

HOTEL RESERVATION MANAGEMENT

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ABSTRACT

This Online Hotel Reservation System project aims at providing the user to reserve accommodation at hotels online. The system shall take the start and end dates from the user and check for availability of rooms. It shall check for the number of guests and reserve the rooms for the user. It can also modify the dates of reservation. This is a simple user interface which displays the information about the hotel, its contact address and the amenities at the hotel. It also provides the rates of rooms in that hotel. This tool shall enable the user to check for information regarding the hotel and reserve rooms. It enables the user to make payments online.

The hotel industry is a business venture for the owner and a solace for the traveler and/or tourist. A customer can get stranded in the quest to secure a hotel room to pass the night if he has not made adequate plans by the existing system. Through this study, it was realized that for a customer to be guaranteed a room, he or she has to physically come to the hotel since the attendants paid more attention to that. He could also send a friend or relative who lives around the neighbourhood of the hotel to do the booking for him. There is nothing to bond the hotel and the customer in person that he has indeed booked for a room. This study took Hansonic Hotel as its case. It looked at creating an online reservation system to enable customers choose the room they wanted after a virtual tour to guarantee him a room.

CHAPTER 1 INTRODUCTION

1.1 OVERVIEW

The Hotel Industry like any other business opens up socioeconomic opportunities for both owner and customer. It has the function of providing hospitality services to customers. These customers can be travelers, foreigners, businessmen, tourists, visitors, etc. Customers are mostly constrained in trying to get a room to pass the night, as the usual practice is to look for a hotel when you have arrived in the particular location, walk in and find out whether there is a vacant room. In the case that there is no vacant room, you have to move to next closest hotel to enquire once more. So what happens if you move around sometimes very late in the night in search of a room and all close by hotels are fully booked? Other times you may be lucky to have the contact number of the hotel to reach them to book for a room. But do the hotel attendants really ensure to keep a room for you? You would be lucky to go and get a room booked for you. They are quick to serve those who walk in rather than those who may get access to

them on phone to book a room. On other times too, if you have friends or family members in the area you want a room booked, they have to go and do the checking for you. There is no system in place that bonds the hotel and the customer that the customer has actually booked a room and for that matter he is guaranteed a room. This can make customers really stranded especially if it is getting late in the night.

1.1 GENERAL INTRODUCTION

A field of business and a study that tends itself to the operational aspects of a hotel as well as a wide range of affiliated topics such as: Accounting, administration, finance, information systems, human resource management, public relations, strategy, marketing, revenue management, sales, change management.

Background of the Study A hotel is an establishment that accommodates people. The hotel can also be a place where tourist can stay for a limited time. We cannot deny that we are now in much more technologically improvement and especially for business, shifting from manual process to automation and computerize. The cost and quality of hotels are usually indicative of the range and type of services available. Due to the enormous increase in tourism worldwide during the last decades of the 20th century, standards, especially those of smaller establishments, have improved considerably. Hotels are independently assessed in traditional systems and these rely heavily on the facilities.

1.2 OBJECTIVES

The Objectives of Tourism and Hotel Management Program is to provide training, skill development and education needed to prepare individuals for effective job performance in the hospitality, tourism and entertainment industries. On completion of this program, students will be able to understand:

To analyze the investment trends and hospitality development patterns of international hospitality firms. To identify emerging overseas markets for tourism and hospitality development. To understand the socio-economic impact of developing tourism industry in developing countries. To understand the management functions of tourism and hospitality industry including human resource management, financial management, marketing and technology applications. For making any traveling experience worth-while, having a decent and comfortable hotel plays an important role. The travelers are always in a need of finding the best accommodation possible and thus they are always looking for unique, fresh yet comfortable options for their stay. This is where the hotels can mark their charm in front of the users. Managing the hotel and its various activities for satisfying the customers is not that easy task as it looks. It is a heavy responsibility and requires that the owner pays attention to a number of things and areas. A hotel can become as one of the most desirable choices of the customers if they constantly pay attention to improving them. Hotels can make the use of technology along with providing its customers with the best services and operations for getting an edge over their competitors along with marking their impact on the customers. Here is the list of certain points that need to be checked for being sure that the hotel business works effectively and smoothly.

