



Hotel Management System Requirements Specification

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1. Executive Summary

1.1 Project Overview

As time moves on so does technology develops. Our idea was to create a decent system software for a specific hotel. For different hotels, restaurants, motels, resorts etc finding a good and suitable software is very important and gives the customers the feedback that they need and want. Without it they would waste more time, and time is money.

These problems would keep away from customers and we are trying not to. The hotel does not have a proper database, accounts for cleaner, inventory and receptionist. Admin has also a very important role in this management system software which is not very used by the owner of the hotel also.

We looked at how we could come up with a solution about the problem "Zum Ziel" hotel is facing. And what we will try to do is to create a software which will be very simple to use, will help to upgrade the efficiency and progress of hotel. The aim of this project is to end up with a proper functional system software that will be handfull to the hotel and its customers.

1.2 Purpose and Scope of this Specification

The purpose of this entire project is to provide quality and standard services. This software application will focus on automatic functions such as pre-booking, booking functions, managing inventories in order for a real-time inventory to have a control of the rates across the channels and easy to update control. Also it is important for the admin page to be able to control all of the other pages such as cleaner, guests, receptionist and inventory.

If the admin page is functional and coordinates all the other workers, this will be a benefit to the customers. This software is going to come in help for the hotel by being more coordinated, specific and precise. We are gathering data for the hotel by tracking employees, customers, booking and organize it in the best way possible.

Apart from all these functionalities our Software will also ensure that the front office manager will not fumble with his day to day operations, his operations will be automated to the maximum so that there will be no possibility for human errors.

This system software will monitor everything from the moment that the booking is being done and it will be occupied to the system. We have seen that nowadays companies are being oriented to the system software for their businesses, so this is a better way to lower costs and to grow the productivity of the business.

2. Product/Service Description

Hotel management system is a desktop application project which will come in hand to the company providing the best service by surveying the employees work and also customer decisions. It saves effort and is more cost-effective.

It is important to cover the controlling, planning, activities that are being done in the company. In order to be more flexible, faster and better this system software will help "Zum Ziel" to ease its problems. Records of all the employees and their salary will be kept in a way to be correct with the employee and government.

2.1 Product Context

Hotel Management System software is a technology that allows hotel operators and owners to streamline their administrative tasks while also increasing their bookings in both the short-and long-term. Also it is very important for the hotel management system to enhance customer experience with its brand.

2.2 User Characteristics

There will be different users for different needs such as admin which will survey the most important part and is accountable for employees and other users such as guest, receptionist and cleaner. The log in page will be a page which every user can access it and it will lead to their personal pages.

1. Owner (admin) page

- Admin can log in to the system.
- Admin is responsible for different pages and users.
- Overall board – includes orders, new bookings, rate, customer comments, total revenue, notice me box and special customers.
- Employees – include add new employee box, employ data and edit. When adding the employee it will show first name, last name, email, password, birthday number etc
- Rooms – include day of reservation, day of leaving, requirements and cleaning time.
- Statistics – include rooms, nationalities, satisfaction, total revenue and best employee.
- More – includes how rooms are provided such as single, double etc. Employee and reservation box are included.
- Admin can create, remove, update employees
- Admin manages all the the other users.
- Admin can create or delete his employee accounts.

2. Guest Page

- Guest can log in to the system.
- Guest can sign up by writing their username and passwords.
- Can access their personal page.
- They can book by themselves online.

3. Cleaner

- Cleaner can log in to the system.
- Cleaner can sing in by writing their username and passwords.
- He/she should fill the rooms that have to be cleaned.
- Cleaner should put in if there is any damaging object, missing object, consumed drinks etc

4. Receptionist

- Receptionist can log in to the system.
- He deals with guest's check-in, check-out and answers phone calls.
- Is able to make and view the reservations which guests request.
- Receptionist has access to inventory and balance sheets.
- Is able to view rooms to be cleaned and can also print the receipt.

5. Log in

- Log in is a common page where each member can log in such as owner, guest, cleaner, receptionist.
- Log in page has an option to write name and username, password. In case if someone forgets his password he/she has the right to retype it.

2.3 Assumptions

We assume on this application:

1. All users have basic knowledge in English language.
2. All users have basic knowledge in computer and Smartphone usage.
3. It is assumed that the Hotel provides Credit Card payments.
4. Every user has access to a computer.
5. Hotel has internet connection all the time.
6. Every user like admin, receptionist, and cleaner will be trained to use this application before starting to use it.
7. The application will be secure and the data will be confidential.
8. It is assumed that the computer devices that will use the application will have Windows or Linux operating system

2.4 Constraints

- All users have to be logged in, in order to use the product and to access the information
- The users of the application should have basic knowledge of the application
- Phone memory of the users is another problem, prices and quality of android phones varies and so the memory, most of the workers are likely to have cheaper phones and that can be a problem for the application usage
- All users have to be logged in, in order to use the product and to access the information

2.5 Dependencies

Dependencies needed for the application:

- As it is a web based application it is always dependent on internet connection.
- A connection is required to send commands and receive answers, usually in the form of a result set.
- The application needs to run in a computer.
- Project cannot start without the acceptance of the admin.

3. Requirements

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” that may include new functionality 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.

Hotel Management System Requirements Specification

Functional Requirements

Req#	Requirement	Comments	Priority	Date Rvwd	
BR_01	The system should support admin, receptionist, cleaner, and guest accounts.	The account type should select the view.	1		
BR_02	The system should allow an admin to perform all actions of the receptionist and cleaner.	Admins should be able to support all other employees including other admins.	2		
BR_03	The system should provide a view for each role.	There should be an admin, receptionist, cleaner, and guest view.	1		
BR_04	The system should mark occupied rooms as unclean.	This should occur daily or upon check-out.			
BR_05	The system should require user login with password.	Password should be stored securely.			
BR_06	The system should allow all users to logout.	Sessions should end upon logout.			
BR_07	The system should allow all users to update profile information.	Profile updates should allow for username and password			
BR_08	The system should allow an admin to view accounts.	Any admin can see all accounts.			
BR_09	The system should allow an admin to add and remove accounts.	Any admin can create or delete an account.			
BR_10	The system should allow an admin to edit accounts.	Any admin can edit an account's profile information.			
BR_11	The system should allow an admin to view hotels.	Any admin can see all hotels.			
BR_12	The system should allow an admin to add and remove hotels.	Any admin can create or delete a hotel.			
BR_13	The system should allow an admin to edit hotels.	Any admin can edit a hotel's information.			
BR_14	The system should allow an admin to view rooms.	Any admin can see all rooms.			
BR_15	The system should allow an admin to add and remove rooms.	Any admin can create or delete a room.			
BR_16	The system should allow an admin to edit rooms.	Any admin can edit a room's information.			
BR_17	The system should allow an admin to view room types.	Any admin can see all room types.			
BR_18	The system should allow an admin to add and remove room types.	Any admin can create or delete a room types.			

Req#	Requirement	Comments	Priority	Date Rvwd	
BR_19	The system should allow an admin to edit room types.	Any admin can edit a room type's information.			
BR_20	The system should allow room rates to be set for each room type.	Rates are determined by a room's type. An example of a type is king or double queen.			
BR_21	The system should allow an admin to view products in the inventory.	Any admin can see all products.			
BR_22	The system should allow an admin to add and remove products to the inventory.	Any admin can create or delete a product.			
BR_23	The system should allow an admin to edit products to the inventory.	Any admin can edit a product's information.			
BR_24	The system should allow an admin to view employee tasking.	Any admin can see all tasking.			
BR_25	The system should allow an admin to assign and unassign tasking to employees.	Any admin can create or delete a tasking.			
BR_26	The system should allow an admin to view guest reviews.	Any admin can see a guest's review of their reservation.			
BR_27	The system should allow an admin to respond to guest reviews.	Any admin can respond to a guest's review of a reservation. Admin should also be able to delete inappropriate reviews.			
BR_28	The system should allow an admin to view hotel financial information from various date ranges.	Any admin can view revenue earned for a given date range.			
BR_29	The system should allow an admin to view rooms scheduled for repair.	Any admin can see all scheduled room repairs.			
BR_30	The system should allow an admin to schedule rooms for repair.	Any admin can schedule or unschedule a room for repair..			
BR_31	The system should not allow rooms to be booked while under repair.	Reservations cannot overlap with the scheduled dates for a room repair.			
BR_32	The system should allow an admin and receptionist to view guest reservations.	Any admin or receptionist can see all reservations.			
BR_33	The system should allow an admin and receptionist to create reservations for guests.	Any admin or receptionist can create reservations for a guest.			

Req#	Requirement	Comments	Priority	Date Rvwd	
BR_34	The system should allow an admin and receptionist to cancel reservations for guests.	Any admin or receptionist can cancel reservations for a guest.			
BR_35	The system should allow an admin and receptionist to view check-in and check-out times.	Any admin or receptionist can see all check-in and check-out times.			
BR_36	The system should allow an admin and receptionist to check-in and check-out guests.	Any admin or receptionist can mark a guest as checked-in or checked-out of the hotel.			
BR_37	The system should allow an admin and receptionist to view the availability of each room.	Any admin or receptionist can see if a room is available on a given date.			
BR_38	The system should allow rooms to be assigned to users.	Rooms should be assigned to cleaners to perform cleaning tasks.			
BR_39	The system should allow an admin and cleaner to view assigned rooms in need of cleaning.	Any admin or cleaner can see all rooms assigned to them that need to be cleaned.			
BR_40	The system should allow an admin to view all rooms in need of cleaning.	Any admin can see any room that needs to be cleaned.			
BR_41	The system should allow an admin and cleaner to mark assigned rooms in need of cleaning as clean.	Any admin or cleaner can mark a room as clean after they have finished their cleaning task.			
BR_42	The system should allow an admin and cleaner to print a list of viewable rooms in need of cleaning.	The list of rooms that needs to be cleaned needs to be printed to be carried around by the employee while cleaning rooms.			
BR_43	The system should allow an admin, receptionist, and cleaner to view assigned tasking.	Employees need to be able to view the tasks that an admin has assigned to them.			
BR_44	The system should allow an admin, receptionist, and cleaner to mark assigned tasking as complete.	Employees need to be able to mark a task as complete to inform the admin that assigned it that the task has been completed.			
BR_45	The system should allow an admin and cleaner to consume products from the inventory.	During the cleaning process, products will be used and restocked from the inventory. The employee needs to update the product quantity in the system.			

Req#	Requirement	Comments	Priority	Date Rvwd	
BR_46	The system should allow new customers to register as guests.	Guests need to be able to create accounts themselves without an admin.			
BR_47	The system should allow guests to view available rooms.	Guests need to be able to view rooms and rates before making a reservation.			
BR_48	The system should allow guests to create reservations.	Guests should be able to reserve a room for a period of time.			
BR_49	The system should allow guests to create reservations for multiple rooms in one transaction.	Guests should be able to reserve multiple rooms for a period of time.	2		
BR_50	The system should allow guests to view reservations.	Guests need to be able to view confirmed reservations to verify a transaction was successful.			
BR_51	The system should allow guests to cancel future reservations.	Guests need to be able to cancel reservations in case a mistake was made during the booking process.			
BR_52	The system should allow guests to create a review of a past reservation.	Guests should be able to provide feedback for each stay at a hotel.			
BR_53	The system should allow guests to view payment methods.	Guests need to be able to view their payment information on file.			
BR_54	The system should allow guests to add and remove payment methods.	Guests should be able to manage their payment options on file.			

3.2.1.1 Usability Requirements

- The main purpose of creating this web app is to be simple and each user feel comfortable when using it.
- The web app will be used by different people, clients also staff so each will have specific type of interface as their jobs or roles.
- So the main commands for each interface will be at the first page. If any problems happen or some new information is needed to be add or even deleted the persons can easily do it because the possibility to make changes will be there.
- Then of course all the management of hotel will be viewed by the admin and he will be informed for everything.

3.2.1.3 Learnability

- Our product will be easily understood, even it will be very easy to use the commands they will kind and provide extra information how to use it.
- If something is writeable is kind of boring but we will use some colors and graphics and this will make it more easy and attractable.
- About the language it will be in English because the hotel is located at Germany and has near also Swiss and France, and people who go there are also from very different places.

3.2.1.4 Accessibility

- The system will be able to handle multiple actions at same time.
- We will make sure that the errors will be almost 0 when that happens.
- The system as many ones will be executable every day 24 hours.
- Back up exists
- Information will be saved

3.2.1.5 Performance

- As I mentioned before there will be multiple users so our web application will use
- Multi-tier architecture.
- There will be user client, middle tier, and application server.
- The performance of web application will be based on :
- Speed of internet connection so it even in a slow one be good
- Responsive time so when someone search results, these should be inhabit in tolerable time.

3.2.1.6 Capacity

- The server where the web is stored needs at least 150MB of size so even when multiple users there will be no problems as example are slowing down of system etc.
- Even when internet connection is but very good there are possibilities to open and perform actions in system.

3.2.2 Organizational Requirements

3.2.2.1 Availability

- Web application will be able every day 24 hours.
- Web application can be used by everyone wherever they are.
- Web app will have secure web browsers.
- Web app also will have a high availability in order to get the maximum percentage of time the system is functioning.

3.2.2.2 Latency

We want that software be used when internet connection is strong so the website will be loaded in less than 1.5 sec

3.2.2.3 Monitoring

The software will be check out many times and even when is something wrong the administrator will be able to know what is going on and everything will be saved in specific files .

3.2.2.4 Maintenance

With time everything changes new things come out so the system will be build in that way that if we want to add more things we can do it. The administrator has the job to maintain the system and if something is not ok then it will be figured it out.

