LOW LEVEL DESIGN

(HOTEL BOOKING PROJECT)

WRITTEN BY :	TARUN SHARMA
DOCUMENT VERSION :	1.1
LAST VISITED :	02-04-2023

DOCUMENT CONTROL

CHANGE RECORDS:

VERSION	DATE	AUTHOR	COMMENTS
1.0	28-03-2023	Tarun Sharma	Introduction and Architecture Defined and Described.
1.1	02-04-2023	Tarun Sharma	Test Cases are introduced

REVIEWS :

VERSION	DATE	AUTHOR	COMMENTS

APPROVAL STATUS:

VERSION	REVIEW DATE	REVIEWED BY	APPROVED BY	COMMENTS

CONTENTS :

1. Introduction

1.1. What is Low-Level design document?

The Low-Level Design (LLD) document explains the internal structure and implementation details of the hotel booking system.
It serves as a guide for the development team to understand how the system should be designed and built.

1.2. Scope

– This document outlines the scope of the Hotel Booking Project. It defines the objectives and goals of the project, including the development of a user-friendly web application for hotel reservations. The document covers the features, interfaces, limitations, and expected outcomes of the project

Architecture:
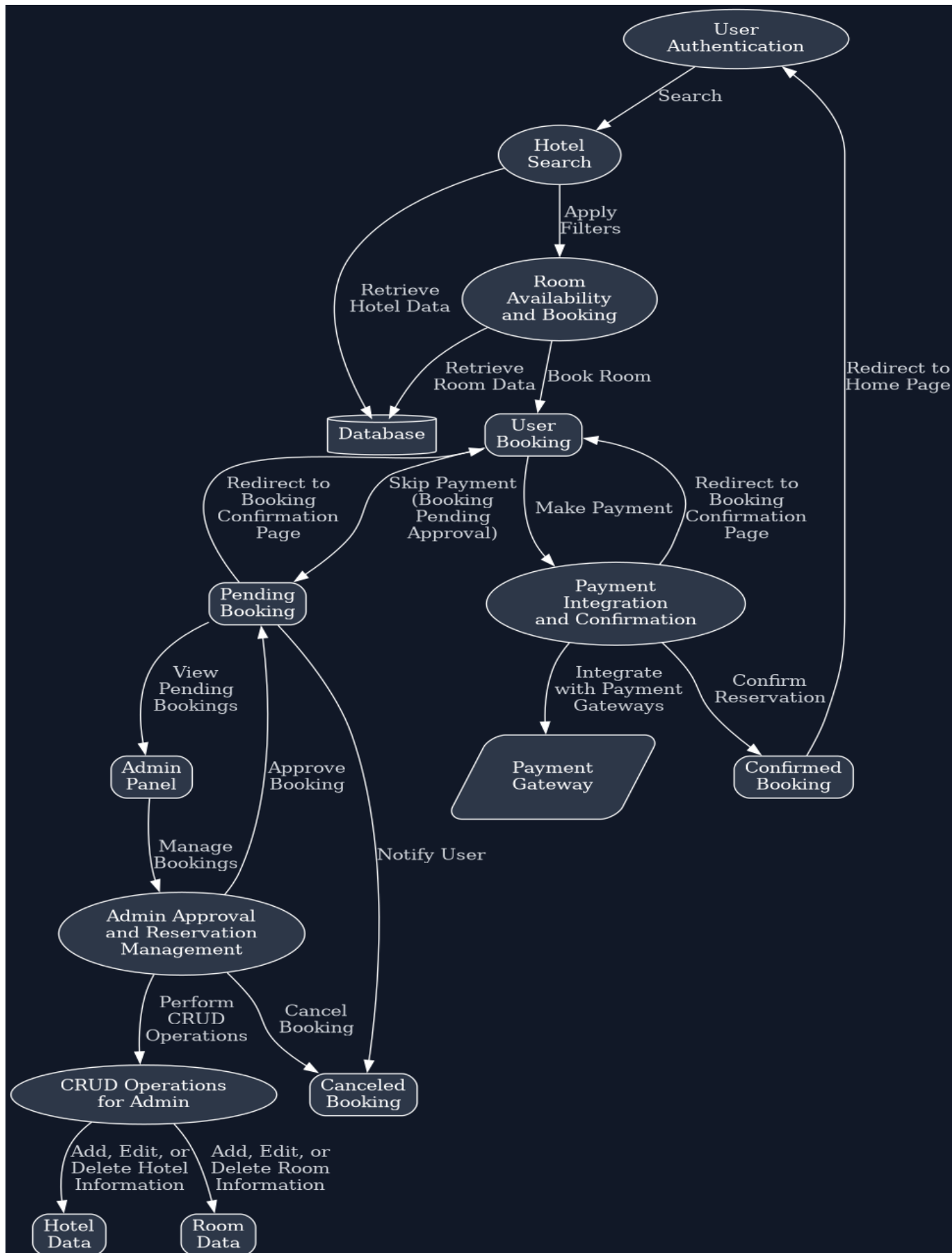
System overview –
This project follows a client-server architecture.

