



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, rooms, statistics 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.

3. 1 Functional Requirements

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REQ	REQUIREMENTS	RECORDS	PRIORITY	DATE	RESPONSIBLE
1	Views for each account types	There will be 4 account types:Admin,client,cleaner,receptionist ,each one with its own view.	1	17.4.2020	Sonja Robo
2	Add, remove rooms	Thats a job admin can only do	1	17.4.2020	Rinika Alliu
3	The system will provide to admin chance to define room prices	It allows admin to take care of rates according to the season and its peaks.	1	17.4.2020	Rinika Alliu
4	Login constraint	Of course in order for users to access the data should be logged in	1	20.4.2020	Renato Murati
5	The system will make possible to view booked rooms	Receptionist and administrator can check if rooms are booked or not	1	20.4.2020	Ibrahim Kulli
6	Rooms available to customers	Receptionist and client can see if the room is available	1	21.4.2020	Erjon Spahija
7	View if rooms available	Receptionist can do that, see if rooms are available or not	1	21.4.2020	Rinika Alliu
8	Manage inventory	Administrator can manage the inventory	1	21.4.2020	Sonja Robo
9	Print invoices	Administrator can print invoices ,daily, monthly, yearly .	2	21.4.2020	Sonja Robo
10	Receptionist will book rooms	People may book a room in different ways ,may come physicaly in hotel,or by phone.	2	21.4.2020	Rinika Alliu
11	Reserve some dates for specific rooms	Rooms wich are being fixed cannot be booked	1	21.4.2020	Ibrahim Kulli

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12	Get statistics	Administrator can say who the top employee is of course based on statistics	3	21.4.2020	Rinika Alliu
13	Email notification	After the client books a room he will be notified with an email wich will tell him the booking was done	3	21.4.2020	Renato Murati
14	Admin will be able to add/remove employee	If someone will be fired or someone will be hired.	2	21.4.2020	Sonja Robo
15	Admin will be able to leave notes to employees	If admin has something to tell o the staff members then he can send messages	2	22.4.2020	Sonja Robo
16	Cleaner should have the info if the rooms are uncleaned	Cleaner can see in its own page which room is unclean	3	22.4.2020	Rinika Alliu
17	The system will include a web app for all types of users	Every user will enter to a specific page wich fits his interests		22.4.2020	Ibrahim Kulli
18	Client can write comments	All people are different so they have different wishes and if something is not listed in oue services they can leave comments	3	22.4.2020	Rinika Alliu
19	VAT will be calculated according to room price	Albanian legislation says about hotels that 6% of room price goes for VAT.so this will be calculated in the printed receipt.	2	224.2020	Erjon Spahija
20	Admin can add product to the inventory	In order to make easier for hotels product the admin can add products to the inventory	2	22.4.2020	Sonja Robo
21	Admin can control or even assign tasks	Admin can control different issues related to staff or hotel	3	22.4.2020	Sonja Robo
22	Admin can modify rooms wich are booked	People have different needs so admin can modify somthind they dont like or postpone their leaving	1	23.4.2020	Rinika Alliu
23	Client can edit information	Clients can have acces to their personal information and be able to change something	3	23.4.2020	Ibrahim Kulli

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24	For each day should be specified which rooms will be cleaned by whom	So name of worker and number of rooms and date	2	23.4.2020	Renato Murati
25	Rooms not cleaned	Cleaner will look rooms which need to be cleaned	3	23.4.2020	Rinika Alliu
26	Status of room	Cleaner can see if room is cleaned	2	23.4.2020	Sonja Robo
27	Have no only one room	Customer have the chance to book more than one room	2	23.4.2020	Sonja Robo
28	Checking rates	Customer can check rates and also reviews of hotel	2	24.4.2020	Rinika Alliu

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27	Have no only one room	Customer have the chance to book more than one room	2	23.4.2020	Sonja Robo	
28	Checking rates	Customer can check rates and also reviews of hotel	2	24.4.2020	Rinika Alliu	
29	Book room	Customer can book room after being logged in system	1	24.4.2020	Ibrahim Kulli	