3.2.2.5 Operations

- Admin of course will have access to all the software; he can see everything what is going on in the hotel who and what comes in and out.
- Customers can book online
- Customers can leave a comment
- Cleaner can be logged in and see which room is unclean and clean it
- Receptionist can be logged in and then deal with customers and rooms.

3.2.3 External Requirements

3.2.3.1 System Interface

- Not everyone will be able to access the system. To keep safe the information the staff and admin will have a username and also an encrypted password.
- The people which have to deal with customers will have access on personal info systems and reservation stuff.
- And of course the admin will be the only one who will access all systems and subsystems.
- Customer Representatives will have access on Reservation and Personal Information subsystems.
- Receptionist will have access on the Reservation data of all customers

3.2.3.1.1 Network and Hardware Interfaces

- About network our system can be run by Firefox, Google Chrome, internet explorer and Safari.
- To have advantage customers can use the newest versions to have more cool stuff in their interfaces.
- We will try to design and to make it easy and cool.
- Symfony for the back-end and React.js for the front-end.

3.2.3.2 Security

- Make possible to detect some people who are not authorized to get into the system
- Make possible that also unauthorized programs to be detected
- Make possible that information which is personal to be protected
- Make possible that applications and interfaces be not attackable
- Make possible that someone to not interfere in staff informations.
- Make possible that communications and conversations be private
- Make possible that customers and users be recognized
- Make possible that every member of staff uses its own page.

3.2.3.2.1 Protection

After we searched we decided to use Symfony. It provides a complete security system for web development.

It uses HTTP basic authentication

It provides ways to authorize authenticated users based on their roles.

It allows the developers to implement their own authentication strategies.

Symfony has some components which contains subcomponents and can be used separately to guarantee a secure application.

Symfony / security- Http: It integrates the core sub-component with the HTTP protocol to handle HTTP requests and responses.

Symfony / security-Csrf: It makes possible protection against Cross-site Request Forgery attack.

Symfony / security-core: It makes possible that all the common security features, from authentication to authorization and from encoding passwords to loading users.

3.2.3.2.2 Authorization and Authentication:

For Authorization and Authentication is needed Symfony. What it does?

It uses the Authentication providers by complementary Authentication Provider Interface. It has also a method supports() by which AuthenticationProviderManager decides if it supports the given token or not. If it is supported then it will call the provider method authenticate (). This method returns an authenticated token or throw an AuthenticationException.

The provider offers some authentications and to have a successful Authorization Symfony uses the Authorization Checker and the access listener.

The Password Encoder Factory, Authenticating Users by their Username and Password, Using Password Encoders , Creating a custom Password Encoder.

3.2.3.3 Data Management

What does Data Management do? So as definition it is a way of managing knowledge and information and makes it accessible for specific purposes. And here data management include data which are effective of course and then include specific policies for the business.

The information which enters in the system needs to be adjusted with needs of customers.

3.2.8 Standards Compliance

We have also added the receipt for customers in order for them to know the prices.

In the receipt customers can see TVSH, which is 7%. It will be printed out and given to them.

3.2.10 Other Non-Functional Requirements

Please provide all necessary non-functional requirements, similar to the requirements explained in the lesson slides or in the textbook.

3.2.3.5 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.

4. User Scenarios/Use Cases

Case #	User Scenario	Description
1	Admin successfully logs in	A valid username and password combination is used to log in as an admin
2	Admin unsuccessfully logs in	An invalid username and password combination is used to log in as an admin
3	Admin logs out	System log out button is clicked to exit
4	Admin updates profile information	Profile information is updated in the database
5	Admin views room information	Room information (floor, number, type, cost, capacity) is displayed for each room
6	Admin adds a new room	A new room is added to the database
7	Admin removes an existing room	An existing room is removed from the database
8	Admin modifies an existing room	An existing room's information (floor, number, type, cost, capacity) is changed in the database
9	Admin view employee information	Employee information (name, email, role) is displayed for each employee member
10	Admin adds a new employee member	A new employee member is added to the database
11	Admin removes an existing employee member	An existing employee member is removed from the database
12	Admin modifies an existing employee member	An existing employee member's information (name, email, role) is changed in the database
13	Admin views product information	Product information (name, quantity) is displayed for each product
14	Admin adds a new product	A new product is added to the database
15	Admin removes an existing product	An existing product is removed from the database
16	Admin modifies an existing product	An existing product's information (name, quantity) is changed in the database
17	Admin views financial information	Financial information is displayed
18	Admin reserves one of more rooms for a guest	Selected rooms for a date range are reserved for a guest
19	Admin views availability of a room	Room availability is displayed over time for each room
20	Admin modifies availability of a room successfully	A room's availability is updated with valid information
21	Admin modifies availability of a room unsuccessfully	A room's availability is updated with invalid information
22	Admin views guest information associated with a booked room	The information of a guest associated with the selected room is shown
23	Admin views cleaning status of a room	A room's current cleaning status is displayed
24	Admin sends a note to an employee	A text message is sent to an employee

25	Admin creates tasking for an employee member	A new task is assigned to an employee member
26	Guest successfully logs in	A valid username and password combination is used to log in as a guest
27	Guest unsuccessfully logs in	An invalid username and password combination is used to log in as a guest
28	Guest logs out	System log out button is clicked to exit
29	Guest updates profile information	Profile information is updated in the database
30	Guest registers a new account	A new guest account is created in the database
31	Guest views available rooms	Rooms available for a date range are displayed
32	Guest reserves one or more rooms	Selected rooms for a date range are reserved
33	Guest submits a comment	A text message is sent to an admin
34	Cleaner successfully logs in	A valid username and password combination is used to log in as a cleaner
35	Cleaner unsuccessfully logs in	An invalid username and password combination is used to log in as a cleaner
36	Cleaner logs out	System log out button is clicked to exit
37	Cleaner updates profile information	Profile information is updated in the database
38	Cleaner views unclean rooms	Rooms with an unclean status are displayed
39	Cleaner prints unclean rooms	Rooms with an unclean status are printed
40	Cleaner updates status of an unclean room	The status of an unclean room is updated to cleaned
41	Cleaner views assigned tasking	Tasks assigned by an admin are displayed
42	Cleaner views received notes	Notes sent by an admin are displayed
43	Receptionist successfully logs in	A valid username and password combination is used to log in as a receptionist
44	Receptionist unsuccessfully logs in	An invalid username and password combination is used to log in as a receptionist
45	Receptionist logs out	System log out button is clicked to exit
46	Receptionist updates profile information	Profile information is updated in the database
47	Receptionist reserves one of more rooms for a guest	Selected rooms for a date range are reserved for a guest
48	Receptionist views check-in/check-out status	Approaching check-ins and check-outs are displayed
49	Receptionist views assigned tasking	Tasks assigned by an admin are displayed
50	Receptionist views received notes	Notes sent by an admin are displayed
51	Receptionist views availability of a room	Room availability is displayed over time for each room

4.2 User scenario (Detailed)

1. Admin successfully logs in
 - a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password match database profile information
 - f) User account's last log in time is updated in the database
 - g) The user is redirected to the admin home page
2. Admin unsuccessfully logs in
 - a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password do not match database profile information
 - f) The user is redirected to the admin home page
3. Admin logs out
 - a) The user is already logged in as an admin
 - b) Log out button is selected
 - c) The active session is closed
4. Admin updates profile information
 - a) The user is already logged in as an admin
 - b) Edit profile button is selected
 - c) Profile information except passwords is displayed in editable fields
 - d) Empty editable fields are displayed to set a new password
 - e) The user updates profile information using editable fields
 - f) Update profile button is selected
 - g) User session is closed
 - h) User is redirected to the log in page
5. Admin views room information
 - a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) View room information button is selected
 - d) User is redirected to the view room page
 - e) Room information is displayed in a table
 - f) Close button is selected
 - g) User is redirected to the admin page

6. Admin adds a new room
 - a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Add room button is selected
 - d) User is redirected to the add room page
 - e) Room properties are displayed as editable fields
 - f) Room information is provided
 - g) Save button is selected
 - h) The new room is added to the database
 - i) User is redirected to the admin page
7. Admin removes an existing room
 - a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Remove room button is selected
 - d) User is redirected to the remove room page
 - e) Removable rooms are displayed in a list
 - f) User selects the room to remove
 - g) Save button is selected
 - h) The room is removed from the database
 - i) User is redirected to the admin page
8. Admin modifies an existing room
 - a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Edit room button is selected
 - d) User is redirected to the edit room page
 - e) Rooms are displayed in a list
 - f) User selects the room to edit
 - g) Room information is displayed in editable fields
 - h) User edits room information
 - i) Save button is selected
 - j) The room information is updated in the database
 - k) User is redirected to the admin page
9. Admin view employee information
 - a) The user is already logged in as an admin
 - b) Employees tab is selected
 - c) Employee information is displayed in a list

10. Admin adds a new employee

- a) The user is already logged in as an admin
 - b) Employees tab is selected
 - c) Add employee button is selected
 - d) User is redirected to add employee page
 - e) Employee properties are displayed as editable fields
 - f) Employee information is provided
 - g) Save button is selected
 - h) The new employee is added to the database
 - i) User is redirected to the admin page
11. Admin removes an existing employee
- a) The user is already logged in as an admin
 - b) Employees tab is selected
 - c) Remove employee button is selected
 - d) User is redirected to the remove employee page
 - e) Employees are displayed in a list
 - f) User selects the employee to remove
 - g) Save button is selected
 - h) The employee is removed from the database
 - i) User is redirected to the admin page
12. Admin modifies an existing employee
- a) The user is already logged in as an admin
 - b) Employees tab is selected
 - c) Edit employee button is selected
 - d) User is redirected to the edit employee page
 - e) Employees are displayed in a list
 - f) User selects the employee to edit
 - g) Employee information is displayed in editable fields
 - h) User edits employee information
 - i) Save button is selected
 - j) The employee information is updated in the database
 - k) User is redirected to the admin page
13. Admin views product information
- a) The user is already logged in as an admin
 - b) Inventory tab is selected
 - c) Product information is displayed in a list
14. Admin adds a new product
- a) The user is already logged in as an admin
 - b) Inventory tab is selected
 - c) Add product button is selected
 - d) User is redirected to add product page
 - e) Product properties are displayed as editable fields
 - f) Product information is provided
 - g) Save button is selected
 - h) The new product is added to the database
 - i) User is redirected to the admin page

15. Admin removes an existing product
- a) The user is already logged in as an admin

- b) Inventory tab is selected
 - c) Remove product button is selected
 - d) User is redirected to the remove product page
 - e) Products are displayed in a list
 - f) User selects the product to remove
 - g) Save button is selected
 - h) The product is removed from the database
 - i) User is redirected to the admin page
16. Admin modifies an existing product
- a) The user is already logged in as an admin
 - b) Inventory tab is selected
 - c) Edit product button is selected
 - d) User is redirected to the edit product page
 - e) Products are displayed in a list
 - f) User selects the product to edit
 - g) Product information is displayed in editable fields
 - h) User edits product information
 - i) Save button is selected
 - j) The product information is updated in the database
 - k) User is redirected to the admin page
17. Admin views financial information
- a) The user is already logged in as an admin
 - b) Statistics tab is selected
 - c) User provides start date
 - d) User provides end date
 - e) Generate report button is selected
 - f) User is redirected to report page
 - g) Financial report for specified time range is displayed
 - h) Close button is selected
 - i) User is redirected to the admin page
18. Admin reserves one or more rooms for a guest
- a) The user is already logged in as a admin
 - b) Overview tab is selected
 - c) New reservation button is selected
 - d) User is redirected to new reservation page
 - e) Guest username is provided
 - f) Check-in date is provided
 - g) Check-out date is provided
 - h) Find rooms button is selected
 - i) List of available rooms is populated
 - j) List entries are selected
 - k) Confirm reservation button is selected
 - l) Reservations are created for the guest in the database
 - m) User is redirected to the admin page

19. Admin views availability of a room
- a) The user is already logged in as an admin

- b) Rooms tab is selected
 - c) Room information is displayed using a calendar format
20. Admin modifies availability of a room successfully
- a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Edit reservation button is selected
 - d) User is redirected to the edit reservation page
 - e) Reservations are displayed in a list
 - f) User selects the reservation to edit
 - g) Reservation information is displayed in editable fields
 - h) New check-out date is provided that does not overlap with another reservation
 - i) Save button is selected
 - j) The reservation information is updated in the database
 - k) User is redirected to the admin page
21. Admin modifies availability of a room unsuccessfully
- a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Edit reservation button is selected
 - d) User is redirected to the edit reservation page
 - e) Reservations are displayed in a list
 - f) User selects the reservation to edit
 - g) Reservation information is displayed in editable fields
 - h) New check-out date is provided that does overlap with another reservation
 - i) Save button is selected
 - j) User is notified the check-out date is invalid
22. Admin views guest information associated with a booked room
- a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) View reservation button is selected
 - d) User is redirected to the view reservation page
 - e) Reservations are displayed in a list
 - f) User selects the reservation to view
 - g) Reservation information and guest information is displayed in non-editable fields
 - h) Close button is selected
 - i) User is redirected to the admin page
23. Admin views cleaning status of a room
- a) The user is already logged in as an admin
 - b) Rooms tab is selected
 - c) Room cleaning information is displayed using color coding on a calendar format