– Users interact with the web-based user interface, while the server handles the logic, implementation and data management.

– The backend components include modules for user management, hotel data storage, room availability management, reservation handling, payment processing.

– The system integrates with external systems such as payment gateways, database providers and cloud service providers for hosting and deployment.

— a basic architecture workflow of the hotel booking web service —

3. Architecture Description

Data Storage and Retrieval

 – Data is stored using the Mongo DB for better and efficient storage , querying , filtering , security and scalability abilities.

User Authentication:

– Users can create accounts with secure hashing and encryption to ensure the privacy and security of their information.

Hotel Search and Retrieval:

– Users can search for hotels based on location, dates, price range.

– The system retrieves hotel data from the database and applies filters based on user preferences.

– Relevant hotels matching the user's criteria are displayed.

Room Availability and Booking:

– Users select a hotel and specify their room preferences (e.g., room type, number of guests).

– The system checks the availability of rooms based on the selected dates.

– If rooms are available, the user proceeds to book a room.

Payment Integration and Confirmation:

Option 1: Users make a payment:

– The system integrates with payment gateways to enable secure transactions.

– *Users provide their payment information securely.*

– *The payment is processed, and the reservation is confirmed.*

– *Users are redirected to the booking confirmation page.*

– *From the confirmation page, users can go to the home page and explore further.*

Option 2: Skip Payment (Booking Pending Approval):

– *Users can choose to skip the payment and proceed to booking.*

– *The system saves the booking as pending , and it is with the admin to approve cancel it.*

– *Users are redirected to the booking confirmation page.*

– *From the confirmation page, users are can jump to the home page .*

Approval and Reservation Management:

– *Admins have access to the admin panel, which allows them to manage bookings and perform booking related actions.*

– *In the admin panel, admins can view pending bookings and take action on them.*

Admins can approve or cancel pending bookings.

– *If a pending booking is approved, the reservation status is set to "Approved."*

– *If a pending booking is canceled, the user is notified of the cancellation.*

CRUD Operations for Admin:

– *Admins have the capability to perform CRUD operations on hotel and room data.*

– *They can add, edit, or delete hotel information, such as hotel details, amenities, and availability.*

– They can also add, edit, or delete room information, such as room types, prices, and availability.

3.17. Deployment

*– We will be deploying our project to the **Render** cloud services .*

—----- This is a workflow diagram for the Hotel Booking Project.-------

4. Unit Test Cases

Test Case ID	Test Case Description	Expected Results	Steps
1	*Test the user authentication functionality.*	*The user should be able to successfully create an account and log in to the system.*	*1. Go to the website and click on the "Login In" button.* *2. Enter a valid email address, and password.* *3. Log in to the system using the username and password that you created.* *5. Verify that you are logged in by checking the top right corner of the page.* *6. . Click on the "Sign up" button, to create a account if you don't have any account , fill the required details and repeat the*

			above steps
2	*Test the hotel search functionality*	*The system should be able to successfully search for hotels based on location, dates, price range.*	*1. Log in to the system.* *2. Enter a location, dates, price range, and amenities.* *3. Click on the "Search" button.* *5. Verify that the system displays a list of hotels that match your criteria.*
3	*Test the room availability and booking functionality.*	*The system should be able to successfully check the availability of rooms and book a room.*	*.1. Log in to the system.* *2. Search for a hotel and click "Reserve now" and select the required rooms* *3. Click on the "show booking details " button.* *4. Confirm the booking details entered and click the "confirm booking" button.* *4. Enter your payment information.* *6. Verify that the system displays* *a confirmation message.*

4	*Test the payment integration functionality.*	*The system should be able to successfully integrate with payment gateways and process payments.*	1. Log in to the system. 2. Search for a hotel and select a room. 3. Do the required steps mentioned previously to successfully create a booking. 4. Enter your payment information. 5. Click on the "Pay now" button. 6. Verify that the system successfully process your payment.
5	*Test the admin approval functionality.*	*Admins should be able to successfully approve or cancel pending bookings.*	1. Log in to the system as an admin. 2. Go to the "Pending Bookings" page. 3. Select a pending booking. 4. Click on the "Approve" or "Cancel" button. 5. Verify that the booking is successfully approved or canceled.

| 6 | Test the CRUD operations for hotel and room data | Admins should be able to successfully add, edit, or delete hotel and room data. | 1. Log in to the system as an admin.

2. Go to the "Hotels" or "Rooms" page.

3. Click on the "Add" button.

4. Enter the hotel or room information.

5. Click on the "Save" button.

6. Verify that the hotel or room is successfully added.

7. Click on the "Edit" button for a hotel or room.

8. Edit the hotel or room information.

9. Click on the "Save" button.

10. Verify that the hotel or room is successfully edited.

11. Click on the "Delete" button for a hotel or room.

12. Verify that the hotel or room is successfully deleted. |