CHAPTER 2

LITERATURE REVIEW

1. Identification of the sources of business:

The hotel normally identifies two major sources of business: Free Independent Travellers (FIT) and associated Travellers (Groups). The FIT component is simply a non-group affiliate seeking overnight accommodations. Regardless of whether a request is made by an individual, a family or a collection of friends, a request may still be termed as FIT reservation if it meets certain qualifications. When meeting groups, convention groups, and the like are seeking guest room space in the hotel, these types of requests are referred to as group reservations. The groups are differentiated from the FIT reservations based on

- 1.) Whether a group coordinator is involved
- 2.) Whether the group will pick up some or all of its member's charges
- 3.) Whether special room rates, services and/or room types apply. Group reservations typically require that a block of rooms (allocation) be initially reserved for the group with a specific rooming list following at a later date. It should be noted that if a group does not have all of its blocked rooms booked by a reasonable date, most hotels will release the uncommitted rooms from the group's block. FIT reservations, however usually allow for both blocking and booking to take place simultaneously. Regardless of its source of business, a reservation request begins the hotel's reservation process read more about different source of reservation.

2. Communication with the Hotel:

There are numerous ways a hotel can learn about the guest's request for available space. The potential guest can connect with the hotel via a telephone, email, online, Social Media, other devices or referral systems may all become important, communication links between the sources of business and the hotel property. It is important that the potential customer be aware of how to contact the hotel in order for lodging management to maximise guest room sales. A property receives reservation inquiries in a variety of ways. The reservation request may be made in person, over a telephone, in a mail, via facsimile or telex, though the internet or online, social media, mobile apps, instant messaging systems (Whatsapp, Telegram, Facebook Messenger) through a central reservation system, global distribution system or through an inter sell agency.

3. Formulation of the reservation request:

Once a hotel is contacted by a guest about reserving space its staff must intelligently formulate the reservation request and complete a reservation record. The reservation record is the permanent file form used to store all the information pertinent to a specific reservation or incurrent era creating a computerised reservation record in the hotel management software or PMS. In formulating the reservation request, the three most important factors are a) the expected date of arrival and departure b) the desired room type c) the number of rooms needed. Using this information the hotel staff can search the room availability file via the designated arrival date. If the date is not closed the reservation agent proceeds by checking room type and the number of rooms available.

4. Reservation Acceptance:

A reservation can either be accepted or denied or turned away based on the availability of rooms in the day(s) in question. An acceptance would lead the receptionist into the confirmation phase, while a denial or turn away could cause a series of other options to be exercised like for example recording the turn away reason etc.

5. Confirmation notification:

The acceptance of the reservation is followed by a notification confirming the blocking of a room or group of rooms. The reservation confirmation is sent to the booker or guest by email, fax, SMS, social media or online chat (Instant messenger).

6. Modification and pre-arrival activity:

7. Once the reservation has been accepted and confirmed many changes to reservation record can occur prior to the guest's arrival. Changes in the arrival or departure dates, number of rooms required, adding pickup details, reconfirmation, updating deposit status, number of pax and outright cancellations are examples of common pre-arrival activities. Any time a change in a reservation record is required, the reservation record must be pulled and updated according to the guest request to keep the reservation-related data up to date. Also searching and retrieving the correct reservation record for any modification and cancellation request is crucial to an effective reservation process. Also, while processing the cancellation below details need to be updated on the reservation record for any future reference.

CHAPTER 3 RESEARCH METHODOLOGIES

3.1 EXISTING SYSTEMS

The existing Online Hotel Management System depends on many highly trained individuals to take care of guests. Such a system is prone to error and delays. Visitors may not have a consistent experience and have to be bothered about remembering mundane things such as payments and restaurants. A lot of paperwork is generated and it is difficult for a supervisor to go through all these documents. Allocation of rooms based on expected vacancies is also difficult as it requires extra work on the part of the employees. The costs of running such a hotel is also great.

Various problems of physical system are described below:-

The existing system of Hotel Management was manual. All the daily routines are carried out manually and the records are maintained in the record books or the registers. As computer has merged with man as single entity so a computerized application can be developed that can handle Hotel Management System (HMS).

Various activities take place in hotel like:-

All the above activity takes place manually, manually carrying out this activity is very tedious and time consuming. As we have tried to develop a computerized application so as to handle all the activity that takes place in Hotel. As all the activities that happen in the Hotel such as enquiry, check status booking, food order etc. can be handled on this system simultaneously.

