

A Capstone Project Entitled

Hotel Room Booking Management System

System Documentation

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Introduction

The hotel is experiencing rapid growth in the number of customers seeking accommodation services. The existing manual system of booking hotel rooms is becoming inefficient, cumbersome, and time-consuming, leading to a lot of errors, double bookings, and customer dissatisfaction. This calls for the need to develop a web-based hotel room booking application that provides a reliable and user-friendly platform for customer booking, and manage their hotel reservations easily and efficiently.

The proposed solution should address the following key challenges:

- Provide a user-friendly interface that enables customers book rooms according to their preferences, such as room type, price range, and availability.
- Allow guests to view real-time room availability, prices, and amenities.
- Provide administrators with a user-friendly dashboard that allows them to manage room availability, rates, reservations, manage bookings and manage user's data in real time.

The proposed hotel room booking application should aim to improve the overall user experience, reduce the workload of hotel staff, and increase the revenue and profitability of the hotel by maximizing room occupancy and reducing booking errors and cancellations.

Project Description

Hotel Room Booking Management System is a web-based application designed to help hotels manage room reservations, guest information. This system allows customers to book rooms and allows hotel admin to efficiently manage guest reservations, manage guest bookings, manage room inventory, and view booking details and improve the overall guest experience. The system also includes user authentication and profile management for users. The interface is user-friendly, and the system provides efficient management of the hotel, making it a complete solution for hotel management.

Project Scope/Requirements

In Scope

Web Services Rest API's

- Login/Logout
 - Profile Credentials
 - Identity JWT enabled
- List of Rooms
- List of Categories
- List of Bookings
- List of Users

Web Application

Login/Logout

- Profile
- Identity JWT enabled
- Change password

Admin Dashboard

- Login/Logout
- List of Booked Rooms
 - Manipulation of Room Availability (CRUD)
- List of User Credentials
 - Manipulation of User Credentials (CRUD)
 - Guests Credentials
- List of Room Categories
 - Manipulation of Room Details (CRUD)
- Booking Application
 - Ability to Book Rooms for Users (CRUD)

Functional Requirements

The requirements in this document are divided into the following categories:

Admin Portal

Item	Rating	Description
Login/Logout	High	Admin will be able to log in with his provisioned account details.
Dashboard for Admin	High	Dashboard screens lists User Data, and Room Data
List Users	High	List of Users which can be used for managing the CRUD operations.
List Booked Rooms	High	List of Booked Rooms which can be used for managing the CRUD operations

Guest Web Portal

Item	Rating	Description
Login/Logout/Registrar	High	Users will be able to register for an account as well as log in with their registered login details
Dashboard for Users	High	Dashboard screens with Room Details with Room Categories

List Booked Rooms	High	List of Booked Rooms for canceling booked rooms and viewing

Rest API

Item	Rating	Description
Authentication	High	User will be able to login with his provisioned account details.
Hotel Booking CRUD	High	API's to access the database of the Booking
User Credentials CRUD	High	Database of the User account details

Expected Results

- User Registration:** The system allows users to register as hotel guests. Users need to provide their personal details, including name, email, and contact information.
- Room Booking:** Guests can select a room from the available rooms list and proceed with the booking process. They need to provide their personal

information, including name, address, email, and contact details. The system also collects payment information for booking confirmation.