3.2 Non-Functional Requirements

3.2.1 User Interface Requirements

- Accountable system
- Plain system
- Reducing time
- Every users information will be shown in database
- Plieble navigation to different page and from them

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 exiting 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

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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

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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

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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 of 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

Hotel Management System Requirements Specification

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

Hotel Management System Requirements Specification

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

Hotel Management System Requirements Specification

- 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

Hotel Management System Requirements Specification

- 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

Use Cases

Use case 1

Name	User login
Summary	User is successfully logged in after he/she provides correct credentials to the system
Actor	Admin, Receptionist, Guest, Cleaner
Description	<p>The user opens login page and in order to gain access to the main page of the system and other features offered, he/she must provide his/her valid credentials to the login page or can directly sign in using Google Sign-in. The user will later be directed to the main page which is different for different types of user.</p> <ol style="list-style-type: none">User opens the login page of the systemUser is asked by the system to enter his/her credentials (username/password)User proves that he/she is not a robot by checking the CaptchaUser clicks Login buttonIf his/her credentials matches with any of the data in the current database, the user is successfully logged inUser gets redirected to the main view (dashboard) of the web page
Precondition	The user must first have been registered in the software using his/her personal credentials
Alternatives	There are no alternative options
Post Condition	The user gains access to their profile which differs from the user's role

Use case 2

Name	User manages his/her profile
Summary	User goes to Profile and edit data
Actor	Admin, receptionist, guest, cleaner
Description	<ul style="list-style-type: none">• User click settings, under which will find the button Profile. There user can edit his/her details: name, surname, email, password, birthdate, address, edit picture, upload a new picture.• User edits or changes all the information that he/she wants to modify• User clicks Save button• The changed information is stored now on database and the page is refreshed with the new entered information
Precondition	User must be logged in
Alternatives	User types his/her credentials wrong so user will get e message error telling him/her that he has typed wrong credentials thus he will have to try to login again
Post Condition	The changed information is stored now on database and the page is refreshed with the new entered information

Use case 3

Name	Admin manages staff
Summary	Admin can view, edit, add, delete guests and employees information
Actor	Admin
Description	<p>Manage employees</p> <ul style="list-style-type: none">• Admin clicks on the settings tab in the navigation bar• Admin clicks the view Staff details button in the settings tab• Admin will be redirected to the Staff's page where he can check all details for a specific employee, where admin can modify or delete data• In the other case admin can add an employee
Precondition	Admin must be logged in
Alternatives	None
Post Condition	Admin will have detailed knowledge about hotel's employees and customers.

Use case 4

Name	Admin manages inventory
Summary	Admin can add, modify or delete a product.
Actor	Admin
Description	<p>Admin clicks Inventory button on the navigation bar</p> <ul style="list-style-type: none">a. Admin clicks Add Product button and will be redirected to a fillable empty form where he/she can add information about the new entered product (name, amount, type etc.) Admin clicks Submit button in order to add the new product in the inventoryb. Admin clicks Edit Product button and is redirected to a form which contains the information for the current product from where he can update that information Admin clicks Save button to save the new entered information for the productc. Admin points to the product that he wants to remove and clicks Remove button from the products view page A confirmation dialog will be showed asking if he/she is sure to remove the specific product
Precondition	Admin must be logged in
Alternatives	None
Post Condition	The inventory page is refreshed, and the product change(added, modified or deleted) will be shown on the inventory's page with the new information

Use case 5

Name	Admin manages rooms
Summary	Admin can view, edit, add, delete rooms
Actor	Admin
Description	Admin goes to the navigation bar, in the settings tab can view, edit, add, and delete rooms.
Precondition	Admin must be logged in
Alternatives	None
	Admin will have detailed knowledge about hotel's capacity.

