

ONLINE BOOKING SYSTEM

Authors

Housnata Moindjie – 170041074 Khalid Camara – 170041079 Ghaith Mansoor Taqi – 170041081

Supervisor

Md. Hamjajul Ashmafee

Lecturer
Department of Computer Science and Engineering (CSE)
Islamic University of Technology (IUT), OIC

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Department of Computer Science and Engineering (CSE)
Islamic University of Technology (IUT)
A Subsidiary Organ of the Organization of Islamic Cooperation (OIC)
Dhaka, Bangladesh

Declaration of Authorship

This is to certify that this piece of work displayed in this project report is the result of the analysis carried out by Housnata Moindjie, Khalid Camara, and Ghaith Mansoor Taqi under the supervision of Md. Hamjajul Ashmafee Lecturer, Department of Computer Science and Engineering (CSE), Islamic University of Technology (IUT), Dhaka, Bangladesh. It is also declared that neither this project report nor any part of it has been submitted to any other institution for any degree or diploma. Information derived from the published and unpublished works of others has been acknowledged in the text and a list of references is given.

Authors:

Name: Housnata Moindjie

Student ID - 170041074

Name: Khalid Camara

Student ID - 170041079

Name: Ghaith Mansoor Taqi

Student ID - 170041081

Approved By

Supervisor:

Md. Hamjajul Ashmafee

Lecturer

Department of Computer Science and Engineering (CSE) Islamic University of Technology (IUT), OIC

Dedication

We dedicate this work to our families. And a special feeling of gratitude goes to our parents. In addition, we express our deepest gratitude to our respected supervisor, **Md. Hamjajul Ashmafee**. We also dedicate this work to all our friends who have also supported us throughout this process. We will always appreciate their tremendous support.

Acknowledgment

We would like to express our profound gratitude and appreciation to **Md. Hamjajul Ashmafee**, Lecturer, Department of Computer Science & Engineering(CSE), for all the advices and mentorship he has accorded to us throughout this work. His suggestions, motivations, and insights for this project have been tremendous. Without his proper guidance and support, this project would never have been a success. We are deeply thankful and grateful to him.

Abstract

The "Online Booking System" for Atlantic Hotel is an imaginary hotel that uses the internet to reserve hotel rooms and other facilities available within the hotel. The "Online Booking System" project is a system that uses the internet to make reservations for various hotel amenities. The goal of this research is to create and deploy an online hotel reservation system that will replace the manual booking process for various hotel services. The former system for booking hotel services had several issues, such as delays in processing customer bookings or paying for rooms that were below or over the norm, which created a lot of problems in emergency bookings. The system is divided into three (3) main categories; The Administrator who can manage the whole system, the Front Desk Manager can only manage the booking status and the Users (Customers) can do bookings and others activities. The system has web pages that may be accessed with a Web site browser make up the Online Hotel Booking System's interface. PHP (Hypertext Preprocessor) and HTML are used to develop the system (Hyper Text Markup Language). By using the Internet, users can reserve rooms at Atlantic Hotel at any time. For the new system, available rooms and facilities were employed so that the customer could see and choose his room even before arriving, as well as in emergency situations. This innovative solution can help hotel owners manage their properties by allowing them to control receptionist movements and eliminate fraudulent actions. It also enhanced hotel managers' efficiency and profit margins, as they now have better and better facilities. The Online Booking System is a simple system to use. By following its easy and straightforward GUI (Graphical user interface) design, anyone who knows how to use a Web browser can quickly carry out bookings, update booking details, cancel bookings, change personal profiles, examine booking history, or see hotel information.

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List of Acronyms

E-R Entity Relation

CSS Cascading Style Sheets

SQL Structured Query Language

PHP Hypertext Preprocessor

HTML Hypertext Markup Language

GUI Graphical User Interface

1: N One-to-Many

M: N Many-to-Many

SPA Sanus Per Aquam

GYM Gymnasium

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Chapter 1: Introduction

1.1 Background

There are various issues with the manual approach of reserving hotel services. Clients who have small or no information about the hotel in their zone are among them. A visitor booking a hotel that's either excessively costly or unacceptable for their budget, when the director demands information about some visitors who check-in to the hotel, the receptionist takes a long time to recover it; the trick that in some cases happens when information about the travelers who check-in into the hotel isn't formally enlisted by the receptionists and so on. All of these issues, as well as others, would cause a hotel's commerce to endure. The most objective of this project is to form a Web application that will unravel all of the issues that clients have with the manual booking system, permitting them to go online with their portable phones, tablets, or PC to browse the significant information they require about the hotels in their region and book the one that fit with their budget.

