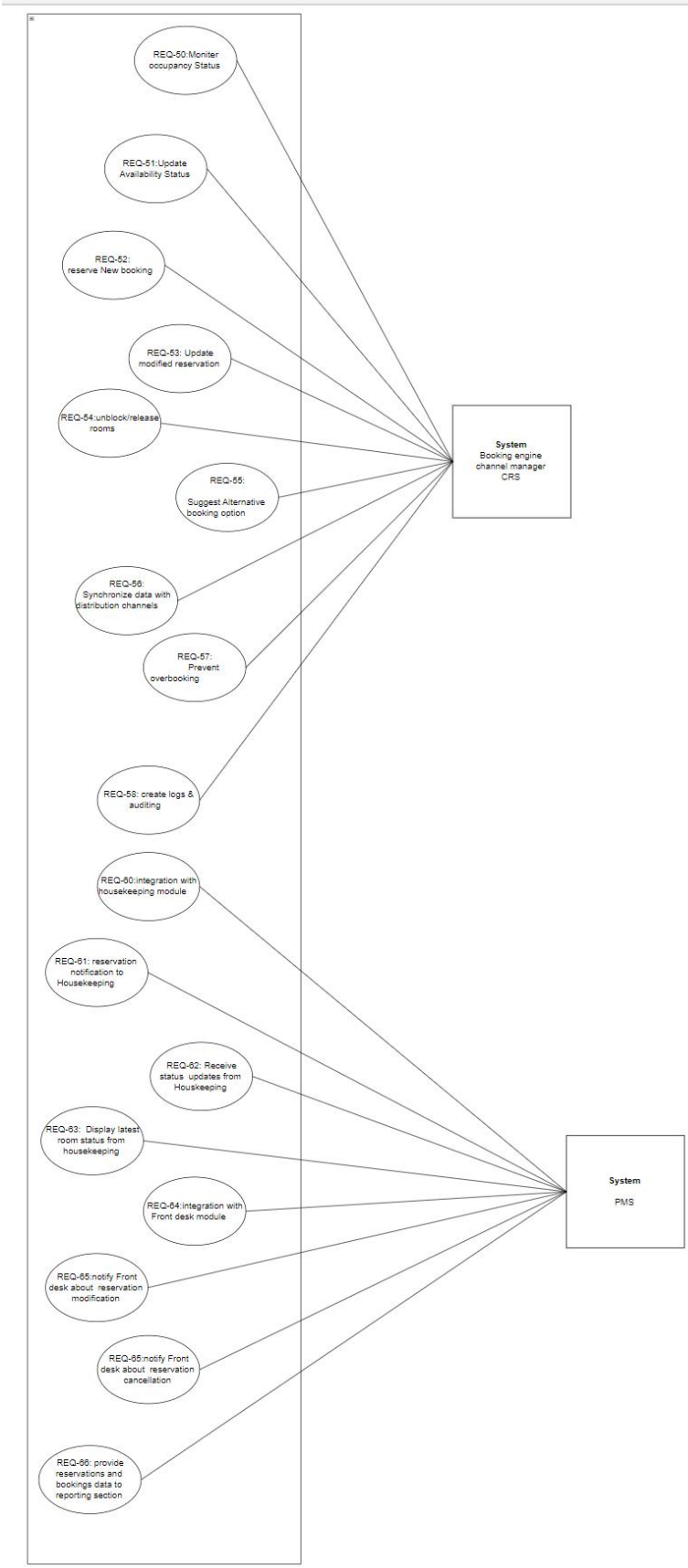
Next Level View

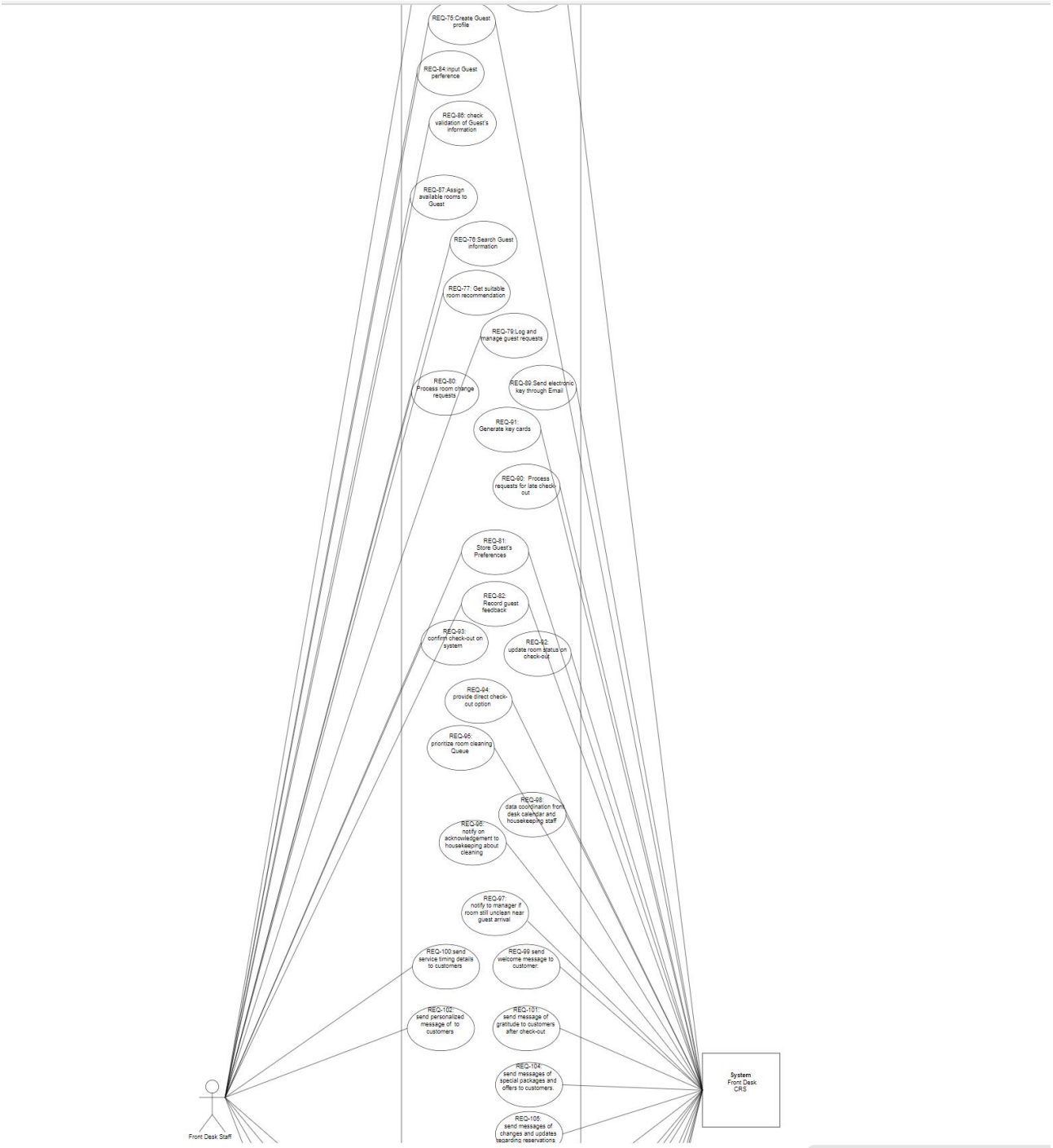


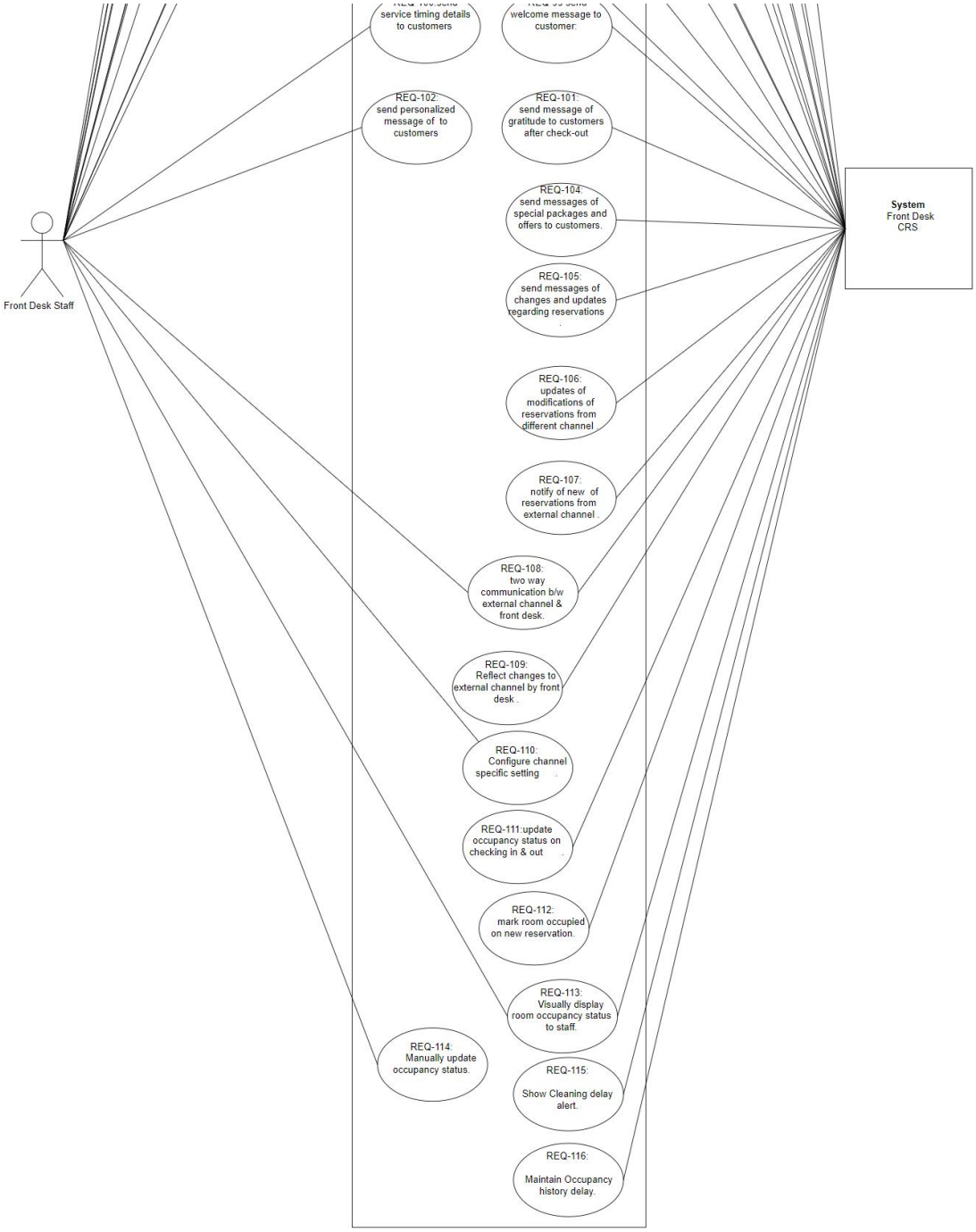
Top Level


REQ-40:Login
REQ-43:Search reservations
REQ-42:Role-Based Registered
REQ-44:View reservation history
REQ-46: Delete inventory items
REQ-47: Check room availability Status
REQ-48: Add inventory items & details
REQ-49: Generate Reports
Front Desk Staff Member
System
Booking engine
channel manager
CRS


REQ-67:Select Floor/Block
REQ-68: Make list of tasks
REQ-69: Assign tasks to Cleaning Staff
REQ-70:review Assigned tasks
REQ-71: Delete Assigned task
REQ-72:update assigned Task status
REQ-73: View Assigned tasks
REQ-74: Update task status upon completion
Housekeeping manager
Cleaning Staff
System
Front Desk
channel manager
CRS