Hotels are the place where you stay, eat meals and utilize their other services.

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Booking:-

The customer used to make enquiry for rooms available, and then depending upon the status he used to make booking. All the data the receptionist used to give the customer was based on paper works, there was no clear idea of the status of rooms as they did not update automatically.

Food Order:-

The customer gives the food order to the waiter, and then the waiter pass that order to the food department.

Bill Generation:-

The clerk operates the bill department he used to generate the bill of the customer depending upon the services utilized by the customer.

Inventory:-

The inventory manager manages the inventory as he checks the status of the inventory and as per that he order places the order.

Report:

The administrator views all the report of the various departments, to check the progress of the hotel and to make the necessary changes.

Disadvantages

Existing keyword suggestion techniques do not consider the locations of the users and the query results; i.e., the spatial proximity of a user to the retrieved results is not taken as a factor in the

recommendation. However, the relevance of search results in many applications.

The term reservation is defined as “blocking a particular room type by a guest, for a definite period of time. “ To ensure a secure and safe place to stay during their visit to another one, generally guests prefer to make advance reservations in a hotel and accommodation units of other types.” Most of the hotels will readily accept advance bookings and reservations in order to achieve high occupancy and to maximize the revenue of the room. Whenever a guest makes a reservation in advance, for a definite time period, it is expected that the hotel will accept and honour its commitment by a contract between the hotel and the guest.

In case, if the guest fails to inform the hotel about their cancellation, the hotel may decide to retain the deposit which is received in advance from the guest, for covering up for any loss of accommodation revenue. If the guest does not inform about their cancellation to the hotel, then the amount forfeited is termed as retention charges. Alternatively, if the hotel is unable to accommodate the guest at their arrival time, the hotel has to provide alternative accommodation of similar standard in another hotel and have to pay for the differences in room rates and any additional expenses for guest may have to incur. The department of reservation handles all requests of reservation for accommodation, interacts constantly with the customers and monitors the status of the room as well as reservation.

3.2 PROPOSED SYSTEM

The proposed Online Hotel Management System is much more efficient in terms of human and monetary resources. The number of staff to ensure successful implementation is reduced. Lead time of service is reduced and it is easy to predict room availabilities. Electronic documentation of hotel operations help management in keeping the hotel in check. A visitor can be sure of consistent service even across other hotels of the same chain. The proposed system is a hotel management system which will allow for staff to view rooms that are available and highlight rooms that have already been booked. The scope of the project is to create a booking management system, which will have features such as highlighting booked rooms, searching certain rooms and filters allowing for staff to book available rooms in a simplified manner while providing a foundation for expandability with easy to read code where another programmer can implement additional features.

The HOTEL MANAGEMENT SYSTEM is a software application which avoids more manual hours in taking the book, that need to spend in record keeping and generating reports. Maintaining of consumer details is complex in manual system in terms of agreements, royalty and activities. This all have to be maintained in ledgers or books. Manager need to verify each record for small information also.

ADVANTAGES OF PROPOSED SYSTEM:

This LKS framework providing keyword suggestions that are relevant to the user information needs and at the same time can retrieve relevant documents near the user location.

Advantages:

Sometime it happens that the rooms get booked soon when one visits the place therefore user can make advance booking using this system. It saves user time in searching a room. The system is useful as it calculates an exact cost of rooms for requested number of days. It saves organization resources and expenses. This system is effective and saves time and cost of users.

1. Save time on admin tasks

The right hotel management software will vastly cut down the time you spend on manual administrative tasks. The software does the majority of the work and lets you divert your time to more important tasks, such as serving your guests. More than any other software you use, a hotel management system will touch every department at your property. Front of house, revenue management, housekeeping. If you pick the right solution, you can make significant time savings across almost every area of your business, also boosting your staff's productivity and satisfaction.

2. Develop strong relationships with your guests

A more streamlined check-in and check-out experience will boost your guest happiness. And that's only the tip of the iceberg – anything from improved communication and additional services will also heighten guest loyalty. Choosing the best property management software will likely mean an increased level of retention in both guests and staff.