1.2 Problem Statement

An online booking system is one that uses the internet to make reservations for hotel services. For accommodation reservations and other facilities, the old booking methods were manual. The prior manual processes for booking rooms had various issues, such as delays in processing customer bookings or paying for rooms that were below or beyond his expectations, and visitors checking into a hotel room that was either too costly to afford. This new system is goal is to create and implement an online hotel booking system that will replace the manual system of booking hotel rooms and other available services. This computerized system allows clients to make appointments online at their convenience. With the help of technology, we can successfully run our enterprises, boosting both efficiency and profit. Bookings can now be made at any time and from any location as long as you have a device and an internet connection.

1.3 Main Objective

To make things easier for our users, the majority of whom are online, we decided to create a frontend page that will interact with our visitors. We provide them what they need and design the system so that they can engage with it easily. We created a front-end that allows users to access the website from their mobile devices and view the hotel's amenities before checking in. Customers, employees, and administrators will all benefit from it. The BACK-END is responsible for implementing the front-end and making it dynamic. Using the database to hold all of the information that the hotel and users require. Guests can book facilities within their budgets after viewing and accessing all of the facilities. We strive to implement in the back-end and deliver to consumers as a front-end website utilizing various technologies. Clients can rapidly explore for hotels in their zone utilizing their portable phones or portable workstation computers. After accessing these hotels in their zone, visitors will be able to book within his or her budget. Receptionists can rapidly and effortlessly get customer information through the web. Extortions done by receptionists by failing to enlist each client will be fired because customer information would be accessible online and open to administration as well.

1.4 Specific Objectives

The specific goal of this project was to save customer information in the database before booking or check-in.

- Create your own hotel room types and rates.
- Customer booking with advance payment for a certain date.
- > Check into the hotel for the duration of your stay.
- After the payment transaction, check out of the hotel.
- ➤ Room status is actually updated and customers' information is actually then added to the hotel database system each time a reservation is made.
- This website is available to all hotels. This project is web-based and employs PHP and MySQL, as well as other web-based technologies.

1.5 Significance

After the study was completed, a computerized tool was created that tracks clients' requests as they move through offices and their transactions are handled. The program creates reports on the status of customers' requests that are accessible to employees, minimizing the amount of time clients wait for responses when they enquire about the status of their requests. The tool assists the staff in tracking transactions through the development of summary reports.

Chapter 2: Literature Review

Atlantic Hotel is a user-friendly, clutter-free, and compact Hotel Management System that automates a hotel's operations and management. Our software merges online and offline reservations, as well as the front desk. Free Hotel Software is a hotel and motel software that may be used for hotel maintenance and reservations. Hotel management, hotel billing, general purpose hospitality, hotel accounting, hotel accommodation, hotel property management, hotel booking, and online hotel reservation. The hotel system provides a low-cost that comprises a complete solution for daily hotel operations, as well as front and back-office features. It is a dynamic hotel management system that improves guest service while increasing revenue. This software is an excellent choice for any type of property. Quick check-in and check-out, hotel status from the main menu are some of the primary features. Direct invoicing, management of expenditures, management of transactions with remove, insert, and edit options, data backup and recovery, exporting and importing of guest data, and more are all available through the housekeeping management department and reservation system.

2.1 Sample 1: Homepage Sample from KC Hotel

The figure below shows a homepage sample from KC Hotel where we took some online booking system ideas.

