Vision Document
Hotel Management System

Revision History

Date	Version	Description	Author
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1. Introduction

1.1. Problem:

In the hotel industry, managing activities such as room reservations, service management, and financial management is very complex and requires a lot of effort. If managed manually, it will easily cause errors and take a lot of time. Without automation, hotel management becomes a difficult task. The end user's daily hotel management work will be greatly simplified through the automated system. The system will be able to handle multiple services to take care of all customers quickly.

1.2. Scope

Hotel Management System will automate key hotel operations.

The first subsystem is the Room Viewing and Reservation System to track the number of rooms booked, rooms in use, booked rooms and rooms about to check out. The second subsystem is the Room and Room Categories System Allows viewing hotel room types, adding, editing, deleting rooms and room types. The system also helps us see the list of available rooms for each room type. The third subsystem is Report System reviewing financial reports on hotel revenue and customers.

There are two end users for HMS. The end users are hotel receptionists (customer service representatives) and hotel Managers. Both types of users can access the Viewing and Booking System. Only Managers can access the Room and Room Catalog System, Report System.

2. Stakeholder

2.1. Stakeholder summary

Non-User Stakeholders

Name	Description	Responsibilities
Requirements Specifier	This stakeholder collaborates with Analysts to accurately convert requests or needs into design requirements.	Specifies the details of one or more a part of the system's functionality by describing one or the aspects of the requirements, this will include functional and non-functional.

Software Architect	This is a stakeholder that is primary for leading the system development.	Responsible for the software architecture, which includes the key technical decisions that constrain the overall design and implementation for the project. Ensures that the system is going to be maintainable and the architectural solution supports the functional and non-requirements.
Project Manager	This is a stakeholder that is primary for leading the system development.	Plans, manages and allocates resources, shapes priorities, coordinates interactions with customers and users, and keeps the project team focused. Also establishes a set of practices that ensure the integrity and quality of project artifacts

2.2. User Summary

Name	Description	Responsibilities	Stakeholder
Hotel Owner	End user of the system	Approves the development of features and finalizes system requirements. Check if the system meets their requirements	self
Hotel Manager	Primary end user of the system	check whether the system is easy to use or not. Check whether the system meets the professional requirements in hotel management Monitors the status of the system and can send notifications to development team if the system has problems	self

Hotel Receptio nist	end user of the system	monitors the status of the system and can send notifications to manager if the system has problems	self

2.3. Key Stakeholder or User Needs

Need	Priority	Concerns	Solution
Secured access	High	Management of private user information	Manage user access with email authentication and encryption
Easy to use	High	Usability and interaction with components	Provide user friendly, highly intuitive.
Responsive	Medium	Ability to rely on third party communication links for prompt response times	Create business partnerships with third party providers to ensure prompt response times.

3. Objectives and objects of the project

3.1. Objectives:

● Optimize work processes: Hotel management systems help automate processes such as booking, payment, and service management, minimizing the time and effort required.
● Improve service quality: The system helps provide services quickly and accurately, improving customer satisfaction.
● Effective financial management: The system provides tools to track revenue, costs, and profits, helping to manage finances effectively.
● Data analysis: The system provides data analysis tools to help make business decisions based on actual data.

With the above goals, the Hotel Management System helps improve work performance, enhance service quality, and maximize profits.

3.2. Objects

The target market segment includes hotels and motels around the world. Users are expected to be medium and large hotel owners with a need for effective hotel management. Manual hotel management takes a lot of effort,

is prone to confusion, and lacks information, which makes it difficult for hotel owners to manage revenue and optimize profits.

4. Main Features

- Log in
    - The system shall verify the customer's email and password against the member database when logging in
    - After logging in, members shall be redirected to Main screen

- Book room
    - The system shall allow the Receptionist to check room availability
    - The system shall display prices and some information of all rooms
    - The system shall allow the Receptionist to confirm or cancel reservations
    - The system shall records booking information into the database
    - The system shall allow the Receptionist to update, add, and delete reservation information
    - The system shall provide customer portal access for receptionists to answer customer inquiries

- Add customer
    - The system shall allow entering customer information
    - The system shall save customer information into the database
    - The system shall allow customer information to be retrieved when necessary

- Payment
    - The system shall allow customers to pay bills online using a credit or debit card
    - The system shall provide a file pdf of the invoice to print for customers paying in cash

- Register
    - Users can register with their details
    - The system shall record the following user information into the member database: Email, Password, Name, Address, Date of Birth.

o The system shall send a verification message to email

● Report (manager access)

o The system shall generate financial and customer reports

● Update room (manager access)
o Add, edit, delete room information
o Add new room with information
o Delete old room
● Update room type (manager access)
o Add, edit, delete room type information
o Add new room type with information
o Delete old room type

5. Operating environment

● The system's user interface must be compatible with all types of web browsers like Google Chrome, Safari, CocCoc, Firefox and Internet Explorer …

● Web Server: Apache Tomcat Server

● Database Server: MySQL Server

● Development End: J2EE, Java, JSP, Servlet, HTML, XML, JavaScript.

● Operating System: Windows, MacOS.

6. Design and implementation constraints

6.1. Design constraints

● Performance and reliability: The system must be able to handle multiple requests from users simultaneously and ensure high reliability without encountering waiting time or system failure issues.

● Scalability: The system should be designed to be easily scalable as needed, including adding new features and support for multiple hotels and branches.

● Security

o Use encryption techniques: Apply encryption to databases, using data encryption for user passwords to protect them from unauthorized access. Applied TLS/SSL encryption techniques. Authentication of the user is by identifier and password.

- Keep specific log or historical data sets: Record all user activities, including login information, data changes, and other activities to check and monitor system performance. Store access history to sensitive data to detect and correct untrustworthy behavior.

- Check data integrity for critical variables: The system must perform comprehensive data checks against critical variables such as payment information to prevent illegal modifications or erroneous data.

- Usability: Easy to use, end-user friendly. The components are easy to understand and easy to manipulate

- Responsiveness:

  - Data in the database must be updated within 2 seconds

  - Query results must return within 3 seconds

  - UI loading time is no more than 1 second

  - Login authentication must be performed within 2 seconds

- Capacity

  - Supports 2000 devices

  - Supports 200 concurrent users

  - Type of information processed: text, image

6.2. Implementation constraints:

- The application should only be based on Java, JavaScript, HTML, CSS, frameworks like Spring Boot, React.

- The application is deployed on Vercel platform, using Docker