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The Otelos - Hotel Application Using Java

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Abstract: ***The hotel industry is a business venture for the owner and a solace for the traveller 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. There is nothing to bond the hotel and the customer in person that he has indeed booked for a room. 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.***

The Internet accelerates the communication and understandings between people, which make information unprecedented important. Furthermore, it changes the way that people book rooms, which makes

rooms-booking diversified, convenient, and individualized. Out of the demand of modern hotels and based on the required model, this paper analyses and designs the hotel booking operation, and achieves the functions of register, log-in, reservation, customer management, and reservation management, and etc., in order to improve the efficiency of hotel reservation.

Keywords: hotel management system, online booking, information management system, reservation, hotel, customer

I. INTRODUCTION

The Hotel Industry like any other business opens up socio-economic opportunities for both owner and customer. It has the function of providing hospitality services to customers. These customers can be travellers, 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.

Internet has become the world's largest information network which has the richest information resource. The roles of Internet and Intranet should be taken full advantage of in informatizing the hotel industry. The roles of the network should be taken full advantage of in researching and developing of systems such as room reservation, hotel management, Internet advisory, and etc. All these can have a strong radiating capacity in promoting resource sharing and providing the most advanced information services, greatly improve work efficiency and reduce business costs.

The study therefore aimed at developing an online hotel reservation system to enable customers book for whatever they need from wherever location they are before lodging into the hotel. The system is to allow for easy access and retrieval of information and reporting.

II. RELATED WORK

A hotel reservation system, commonly known as a central reservation system (CRS) is a computerized system that stores and distributes information of a hotel, resort or other lodging facilities. A CRS offers assistance to hoteliers to manage all of their online marketing and sales where they can upload their rates and service availabilities to be seen by sales channels. The list of main modules that are present in a CRS are: Content, Information stored on a CRS and Reporting.

The system is developed with the Java swing multi-layer architecture. Its biggest advantage is that maintenance is simple, flexible, and easy to operate. Structure simplifies the Client, the user sends requests via the application, and the rest work such as data request, processing, sending results back, generating dynamic pages can be done by the backend connections. This structure not only frees the Client from heavy burden and the requirement of constantly improving the performance, but also frees the personnel of technical maintenance from heavy maintenance upgrade work. Lays in multi-layer structure are independent between each other; the change of any layer will not affect other layers' functions. In addition, based on the knowledge that we have acquired and the software that we are familiar with, the operating system of the Server is Windows 2000 Server, and the database management system is Microsoft SQL Server 2000. SQL Server 2000 is one of a few mainstream database management systems at the present. Application fronted framework used is java swing.

Java is a widely used object-oriented programming language and software platform that runs on billions of devices, including notebook computers, mobile devices, gaming consoles, medical devices and many others. The rules and syntax of Java are based on the C and C++ languages.

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One major advantage of developing software with Java is its portability. Once you have written code for a Java program on a notebook computer, it is very easy to move the code to a mobile device. When the language was invented in 1991 by James Gosling of Sun Microsystems (later acquired by Oracle), the primary goal was to be able to "write once, run anywhere."

III. EXISTING SYSTEM

The Hotel currently runs a manual booking system and therefore requires customers to only book for rooms or any other service by walking to the receptionist or calling them on phone or using a third-party option. Any enquiry to be made demanding feedback must usually be forwarded to the hotel in person. Sometimes management is given false reports concerning the work flow of the hotel and employees also give falsified pricing information to customers from time to time. From an employee's account, details of customers are hardly used in the workflow and that also, records are not properly kept; books used to keep records are disposed of when they get filled up. Hotel hardly advertises and depends on word-of-mouth adverts by some loyal customers in and around its vicinity.

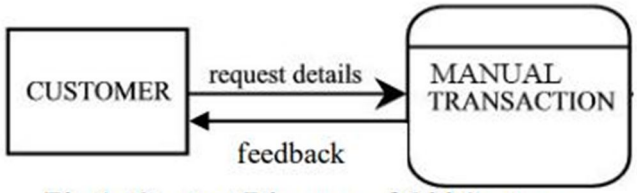


Fig.1: Context Diagram of Old System

IV. PROPOSED SYSTEM

The proposed system is a desktop-based application that allows customers to make enquiries online and book for services providing the required details. It adopts the required features that should be available in any online hotel booking application.
The following are solutions the proposed system brings on board:

1) Well laid out information about Hotels.
2) The manual booking system is replaced with an online reservation system.
3) Management can pull reports at any time to tell the current situation in order to put the necessary measures in place.
4) The system helps secure customer information since no information is disposed of.