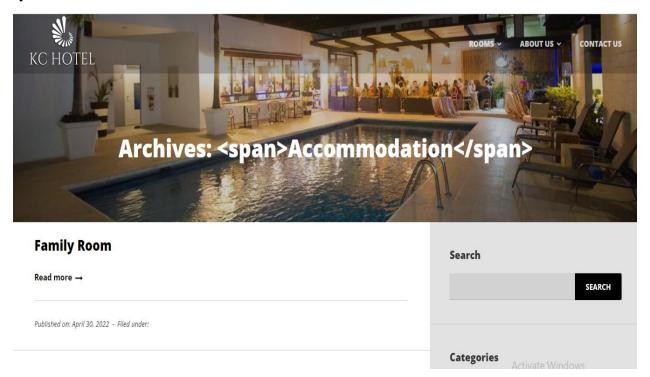


Figure 1: Homepage Sample from KC Hotel

2.2 Sample 2: Room Sample from KC Hotel

The figure below shows the type of room sample from KC Hotel where we took some ideas regarding online booking system ideas.

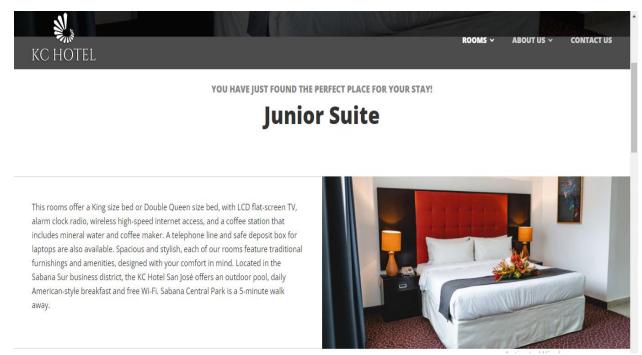


Figure 2: Room Sample from KC Hotel

Chapter 3: Methodology

This chapter includes a list of methods that were employed during the research.

3.1 Questionnaires

This strategy is used to obtain replies from customers in order to determine how they determine the number of rooms booked and the amount based on the room type. Questionnaires, as a data collection approach, assisted us in gathering information tailored specifically for clients who are unable to voice their opinions openly. Questionnaires are employed when we require client input on a certain topic or what they want to do instead of something else.

3.2 System Design

For the database, a Relational Model was created. It necessitated the identification of entities, properties, and relationships between entities. To make thinking fluid and easy, we designed multiple tables with many relationships with other tables. We connect those tables to take benefit of them by using multiple joins between the tables and various conditions. The E-R diagram was used to indicate what type of information or data is handled and what modifications are made during the process design.

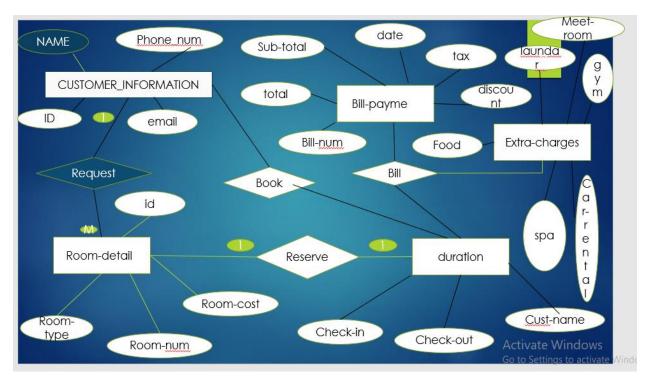


Figure 3: E-R diagram of Reservation Management

3.3 System Implementation

The database was created using SQL. Apache was also chosen since it is both free and platform agnostic. PHP was the most popular programming language because it comes with a free library of functions, is a platform-independent scripting language, and is capable of dynamically generating web pages and connecting to databases. PHP is also simple to learn and use. The user interface is created using HTML, CSS, and BOOSTRAP. The front-end was likewise built with JavaScript.

3.4 Testing

This included testing the feature to ensure that it worked properly. The new system was put to the test by allowing users to submit data from samples. This helped to ensure that it receives and processes data in the desired manner. We ensure that the module does exactly what we expect it to do.

