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# DESIGN AND IMPLEMENTATION OF WEB BASED EFFECTIVE HOTEL MANAGEMENT SYSTEM

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## ABSTRACT

The hotel manager can manage all hotel operations online with the help of the web-based program known as the Project Hotel Management System. This system is incredibly adaptable and convenient because of its interactive GUI and capacity to manage different hotel bookings and rooms. Due to her hectic schedule, the hotel manager is unable to sit down and oversee every aspect of the operation using paper records. He can now control every aspect of the system from a single web platform thanks to this application's strength and versatility. The hotel management project offers staff management, reservation services, and other essential hotel management functions. The manager can advertise available rooms on the system. Clients can browse and reserve rooms online. The administrator has the authority to accept or reject the customer's request for a reservation. The clients can view and reserve additional hotel services as well. For this reason, the technology helps managers and guests alike to conveniently oversee hotel operations.

**Keywords:** Web, Hotel, Management System,Gui, Online

## 1 INTRODUCTION

Hotel Management System is a system that provides us to reserving rooms, checking whether the rooms are vacant are or not etc by using online browsing. This system is very useful to all especially for business people.

For Business people they don't have sufficient time for these then they can use these types of online Hotel Management Systems. By this project we will reduce the faults in bills of their expenditure and decrease time of delay to give the bills to the customers. We can also save the bills of the customer. By this project we can also include all the taxes on the bills according to their expenditures. It has a scope to reduce the errors in making the bills. Computerized bill can be printed within fraction of seconds. Online ordering of Booking is possible by using this software.

This Project is based on php. If anyone wants to book the room for few days then they can specify the specific number by seeing the types of rooms we have. The bill of this online booking is based on the type of room they can select is displayed.

HOTEL MANAGEMENT SYSTEM is a hotel reservation site script where site users will be able to search rooms availability with an online booking reservations system. Site users can

also browse hotels, view room inventory, check availability, and book reservations in real-time.

Site users enter check in date and check out date then search for availability and rates. After choosing the right room in the wanted hotel – all booking and reservation process is done on the site and an SMS is sent to confirm the booking.

## 2.LITERATURE SURVEY AND RELATED WORK

With the continuous development of business travel and tourism boom, the hotel is a fast-growing industry intelligent development of hotels is also one of the research hot spots, and many researchers have done a lot of research on hotel management already believes that hotel management needs to meet the needs of market development in tourist cities, which is also an important part of market development innovative management and the provision of management level of coastal resort hotel are beneficial to improve the core competitiveness of the hotel is study takes the management of coastal hotels as the research object, and it uses the SWOT method to analyze the relationship between the coastal hotels and the tourism supply chain. In order to realize the stable management of coastal resort hotel and improve the popularity of tourists, he proposed a platform management and construction model for coastal resort hotel. Mate-S ´ anchez-Val and Ter-´uel-Gutierrez [16] have noticed that hotel location has a greater relationship with company performance and the environmental strategy of hotel management. )ey proposed a theoretical model to analyze the important role of hotel location in hotel management.

)ey collected data on hotels in Barcelona as a research object, and it used peer effects to analyze the impact of hotel location on hotel performance. )e results show that the variable of hotel 2 Scientific Programming location has an important relationship with the hotel's explanatory coefficient characteristics. )is study has important implications for the location selection of hotel managers. Zhang et al. [17] have studied the online hotel management model, which mainly focuses on the effect of online reviews on hotel management. )e dataset for this study was derived from online data on hotels in New York City on Expedia. It combines data such as online comments and online replies of online data into one dataset. It also fully mines these textual information using textual similarity. It also correlatively validates text mining functions using fixedeffects panel data. )e results of the study show that consumers' online reviews do not significantly affect hotel bookings. However, highly similar responses significantly reduce hotel bookings. )is research has a certain reference value for the evaluation of hotel management and online booking. Obonyo et al. [18] found that the development of ICT has provided more convenience and efficiency for hotel management. More hotels arestarting to invest more in ICT to improve performance. However, this situation is weaker for economically developing countries. )is study mainly analyzes the actual situation of ICT application in hotel management in Kenya. He collected and quantified data on 194 hotels. )e research results show that ICT has a strong correlation with human resource management and operational management of hotels, which will also affect the application of ICT in hotel management. Wang and Zhang [19] believe that the hotel industry has become a pillar industry of the tertiary industry. )e hotel industry has developed rapidly under the rapid economic development, but it is also facing huge pressure. Based on the background of rapid development of information, this research uses the fuzzy analytic hierarchy process FAHP method to study the user decision-making process in hotel management. Based on the common data of the hotel management system, he established the customer model of the hotel business data by using the method of data mining. )is method improves the service level of the hotel and enhances the core competitiveness of the hotel enterprise. Brahami and Adjaine [20] believe that only after the company or enterprise