Hotel Management System Requirements Specification

24. Admin sends a note to an employee
- a) The user is already logged in as an admin
 - b) Overview tab is selected

- c) Employee username is provided
 - d) User enters note into an editable field
 - e) Send note button is selected
 - f) A new note is created in the database for the provided employee account
25. Admin creates tasking for an employee
- a) The user is already logged in as an admin
 - b) Overview tab is selected
 - c) Employee username is provided
 - d) User enters task into an editable field
 - e) Assign task button is selected
 - f) A new task is created in the database for the provided employee account
26. Guest successfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password match database profile information
 - f) User account's last log in time is updated in the database
 - g) The user is redirected to the guest home page
27. Guest unsuccessfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password do not match database profile information
 - f) The user is redirected to the guest home page
28. Guest logs out
- a) The user is already logged in as a guest
 - b) Log out button is selected
 - c) The active session is closed
29. Guest updates profile information
- a) The user is already logged in as a guest
 - b) Edit profile button is selected
 - c) Profile information except passwords is displayed in editable fields
 - d) Empty editable fields are displayed to set a new password
 - e) The user updates profile information using editable fields
 - f) Update profile button is selected
 - g) User session is closed
 - h) User is redirected to the log in page

30. Guest registers a new account
- a) Log in page is loaded
 - b) Sign up button is selected
 - c) User is redirected to create new guest page
 - d) Username, password, and confirm password are displayed in editable fields
 - e) Username field warns user if username is already taken

- f) User provides account information
 - g) Create guest account button is selected
 - h) New guest account is created in the database
 - i) User is redirected to the log in page
31. Guest views available rooms
- a) The user is already logged in as a guest
 - b) Check-in date is provided
 - c) Check-out date is provided
 - d) Find rooms button is selected
 - e) List of available rooms is populated
32. Guest reserves one or more rooms
- a) The user is already logged in as a guest
 - b) Check-in date is provided
 - c) Check-out date is provided
 - d) Find rooms button is selected
 - e) List of available rooms is populated
 - f) List entries are selected
 - g) Confirm reservation button is selected
 - h) Reservations are created for the guest in the database
 - i) Confirmation email is sent to the email of the guest account
 - j) Guest page is refreshed
33. Guest submits a comment
- a) The user is already logged in as a guest
 - b) Guest comment is provided in editable field
 - c) Send comment button is selected
 - d) Guest comment is added to the database
34. Cleaner successfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password match database profile information
 - f) User account's last log in time is updated in the database
 - g) The user is redirected to the cleaner home page
35. Cleaner unsuccessfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password do not match database profile information
 - f) The user is redirected to the cleaner home page

37. Cleaner logs out
- a) The user is already logged in as a cleaner
 - b) Log out button is selected
 - c) The active session is closed

38. Cleaner updates profile information
- a) The user is already logged in as a cleaner
 - b) Edit profile button is selected
 - c) Profile information except passwords is displayed in editable fields
 - d) Empty editable fields are displayed to set a new password
 - e) The user updates profile information using editable fields
 - f) Update profile button is selected
 - g) User session is closed
 - h) User is redirected to the log in page
39. Cleaner views unclean rooms
- a) The user is already logged in as a cleaner
 - b) Cleaning status tab is selected
 - c) Refresh button is selected
 - d) Table of unclean rooms is displayed
40. Cleaner prints unclean rooms
- a) The user is already logged in as a cleaner
 - b) Cleaning status tab is selected
 - c) Refresh button is selected
 - d) Table of un cleaned rooms is displayed
 - e) Print button is selected
41. Cleaner updates status of an unclean room
- a) The user is already logged in as a cleaner
 - b) Cleaning status tab is selected
 - c) Refresh button is selected
 - d) Table of un cleaned rooms is displayed
 - e) The clean button in a room's row in the table is selected
 - f) The room's status in the database is updated to clean
 - g) The table of un cleaned rooms is updated
42. Cleaner views assigned tasking
- a) The user is already logged in as a cleaner
 - b) Tasking and notes tab is selected
 - c) User's tasks are displayed in a list
43. Cleaner views received notes
- a) The user is already logged in as a cleaner
 - b) Tasking and notes tab is selected
 - c) User's notes are displayed in a list

44. Receptionist successfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided

- d) Log in button is selected
 - e) Username and password match database profile information
 - f) User account's last log in time is updated in the database
 - g) The user is redirected to the receptionist home page
45. Receptionist unsuccessfully logs in
- a) Log in page is loaded
 - b) Username is provided
 - c) Password is provided
 - d) Log in button is selected
 - e) Username and password do not match database profile information
 - f) The user is redirected to the receptionist home page
46. Receptionist logs out
- a) The user is already logged in as a receptionist
 - b) Log out button is selected
 - c) The active session is closed
47. Receptionist updates profile information
- a) The user is already logged in as a receptionist
 - b) Edit profile button is selected
 - c) Profile information except passwords is displayed in editable fields
 - d) Empty editable fields are displayed to set a new password
 - e) The user updates profile information using editable fields
 - f) Update profile button is selected
 - g) User session is closed
 - h) User is redirected to the log in page
48. Receptionist reserves one or more rooms for a guest
- a) The user is already logged in as a receptionist
 - b) New reservation tab is selected
 - c) Page is populated with new reservation section
 - d) Guest username is provided
 - e) Check-in date is provided
 - f) Check-out date is provided
 - g) Find rooms button is selected
 - h) List of available rooms is populated
 - i) List entries are selected
 - j) Confirm reservation button is selected
 - k) Reservations are created for the guest in the database
 - l) Receptionist page is refreshed

49. Receptionist views check-in/check-out status
- a) The user is already logged in as a receptionist
 - b) Check-in/out tab is selected

- c) Reservation check-ins and check-outs are displayed in a chronological list
50. Receptionist views assigned tasking
- a) The user is already logged in as a receptionist
 - b) Tasking and notes tab is selected
 - c) User's tasks are displayed in a list
51. Receptionist views received notes
- a) The user is already logged in as a receptionist
 - b) Tasking and notes tab is selected
 - c) User's notes are displayed in a list
52. Receptionist views availability of a room
- a) The user is already logged in as a receptionist
 - b) Manage reservations tab is selected
 - c) Room information is displayed using a calendar format

Hotel Management System Requirements Specification

Use Case (Extended)

Use Case 01

Name	User login
Summary	Using a valid username and password combination, the user will be redirected to the view for the user's role.
Actor	Admin, Receptionist, Cleaner, Guest
Requirement	BR_05
Description	When the web-service is first loaded, the user will be prompted to login. Upon entering a username and password combination that already exists within the system database, the user will be granted access to the system to perform the actions allowed by their account type. Usernames must be unique.
Precondition	User account must already have been created.
Post-condition	User is redirected to their view of the system.

Use Case 02

Name	User logout
Summary	Selecting the logout button will end the user's session.
Actor	Admin, Receptionist, Cleaner, Guest
Requirement	BR_06
Description	After logging into the system, the user can end their session and return to the login page at any time by selecting a log out button.
Precondition	User is logged in.
Post-condition	User is redirected to the login page after their user session ends.

Use Case 03

Name	Update profile
Summary	Each user can view and edit their own profile information and address information.
Actor	Admin, Receptionist, Cleaner, Guest
Requirement	BR_07
Description	After logging into the system, the user can edit their profile information at any time by entering the edit profile view. When the edit profile view is first displayed, the user's current information should be displayed on the screen. Once the user has provided valid profile information, the user must choose to submit their updated information to the system. Profile information should include username, password, personal information, and contact information. Usernames must be unique.
Precondition	User is logged in.
Post-condition	User profile information is updated.

Hotel Management System Requirements Specification

Use Case	04
Name	Manage accounts
Summary	User can view, create, delete, and modify any user account including profile information and address information.
Actor	Admin
Requirement	BR_08, BR_09, BR_10
Description	After logging into the system, an admin can view all user accounts by entering the manage accounts view. While in this view, the admin can choose to add a new account, remove an existing account, or modify the profile information of an existing account.
Precondition	Logged in as an admin.
Post-condition	User account data is updated.

Use Case	05
Name	Manage hotels
Summary	User can view, create, delete, and modify any hotel.
Actor	Admin
Requirement	BR_11, BR_12, BR_13
Description	After logging into the system, an admin can view all hotels by entering the manage hotels view. While in this view, the admin can choose to add a new hotel, remove an existing hotel, or modify the information of an existing hotel.
Precondition	Logged in as an admin.
Post-condition	Admin gains information on hotels in the system. New hotels are added to the system. Removed hotels are deleted from the system. Modified hotel information is updated in the system.

Use Case	06
Name	Manage rooms
Summary	User can view, create, delete, and modify any room.
Actor	Admin
Requirement	BR_14, BR_15, BR_16, BR_38
Description	After logging into the system, an admin can view all rooms by entering the manage rooms view. While in this view, the admin can choose to add a new room, remove an existing room, or modify the information of an existing room. Room information includes the employee that the room is assigned to for cleaning.
Precondition	Logged in as an admin
Post-condition	Admin gains information on rooms in the system. New rooms are added to the system. Removed rooms are deleted from the system. Modified room information is updated in the system.

Hotel Management System Requirements Specification

Use Case	07
Name	Manage room types and pricing
Summary	User can view, create, delete, and modify any room type.
Actor	Admin
Requirement	BR_17, BR_18, BR_19, BR_20
Description	After logging into the system, an admin can view all room types by entering the manage room type view. While in this view, the admin can choose to add a new room type, remove an existing room type, or modify the information and price of an existing room type.
Precondition	Logged in as an admin
Post-condition	Admin gains information on room types in the system. New room types are added to the system. Removed room types are deleted from the system. Modified room type information is updated in the system.

Use Case	08
Name	Manage inventory
Summary	User can view, create, delete, and modify any product in the hotel inventory.
Actor	Admin
Requirement	BR_21, BR_22, BR_23
Description	After logging into the system, an admin can view all products in the inventory by entering the manage inventory view. While in this view, the admin can choose to add a new product, remove an existing product, or modify the quantity of an existing product.
Precondition	Logged in as an admin
Post-condition	Admin gains information on products in the inventory in the system. New products are added to the system. Removed products are deleted from the system. Modified product quantity is updated in the system.

Use Case	09
Name	Manage tasking for other employees
Summary	User can view, create, delete, and modify any admin, receptionist, or cleaner account's tasking.
Actor	Admin
Requirement	BR_24, BR_25
Description	After logging into the system, an admin can view all tasks assigned to any employee by entering the manage tasking view. While in this view, the admin can choose to assign a new task to an employee or unassign an existing task.
Precondition	Logged in as an admin
Post-condition	Admin gains information on assigned tasking in the system. New tasking is assigned and added to the system. Removed tasking is unassigned and deleted from the system.

Hotel Management System Requirements Specification

Use Case	10
Name	Manage guest reviews
Summary	User can reply to and delete a guest's review of a past reservation.
Actor	Admin
Requirement	BR_26, BR_27
Description	After logging into the system, an admin can view guestreviews of past reservations by entering the manage guest reviews view. While in this view, the admin can create a response to a review or delete the guest review.
Precondition	Logged in as an admin
Post-condition	Admin gains information on guest reviews in the system. New responses are added to the system. Removed reviews are deleted from the system.

Use Case	11
Name	Manage financial information
Summary	User can view financial information of a given date range.
Actor	Admin
Requirement	BR_28
Description	After logging into the system, an admin can view the revenue earned from all reservations between a given date range by entering the manage financial information view.
Precondition	Logged in as an admin
Post-condition	Admin gains revenue information from the system.

Use Case	12
Name	Manage room repairs
Summary	User can schedule room repairs for a given date range for any room.
Actor	Admin
Requirement	BR_29, BR_30, BR_31
Description	After logging into the system, an admin can view all scheduled room repairs by entering the manage room repairs view. While in this view, the admin can schedule new repairs or cancel previously scheduled repairs.
Precondition	Logged in as an admin
Post-condition	Admin gains information on scheduled room repairs in the system. New room repairs are added to the system. Cancelledroom repairs are deleted from the system.

Hotel Management System Requirements Specification

Use Case	13
Name	Manage guest reservations for any guest
Summary	User can view, create, and delete any guest reservations.
Actor	Admin, Receptionist
Requirement	BR_32, BR_33, BR_34
Description	An admin or receptionist can view, create, and delete any guest reservations. Reservations cannot be made for rooms under repair.
Precondition	Logged in as an admin or receptionist
Post-condition	Admin gains information on confirmed reservations in the system. New reservations are added to the system. Cancelled reservations are deleted from the system.

Use Case	14
Name	Manage check-in and check-out times
Summary	User can view scheduled check-in and check-out times and perform check-in and check-out process.
Actor	Admin, Receptionist
Requirement	BR_35, BR_36
Description	An admin or receptionist can view scheduled check-in and check-out times. An admin or receptionist can check-in a guest. An admin or receptionist can check-out a guest.
Precondition	Logged in as an admin or receptionist
Post-condition	Admin or receptionist gains information on check-in and check-out times in the system. A reservation's actual check-in time is updated in the system. A reservation's actual check-out time is updated in the system.

Use Case	15
Name	View room availability
Summary	User can view the availability of any room for a range of dates.
Actor	Admin, Receptionist
Requirement	BR_37
Description	An admin or receptionist can view the availability of any room for a given date range. A room is available for a given date when it is not reserved by a guest and not scheduled for repair.
Precondition	Logged in as an admin or receptionist
Post-condition	Admin or receptionist gains information on which rooms are not already reserved and not already scheduled for repair for a specific date in the system.

Use Case	16
Name	Manage rooms to be cleaned
Summary	User can view and complete room cleanings.
Actor	Admin, Cleaner
Requirement	BR_39, BR_40, BR_41, BR_42
Description	An admin or cleaner can view rooms that need to be cleaned. Once a room is cleaned, the user can update the room status to be clean. While admins can view all rooms in need of cleaning, the cleaner can only see rooms that have been assigned to them.
Precondition	Logged in as an admin or cleaner

Post-condition	Admin or cleaner gains information on which rooms need to be cleaned. The user's list of rooms to clean can be printed. Rooms marked as clean are removed from the user's list of rooms and updated in the system.
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Use Case	17
Name	Manage assigned tasking
Summary	User can view tasking that has been assigned to them and mark tasks as complete.
Actor	Admin, Receptionist, Cleaner
Requirement	BR_43, BR_44
Description	An admin, receptionist, or cleaner can view tasking that has been assigned to them with the manage assigned tasking view. While in this view, assigned tasks can be marked as completed.
Precondition	Logged in as an admin, receptionist, or cleaner
Post-condition	Admin, receptionist, or cleaner gains information on which tasks have been assigned to them. Assigned tasks can be marked complete and updated in the system.