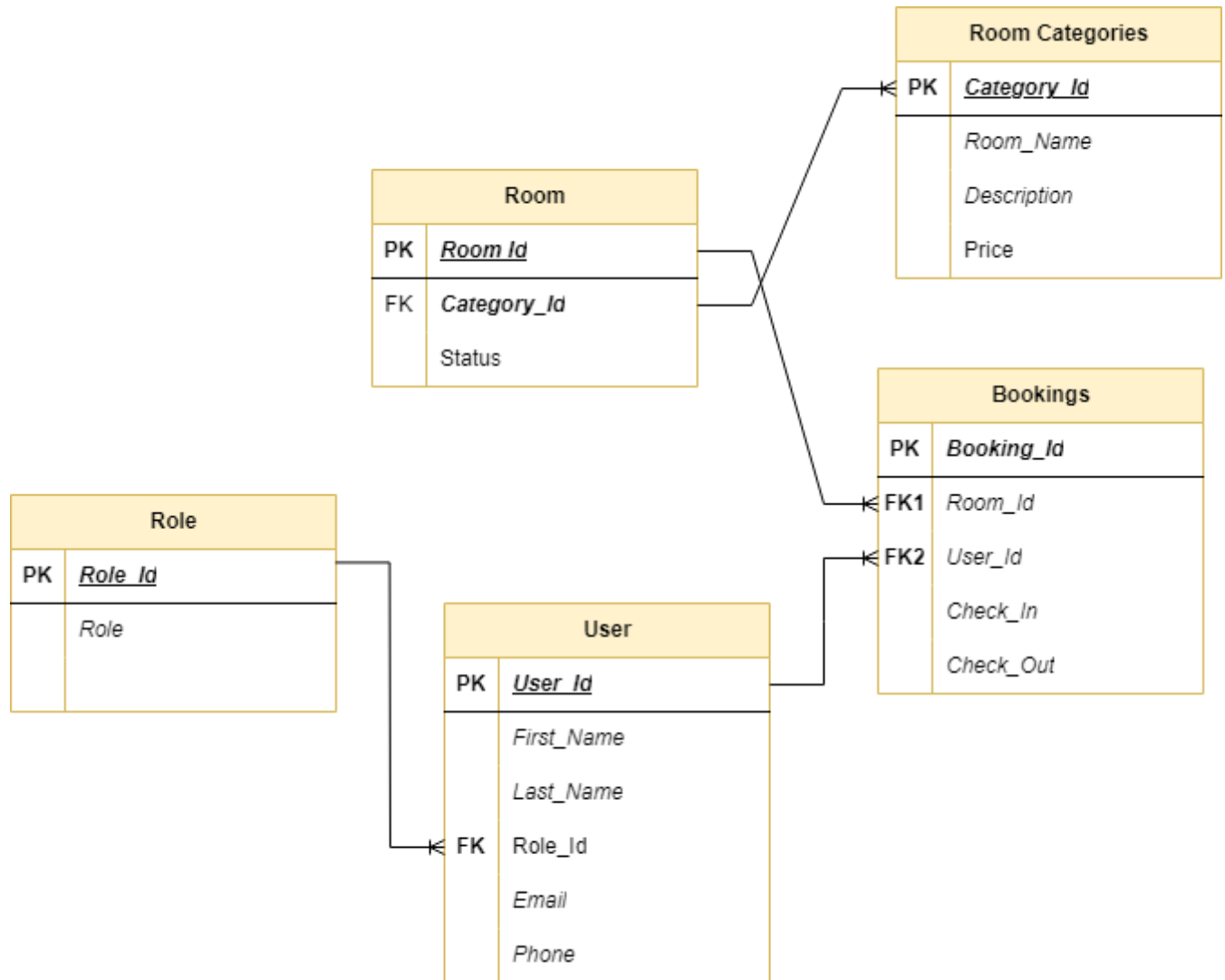
- **Room Management:** Hotel admin can manage room reservations, including adding new rooms, updating room information, and deleting rooms from the system.
- **Guest Management:** The system allows hotel admin to manage guest information, including their personal details, room reservations, and payment history.
- **Security:** The Hotel Room Booking Management System implements a range of security measures to protect user data and prevent unauthorized access. These include:
 - **Secure Login:** Users need to provide their login credentials to access the system. The system uses a secure login mechanism to protect user passwords and prevent unauthorized access.
 - **Role-based Access Control:** The system implements role-based access control to ensure that users only have access to the system features and data they are authorized to use.