really understands the motivation management of knowledge and customer relationship management (CRM), the competitiveness of the enterprise can be improved. He also found that the two indicators of KM and CRM are less used in hotel management. He collected sample data of large hotels in the Algeria region, and it discussed the application effect of KM and CRM in hotel performance management. )e research results show that KM and CRM methods can effectively improve hotel performance, which in turn can enhance the competitiveness of hotel management. )is has certain guiding significance for the further improvement of the hotel. With the development of intelligent technology and big data technology, there are also a few researchers here who have adopted artificial intelligence technology to study the related factors of hotel management and intelligent hotel management system. Ma [21] has found that the traditional concept of hotel management can no longer keep up with the pace of the times, and this method cannot provide timely training for hotel financial personnel, which leads to the relative lag of the hotel management model, which in turn affects the hotel benefit. To solve these problems, he designed an intelligent hotel financial management system. )e results show that the support vector machine method and logistic regression method can reduce the risk of financial crisis in hotels. )e response time of this

intelligent hotel management system is significantly shortened, and the success rate has been improved to a certain extent. From the above literature review, it can be seen that artificial intelligence methods are rarely used in hotel management, and it rarely studies the entire process of hotel management systems. )e current research is mainly to optimize and design the front desk management system of the hotel management system. )is research uses CNN and LSTM methods to intelligently manage and study the hotel's in- store mode and out-of-store models.

## 3 EXISTING SYSTEM

In this step, we provide a detailed description about the existing system and theproblemsfacedintheexistingsystem.Thisstagethereisnoexistingsystempreviously;wearedeveloping anewsystem.Tillnownosystemisavailablewiththistypeoffeatures and facilities. This system is developed for the all types of users with highlyflexibleandconfigurableproductisenvisagedtoensureglobalmarketing.

## 4 PROPOSED WORK AND ALGORITHM

Some of the service providers won't allow you to choose your hotel, they only allow you to select location and quality of the hotel. Considerable discounts on hotels may be available in off-seasons.

Utilize the serve of online hotel booking service providers when you are planning for a trip. Each and every customer looks to book their hotel rooms early and conveniently. User can Post, update and delete the links in the all categories.

Online hotel booking is the best ways to book rooms in your favourite hotels. Planning a vacation has never been easier and more reasonable than now.

Easiness, affordable pricing, and simple comparison shopping make online hotel bookings accepted to all.

## 5 METHODOLOGIES

### MODULES

#### DATA SET

This paper utilizes the data set provided by revolution analytics for the detection of the fraudulent credit card transaction from Kaggle. Dataset has 51149 legal transactions and

3312 fraudulent transactions. The data set is divided as 60%, 20% and, 20% in the Train, Valid and Test set, respectively

**DATA PREPROCESSING**

For efficient implementation of the classification algorithm, data preprocessing is performed before feature selection. Under-sampling is performed to make the dataset balanced to avoid the biasing of the classification algorithm towards the majority class. Feature Selection is implemented on a balanced dataset.

**FEATURE SELECTION**

**F**eature selection methods are used to remove unnecessary, irrelevant, and redundant attributes from a dataset that do not contribute to the accuracy of a predictive model or which might reduce the accuracy of the model. In this paper seven feature selection techniques namely Select-K-best, Feature Importance, Extra tress classifier, Person's correlation, Mutual Information, Step forward selection and Recursive feature elimination are used.

**FEATURE IMPORTANCE**

Feature importance is a class of techniques for assigning scores to input features to a predictive model that indicates the relative importance of each feature at the time of making a prediction. It reduces the number of input features. In this paper, feature importance is implemented using an extra tree classifier from the decision tree. Extra Trees is similar to Random Forest, it builds multiple trees and splits nodes using random sub sets of features, but un like Random Forest, Extra Tree samples without replacement and nodes are split on random.