Use Case	18
Name	Consume products from the inventory
Summary	User can update product quantities when consumed.
Actor	Admin, Cleaner
Requirement	BR_45
Description	An admin or cleaner can signal that a product has been consumed from the inventory.
Precondition	Logged in as an admin or cleaner
Post-condition	Cleaner and admin gains information on consume products from the inventory

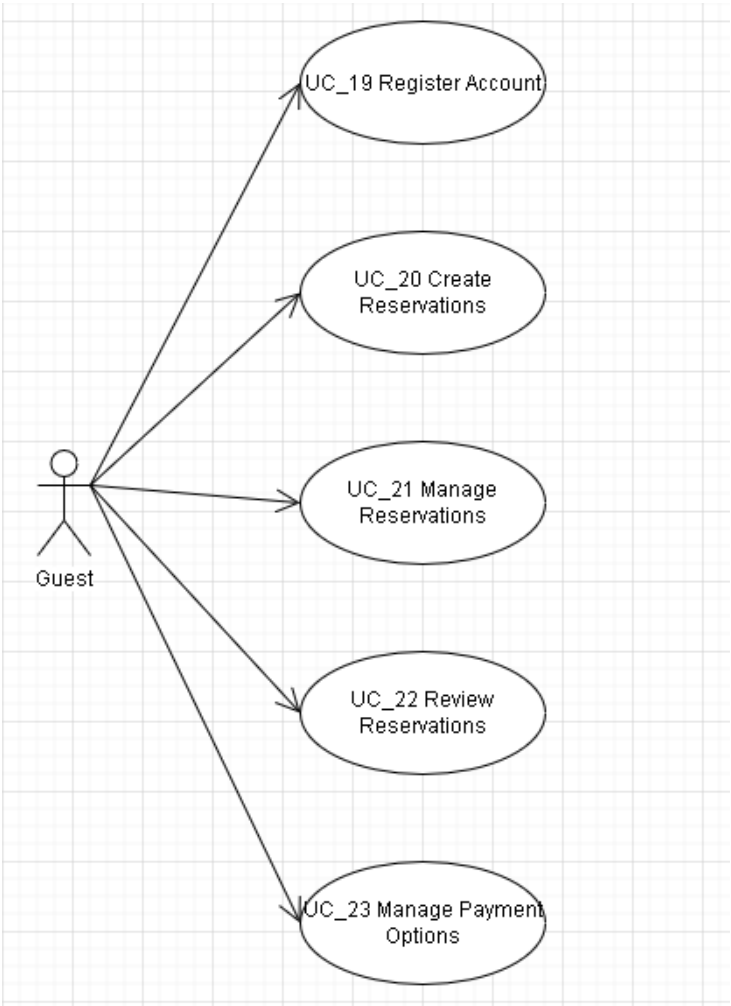
Use Case	19
Name	Register guest account
Summary	User can register into his account
Actor	Guest
Requirement	BR_46
Description	A guest can register into his account.
Precondition	Logged in as a guest
Post-condition	Guest gains information on how to register

Use Case	20
Name	Make reservations for self
Summary	User can make reservations for self
Actor	Guest
Requirement	BR_47, BR_48, BR_49
Description	A guest is able to make a reservation by himself.
Precondition	Logged in as an admin or guest
Post-condition	Guest can make a reservation for itself