A customer surfs through any of the items of the proposed system. An about us page is designed to allow customers get all necessary information about the hotel and its facilities. A contact us page is provided where customers can send emails. More importantly, customers can make reservations at their own pace. This study has been categorized into four groups:

a) System monitoring done by system administrator.
b) Filling forms to make enquiries and reservations.
c) Approving or deleting enquiries.
d) Hotel Details.

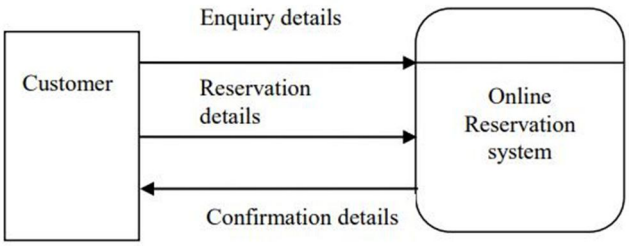


Fig.2: Context Diagram of Proposed System

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V. METHODOLOGIES

A. *User Activities*

The app page design helps users gain access to the information that the application presents. Users are given higher priority before any building can be done and for that matter the size of the system and the general outlook has to be taken into consideration. There is an interface designed for the user and the administrator.

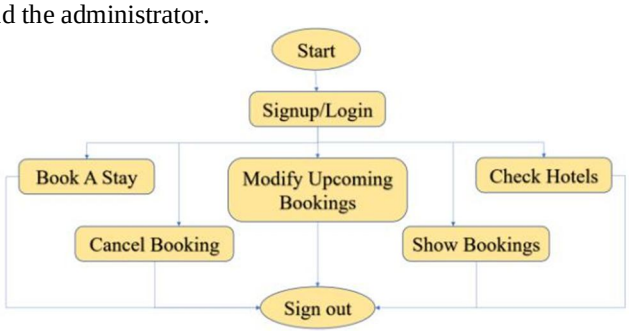


Fig. 3: User Flow Diagram

B. *Admin Activities*

The administrator interface has many features for the administrator to manage hotel activities to the system.

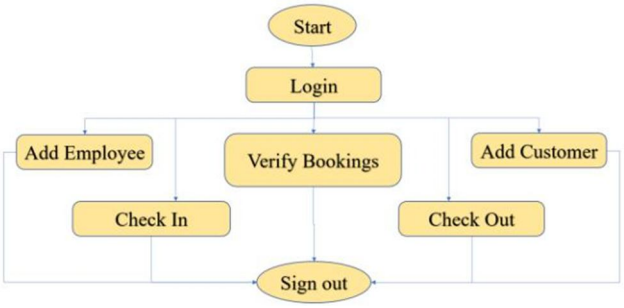


Fig. 4: Admin Flow Diagram

C. *Database Design*

email	password	name	type
ashu20@gmail.com	Ashu@20	Ashu	user
bipin32@gmail.com	Bipin@32	Bipin	user
sachin01@gmail.com	Sachin@01	Sachin	Admin

Table. 1: Credentials Details

bookingId	name	email	fromDate	toDate	hotel	roomType	bedType	roomNo	price
1476949935	Ashu	ashu20@gmail.com	2023-05-26	2023-05-27	Otelos Wellington, Chennai	Luxury Room	Queen	242	25960
1369643026	Bipin	bipin32@gmail.com	2023-05-29	2023-05-30	Otelos, Banglore	Deluxe Room	King	371	16520
1928563008	Bipin	bipin32@gmail.com	2023-05-31	2023-06-01	Otelos Santacruz, Mumbai	Premium Room	Twin	185	36580
1601320874	Ashu	ashu20@gmail.com	2023-05-30	2023-05-31	Otelos Palace, NewDelhi	Deluxe Room	Queen	378	14160

