Epoka University

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CEN 302 – Software Engineering

Hotel Management Requirements Specification

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Hotel Managment

Requirements

SpecificationFirst Draft

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1. Executive Summary

1.1 Project Overview

The travel industry has experienced a significant shift in recent years, with the rise of online platforms offering a range of options for travelers to book their accommodation.
There is still a need for a SaaS app that offers features that cater to the specific needs of travelers. This SaaS app aims to provide a user-friendly platform for travelers to find and book their ideal accommodations, while also offering hosts the ability to manage their properties with ease.

Therefore for this problem we suggest a software solution implemented through an web application that will satisfy the needs of both clients who need to book their next home,hotel etc, as well as helping hosts out in aspects of managing their listings better and as well as having a target audience without the need for further advertising.

1.2 Purpose and Scope of this Specification

The purpose of this SaaS app is to provide a comprehensive platform that simplifies the process of booking and managing accommodations for travelers and hosts. The app should allow users to search for properties based on their preferences, including location, price range, amenities, and more. It should also offer a secure payment system that allows for easy and hassle-free transactions between hosts and guests. Additionally, the app should provide a range of management tools for hosts, including the ability to create and manage their property listings, view their booking history, and communicate with guests. The app should be intuitive and easy to navigate, ensuring that users can quickly find what they're looking for and make informed decisions about their bookings. This documentation is intended for all users of the SaaS app, including travelers and hosts. It will provide detailed information on how the app works, its features and functionalities, and any requirements or limitations that users should be aware of.

In scope

Providing the clients with all information they require from searching through the platform filters.
Clients can book a room,home,property .
Allowing hosts to manage their property offers.
Recordkeeping of the past data.
Rating system for hosts services.
Software maintenance will be provided as long as the platform is existing.

Out of Scope

The quality of the service from the hosts itself.
Prices the hosts put for their property.
Amount return for cancellation of booked services.
Providing transportation to and from the property.

2. Product/Service Description

The SaaS app we are developing is a platform for short-term vacation rental bookings, similar to Airbnb. The app will allow property owners to list their properties for rent and travelers to search and book these properties for their vacations.
The app will include a user-friendly interface that will allow property owners to simply establish and maintain their listings, including adding images, setting price, and controlling availability. Travelers will be able to search for houses based on location, dates, and other criteria, browse photographs and facts about the properties, and make secure bookings using the app.

2.1 Product Context

The platform for the pet's store and clinic is a complete system created for both pet owners and pet care specialists. The app has an intuitive user interface and a host of features and functionalities that are designed to meet the demands of both pets and their owners.
The system enables pet owners to easily browse and buy a variety of pet products and supplies from the comfort of their own homes. Additionally, the platform gives pet owners a way to schedule appointment.

2.2 User Characteristics

2.3 Assumptions

2.4 Constraints

2.5. Dependencies

3. Requirements

3.1 Functional Requirements

Req #	Requirments	Comments	Priority	Date	Reviewed/Approved
Fr_1	User Authentication:	This feature should allow users to sign up for an account by providing basic information such as their name, email, and password. Once the user has created an account, they should be able to log in and log out of the app at any time. To ensure the security of user data, the app should use industry-standard encryption techniques to protect user passwords and other sensitive information.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_2	Property Listings:	This feature should allow users to browse all available properties for rent or create a new listing for their own property. Property listings should include detailed information about the property, such as its location, amenities, price, photos, and availability. Property owners should be able to manage their listings by editing or deleting them as needed.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_3	The system should allow the user to book a hotel/property	The system should be able to save the reservation and reduce the number of available rooms.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_4	Search Functionality:	This feature should allow users to search for properties based on various filters such as location, price range, property type, and availability dates.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj

Fr_5	Review and Rating System:	This feature should allow users to leave reviews and ratings for the properties they have stayed in. Users should be able to rate the property on various factors such as cleanliness, location, and amenities, and leave a written review describing their experience.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_6	Messaging System:	This feature should allow users to communicate with each other through an in-app messaging system. Users should be able to send messages to property owners to ask questions about the property, or to discuss rental details such as check-in times and key pickup locations. The messaging system should also allow property owners to respond to inquiries and messages from renters.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_7	Admin Panel:	This feature should allow an administrator to manage the app's settings, listings, users, and other important features.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_8	Property Verification:	The app should have a system in place to verify the authenticity of property listings, such as by requiring property owners to provide proof of ownership or by conducting on-site inspections.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_9	Property Description:	Property owners should be able to provide a detailed description of their property which includes property highlights, amenities, neighborhood attractions, and more.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj

Fr_10	The system should allow the user to cancel a booking.	The system should delete the user's booking from the database if the user chooses to cancel it.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_11	Notifications:	This feature should allow users to receive notifications about important events related to their bookings, such as booking requests, message notifications, or changes to their reservations.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_12	Payment Processing:	The app should offer multiple payment options such as credit card, PayPal, and other payment gateways, to accommodate users with different payment preferences.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_13	Booking Confirmation:	Users should receive a confirmation email or message after booking a property, and property owners should receive a notification of the booking.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_14	The web application has to be responsive	The users should be able to access this web application from many devices.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_15	The system should allow the admin to manage a property	The admin should be able to manage property listings, including adding, editing, and deleting properties, as well as approving or rejecting property submissions from property owners.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj

Fr_16	The system should allow the admin to see the feedback of the user..	The system should allow the admin of the platform to see the feedback of the user and give a response as well.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_17	Lists of hotel and room information	This system need a list of hotels and the description of the room based on the location chosen by the user. The user needs to decide what to book for so the lists of hotels should be done first.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_18	Booking system	The user has decided what should he book for, so we need a booking system in which the user chooses how many people, how many rooms, what type of rooms is generally prefered, if it has tv or is it allowed to have pets, and so forth	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_19	Manager panel	The manager is the owner of the hotel. he sees information about himself, about his accomodation and rooms and what payments are done. he is also responsible for the approval of the booking. There could be thousands of bookings from different people, but the manager will accomodate people that he can or cannot handle.	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_20	Payment history of user	The user should be able to see the history of his payments before so that for example he could go there again or just to remember where has he gone and was it cheaper than before or was it more expensive	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj

Fr_21	Property inspection	Some locations should be checked in person by someone professional in which the admin has requested for. if the property is approved, the hotel will be shown, otherwise it will not	0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj
Fr_22	TBC		0	18.04	Dario Pipa Sara Martiri Enkel Murati Elisa Haxhillazi Armen Ostaku Kleidi Kertusha Klevi Mecaj

3.2 Non-Functional Requirements

3.2.1 Product Requirements
3.2.1.1 User Interface Requirements

The user interface for the web applications should be compatible to any browser in order for the user to access it from Desktop or Mobile.
In addition to functions required, we are going to describe the characteristics of each interface, which are supported from the sketches attached at the Appendix D.

The User interface could be grouped in 5 main interfaces:
- Home page Interface
Which will contain:

- Search Bar: A text box where users can enter their desired location, check-in and check-out dates, and number of guests.
- Explore section: A section that provides curated options for popular destinations, experiences, and accommodations.
- Navigation bar: A menu bar that allows users to navigate to different pages on the Airbnb website, such as "Host", "Experiences", "Help", and "Sign Up/Log In".
- Categories section: A section that displays popular categories of accommodations, such as "Entire Homes", "Unique Stays", "Pet-Friendly", etc.
- Footer: A section at the bottom of the page that contains links to additional information, such as "About Us", "Careers", "Press", and "Policies".

- Log In Interface
Which will contain:

- Username/Email: A text box where the user can enter their registered email or username associated with their Airbnb account.
- Password: A text box where the user can enter their password.
- "Remember Me" checkbox: An option that allows the user to remain logged in even after closing their browser.
- "Forgot Password" link: A hyperlink that redirects the user to a password reset page if they forget their password.
- "Sign Up" link: A hyperlink that redirects the user to the Airbnb registration page if they don't have an account yet.
- "Login" button: A button that submits the login credentials entered by the user and logs them into their account.