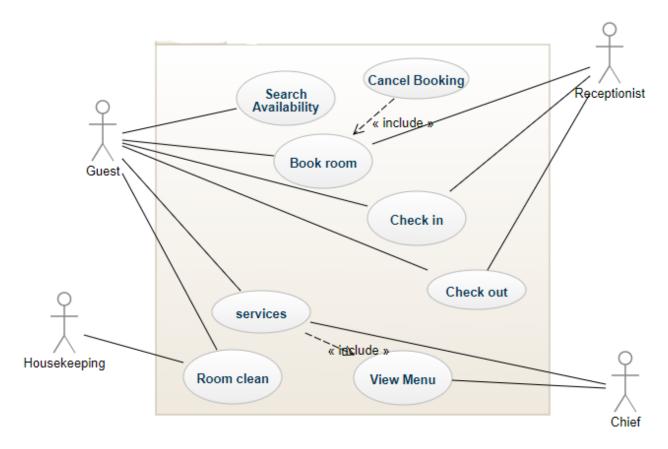


Figure 4: Use Case Diagram

Chapter 4: System Features

This Hotel Reservations Management System is a dynamic web-based application that was created with the goals of allowing online users to book rooms at Atlantic Hotel and allowing it to track its guest history with the help of easily generated reports. The features that have been embedded in the system to fulfill these aims are described in this documentation.

- Homepage: The homepage shows a welcome message to the users, as well as a quick description of the system's services.
- Admin Panel: An admin page where we can see a summary of everything, including the number of individuals who have checked in or out, as well as the room status, revenue, and booked and unbooked rooms.
- Settings: The settings module is an admin-only module that gives the system administrator an interface and allows them to take action if necessary.
- Reservation Form: This is a page that allows potential customers to enter their reservation information.
- Reports: This module was created to generate a variety of reports based on the information gathered by the system. These reports assist hotel managers in tracking their hotel's success in the hospitality industry.
- Housekeeping is an administrative department that is responsible for the cleanliness, maintenance, and aesthetic upkeep of rooms.
- Services: The hotel offers a variety of services to its guests.
- Employee: Go to the admin page to add an employee. Contact us: This page contains the hotel's contact information.

4.1 System Settings

Creating accounts, resetting account details, and dropping accounts are all operations available through the administrator accounts module. Administrator accounts have two degrees of access. The top-level account is in charge of managing administrator accounts as well as all other administrator functions. The lower-level account allows solely for the viewing of reports and the management of the front desk.

4.2 Keeping Track of Pending Requests and Room Availability

A reservation request is sent to the administrator, and the requested room's status is set to 'pending' by default. This module gives the administrator a way to see all of the outstanding requests and accept or refuse them. And it will be returned to the client, indicating whether their request was allowed or denied. The requested room's status is then reset to 'available' or 'reserved,' as appropriate.

4.3 Setting Room Types

The hotel has a variety of room categories, and this module allows the administrator to customize these hotel room categories.

4.4 Setting up Rooms of Several Types

Each room category has its own building. The administrator can use this module to assign unique room numbers to buildings in each category, as well as provide information like the default room status.

4.5 Page Content

This module allows the administrator to customize the content of pages with text-based material, such as the "contact us" page or the "about us" page.

4.6 Making Reservations

The system contains a reservation form where clients may fill out information about their needs. The client's name, phone number, and email address are among the details that must be provided. The client must additionally identify the room being reserved, as well as the check-in and check-out dates. The system notifies the administrator about the client request after submitting this information. The desired room's status is likewise changed to 'pending' while the administrator reviews the request.

The administrator can accept or decline the request after reviewing it. If a request is approved, the client is notified, and the requested room's status is changed to "reserved." If the request is declined, the customer is told, and the requested room's status is changed to available.

4.7 Report Generation

Client history: This module searches the database for clients who booked specific rooms between two check-in dates and produces a tabular listing of the client's name, email, phone number, country, city, room number, check-in date, and check-out date.

4.8 Room Status

This module searches the database for rooms of a specific type and creates a report that shows the room number, type, and current status of those rooms.

4.9 Reservation Request Reports

This module conducts a database search based on check-in dates or room type and creates a report of requests for rooms of a specific kind made between specific check-in dates. The room type, room number, check-in date, check-out date, and client name are all displayed in the search.