## RESULTS AND DISCUSSION

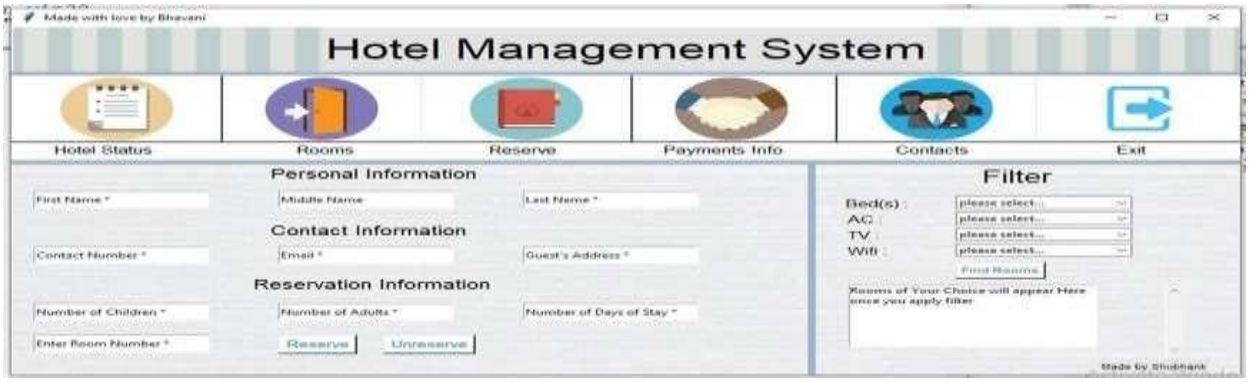


**FIG 1: HOTEL MANAGEMENT SYSTEM**

## 6.CONCLUSION

HOTEL MANAGENMENT SYSTEMis a web portal development company that specializes in offering small businesses unique solutions. In order to complete the task correctly the first time, we work hard to develop solutions that meet your unique demands. We use the newest technologies and pay close attention to usability.

This system was created solely with the people in mind. It offers the user modules that are easy to use and have submodules. This system is designed in an understandable manner, making it simpler for non-computer experts to use. This system has smart links and is entirely GUI-based.

The requirements of Online Hotel Management are met by the design of this project. It was created using Servlets and JSP while keeping the system standards in mind. We utilized

straightforward data flow diagrams to construct the system.
Overall, the project teaches us these fundamental skills, such as how to construct a system using data flow diagrams and system analysis and design approaches. knowing how to handle databases and process queries.

## 7 REFERENCES

1. R. van Ginneken, K. Koens, and J. Fricke, “Ownership perceptions in European hotel management agreements,” International Journal of Hospitality & Tourism Administration, vol. 20, no. 4, pp. 449–467, 2019.
2. F. Cheong and Y. H. Lee, “Developing an environmental management system for evaluating green casino hotels,” Sustainability, vol. 13, no. 14, p. 7825, 2021.
3. Y. J. Kim, W. G. Kim, H.-M. Choi, and K. Phetvaroon, “)e effect of green human resource management on hotel employees’ eco-friendly behavior and environmental performance,” International Journal of Hospitality Management, vol. 76, no. 1, pp. 83– 93, 2019.
4. P. Longart, “Understanding hotel maintenance management,” Journal of Quality Assurance in Hospitality & Tourism, vol. 21, no. 3, pp. 267–296, 2020.
5. N. A. Awad and S. G. Saad, “)e role of information technology and customer relationship management practices in Egyptian hotels- A descriptive study in s el sheikh hotels,” International Journal of Online Marketing, vol. 9, no. 4, pp. 47–63, 2019.
6. J.-S. Horng, C.-H. Liu, S.-F. Chou, and T.-Y. D.-C. Yu, “Marketing management in the hotel industry: a systematic literature review by using text mining,” Sustainability, vol. 14, no. 4, p. 2344, 2022.
7. Y. Jiang and J. Wen, “Effects of COVID-19 on hotel marketing and management: a perspective article,” International Journal of Contemporary Hospitality Management, vol. 32, no. 8, pp. 2563–2573, 2020.
8. R. G. Gaifutdinov, Z. L. Khisamova, and E. L. Sidorenko, “)eoretical and legal bases of artificial intelligence punishment system development,” Revistasangregorio, vol. 41, no. 12, pp. 159–164, 2020.
9. C. C. Liu, “Artificial intelligence interactive design system based on digital multimedia technology,” Advances in Multimedia, vol. 4, no. 1, p. 4679066, 2022.
10. N. Liu, P. Shapira, and X. Yue, “Tracking developments in artificial intelligence research: constructing and applying a new search strategy,” Scientometrics, vol. 126, no