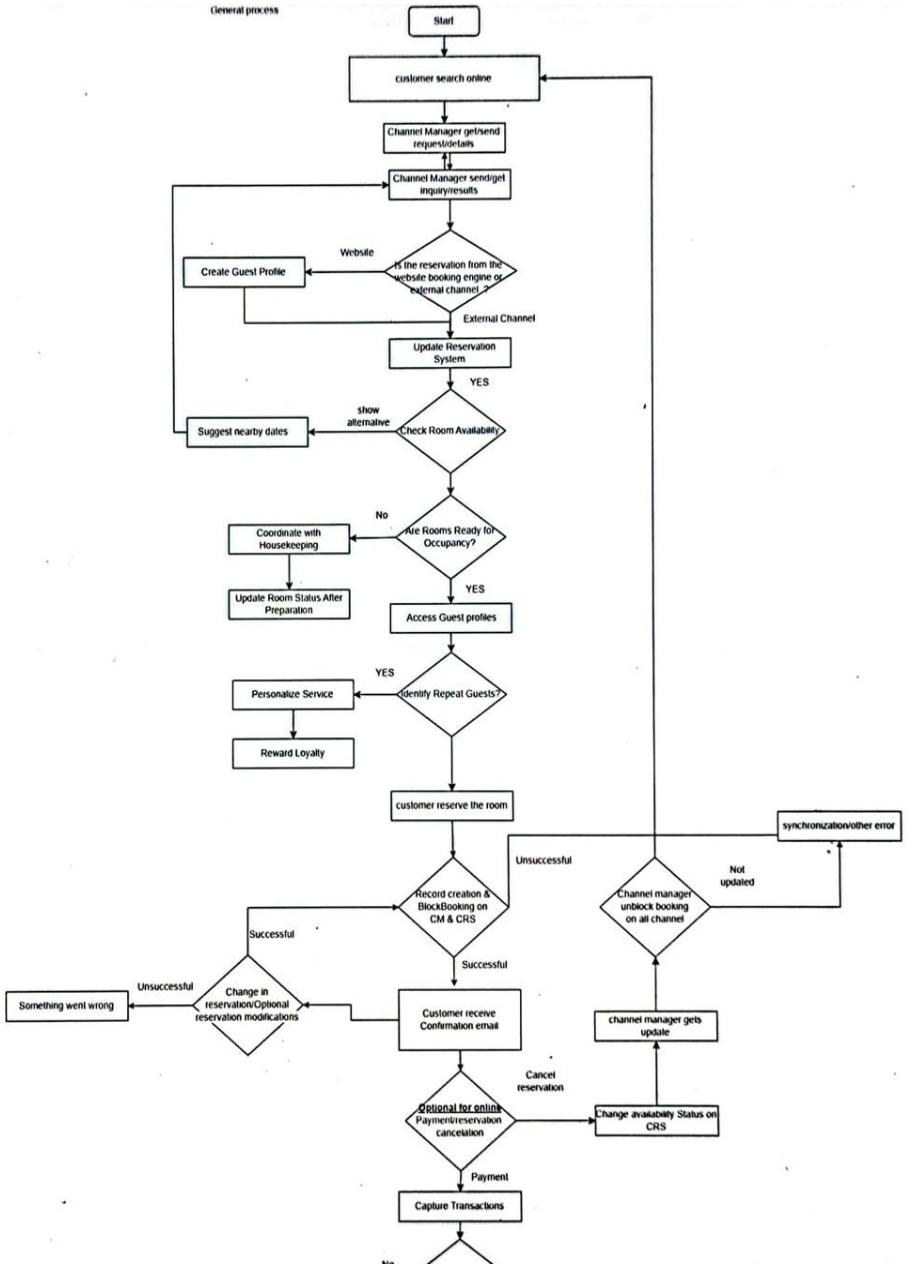

REQ-50:Moniter occupancy Status
REQ-51:Update Availability Status
REQ-52: reserve New booking
REQ-53: Update modified reservation
REQ-54:unblock/release rooms
REQ-55: Suggest Alternative booking option
REQ-56: Synchronize data with distribution channels
REQ-57: Prevent overbooking
REQ-58: create logs & auditing
System
Booking engine
channel manager
CRS
REQ-60:integration with housekeeping module
REQ-61: reservation notification to Housekeeping
REQ-62: Receive status updates from Houskeeping
REQ-63: Display latest room status from housekeeping
REQ-64:integration with Front desk module
REQ-65:notify Front desk about reservation modification
REQ-65:notify Front desk about reservation cancellation
REQ-66: provide reservations and bookings data to reporting section
System
PMS