- Super admin Interface
Which will contain:

- User Management: A section that allows superadmins to manage user accounts, including creating, deleting, or modifying user accounts, roles, and permissions.
- Analytics and Reporting: A section that provides data analytics and reporting tools to help superadmins monitor and analyze data, including metrics on user activity, system performance, and other relevant data.
- Content Management: A section that allows superadmins to manage content, such as uploading or deleting files, updating web pages, and creating or modifying content categories.
- Settings: A section that provides access to system settings and configurations, including payment settings, and other system configurations.
- Help and Support: A section that provides access to help and support resources, such as a knowledge base, community forums, or contact information for technical support.
- Log out: A button that will terminate the current session and will resent the user to the main page.

- Admin Interface

Which will contain:

- Navigation menu: A list of options or links that allow the admin to navigate to different areas of the admin dashboard.
- User management: An area where the admin can manage user manager accounts, including creating new accounts, updating account information, and deleting accounts if necessary.
- Listings management: An area where the admin can manage listings, including adding new listings, editing existing listings, and deleting listings if necessary.
- Reservation management: An area where the admin can manage reservations, including approving or rejecting reservation requests, modifying reservations, and canceling reservations if necessary.
- Analytics dashboard: A section that displays key performance indicators (KPIs) and analytics related to the Airbnb platform, such as the number of active users, average booking rates, and revenue generated.
- Customer support tools: A section that provides tools for customer support, including the ability to respond to customer inquiries, resolve disputes, and provide refunds if necessary.
- Log out: A button that will terminate the current session and will resent the user to the main page.

- Manager Interface

Which will contain:

- Listings: A section that displays all the listings managed by the user, along with their current status, occupancy rates, and other relevant details.
- Reservations: A section that shows all the upcoming and past reservations for the managed listings, along with guest details, booking dates, and payment status.
- Messaging: A section that allows the user to communicate with guests directly through the Airbnb platform, view message history, and respond to inquiries or requests.
- Reviews: A section that displays all the reviews received by the user's listings, along with ratings, comments, and response options.
- Analytics: A section that provides data on the user's performance metrics, such as occupancy rates, revenue, and guest satisfaction scores, and allows the user to analyze and compare data across different time periods.
- Settings: A section that allows the user to customize their account and listing settings, including pricing, availability, and amenities.
- Log out: A button that will terminate the current session and will resent the user to the main page.

- Guest Interface

Which will contain:

- Reservation Details: The guest dashboard may display information related to the guest's current and past reservations, such as the check-in and check-out dates, reservation status, and the reservation's host and property details.
- Booking Requests: The guest dashboard may provide a section where guests can submit booking requests for new reservations.
- Messages: The guest dashboard may allow guests to communicate with their hosts through a messaging system to discuss their reservations, ask questions, and get help.
- Reviews: The guest dashboard may display reviews left by other guests about their experiences with the hosts and properties they have stayed with.
- Personal Profile: The guest dashboard may include a section where guests can manage their personal information, such as their name, contact details, payment methods, and preferences.
- Help Center: The guest dashboard may offer a help center with FAQs, support articles, and other resources to assist guests with their questions or issues.

3.2.1.2 Learnability

• Super admins, admins and managers should be able to master using the system within a few hours, but may need some specific training on how to handle the reservation. The guests and unregistered user will not need a specific training since the system will be intuitive.
• This documentation can serve as a user guide to super admins, admins and managers
• In case of an error, a specific and detailed message will be shown to the user in order for them to understand what went wrong.
• The user is responsible for his/her own actions.

3.2.1.3 Accessibility

• Each user will provide their email and password at the time they are registered at the system.
• Super admins, admins, managers and guests can access the specific parts of the system. • The unregistered users can only access the homepage and it's components but will be able to explore it without being able to make any reservation.
• The registered users can access the system at any time and at any place.

3.2.1.4 Efficiency

• Each operation will be fast and in real time.
• Once the users have learned the system they will be able to perform each operation within minutes.

3.2.1.5 Memorability

• The system is intuitive hence, it is not a problem if you 'vaguely remember' how to use it.
• If the users return to the design after a period of not using it they will be able to the re-establish proficiency within the first hour.
• The user interfaces are designed to be easy understandable by the user (pictures, icons, buttons, descriptions etc.)

3.2.1.6 Errors

• The error rate is lower than the current error rate.
• Each time sensitive data is entered in the system double check procedure is applied where the user confirms the entered data.
• If an error occurs it can be edited and corrected immediately.

3.2.1.7 Satisfaction

• The system is user-friendly and it is very easy to use.