4.10 Hotel Services

The hotel offers a variety of services to its guests, including dining, spa, car rental, gym, and party rooms.

4.11 System Support

> Room kinds

This page lists and describes the many types of rooms that the hotel offers. Clients can acquire information about the hotel rooms here before deciding whether or not to make a reservation.

> Reservation forms

These are forms used to collect information from clients about their reservation requests.

> Room availability

This page lists the room number, type, and description of all available rooms, as well as the opportunity to make a reservation.

> Contact information

This page contains the hotel's contact information as well as a feedback form for visitors to submit feedback to the administrators.

> Services

The hotel offers a variety of services to its guests, including a dining service where customers can reserve a table and the hotel's staff will take care of the rest. The same design and management is handled by the manager in spa service, where customers must just reserve, in gym service, where customers must subscribe, and in meeting or party room reservations.

4.12 System Security

Password encryption has been used to safeguard the elements of the system that are not exposed to the public. Before accessing these modules, the user must give a valid email address and password.

4.13 Attributes

Attributes define a data object's qualities and can have one of three different features. They're useful for:

Name a data object instance. Describe the situation. Make a reference to a different instance in a different table.

4.14 Relationships

Data objects can be linked in many ways. A set of pairs showing relationship among objects that define the necessary relationships00.

4.15 Cardinality and Modality

4.15.1 Cardinality

The data model must be able to describe the number of times an object appears in a connection. An object relationship pair's cardinality is

- ➤ One to One
- > Only one instance of object 'A' can be linked to one instance of object B, and vice versa.
- > One to Many (1: N)
- An instance of object 'A' can be linked to one or more instances of item 'B,' but an instance of object 'B' can only be linked to one instance of object 'A.'
- ➤ Many-to-Many (M: N)

 The letter 'B' can refer to one or more instances of the letter 'A.'

4.15.2 Modality

If there is no stated need for the relationship to exist or if the relationship is optional, the modality of the relationship is zero. If the occurrence of the relationship is required, the Modality is one. Entity Relationship Diagrams can be used to graphically represent the object relationship pair.

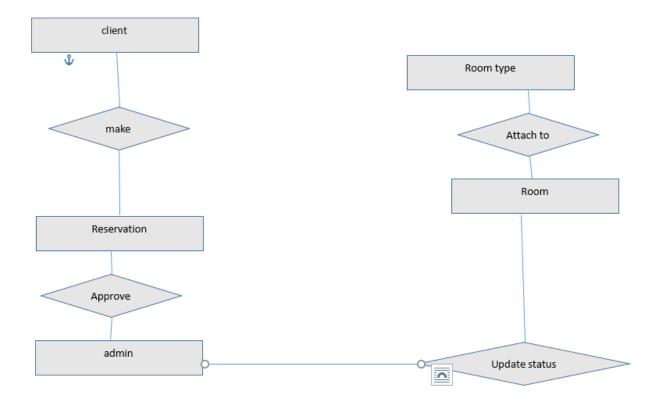


Figure 5: E-R Diagram for the booking Process

4.16 Data Validation

The validation process ensures that the data entered into the system is of the proper type id format, as well as that the system's security vulnerabilities are recognized and mitigated.

empty (client name)
empty (client phone)
empty (client email)
empty (check-in date)
Send an error message instructing the client to complete all fields else
Client input is sent to the database.
requested room available)
(Administrator logged in)
It is assigned to the client and the status is changed to "reserved."
Otherwise, the room is unavailable.

4.17 Function Specifications

The online Hotel Management System's main objective is to standardize and simplify the hotel's monthly day-to-day activities, such as room activities, new customer check-ins, check-outs, room assignment based on customer needs, and finally bill computation, all of which must be done on a regular basis. The fundamental goal of this exercise is to offer an efficient, fast, dependable, and user-friendly solution. let's now look at how different functions deal with the structures and data files:

4.17.1 Passwords

This module, as well as this website, is intended for numerous users. When a user enters a password, the software validates it. If the password is genuine, the user is given the option to alter it; otherwise, the notice "Invalid User/Password" appears. Password recovery, log out, login, and new user sign in are all options. The site's administrator can also make adjustments.