3. Increase your online visibility

The right software is an important factor in developing your online presence. You can integrate guest-facing software like hotel booking engines, chat bots and a guest portal with your website design, enabling you to instantly accept online reservations and make guests feel confident in their choice to book directly with you. Google values and assesses the user experience on websites, and those that offer a better user journey and interface will rank higher on Google searches – and other search engines.

4. Implement an effective revenue management system

Most hotel management systems include pricing tools and other features to optimize revenue. Gone are the days of having just a peak season price and a low season price – if you're not setting prices in a more sophisticated manner, you're losing out on bookings and not making the most of the guests that do book. You should be able to create and customize product rates, rate dependencies, and special offers and rules such as package rates.

5. Manage distribution functions

A modern hospitality cloud should be able to easily connect to a channel manager so you can advertise across many channels and easily promote your business across the industry's OTAs and third party booking services. It provides real-time information that will help you grow your number of reservations and spread awareness of your property.

6. Increase bookings

Every feature in your hotel management system should work to improve your overall number of bookings. Whether you intend to explore new markets or boost bookings in low season, the right software system is all about optimizing and maximizing what you can achieve. Revenue management and a direct booking engine are two obvious features that will help you in this regard, but everything from integrations to smart reporting and automation will ultimately contribute.

7. Accurate daily reports

Hotel management, finance and revenue teams will have access to accurate daily earnings reports thanks to data-savvy hotel management software. Meanwhile, operations and marketing reports will help you and your team to make reliable, data-driven decisions across your business. If everything is in the cloud, these invaluable metrics are at your fingertips whenever you need them, without the need for time-consuming manual exporting and compiling.

8. Prevent double bookings and manual errors

Hospitality management software systems are programmed to avoid double bookings and overbookings. Thanks to task automation, they also help prevent errors when front desk staff are inputting important customer data like name, passport details, and card numbers. This means a better guest experience (no awkward follow up conversations asking for their correct details), more time for staff to focus on their important work, and more reliable business data and reporting.

9. Analyze your customer base

Market and guest segmentation is another important benefit of the right guest management software system. The GM and Marketing Managers can keep track of the different types of visitors, with key demographic breakdowns such as age, gender and nationality. This data allows you to make informed decisions on your marketing strategy and increase the long-term revenue trends of your business.

10. Transform your property

The many benefits of a hotel management system could help you grow your business in a short amount of time. If you're not currently using the right solution, migrating to a more modern software could help you see big improvement almost immediately. This can have lasting benefits that extend beyond the day-to-day usage of the system – it can also encourage a mindset shift and transform the way you and your team works. Here are some examples of how moving to the right hospitality cloud transformed these properties.

CHAPTER 4 SYSTEM REQUIREMENTS

4.1 HARDWARE SPECIFICATION

- Processors -Intel Core i3 processor or Intel Core i5 processor
- RAM 4GB
- Hard Drive-320 GB 5400 RPM hard drive
- Operating systems -Windows * 11 or later, macOS and Linux

4.2 SOFTWARE SPECIFICATION

Included Packages: Html, CSS, Javascript, Xamp, Visual Studio.

4.3 MODULE DESCRIPTION

Modules of Online Hotel Management System:

There are several modules required to complete this system. Here we are discussing the main modules or core modules of the system.

Owner Profile:

In the Owner profile, he has full access to the system. The owner can view all the details in a graphical way and he has the authority to change the Cost of Room, Room Availability, Service Details, and much more. He can also check the details of the receptionist and staff member currently working at that Hotel. He will get the notification of all the changes made by the Manager in the system. He will also have special permission to revert those changes if needed. He can also check the transactions made through the day and thought the month and an algorithm will check the progress the Hotel is making.

Manager Profile:

Manager profile can have partial access to the System. The manager can view the availability and can change the cost of the room and other service details. He will also have a special interface where he can manage the staff of the hotel. He can add new people and he can also remove anyone from the system. And at the same time Owner will receive the notification of these changes.

Customer Profile:

In the Customer profile, people can check the availability of rooms and they can also book a room according to their budget and need. Customer profile contains their name, Contact details, address, and other necessary details, etc. They need to sign-up for booking the hotel, which will make them as well as the manager of the hotel easily interact with each other.

customer and this will serve the customer as offline mode. When he will log-in his attendance will be taken and it will be easy for the Manager and Owner to monitor them. Here they will also get a notification of booked room so that they can beforehand maintain the room.