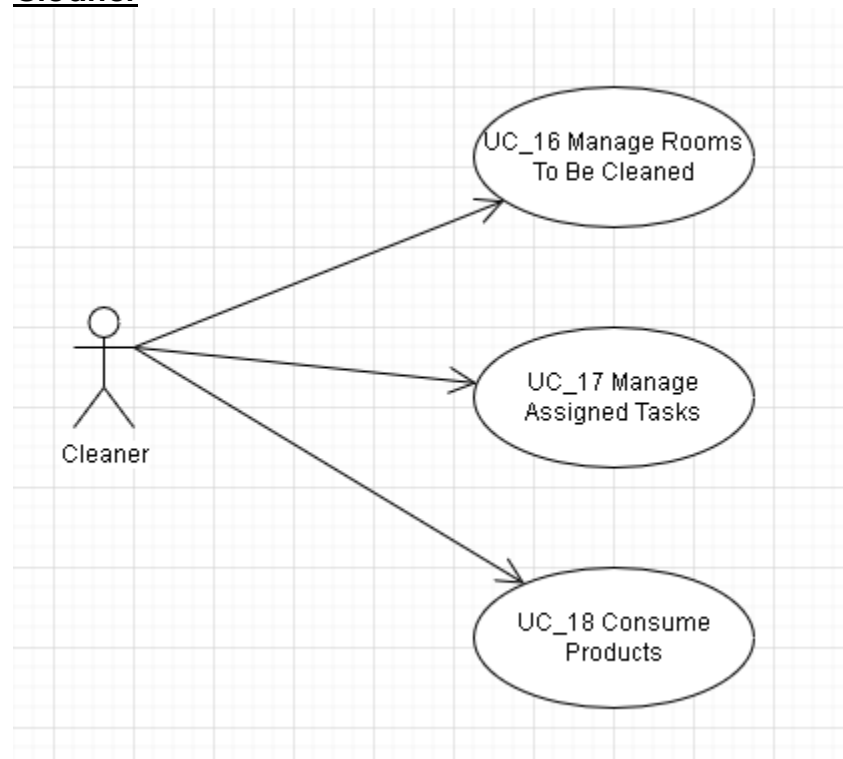
4.3 Diagrams

Use Case Diagram

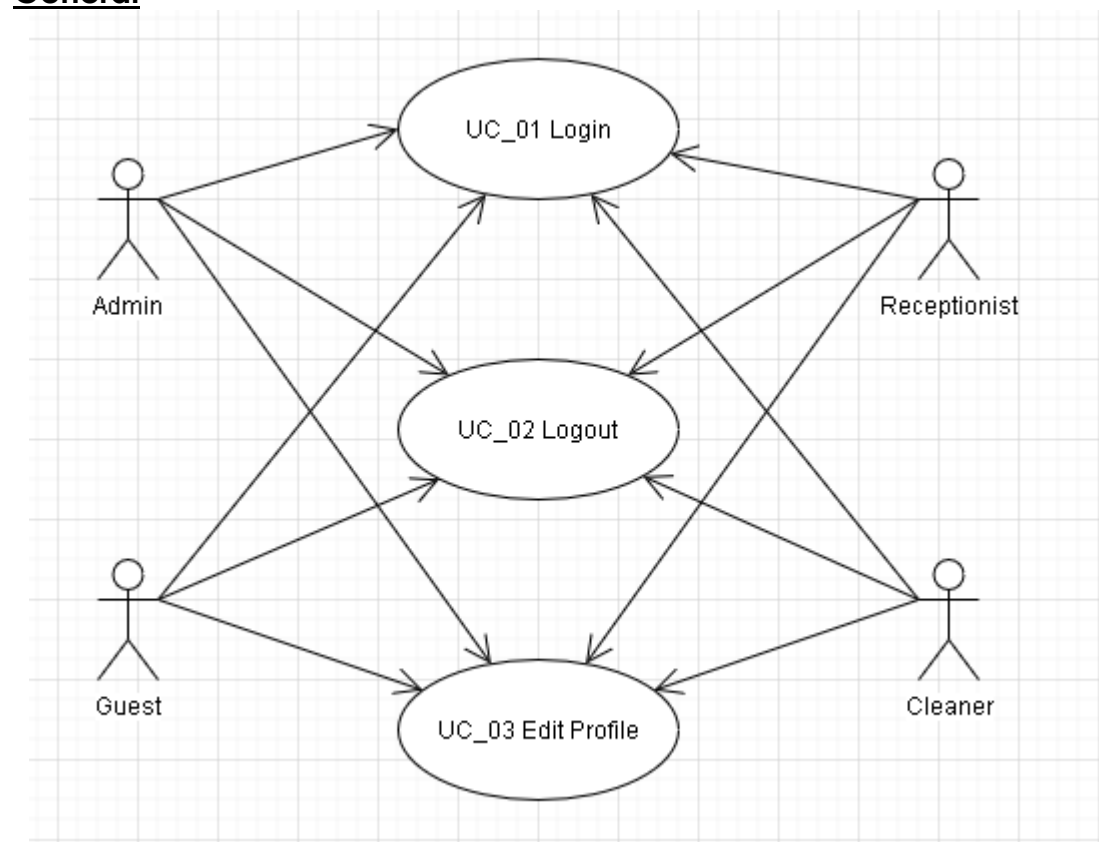
Guest

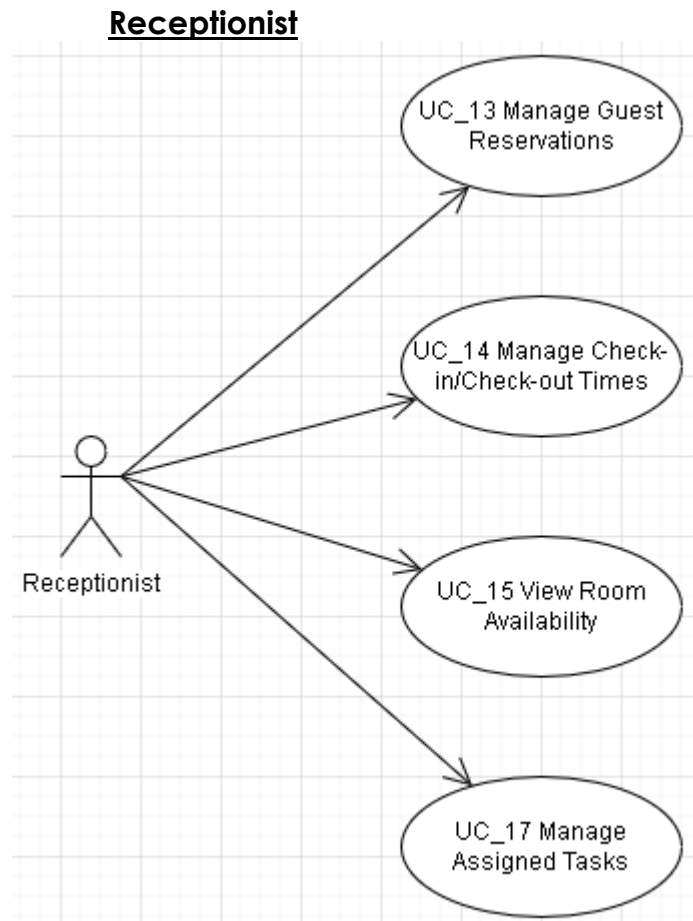


Cleaner



General

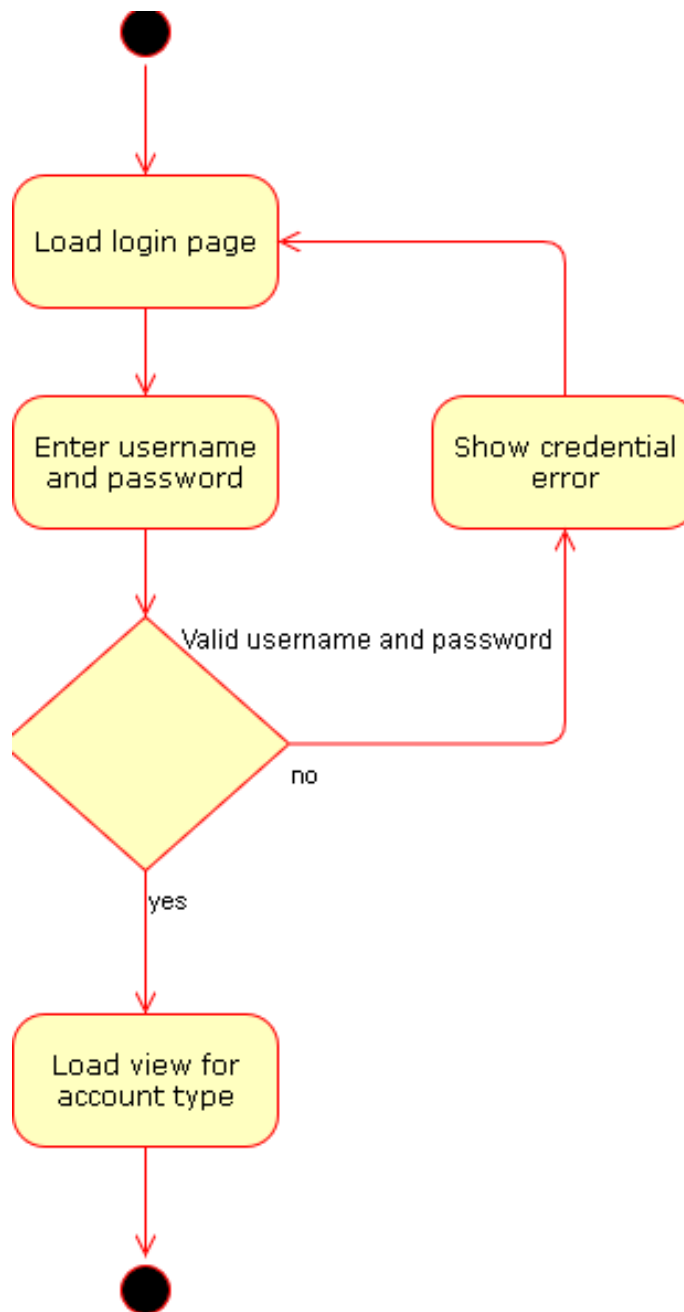




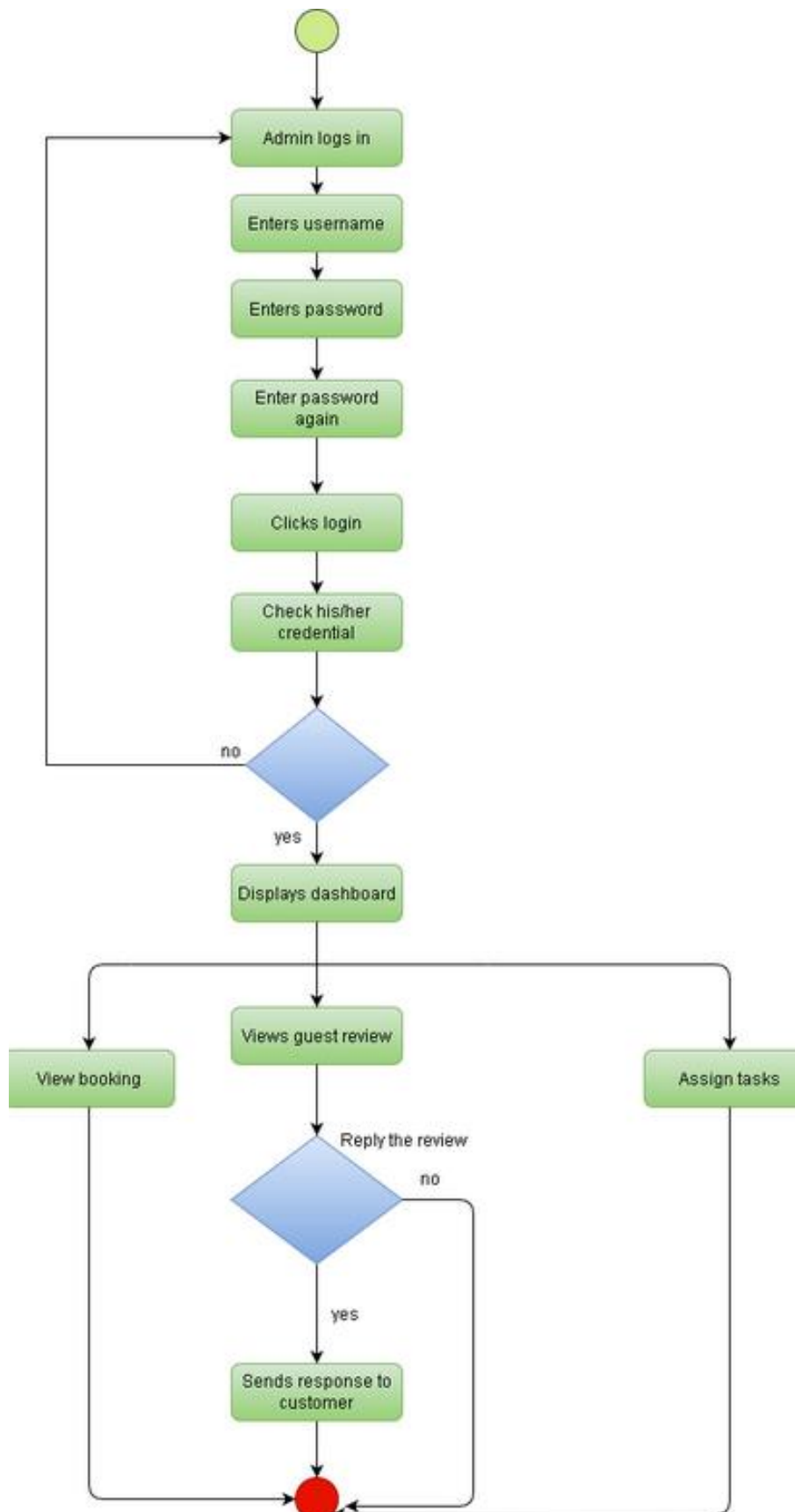
Admin- Receptionist- Cleaner

Activity Diagram

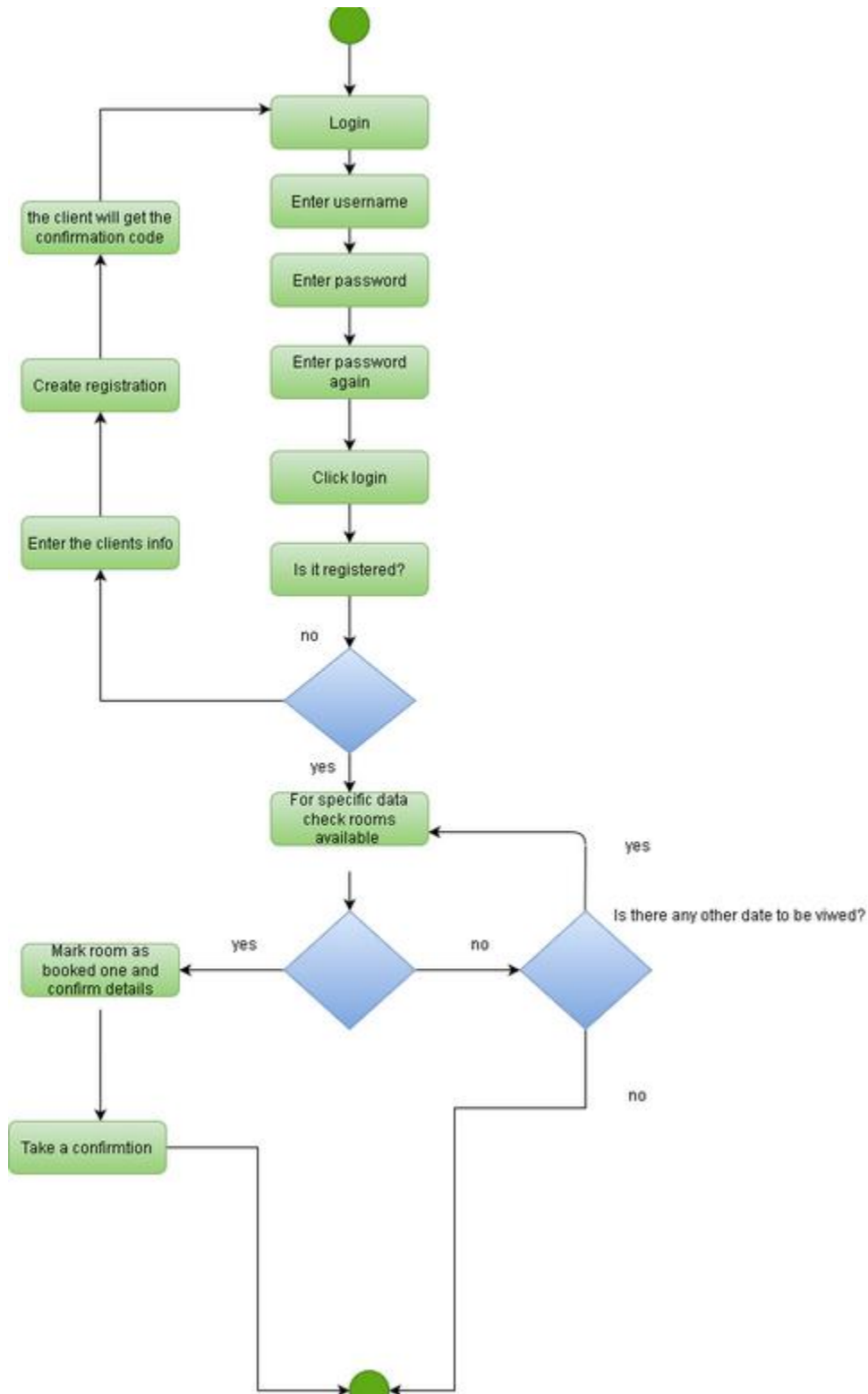
AC_01_LOGIN