Out of Scope:

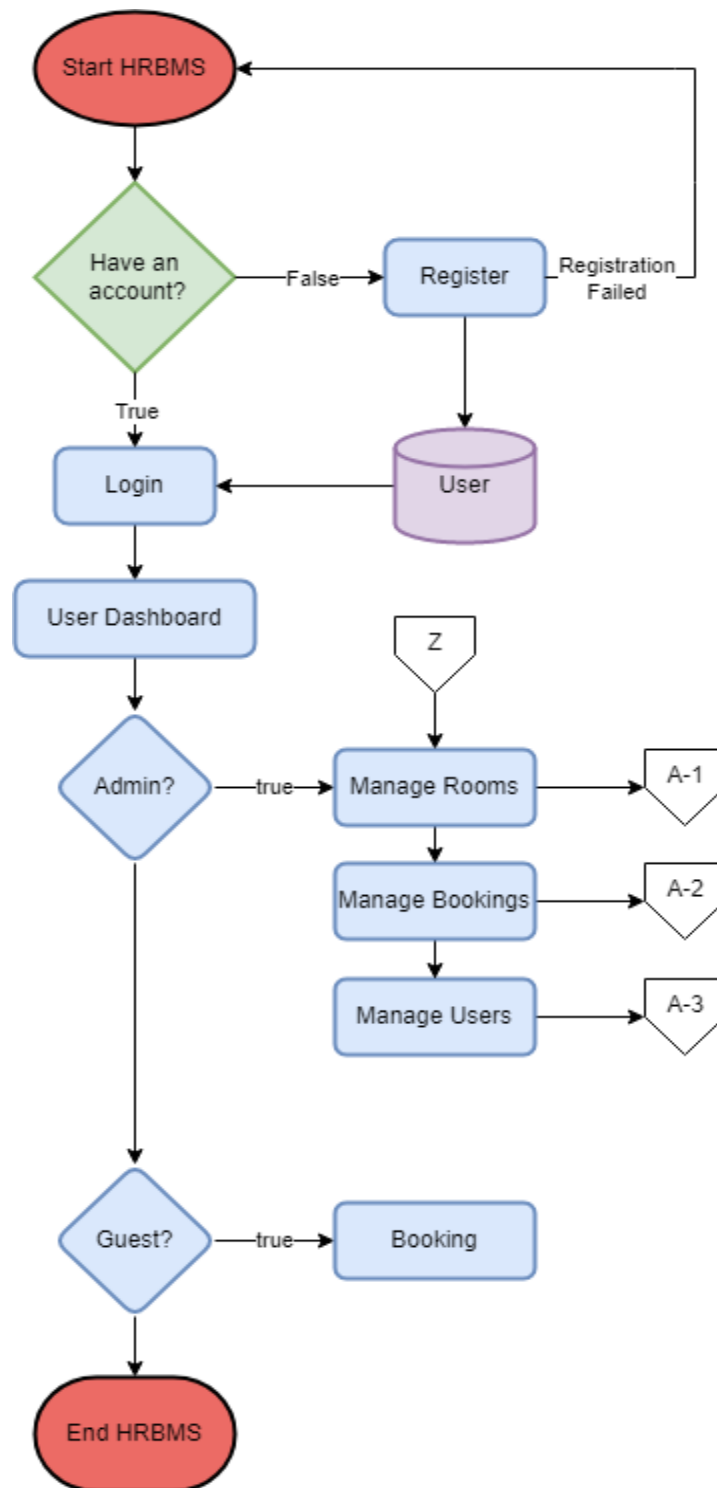
The following areas are out of scope for this project:

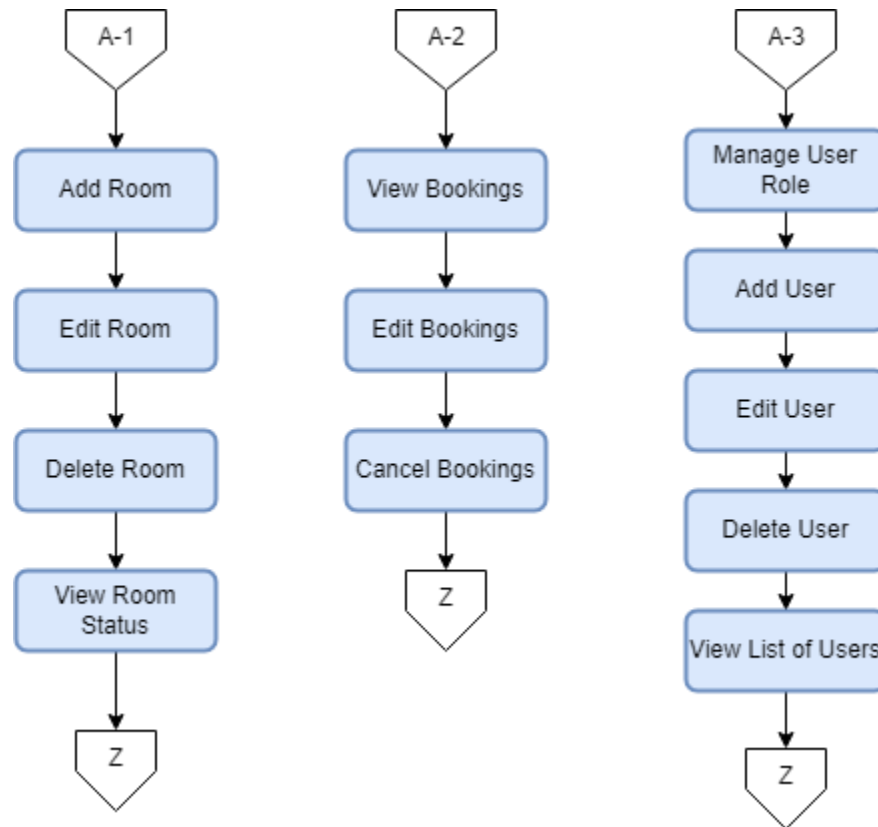
- Invoice for processing payments and Integrating with external third-party tools for managing payments like Gcash, Maya Wallet, Paypal, etc.
- Max occupancy for every rooms
- Automatically remove booked rooms

Entity Relationship Diagram



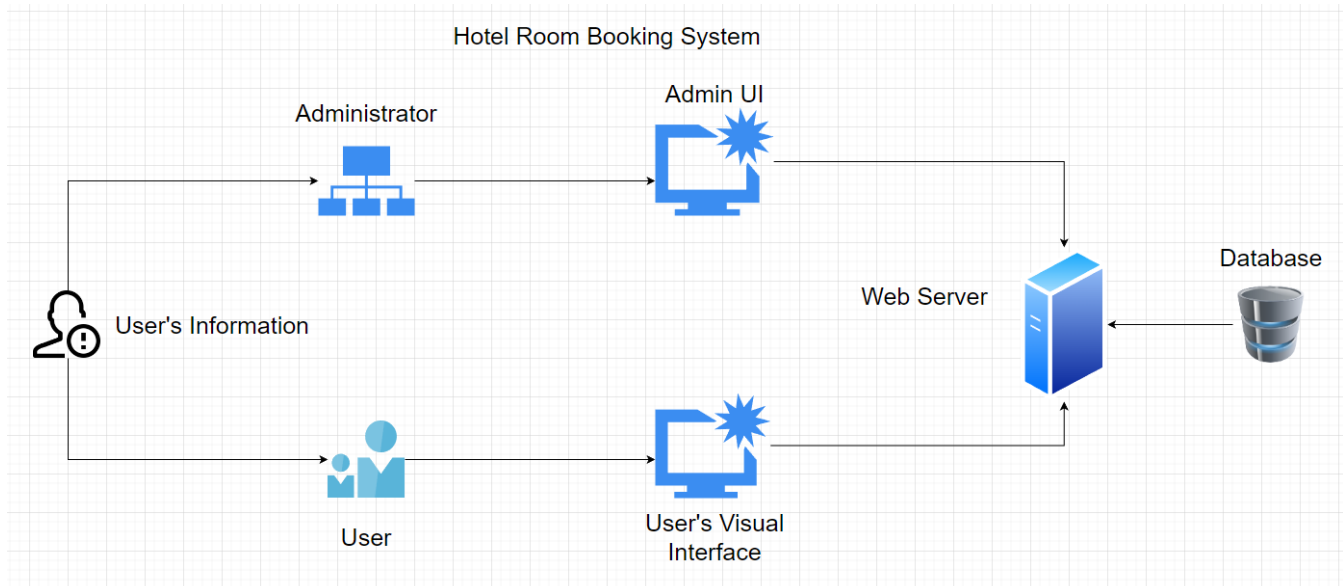
System Flowchart





System Architecture

The Hotel Room Booking Management System is built using the ASP.NET Core MVC framework, which provides a Model-View-Controller architecture. The Model represents the data and business logic of the system, the View represents the user interface, and the Controller handles user input and coordinates communication between the Model and View. SQL Server is used as the database management system to store and retrieve data.