U6

Name	Admin views dashboard
Summary	Admin should manage the financial report calculations, view guest details, guest review
Actor	Admin
Description	<ol style="list-style-type: none">1. Admin clicks on the Statistics Tab in the navigation bar2. Admin Clicks on Reports tab3. Admin can choose two date (first date indicated from which date the report will be calculated and the second date indicates until what day the report will be calculated.4. Admin can view guest details5. Can view guest review
Precondition	Admin is logged in and has good knowledge on wages, expenses and budget of the hotel
Alternatives	None
	The report will be shown with different models (Line graph, Pie charts, Bar graph etc.) and with normal numbers as well.

Use case 7

Name	Notes for employees
Summary	Admin can assign task to each of the employees.
Actor	Admin, receptionist, cleaner
Description	<ul style="list-style-type: none"> e. Admin clicks on assign tasks in the dashboard page f. Admin can assign task to each of the employees if he/she is not available to reach them in other ways g. The tasks are shown on the dashboard of each user
Precondition	Admin must be logged in
Alternatives	Admin can reach employees in other way (for example call them)
Post Condition	Employees are able to see the tasks in their dashboard.

Use case 8

Name	Cleaning process
Summary	The cleaner has to check for the assigned room and after the work is done to change the status of the room cleaned.
Actor	Cleaner
Description	<ul style="list-style-type: none"> a. Cleaner clicks on the Rooms to be Cleaned panel b. Cleaner views which rooms are assigned to him/her for cleaning c. Cleaner clicks print report button to have a more transparent view of the room status
Precondition	Cleaner has to be logged in.
Alternatives	She can do the job manually.
Post Condition	After cleaning one of the assigned rooms he/she sets the status of the room to cleaned

Use case 9

Name	View booked rooms and availability
Summary	Admin and receptionist are able to check if each room is booked or not in a specific day.
Actor	Admin, receptionist
Description	<ul style="list-style-type: none">a. User clicks on Booked Rooms tab in the navigation barb. User can view the availability of each room on the schedule located in the Booked Rooms page and in print their cleanliness status.c. User can choose Booked Room list view from where he can see all rooms and their availability on specific daysd. User searches for a specific room number or type to filter the rooms availability view
Precondition	User has to be logged in.
Alternatives	None.
Post Condition	User has a clear rooms availability view.

Use case10

Name	Guest registration
Summary	User can register into the system.
Actor	guest
Description	<ul style="list-style-type: none">a. Guest is not registered yet on the system thus he opens the sign up page of the systemb. Guest fills the registration form with all his/her information
Precondition	User has not been registered before and has to fill all text boxes information.
Alternatives	None
Post Condition	Guest have to receive a confirmation email.

Use case 11

Name	Guest messages
Summary	System makes possible the communication between guest and receptionist.
Actor	Guest, Receptionist
Description	<ul style="list-style-type: none">a. Guest clicks on send message button to open an text area where he/she can write his/her messageb. Guest types the message with any issue or need that he/she has and clicks on the send button to send the message to the receptionistc. Receptionist sees that he/she has received a new message and clicks on the messages panel in the dashboard paged. Receptionist sees all the messages and clicks on the guest that he/she wants to replye. Receptionist writes a reply message for the guest and clicks Send Message button
Precondition	user has to be logged in
Alternatives	Guest can call receptionist.
Post Condition	Guest is notified for the message from receptionist.

Use case 12

Name	Booking
Summary	User can book a room after checking its availability.
Actor	Guest, receptionist
Description	<ul style="list-style-type: none">a. User chooses two dates (check-in and check- out) which defines the period that he wants to stay in the hotelb. User will have a list of rooms that are available during these days with some information about the roomc. User can click in one of the rooms available on these dates to view full details of that roomd. User clicks book room within the dates that he/she has chosen
Precondition	User has to be logged in and room has to be available in order to be booked. If the guest make reservation by himself receptionist is just notified.
Alternatives	Guest can call receptionist.
Post Condition	Guest will be notified that the room is successfully booked

Use case 13

Name	Log out
Summary	User can logout the system after his/her session is over.
Actor	Admin, receptionist, cleaner, guest
Description	User click logout under settings tab.
Precondition	User has to be logged in.
Alternatives	None
Post Condition	If the user wants to login again, he/she has to write his credentials again otherwise a successful login will not be executed.