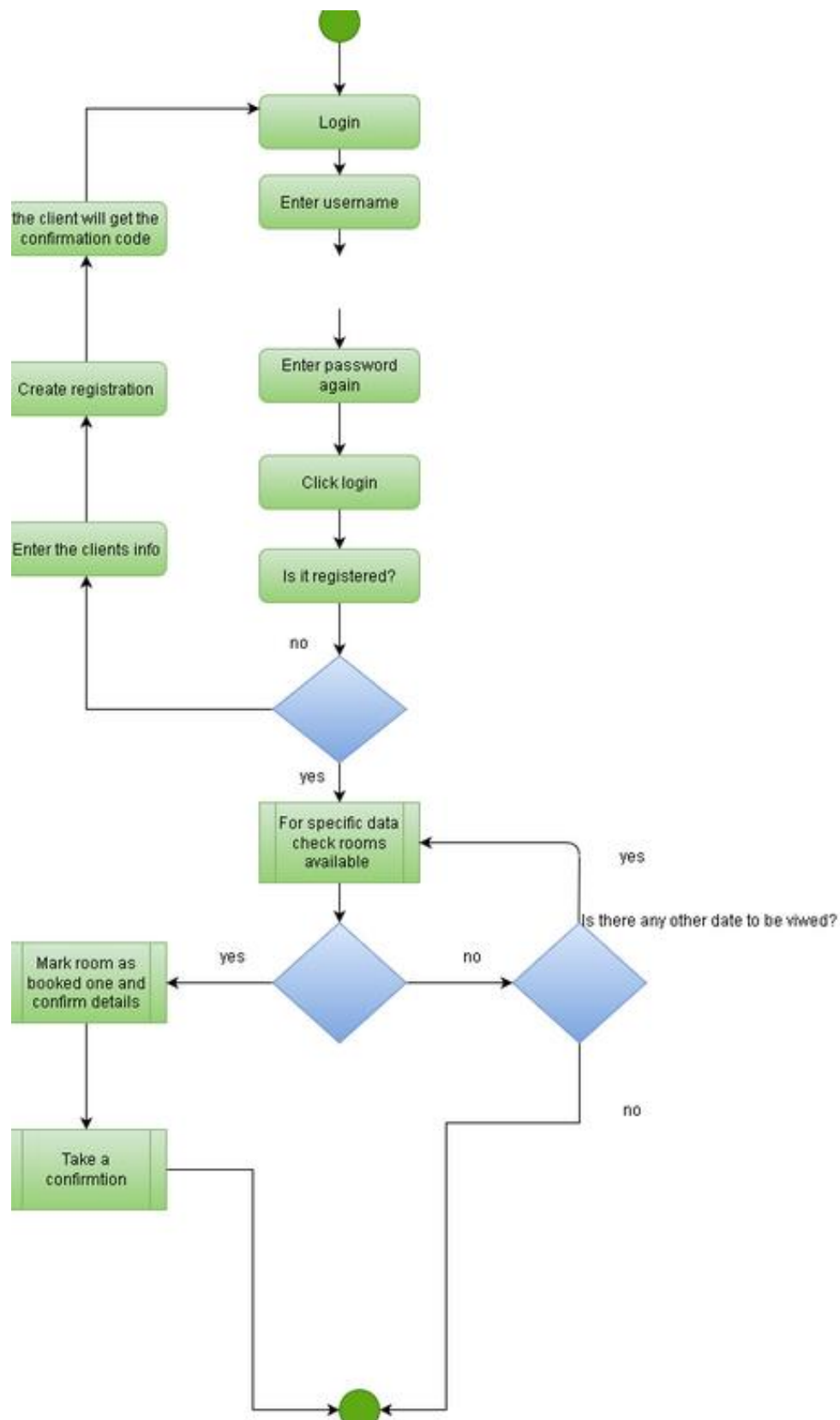
AC_02_ADMIN_LOGIN



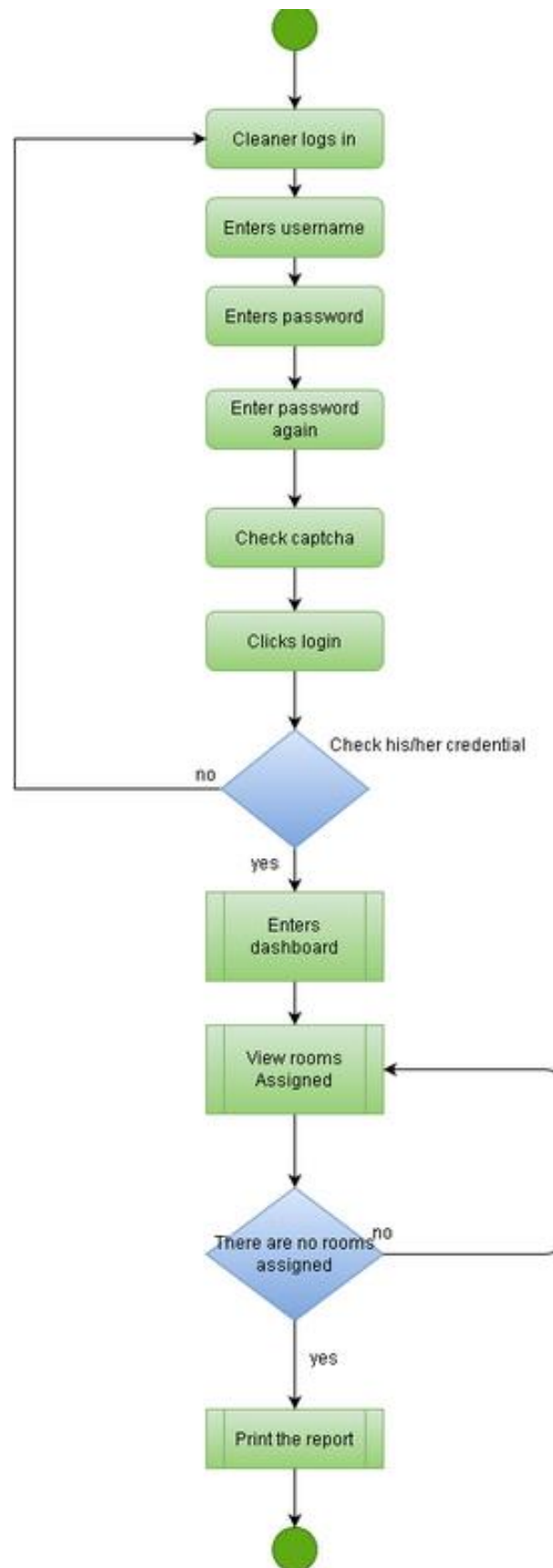
AC_03_BOOKED ROOMS



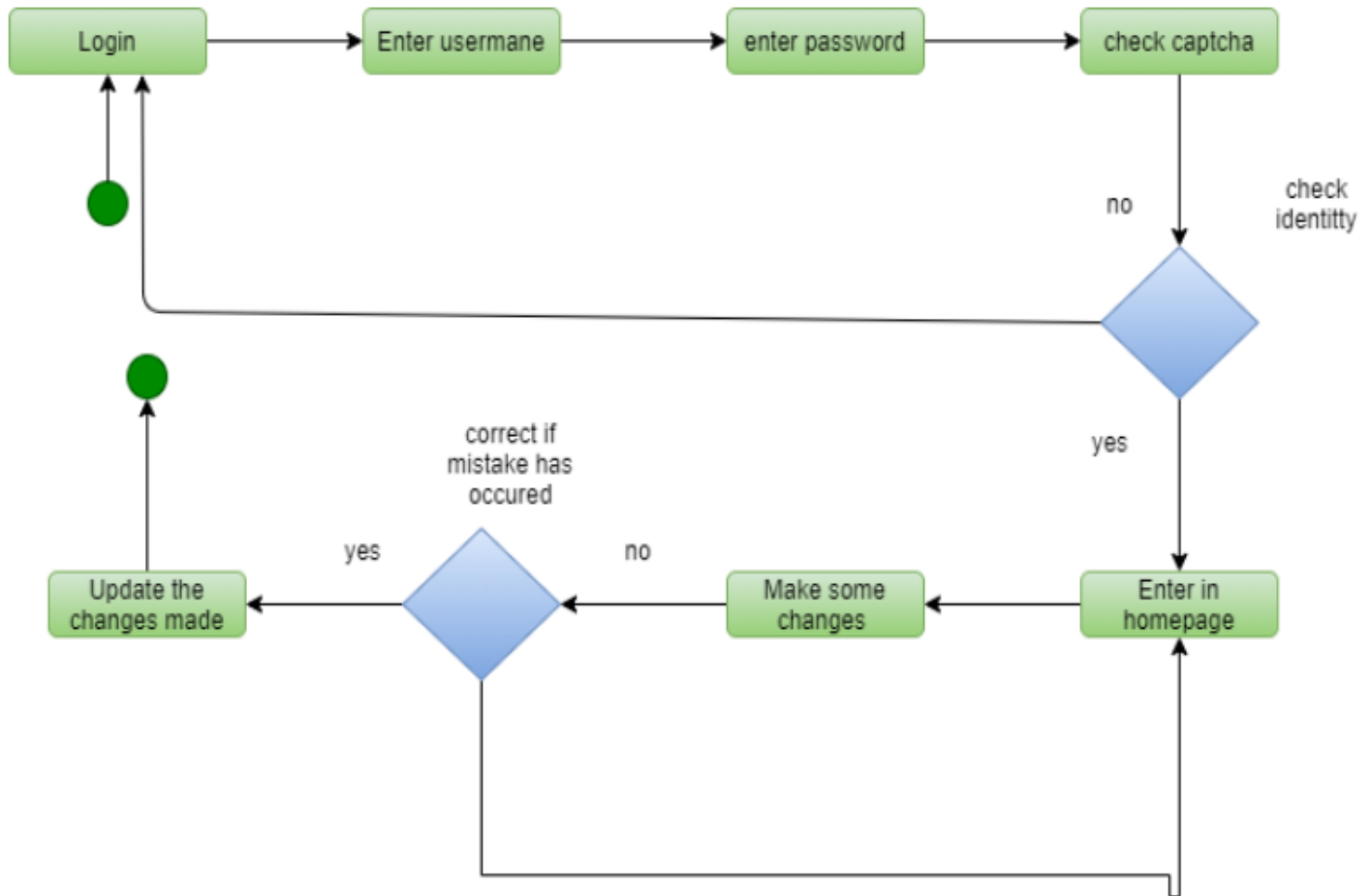
AC_04_CLIENT



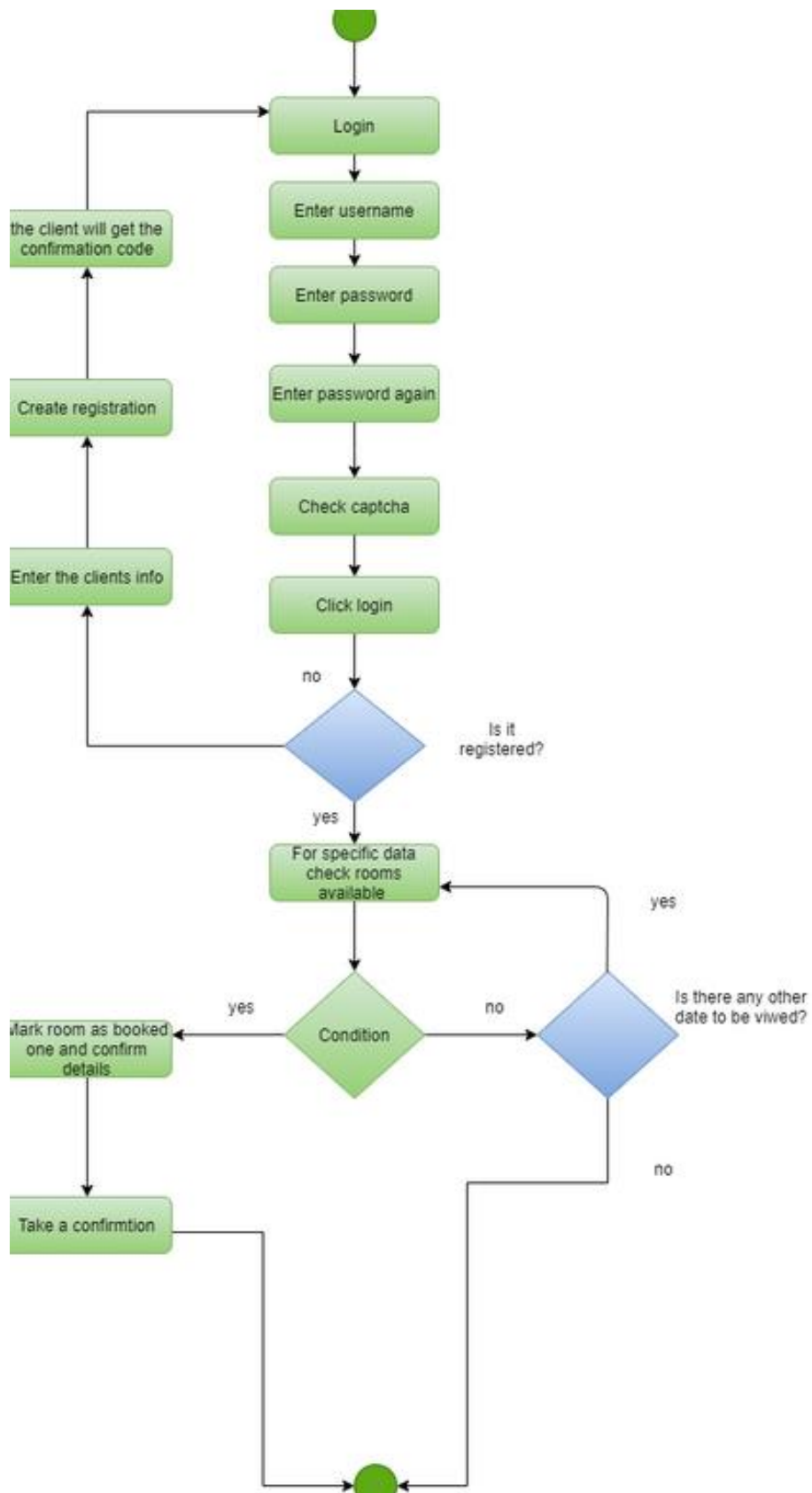
AC_05_CLEANER



AC_06_MANAGING_PROFILE_GENERAL

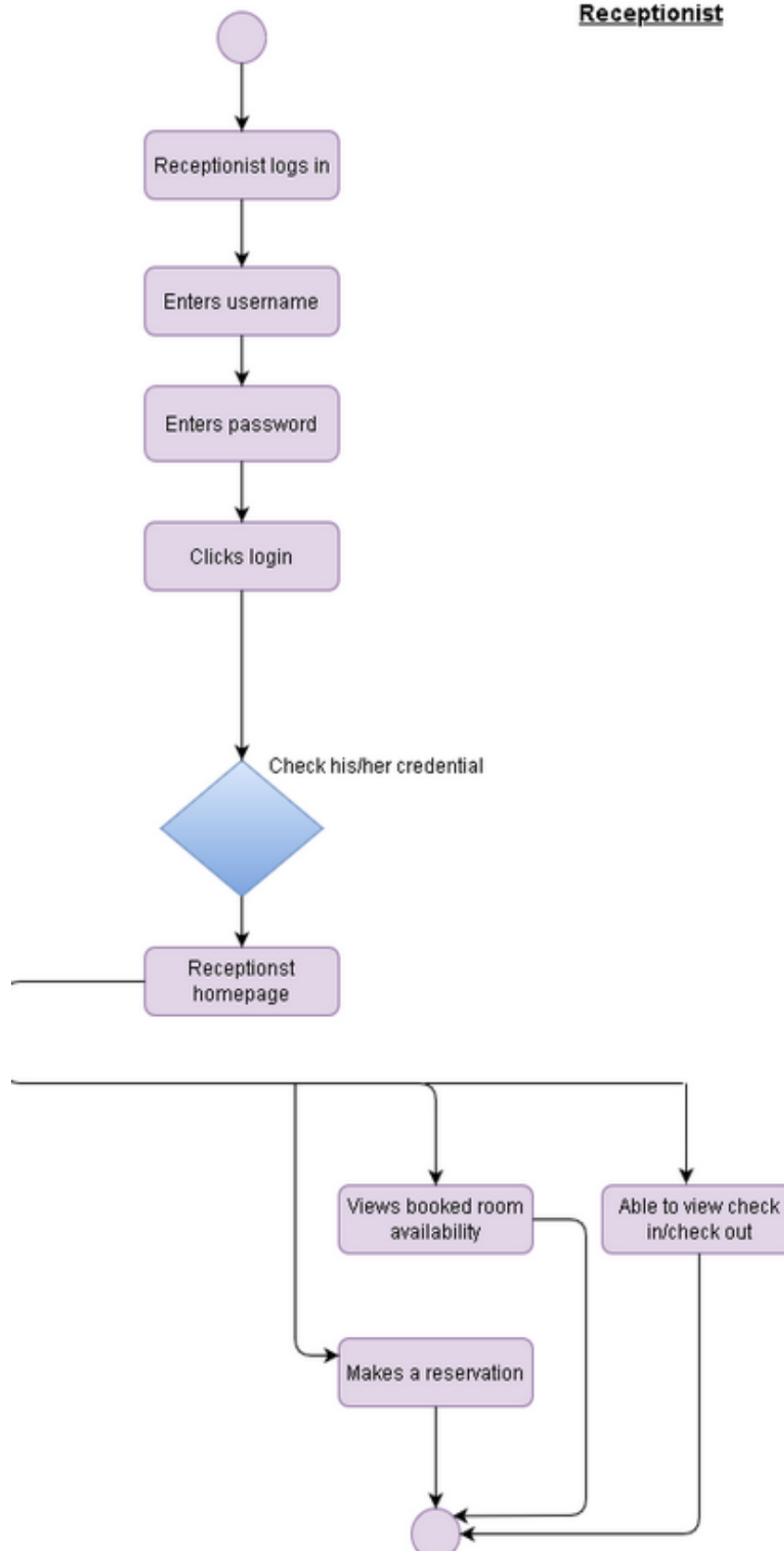


AC_07_Rooms



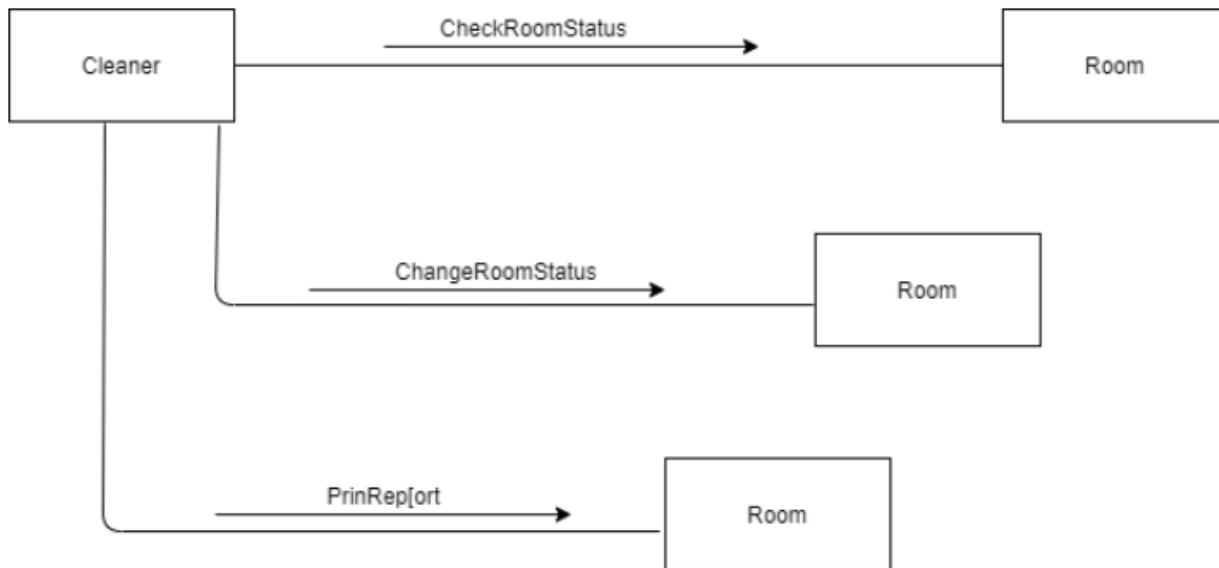