Staff Profile:

In the staff profile, there will be complete details of each staff of the hotel like their personal details and their post at the hotel. They can easily give their attendance to the receptionist and that attendance details will be visible in Real-time to Manager.

Booking:

The customer can easily search their Room from the various option available. This all will be so user-friendly so that Customer will not find any trouble in the booking room. Once the room is searched and the customer finds his choice room then this module helps the customer to book the room by following the rules of the Hotel like Check-in and check-out time of the Hotel, Limit of people per room, etc.

If everything is done properly, he will be asked to pay partial or complete money. And then he will be forwarded to Payment Gateway. Where he can easily pay Online.

Payment Details:

After filling in the booking details clients need to pay the money using different options available like cash/net banking/ATM card. The payment portal would use a payment gateway to clear payment. Once payment will clear receipt of payment will be generated automatically and this receipt will be sent to the manager and the Receptionist will get the notification to make the room ready before they arrive.

This project consists of following modules:

Admin Module:

Admin has a control over the whole project. This contains sub modules such as Admin login module, Employee module, Item Master, Report module and Discount module.

Administrator can handle both the front end and back end process of the system.

User module:
User can view only front end process of the system. In this module user can view the information of the employee. This contains sub modules like COD module, Bill module and Income and Expense module.

Employee module:

This module contains information about all the employees, attendance and salary calculation based on the attendance.

Item Master module:

This module contains price and description of the items available in the hotel.

Report module:

This module consists of the information about day to day transaction of the hotel.

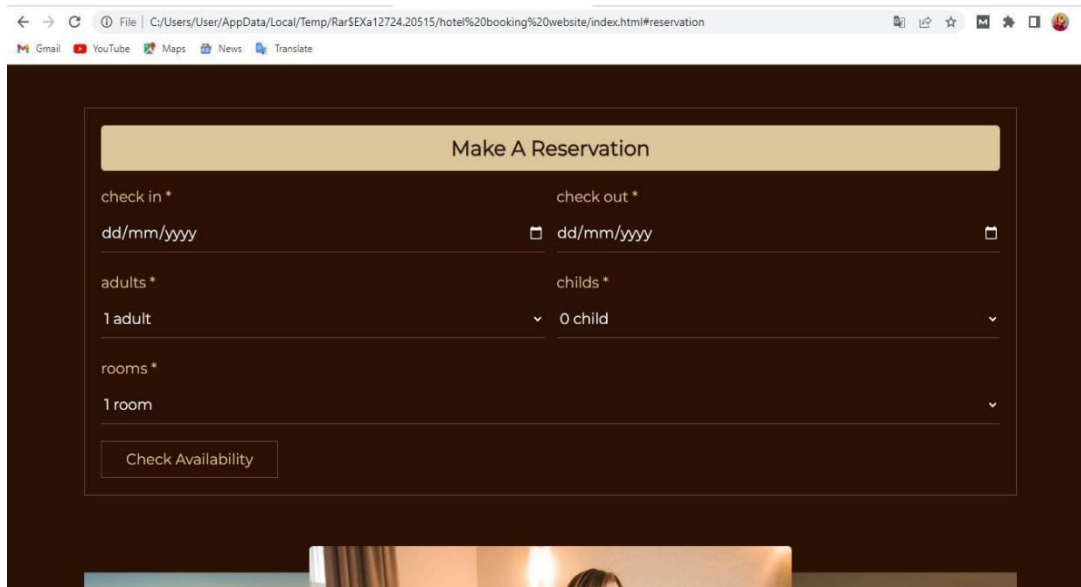
Bill module:

This module contains the information about the total amount to be paid by the customer.

Income and expense module:

This module contains the information about payable and receivable.