Table. 2: Booking Details

bookingId	status
1476949935	Checked Out
1369643026	Yet to Check In
1928563008	Yet to Check In
1601320874	Yet to Check In

Table. 3: Check Status Details

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name	dob	gender	jobType	phone	aadhar	email	salary
Aditi	1995-07-20	Female	Kitchen Staff	7778889999	111122223333	aditi20@gmail.com	20000
Dhruv	1996-04-18	Male	Manager	8567437289	286898650912	dhruv18@gmail.com	50000
Kartik	1995-04-12	Male	Room Service	4321123412	112211221122	kartik12@gmail.com	20000
Sachin	1996-03-21	Male	Clerks	0101012233	444455556666	sachin01@gmail.com	30000

Table. 4: Employee Details

VI. RESULT AND DISCUSSION

1) Fig. 5, shows the user side application interface with provided menu options like Our Hotels, Weddings, book a stay, Manage booking and View Bookings.
2) Fig. 6, shows the admin side application interface with provided menu options like Employee, Check Status, Customer, Manager and Verify Booking details.
3) Fig. 7, shows the booking page at the user side with booking of a room which contains a form including dropdown list, radio buttons, price calculation, room no generation and at last booking id generation.
4) Fig. 8, shows the customer adding page at the admin side(receptionist) for gathering required id proof and initial deposit option at the time of check in of customer.



Fig. 5: User Interface



Fig. 8: Customer Details Addition

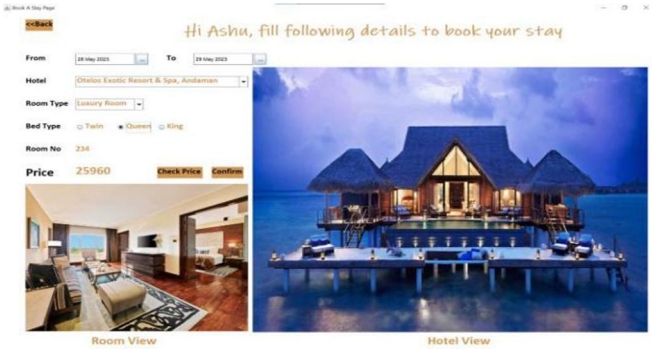


Fig. 7: Booking page

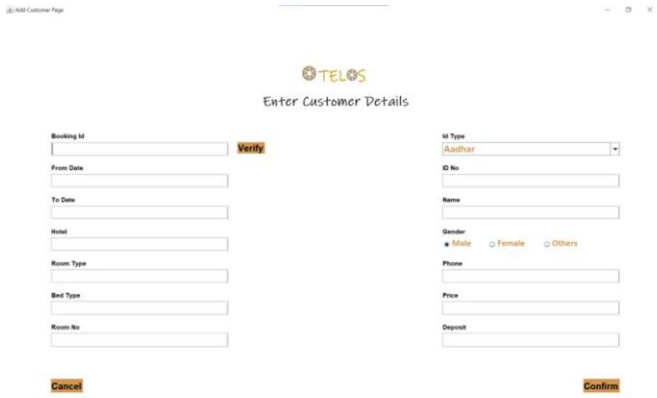


Fig. 6: Admin Interface

VII. CONCLUSIONS

The development of science and technology and the progress of the society gradually have changed people's life style. The combination of the hotel industry and the Internet is the inevitable trend of hotel development, and the network mode of sales will become the leading and the pillar of hotels. Online hotel room reservation as an important way of expanding the market for the hotel has a very significant influence on the development of the hotel. The hotel without online hotel room reservation will be forgotten and abandoned by the market. The analysis and the design of this system are to adapt to this trend, and reflect the e-commerce's influence on the hotel. Besides analysing the basic needs of guest room reservation, the analysis and the design of this system makes a comprehensive analysis of customers' individual needs from the point of view to customers, which shows another characteristic of e-commerce individual needs. E-commerce brings people more goods and services to meet the personalized needs. In the future society, people may be able to buy their desired goods and services at home.

The Online Hotel Reservation System was developed to replace the manual process of booking for a hotel room or any other facility of the hotel. The old system does not serve the customer in a better way; rather it makes customer data vulnerable. The new system keeps proper records of customers for emergency and security purposes.