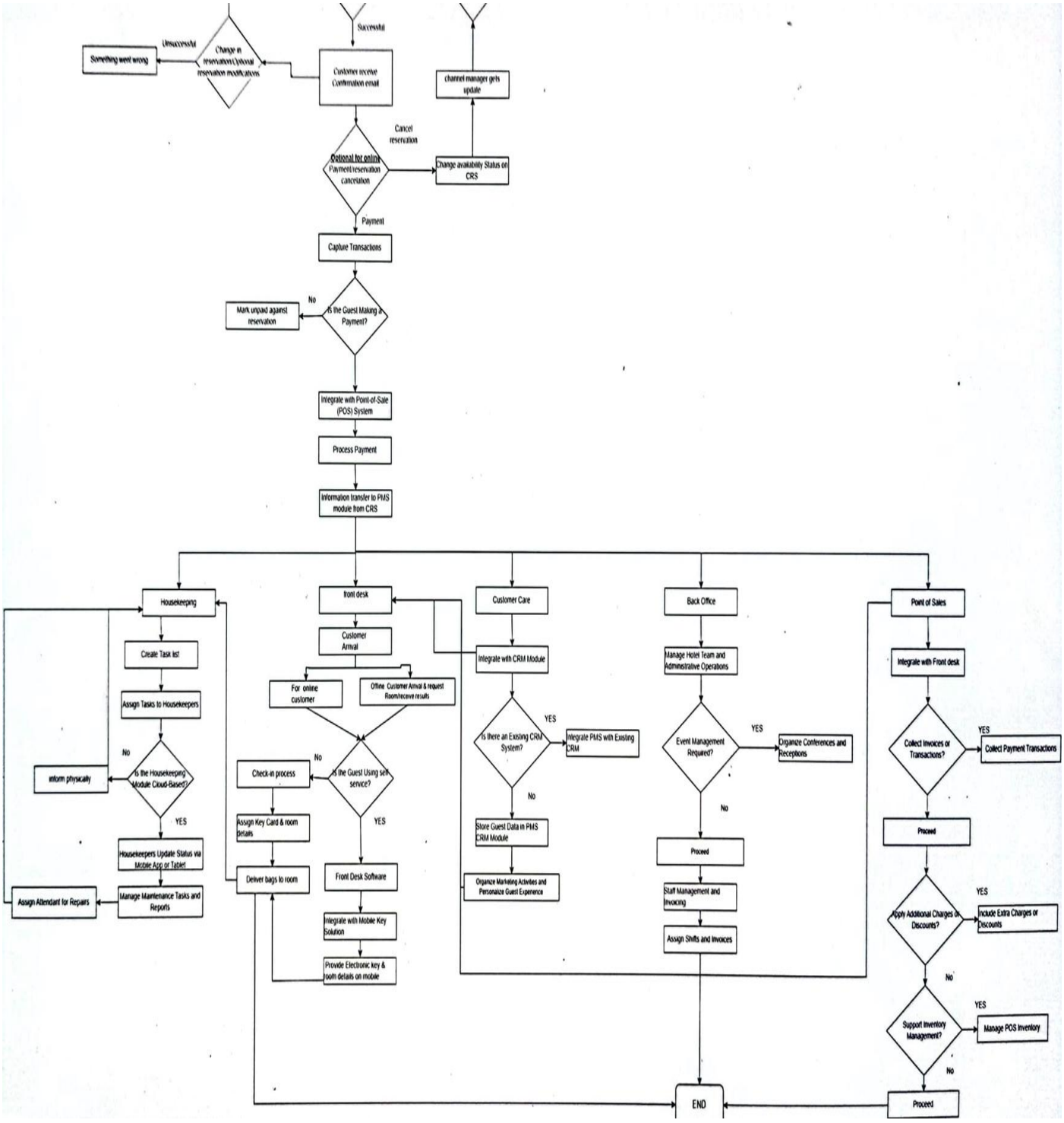

REQ-76:Create Guest profile
REQ-84:input Guest perference
REQ-86: check validation of Guest's information
REQ-87:Assign available rooms to Guest
REQ-78:Search Guest information
REQ-77: Get suitable room recommendation
REQ-79:Log and manage guest requests
REQ-89: Process room change requests
REQ-89:Send electronic key through Email
REQ-91: Generate key cards
REQ-90: Process requests for late check out
REQ-81: Store Guest's Preferences
REQ-82: Record guest feedback
REQ-93: confirm check-out on system
REQ-92: update room status on check-out
REQ-94: provide direct check-out option
REQ-95: prioritize room cleaning Queue
REQ-98: data coordination front desk calendar and housekeeping staff
REQ-96: notify on acknowledgement to housekeeping about cleaning
REQ-97: notify to manager if room still unclean near guest arrival
REQ-100:send service timing details to customers
REQ-99:send welcome message to customer:
REQ-102: send personalized message of to customers
REQ-101: send message of gratitude to customers after check-out
REQ-104: send messages of special packages and offers to customers.
REQ-105: send messages of changes and updates regarding reservations
Front Desk Staff
System
Front Desk
CRS


service timing details to customers
welcome message to customer.
REQ-102: send personalized message of to customers
REQ-101: send message of gratitude to customers after check-out
REQ-104: send messages of special packages and offers to customers.
REQ-105: send messages of changes and updates regarding reservations
REQ-106: updates of modifications of reservations from different channel
REQ-107: notify of new of reservations from external channel .
REQ-108: two way communication b/w external channel & front desk.
REQ-109: Reflect changes to external channel by front desk .
REQ-110: Configure channel specific setting
REQ-111:update occupancy status on checking in & out
REQ-112: mark room occupied on new reservation.
REQ-113: Visually display room occupancy status to staff.
REQ-114: Manually update occupancy status.
REQ-115: Show Cleaning delay alert.
REQ-116: Maintain Occupancy history delay.
Front Desk Staff
System
Front Desk
CRS