4.17.2 Making New Entities

It is used to create new employee records, delete entity records, and view data. In that screen, an automatic item is created. The proper forms are opened whenever a new entity has to be added, and the database is manipulated to see if the data is already present. existence or nonexistence It states "Entry already exists" if it exists, and if it doesn't, it runs through the validation procedures.

4.18 New Room Function

This function is used to create a new room for a customer so that he or she can allocate it to a different room. The automatic room number is generated on that screen. Finally, a customer gets assigned a room after a new room is opened for them.

4.19 Check-in and Checkout of Customer Function

This function accepts a customer to our hotel after receiving all of his personal information, such as his name and phone number, and then assigns him a room from NEW ROOM.

This function accepts a customer to our hotel after receiving all of his personal information, such as his name and phone number, and then assigns him a room from NEW ROOM.

4.20 Generate Bill Function

When a client checks out, their charge is consequently created by duplicating the calculated checkout time minus (-) the check-in time by the day by day room charge additionally other charges, and the charge bill must be spared within the database.

4.21 Display Record Function

All transactions, including the customer's name, address, phone number, and assigned bed, are displayed on the screen using this function. This is a comprehensive report that displays all transaction records.

4.22 Searching

With this function, a room, a customer, or a member can look up information in the database based on their credentials.

Chapter 5: Results

5.1 Homepage

Below is a snapshot of the homepage of the system. It includes a welcome message; some functions require for the customer like registration etc. and contact details.

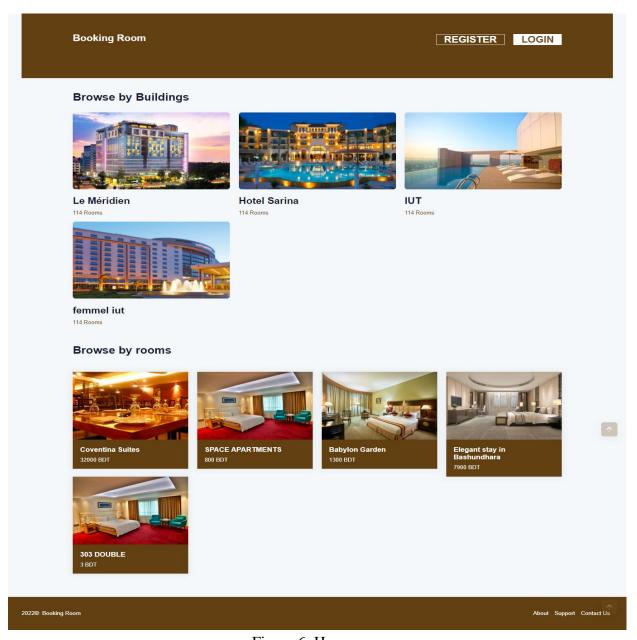


Figure 6: Homepage

5.2 Customer Dashboard

The dashboard below shows details of the available services in the system.

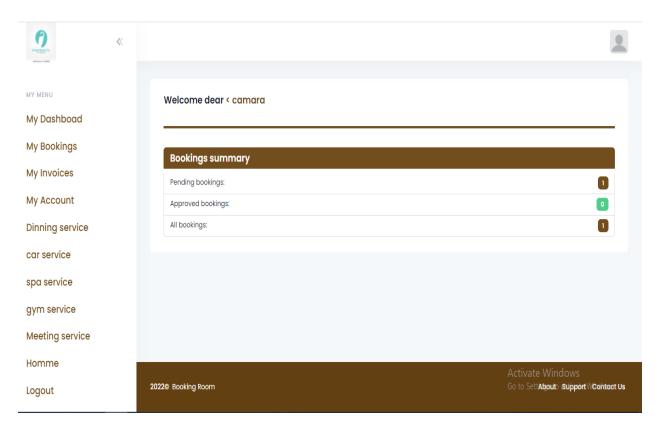


Figure 7: Customer Dashboard

5.3 Room Reservation Form

The image below shows the form that a client uses to request for rooms.