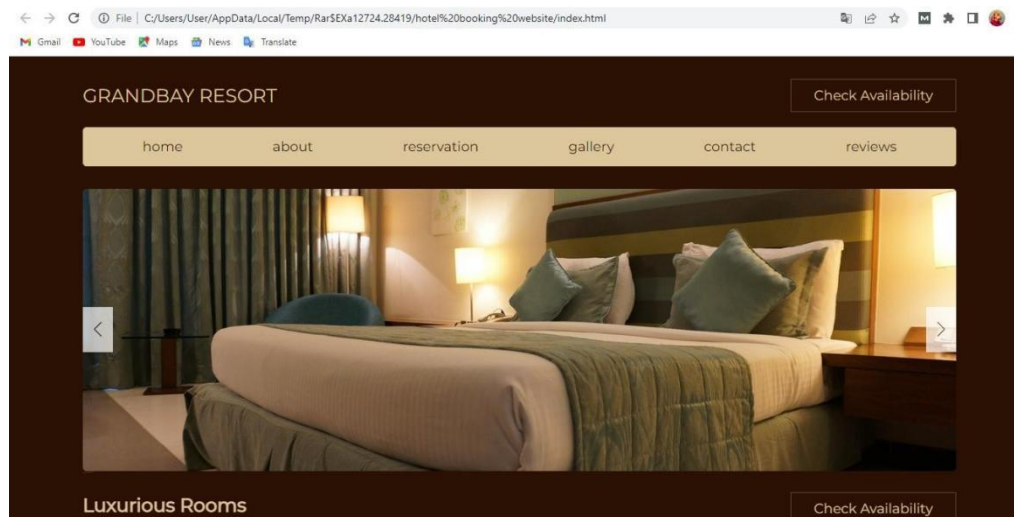
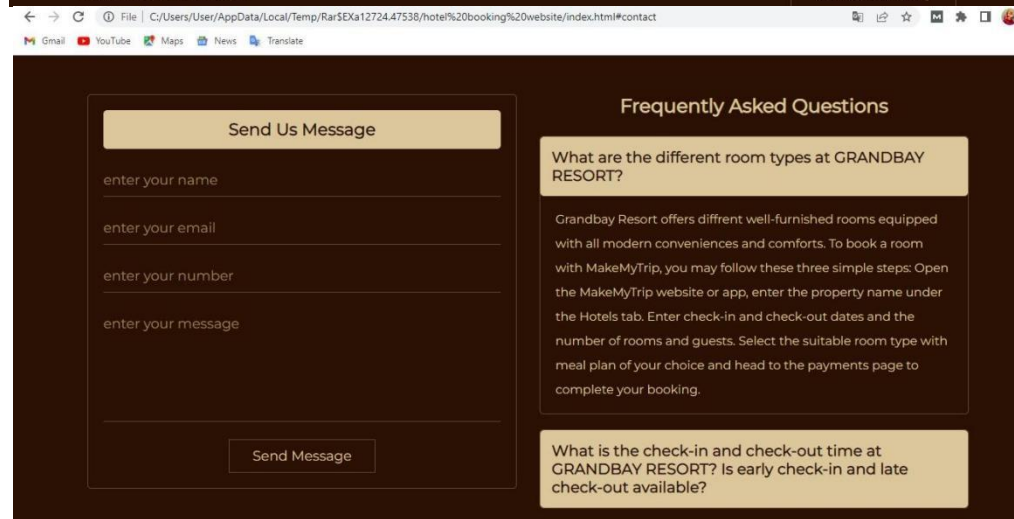
4.4.MODULES DESCRIPTION SCREENSHOT



The screenshot shows a web browser window displaying a reservation form titled "Make A Reservation". The form includes the following fields:

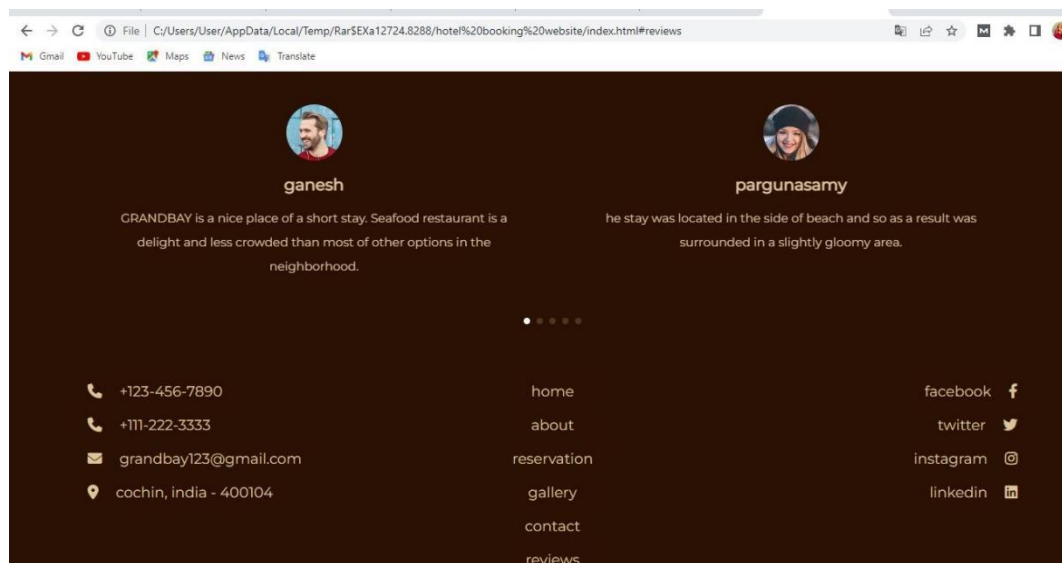
- check in ***: A date input field with a placeholder "dd/mm/yyyy".
- check out ***: A date input field with a placeholder "dd/mm/yyyy".
- adults ***: A dropdown menu showing "1 adult".
- childs ***: A dropdown menu showing "0 child".
- rooms ***: A dropdown menu showing "1 room".