Tools & Packages

All of the tools and packages required to build the system are listed below:

Tools/Website/Documentation:

- Visual Studio 2022
- MsSQL
- Bootstrap
- Draw.IO
- Microsoft Visual Studio c# Documentation
- Docker Hub

Packages:

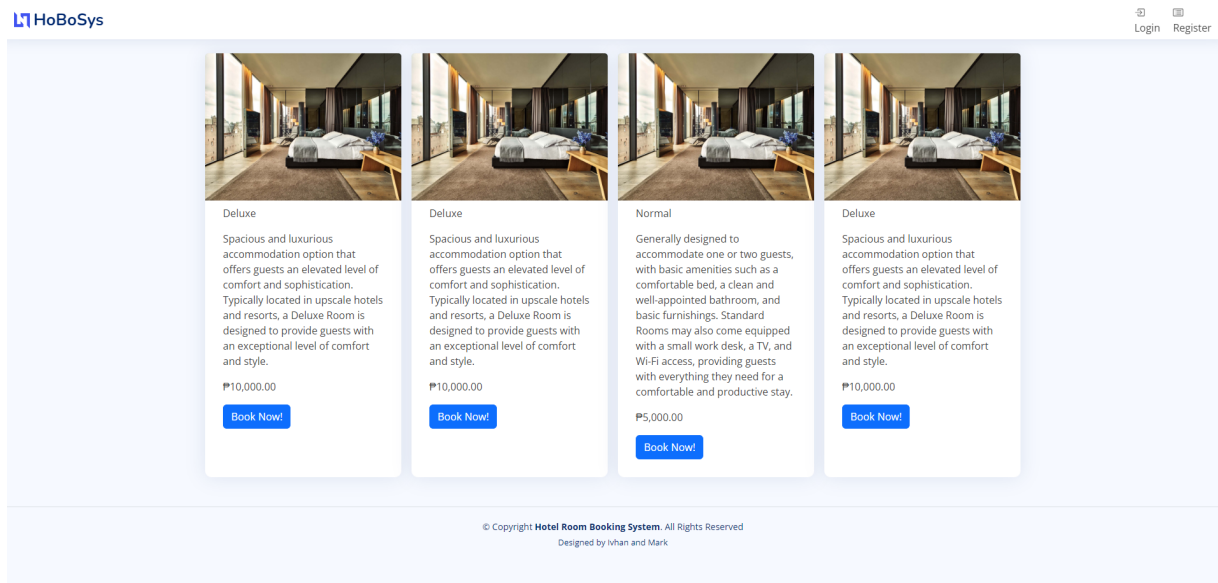
- Automapper
- FluentAssertion

- ASP.NET Core Identity Entity Framework
- ASP.NET Core Design
- ASP.NET Core SQL Server
- ASP.NET Core Tools
- System.Linq.Dynamic.Core
- PagedList MVC