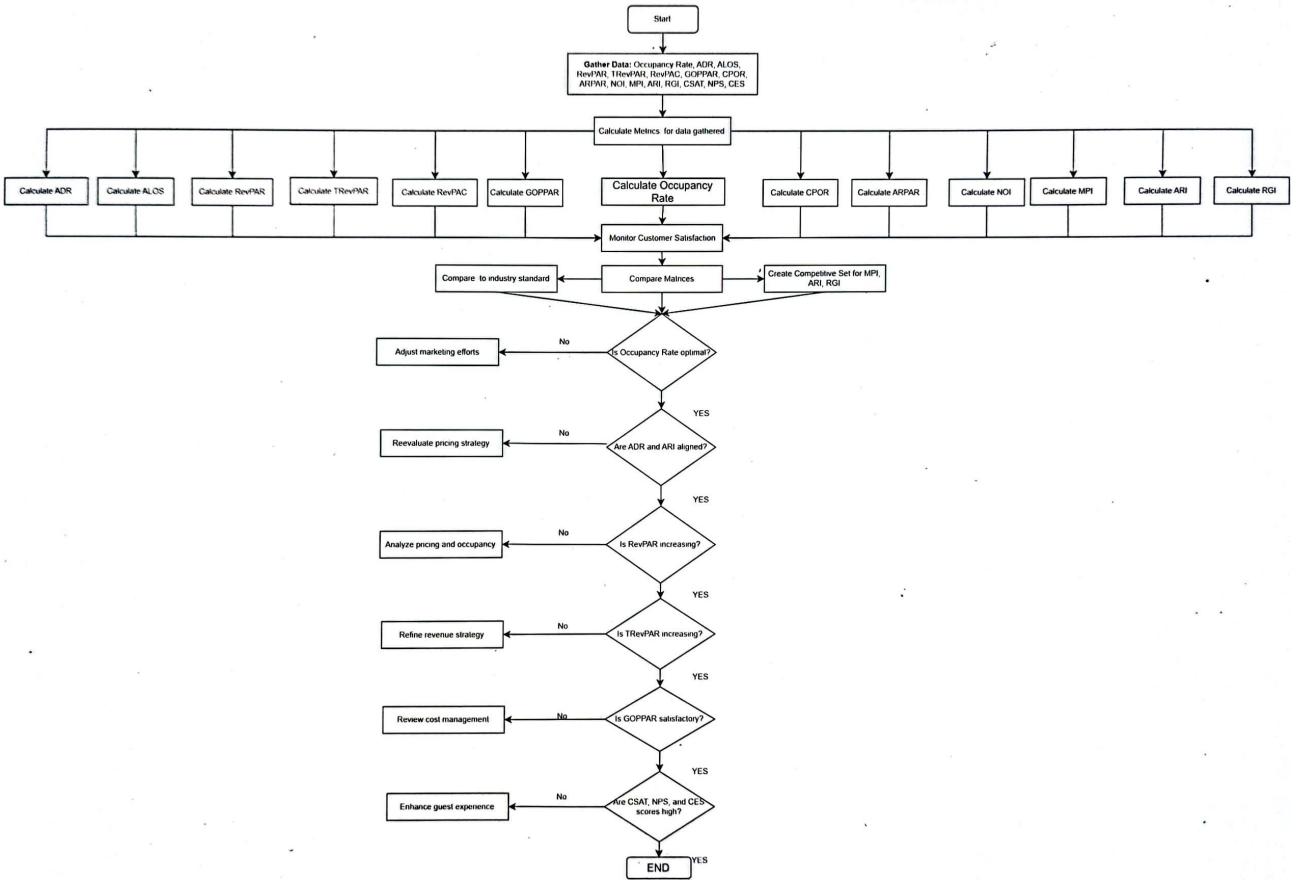

REQ-117: Define & add room type
REQ-118: Create new rate plan
REQ-119: Adjust rates with seasons
REQ-120:Support dynamic pricing
REQ-46: Delete inventory items
REQ-121: Associate rates with specific room
REQ-122: Define min/max stay rate plan
REQ-123:Create package deal along with rates
REQ-124: Define different rates on special days
REQ-125: Control rate visibility on different channels
REQ-126:Offer training mode
REQ-127: Control Training level
REQ-128: Receive step by step guide
Front Desk Management(Manager)
Front Desk staff(Receptionist)
System
Front desk CRS