AC_08_Activity_of_receptionist

Receptionist

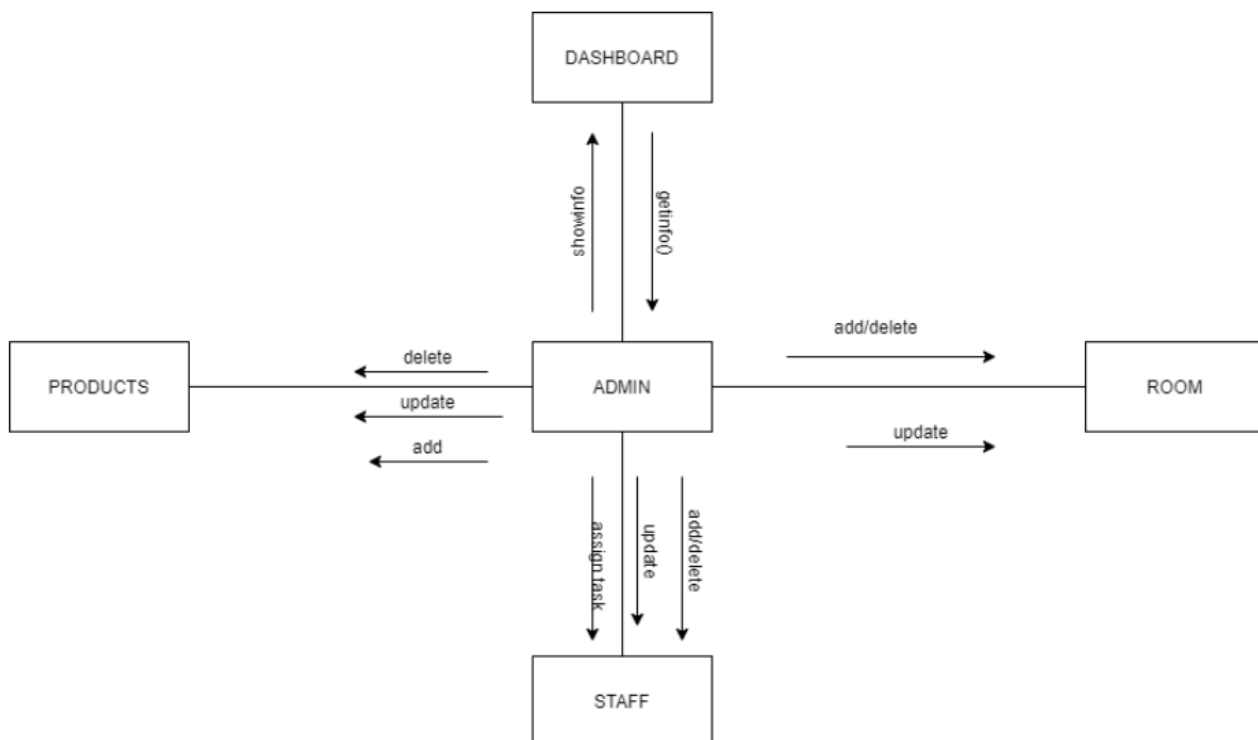


Collaboration Diagrams

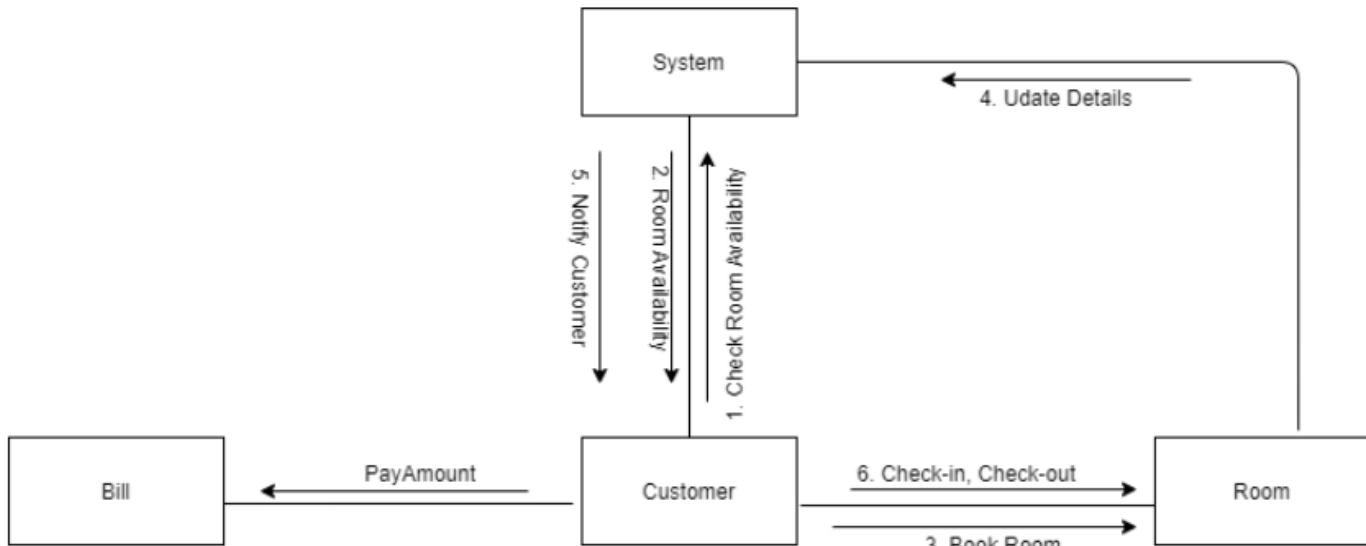
CC_1-2-3_cleaner_room_report



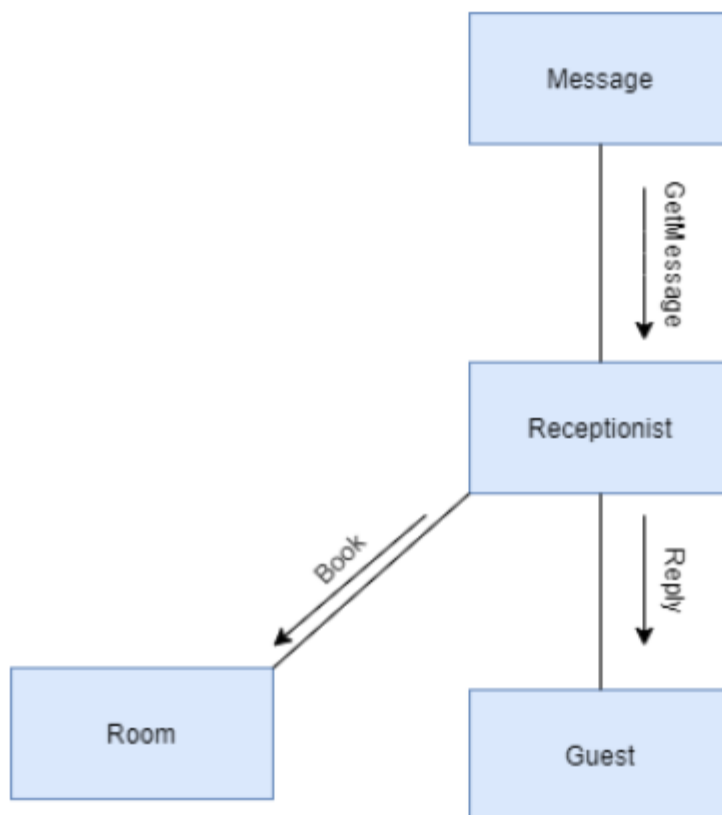
CC_4-5-6-7_dashboard_admin_room_product



CC_7-8-9_bill_customer_system

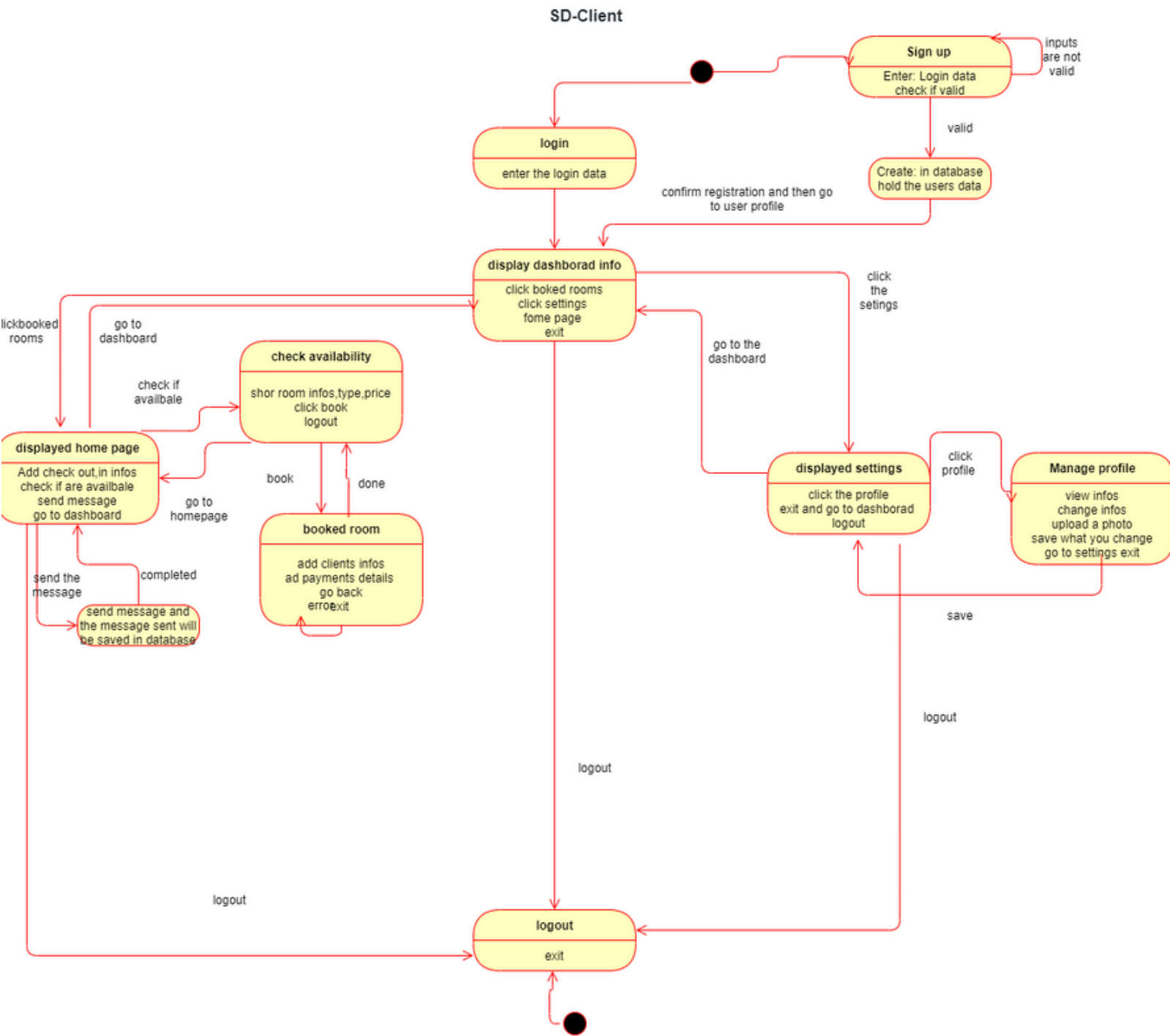