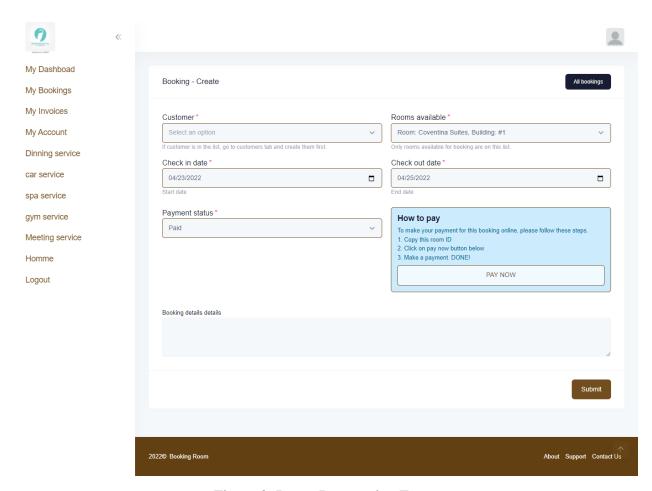


Figure 8: Room Reservation Form

5.4 Customer Setting

The image below shows details of customer bookings.

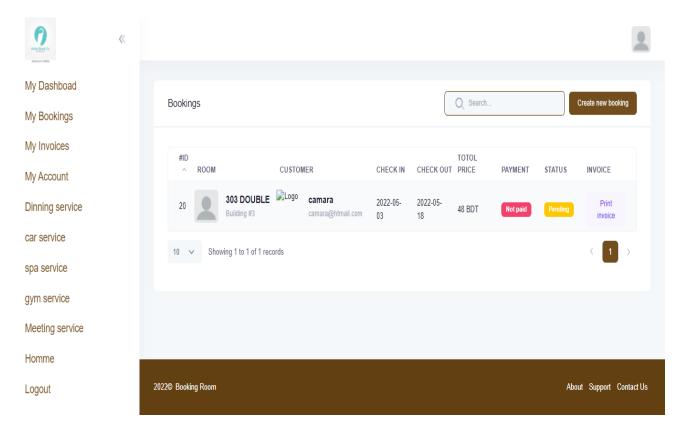


Figure 9: Customer settings

5.5 Admin Settings

The figure below shows how admin manages customer bookings.

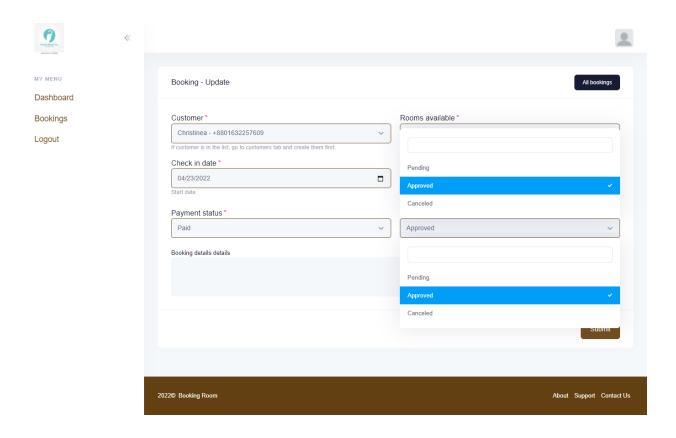


Figure 10: Admin settings for taking actions

5.6 Spa Service for Customer

This figure below shows how customers can book for spa services.

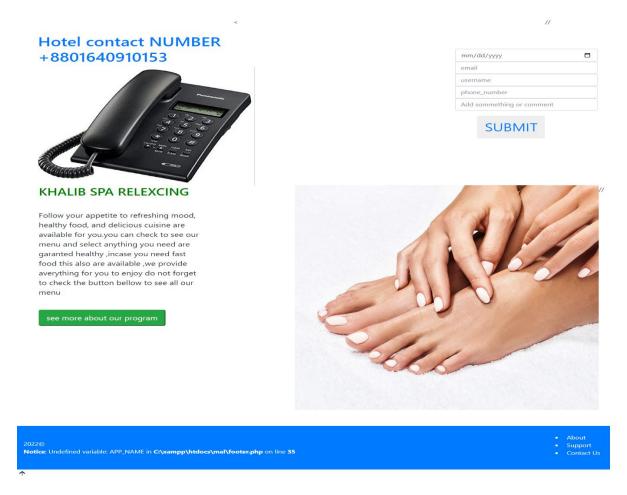


Figure 11: Spa Service for Customers

5.7 Dining Service for Clients

This figure below shows how customers can book a table in the Hotel.