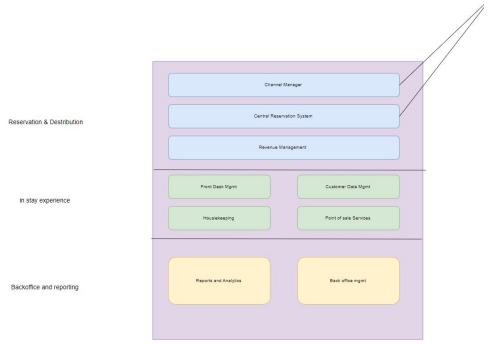
4.18 Process Flow




Successful
Unsuccessful
Something went wrong
Change in reservation/Optional reservation modifications
Customer receive Confirmation email
channel manager gets update
Cancel reservation
Optional for online Payment/reservation cancelation
Change availability Status on CRS
Payment
Capture Transactions
No
Mark unpaid against reservation
Is the Guest Making a Payment?
Integrate with Point-of-Sale (POS) System
Process Payment
Information transfer to PMS module from CRS
Housekeeping
Create Task list
Assign Tasks to Housekeepers
No
Inform physically
Is the Housekeeping Module Cloud-Based?
YES
Housekeepers Update Status via Mobile App or Tablet
Manage Maintenance Tasks and Reports
Assign Attendant for Repairs
front desk
Customer Arrival
For online customer
Offline Customer Arrival & request Room/receive results
No
Check-in process
Is the Guest Using self-service?
YES
Assign Key Card & room details
Deliver bags to room
Front Desk Software
Integrate with Mobile Key Solution
Provide Electronic key & room details on mobile
Customer Care
Integrate with CRM Module
YES
Is there an Existing CRM System?
Integrate PMS with Existing CRM
No
Store Guest Data in PMS CRM Module
Organize Marketing Activities and Personalize Guest Experience
Back Office
Manage Hotel Team and Administrative Operations
YES
Event Management Required?
Organize Conferences and Receptions
No
Proceed
Staff Management and Invoicing
Assign Shifts and Invoices
Point of Sales
Integrate with Front desk
YES
Collect Invoices or Transactions?
Collect Payment Transactions
Proceed
YES
Apply Additional Charges or Discounts?
Include Extra Charges or Discounts
No
YES
Support Inventory Management?
Manage POS Inventory
No
Proceed
END

Revenue Mgmt





5. Other Nonfunctional Requirements/need to be quantifiable.

5.1 Performance Requirements

Real-Time Response:	
REQ129:	The system should provide fast and real-time responses to room availability inquiries and booking requests to ensure a seamless booking experience for guests.
Performance:	
REQ-130:	The system should handle a high volume of reservations, transactions, and data processing efficiently, especially during peak periods, to prevent delays and ensure smooth operations.
REQ-131:	The system shall handle concurrent search requests from multiple users without affecting performance.
REQ-132:	The system shall handle concurrent availability checks from multiple users without affecting performance.
Timing Relationships:	
REQ-133:	The system should prioritize real-time response for critical operations such as room availability checks and payment processing.

5.2 Safety Requirements

Data Security:	
REQ-134:	The system should ensure the security and confidentiality of sensitive data, including financial and guest information, to prevent unauthorized access and potential data breaches.

5.3 Security Requirements

User Identity Authentication:	
REQ-135:	The system should implement robust user identity authentication to ensure that only authorized users, such as hotel staff and managers, can access sensitive data and perform administrative tasks.
Privacy Protection	
REQ-136:	The system should maintain the privacy of guest information and ensure that only relevant personnel have access to sensitive data.
REQ-137:	The system shall encrypt and securely store payment information to ensure data confidentiality.
Compliance with Regulations:	
REQ-138:	The system should comply with relevant external policies or regulations concerning security and privacy issues in the hotel industry.
REQ-139:	The system shall comply with relevant payment card industry (PCI) security standards to safeguard payment data.

5.4 Software Quality Attributes

Reliability:	
REQ-140:	The system should be highly reliable to minimize downtime and data inconsistencies, ensuring that hotel operations can proceed smoothly.
Usability:	
REQ-141:	The system should have an intuitive and user-friendly interface to enhance guest and staff experiences and minimize the learning curve for new users.
Maintainability:	
REQ-142:	The system should be designed and structured in a way that allows easy maintenance and updates to support long-term use.
Scalability:	
REQ-143:	The system should be scalable to accommodate growing hotel operations and data volumes as the business expands.

5.5 Business Rules

Authorization Rules	
REQ-144:	The system should enforce specific authorization rules to determine which individuals or roles can perform certain functions (e.g., managers can access financial data, front desk staff can update room statuses).
Data Access Control:	
REQ-145:	The system should restrict data access based on role-based permissions to ensure data confidentiality and security.

6. Other Requirements

TBD

Appendix A: Glossary

Terms	**Meanings**
TBD	To be determined(refer to content which is not yet confirmed or gained)
PMS	Property Managemant System
Mgmt	Short term for Managemant
REQ	Unique name for requirnment for there numbering

Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>