CC_10-11-12-13_message_receptionist_room_guest



State Diagram

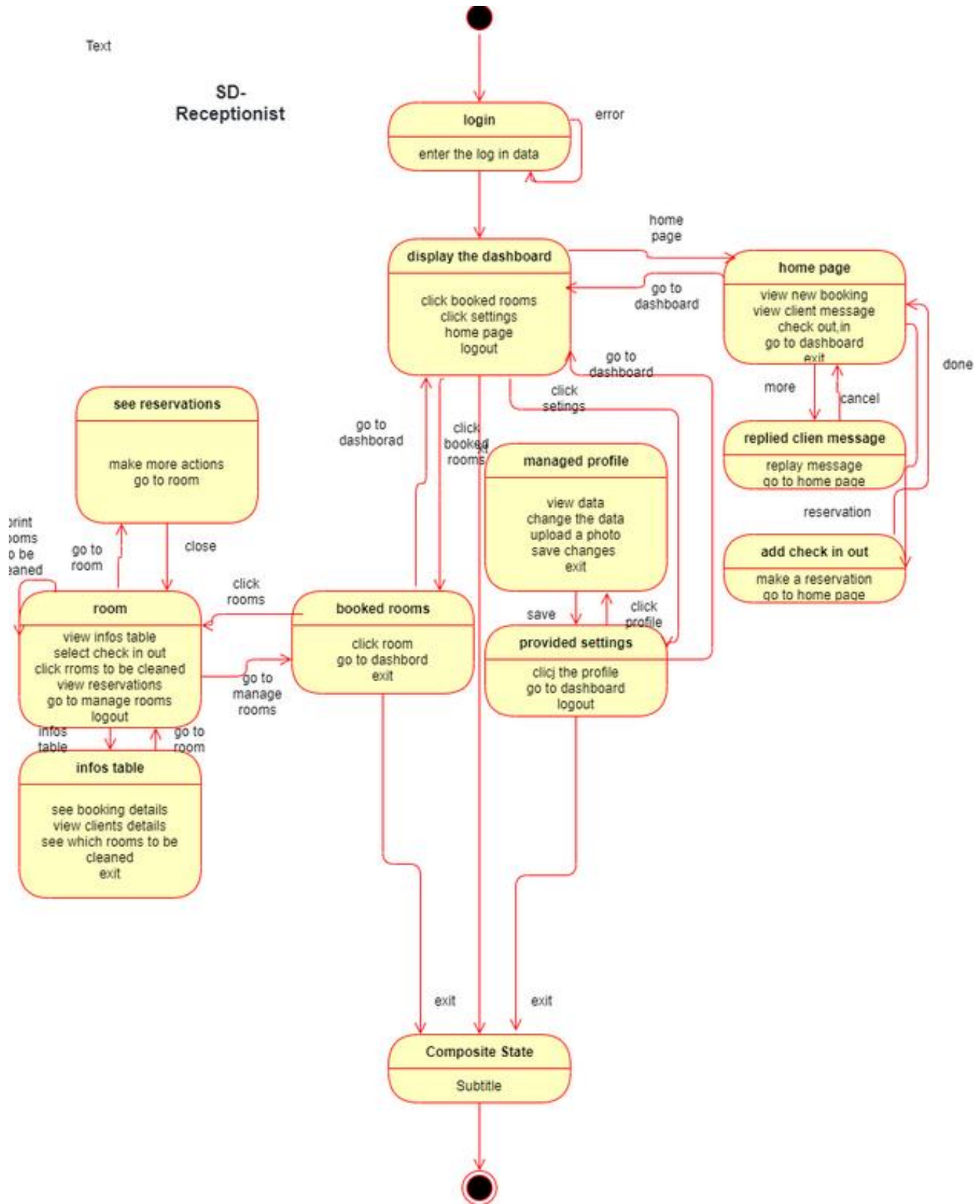
SD_01_Client



SD_02_Receptionist

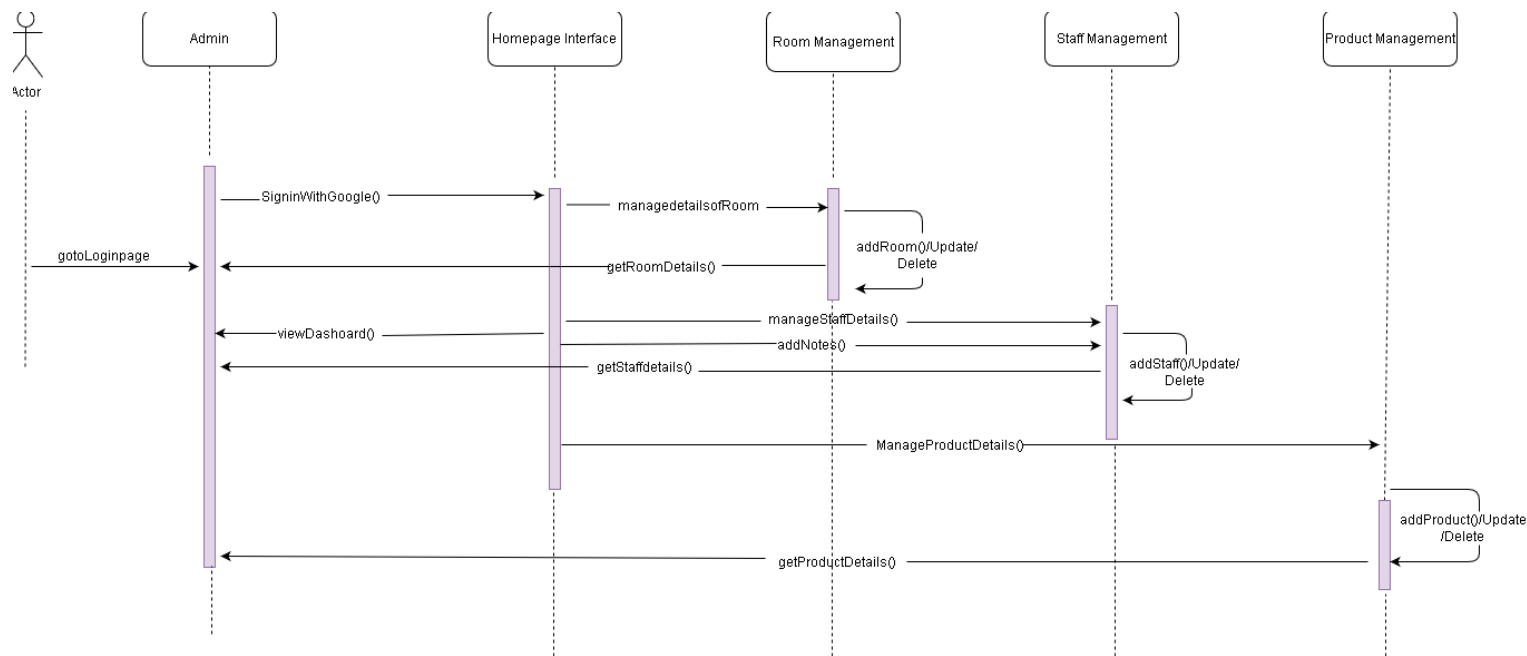
Text

SD-
Receptionist



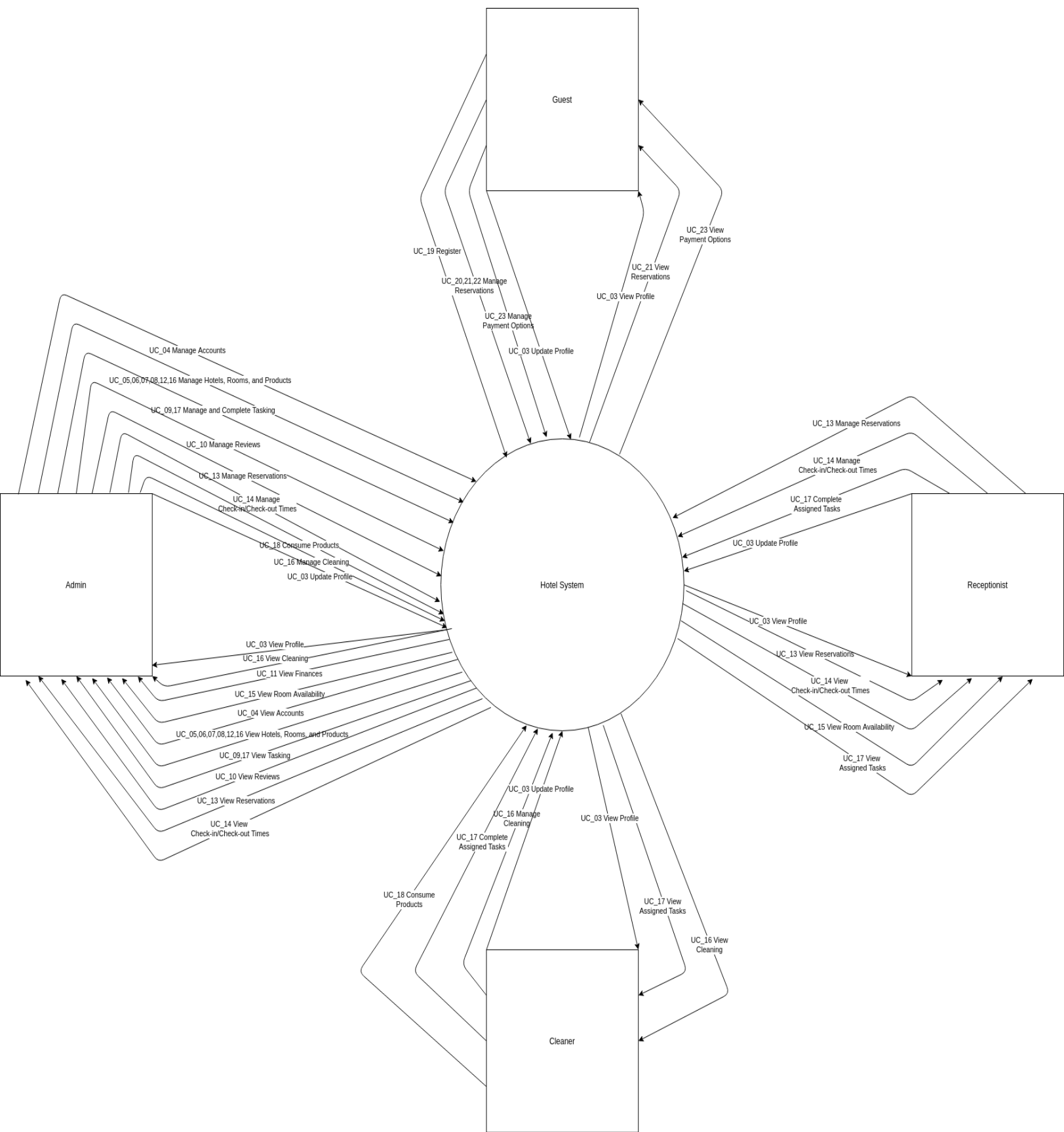
SEQUENCE DIAGRAM

SQ_1-2-3_Room_Staff_Product

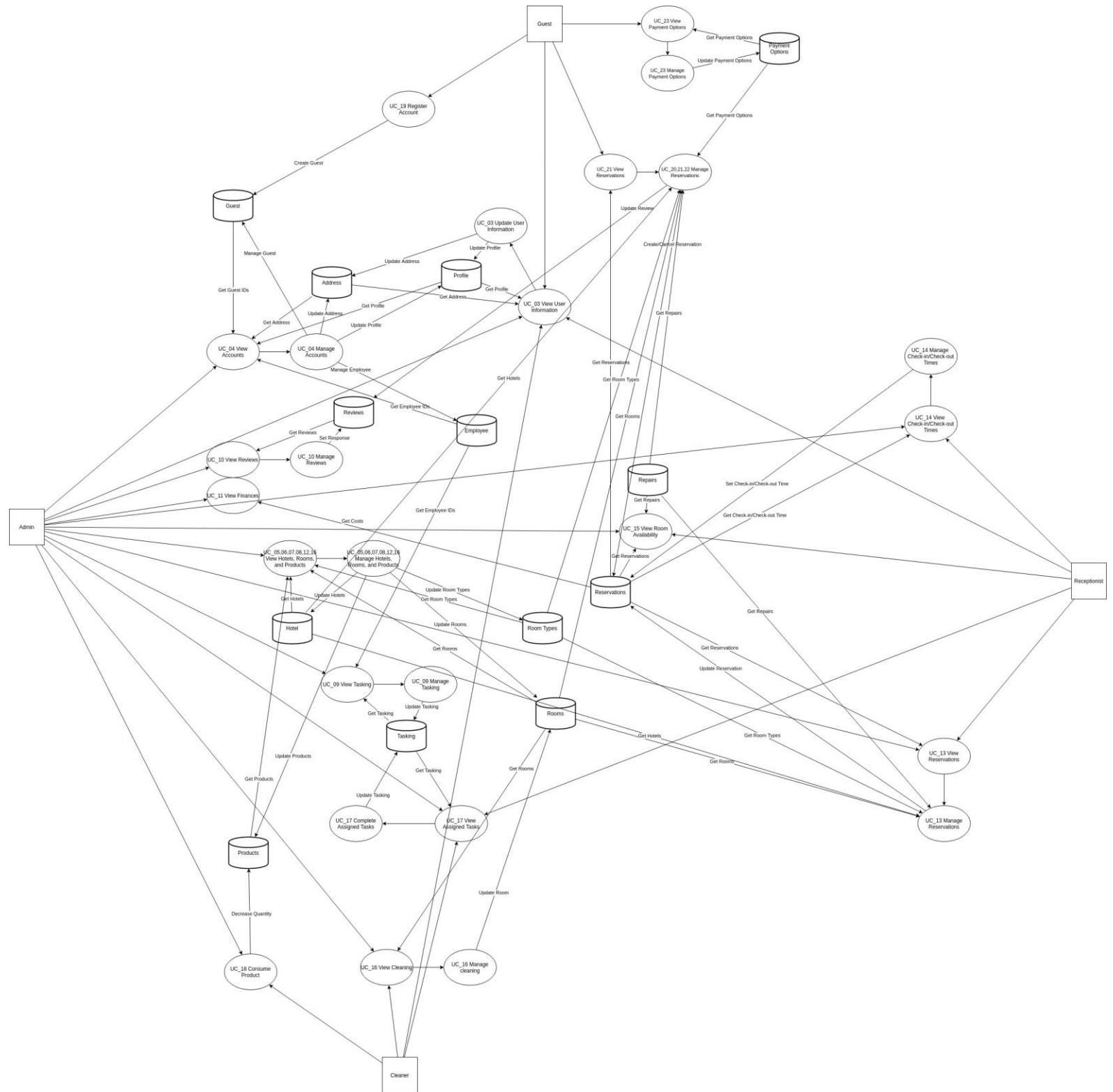


DFD Diagram

DFD_L0



DFD_L1



ER DIAGRAM