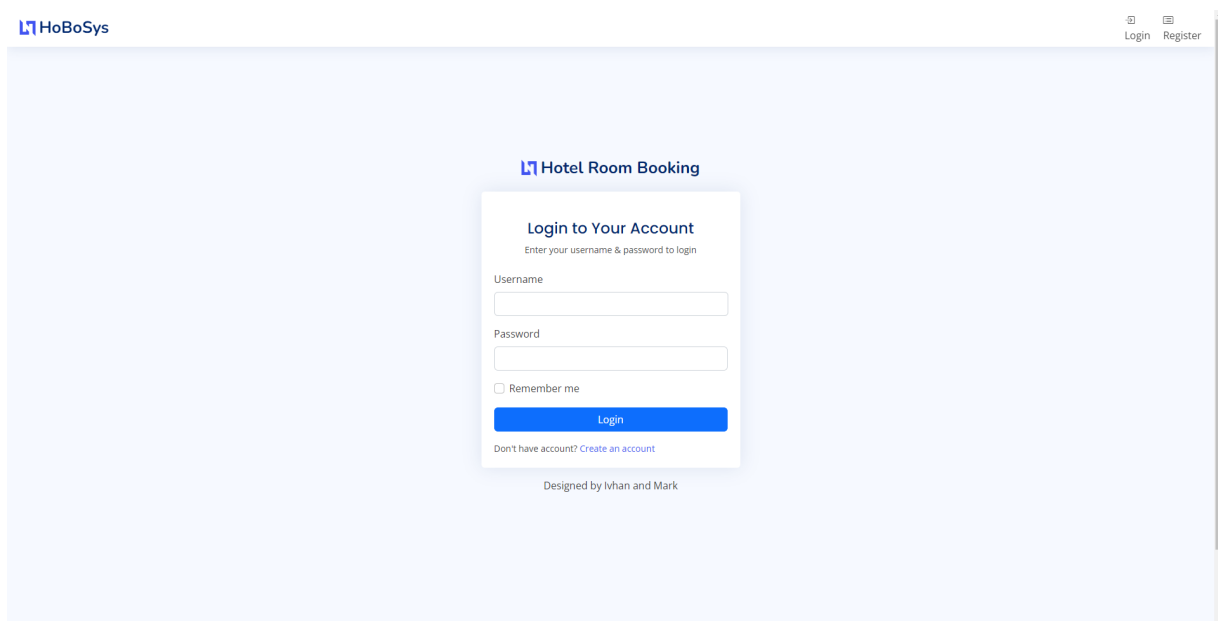
Wireframes

Attached below are the mock up design of the system interface and reference to the system requirements:

Landing Page



Login Page



Register Page

HoBoSys

LoginRegister

Hotel Room Booking

Create an Account

Enter your personal details to create account

First Name

Last Name

Your Email

Your Phone Number

Password

Confirm Password

Create Account

Already have an account? Log in

Designed by Ivhan and Mark

Home Page (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles


Mark BalagotSign OutChange Password

Dashboard

Add Forms

Dashboard

Home / Dashboard




Deluxe

Spacious and luxurious accommodation option that offers guests an elevated level of comfort and sophistication. Typically located in upscale hotels and resorts, a Deluxe Room is designed to provide guests with an exceptional level of comfort and style.

P10,000.00

Book Now!




Deluxe

Spacious and luxurious accommodation option that offers guests an elevated level of comfort and sophistication. Typically located in upscale hotels and resorts, a Deluxe Room is designed to provide guests with an exceptional level of comfort and style.

P10,000.00

Book Now!




Normal

Generally designed to accommodate one or two guests, with basic amenities such as a comfortable bed, a clean and well-appointed bathroom, and basic furnishings. Standard Rooms may also come equipped with a small work desk, a TV, and Wi-Fi access, providing guests with everything they need for a comfortable and productive stay.

P5,000.00

Book Now!



Deluxe

Spacious and luxurious accommodation option that offers guests an elevated level of comfort and sophistication. Typically located in upscale hotels and resorts, a Deluxe Room is designed to provide guests with an exceptional level of comfort and style.

P10,000.00

Book Now!


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Home page (Guest)

HoBoSys

guest guestSign OutChange Password




Deluxe

Spacious and luxurious accommodation option that offers guests an elevated level of comfort and sophistication. Typically located in upscale hotels and resorts, a Deluxe Room is designed to provide guests with an exceptional level of comfort and style.

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P10,000.00

Book Now!

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Booking Page (Guest)

HoBoSys

Sign OutChange Password

Create Bookings

Room ID

1

Guest Name

guest guest

Check In

dd/mm/yyyy -- --

Check Out

dd/mm/yyyy -- --

Book Now!