3.2.1.8 Capacity

This application will be developed to cover all the necessities of a booking website. The application will work at the same time for all user types. It will work on real time, so every change made will be reflected immediately to the other users (based on their clearance).

Every user will use the same database, therefore if multiple requests are made to the server the requests will form a query slightly delaying the process. To increase the capacity and to lower the amount of times this happens the user will make the changes storing them in their computer then they will be sent to the database. This way even if there is a delay it will allow them to continue their job.

The application will be stored in a web server. The applications itself is not large and the database that we are going to use does not occupy a large space either.

3.2.1 Organizational Requirements

3.2.1.1 Availability

The app should be highly accessible, with a target uptime of 99.9%, allowing users to use the service at any time and from any location. The app should have a strategy in place to ensure that it is available even if the server or network goes down.

3.2.1.2 Latency

To give consumers a smooth experience, the app should have minimal latency. The app should have a structure in place to guarantee that the response time is as short as possible and that the user experience is as smooth as possible.

3.2.1.3 Monitoring

- The system will be built to be secure and reliable. The user interfaces will be easy and there should be no cases where the system crashes.
- Periodic reports shall be generated by the system maintenance group. These reports shall be used not only to detect problems but also to find possible ways to improve the system.
- For most of the possible error scenarios, informative messages will be prepared to be shown to the user, in order for them to know what the problem is.

3.2.1.4 Maintenance

The system will put security and dependability first, and it will include intuitive user interfaces to avoid system crashes. The maintenance team will provide reports on a regular basis to pinpoint issues and enhance the system. Field validation will be used to verify accurate entry, and users will get error warnings as needed. For probable error scenarios, informative messages will be generated in order to help users comprehend and resolve any potential problems.

3.2.1.5 Standards Compliance

Our platform will follow established standards and regulatory criteria to guarantee a flawless user experience and keep the confidence of the users. There will be regulations for legal issues, and abiding by data privacy laws (**GDPR) .** User data will be encrypted and protected and to guarantee the quality and integrity of the data , userIDs and other information will be kept up to date in accordance with industry standards

3.2.1.6 Portability

• The system will be web-based; therefore, it will operate the same regardless of the

operating system.
• All you need is a computer or mobile phone and an Internet connection.

3.2.2 External Requirements

3.2.2.1 Security

The information kept in the system's database is considered to be sensitive information. Therefore, we should make sure that the security of our system is high. The app should implement appropriate trust and safety measures, such as identity verification, fraud detection, and user reviews, to promote a safe and trustworthy environment for users.

3.2.2.2 Protection

- Encrypt the most sensitive information such as passwords using hashing method to protect privacy.
- We will keep track of the activity of each user, such that in case of a problem the user will be held responsible.
- The receptionist is responsible for the personal data authenticity of the user he/she enters; hence the system is not responsible.
- To make sure that some action is intentional and not accidental, most of the actions of the users are protected by a pop up window to confirm that action.
- Each users will see only the information related to him/her.

3.2.2.3 Authorization and Authentication

The user authentication will be using username, password .
Authorization will be based on the user type. Each user will access only the respective information.
Using sessions for the currently logged user.
If the user tries to log in with the wrong credentials a message will be shown to him/her.

3.3 Domain requirements

Our platform's domain criteria are designed to provide a marketplace where hosts and guests may interact in a safe and secure way. Our website lets travelers look for and reserve distinctive listings while also giving hosts a method to advertise.
While guests may look for houses, make reservations, and post reviews, hosts can maintain their listings, accept bookings, and interact with visitors. Additionally, staff of Airbnb have control over a number of platform-related functions, including payments, dispute resolution, and customer support.
Our overall objective is to develop a platform that encourages confidence, security, and safety for customers.

4 Software Design / Diagrams

4.1 Requirements Analysis

4.1.1 User Scenarios

4.1.1.1 User Scenarios List

4.1.2 User Cases

4.2 Behavioral Diagrams

4.2.1 Use Case Diagrams

4.2.2 Activity Diagrams

4.2.3 State Diagrams

4.2.4 Sequence Diagrams

4.2.5 Collaboration Diagrams

4.3 Data Flow Diagrams

4.4 Entry Relation