Below the form fields is a button labeled "Check Availability".

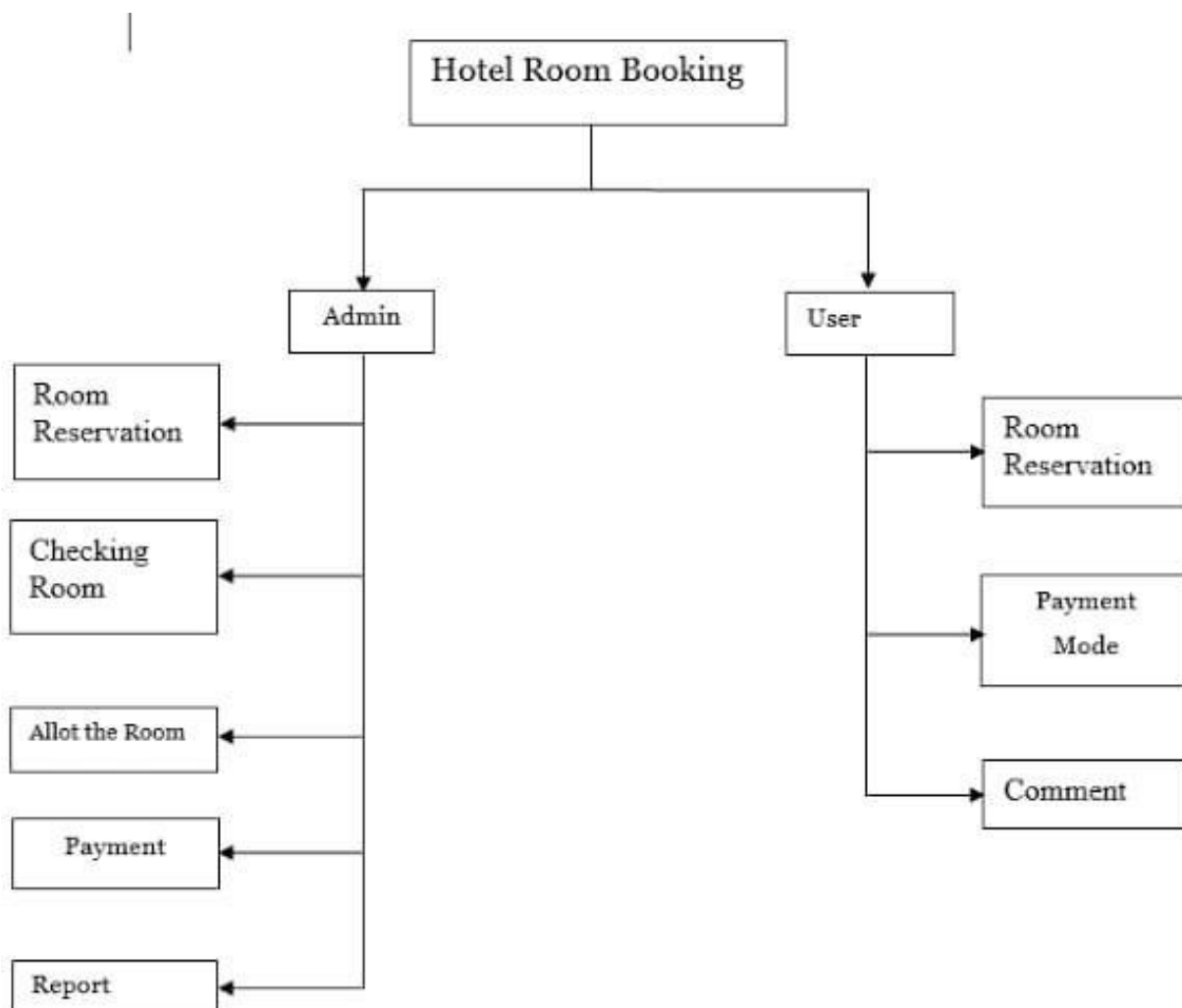
The screenshot shows a section of the website with two main components:

- Send Us Message**: A form with input fields for "enter your name", "enter your email", "enter your number", and "enter your message". A "Send Message" button is located at the bottom of the form.
- Frequently Asked Questions**: A section containing two questions and their answers:
 - What are the different room types at GRANDBAY RESORT?**: The answer states that Grandbay Resort offers different well-furnished rooms equipped with all modern conveniences and comforts. It provides instructions on how to book a room using the MakeMyTrip website or app.
 - What is the check-in and check-out time at GRANDBAY RESORT? Is early check-in and late check-out available?**: This question is listed but does not have an answer provided in the screenshot.



CHAPTER 5

5. SYSTEM ARCHITECTURE:



CHAPTER 6

6. APPLICATIONS OF MACHINE LEARNING

Hotel Management System is a web-based application that allows the hotel manager to handle all hotel activities online. Interactive GUI and the ability to manage various hotel bookings and rooms make this system very flexible and convenient. The hotel manager is a very busy person and does not have the time to sit and manage the entire activities manually on paper. This application gives him the power and flexibility to manage the entire system from a single online system. Hotel management project provides room booking, staff management and other necessary hotel management features. The system allows the manager to post available rooms in the system. Customers can view and book room online. Admin has the power of either approving or disapproving the customer's booking request. Other hotel services can also be viewed by the customers and can book them too. The system is hence useful for both customers and managers to portable manage the hotel activities.

the advances in technology, the software needs of a business change over time. If the current software you are using for your hotel is out of date, it may be holding your business back and stop you from gaining productivity. By choosing the right hotel software, you can benefit from the following features:

Reduce costs by automating tasks

Increase revenue by automating marketing and revenue management Enhance staff efficiency

Improve productivity

Streamline accounts

Replace paperwork processes

Communicate more effectively with customers Keep your booking dashboard updated at all times

Charge extra for late arrivals or check-ins/check-outs

Customise check-in/check-out email templates Personalise bookings and price plans

CHAPTER 7 CONCLUSION AND FUTURE WORK

7.1 CONCLUSION:

The best way to live is to live in the service of others, providing and making a customer feel secure and safe is the most desirable quality ever.

The hotel management team indeed are compassionate and help in building a better community. The foundation of tomorrow lies in the service of the hospitality industry.

7.2 FUTURE WORKS

At present this software does not contain Credit card facility. We can make this application as online so that we can reserve the tables and do the online payment. So as the demand increases we can add these modules as a future scope.

With the escalating demand of hotels in India, the hotel management industry has huge growth potential in the near future. The demand for smart and skilled professionals in this industry is growing at a fast pace, not only in India but also worldwide. There is a dire need for skilled and retainable

professionals. In this era of social media, everyone is aware of what to expect in a hotel and the standards one needs. Advanced technologies are introduced in the industry such as Mobile door key instead of plastic cards, Mobile hub spots where everything in the room can be controlled by one remote room phone. Faster Wi-Fi's having better bandwidths. These technologies will revolutionize the hotel industry to the next level.

As technology innovations continue to transform every industry and job role, the hotel managing industry is certainly no exception. In the near future automation will be a great part of hotel management industry too: Speak to order platforms will be trendy by which a virtual assistant will manage everyday mundane tasks, such as taking simple food orders and explain all the queries a customer has. Cloud services will be available such that a person will have entertainment on tap. You no longer have to visit restaurants anymore, the food and services you need will avail to you at home, ordering food online has become a recent update.

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