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Change Password

HoBoSys

Sign Out

Change Password

Change Password

CurrentPassword

NewPassword

Confirm New Password

Create

Back to List

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User List (Admin)

HoBoSys

User

Booking List

Room Categories

Rooms List

Users Roles

Sign Out

Change Password

Dashboard

Add Forms

User

Home / User

Enter Name

Search

Add New User

First Name	Last Name	Email Address	Phone Number	
guest	guest	guest@gmail.com	09151127099	Edit Delete
Ivhan	De Leon	ivhan@gmail.com	09121231212	Edit Delete
tite	etits	123@gmail.com	09112223333	Edit Delete
Mark	Balagot	markbalagot05@gmail.com	09151127091	Edit Delete
ji	sheesh	gg@gmail.com	09112223333	Edit Delete

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Booking List (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Dashboard

Add Forms

Bookings

Home / Bookings

Enter Guest Name

Search

Check In	Check Out	Full Name	Room
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Room Category (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Dashboard

Add Forms

Room Category

Home / Room Category

Room Name	Room Description	Price
Deluxe	Spacious and luxurious accommodation option that offers guests an elevated level of comfort and sophistication. Typically located in upscale hotels and resorts, a Deluxe Room is designed to provide guests with an exceptional level of comfort and style.	P10,000.00 Edit Delete
Normal	Generally designed to accommodate one or two guests, with basic amenities such as a comfortable bed, a clean and well-appointed bathroom, and basic furnishings. Standard Rooms may also come equipped with a small work desk, a TV, and Wi-Fi access, providing guests with everything they need for a comfortable and productive stay.	P5,000.00 Edit Delete

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Room List (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Sign OutChange Password

Dashboard

Add Forms

Rooms

Home / Rooms

Create New

Enter Category Type

Search

Room Status	Category	Price	
Available	Deluxe	₱10,000.00	Edit Delete
Available	Deluxe	₱10,000.00	Edit Delete
Available	Normal	₱5,000.00	Edit Delete
Available	Deluxe	₱10,000.00	Edit Delete

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User Role List (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Sign OutChange Password

Dashboard

Add Forms

Roles

Home / Roles

Add New Role

Name

Guest	Edit Delete
Admin	Edit Delete

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Add User (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Dashboard

Add Forms

User

Home / Create User

First Name

Last Name

Email Address

Phone Number

Password

Confirm Password

Register

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Add Category (Admin)

HoBoSys

UserBooking ListRoom CategoriesRooms ListUsers Roles

Dashboard

Add Forms

Room Category

Home / Create Category

Room Name

Room Description

Price

Register

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Add Room (Admin)

The screenshot shows the 'Add Room' form in the HoBoSys Admin interface. The top navigation bar includes 'User', 'Booking List', 'Room Categories', 'Rooms List', and 'Users Roles'. The left sidebar has 'Dashboard' and 'Add Forms'. The main content area is titled 'Room' and includes a breadcrumb 'Home / Create Room'. The form has two input fields: 'Room Type' with a dropdown menu showing 'Deluxe' and 'Room Status' with a dropdown menu showing 'Available'. Below these fields is a blue 'Create' button and a 'Back to List' link. At the bottom of the page, there is a copyright notice: '© Copyright Hotel Room Booking System. All Rights Reserved. Designed by Irfan and Mark'.

Glossary

Packages to be installed:

```
➤ AutoMapper.Extensions.Microsoft.DependencyInjection (12.0.1)
➤ Microsoft.AspNetCore.Authentication.JwtBearer (6.0.15)
➤ Microsoft.AspNetCore.Identity.EntityFrameworkCore (6.0.15)
➤ Microsoft.EntityFrameworkCore.Design (6.0.15)
➤ Microsoft.EntityFrameworkCore.SqlServer (6.0.15)
➤ Microsoft.VisualStudio.Azure.Containers.Tools.Targets (1.17.2)
➤ Swashbuckle.AspNetCore (6.2.3)
```

Tools & Frameworks:

- Asp.net core
- Asp.net Identity entity framework
- Auto mapper

- JWT authentication bearer **Github Repository**

<https://github.com/ivhanpatrick21/HRBMSWEBAPP-FINAL>