DINING WITH YOUR NICE PEOPLE

CRAVEABLE CUISINE

WE INVITE YOU TO HAVE A GOOD TIME AT KHALIB DINING WHERE WE PROVIDE A NICE MENU TO YOU WITH HEALTHY FOOD THAT REFLECT TO YOUR PERSONLITER.START WITH HEALTHY FOOD ACCOMPANIED BY QUALITY OF DRINKS AND A NICE DISSERT AT END









Figure 12: Dining Service for Clients

5.8 Gym Service

This figure below shows how customers can make weekly or monthly subscriptions to the gym.

IN THE GYM LET BE HEALTHY











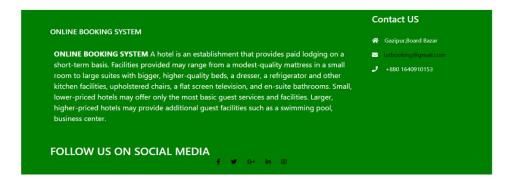


Figure 13: Gym Service

5.9 Room Reservation for Meetings

The figure below shows how customers can reserve or book different rooms based on availability and choice.

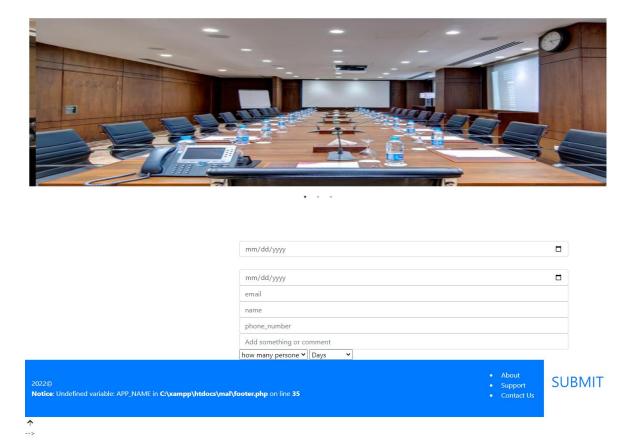


Figure 14: Room Reservation for Meetings

Chapter 6: Summary, Future Work, Conclusion

6.1 Summary

At Atlantic Hotel, tracking the status of a client's request is a lengthy and time-consuming process. When a file is transferred from one office to another, it is difficult to know the status of a request and the officer assigned to it. A computer-based application can be used to help track files and speed up the process of assessing the status of individual requests. The problem is solved by using a computerized program that keeps information on hotel transactions and creates reports on clients' requests, minimizing the time clients wait for responses when they inquire about the status of their requests.

6.2 Future Work

Our project can be used at a hotel where services are provided. To ensure a successful installation of the computerized hotel system, the utmost care and backup measures must be implemented. In the event of a system breakdown, the company should be able to complete the transaction with another company or, if the worse happens, manually.

6.3 Conclusion

We learned a lot about online booking management systems while working on this project. The Online Reservation System was created to take the role of the manual procedure of booking a hotel stay or any other online service. The old approach does not provide better service to customers; rather, it puts client data at risk. Customers' records are kept in the new system for emergency and security purposes. We've discovered how to make the system more user-friendly. We also recognized how critical it was to keep a small margin of error. We investigated and comprehended the criteria for the implementation procedure during the development process.

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Radisson | Hotel Deals | Yes, I Can! Attitude (radissonhotels.com)

The best available hotels & places to stay near Sur, Hungary (booking.com)

Hotel Friend: book hotels, tours & travel deals - plan journey online

https://www.kchotelsanjose.com/rooms/junior-suite/

https://www.kchotelsanjose.com/