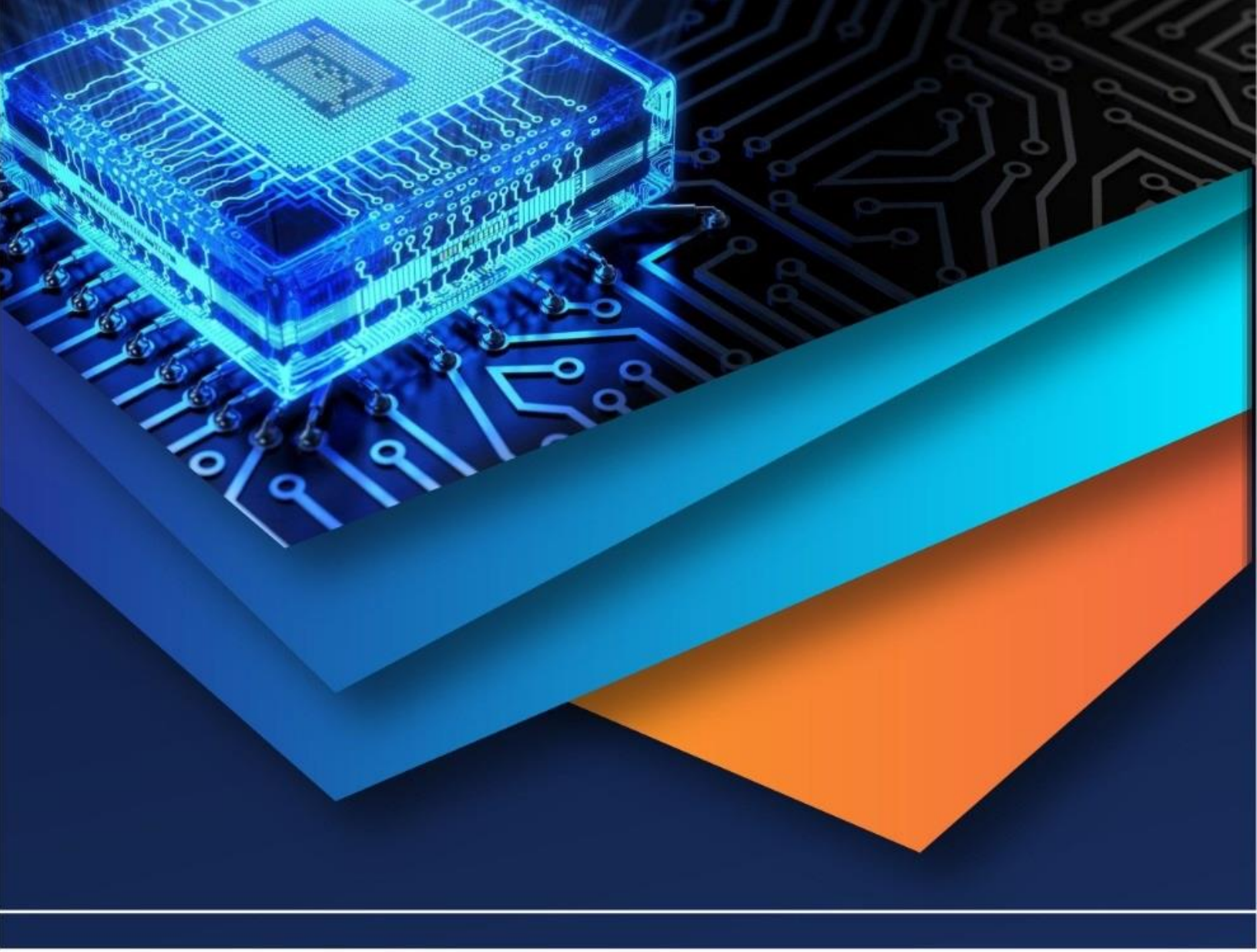
VIII. FUTURE WORK

This currently developed application is very much efficient in terms of booking and managing day to day activities at admin side as well. Still, there is scope of future work or improvements to be done in areas like adding restaurant details, providing hotels location by supporting with maps, adding a real payment API to facilitate the real time payments and many more things can be done to improve user experience with the application.

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