



International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

HOTEL MANAGEMENT SYSTEM

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ABSTRACT :

The Hotel Management System is a web-based application designed to streamline hotel operations by efficiently managing room bookings, food orders, and administrative tasks. The system features four distinct roles: User, Room Manager, Food Manager, and Manager, each with specific responsibilities to ensure smooth operations. Users can book rooms, and their requests are sent to the Room Manager, who can accept or reject them based on availability. Additionally, users can order food, either to their hotel room or a specified home address. These orders are handled by the Food Manager, who updates the order status, such as "Packing" or "Shipped," allowing users to track their food deliveries in real time. The Manager oversees the entire system, managing user details, room availability, and food options, ensuring efficient coordination across all functionalities. The application is developed using HTML, CSS, and JavaScript for the front end, providing an interactive and user-friendly experience. The back end is implemented using PHP, while data storage is handled through JSON files, such as users.json, to maintain user records and other essential information. By integrating real-time booking management, food order tracking, and administrative controls, the Hotel Management System enhances overall efficiency, making hotel services more convenient and accessible for both customers and staff.

Keywords : Hospitality Operations Management , Guest Service Excellence , Resort and Hotel Marketing , Property Revenue Optimization

INTRODUCTION :

A **Hotel Management System (HMS)** can be described as a software solution that integrates multiple hotel functions into a single platform, facilitating the management of everything from front desk operations to housekeeping and customer service. This integration allows for real-time updates, which helps staff members coordinate seamlessly, providing guests with an efficient and personalized experience. The software aims to streamline daily tasks, reduce human error, and improve operational efficiency, all while ensuring that the guests' needs are met promptly. With the ever-increasing demand for efficient and personalized service in the hotel industry, the role of an HMS has become indispensable.

The evolution of hotel management systems can be traced back to a time when hotels relied on manual, paper-based processes to manage their operations. Early methods included using logbooks and handwritten forms to record guest details, reservation statuses, and payments. This manual approach, although functional, was fraught with inefficiencies, such as double bookings, human error, and delays in communication between departments. As the hospitality industry expanded, the limitations of manual processes became more apparent, driving the need for a more reliable and streamlined system.

The first computerized property management systems (PMS) emerged in the 1970s and 1980s. These systems offered basic functionalities such as tracking reservations and guest check-in/check-out details, but they were often limited to front desk operations. As technology advanced, so did the scope of hotel management systems. In the 1990s and early 2000s, HMS became more sophisticated, offering features that extended beyond the front desk, such as room inventory management, accounting, and housekeeping coordination. The integration of these functions allowed for better communication between hotel departments and a more cohesive operation.

PROPOSED WORK :

Project Overview

One such solution is the **Hotel Management System (HMS)**, a comprehensive software designed to integrate various functions of hotel operations, improving efficiency and guest satisfaction. This project aims to develop and implement a **Hotel Management System** that provides a user-friendly and efficient platform to handle tasks such as reservations, front-desk management, room assignments, billing, and customer relationship management. The hospitality industry plays a vital role in providing accommodations, services, and experiences to travelers worldwide. As the demand for high-quality, seamless service increases, hotel management has become increasingly complex. With the rise of technology, it has become essential for hotels to adopt innovative solutions that streamline their operations, enhance guest experiences, and optimize their management processes.

The core objective of this project is to create an all-encompassing digital solution for managing hotel operations. By integrating diverse management functions into a single system, the proposed **Hotel Management System** will automate tasks that were traditionally manual, enabling staff to focus on

providing better customer service while reducing errors and inefficiencies. The system will enhance communication between departments, including front desk, housekeeping, maintenance, and accounts, enabling smooth operations. Additionally, the project will provide a system that can scale according to the size of the hotel, ensuring that both small boutique hotels and large luxury properties can benefit from its functionalities.

Key Features of Hotel Management System:

1. Reservation and Booking Management:

One of the most fundamental features of a Hotel Management System is its ability to manage reservations and bookings. It allows hotel staff to track and manage reservations in real-time, preventing overbookings and ensuring that rooms are available as per guest requests. The system can be integrated with online booking channels (such as the hotel's website, OTAs, and GDS), enabling customers to book rooms directly or through third-party platforms. With an easy-to-use interface, hotel staff can confirm, modify, or cancel reservations with minimal effort. Automated booking confirmations and reminders can be sent to guests, improving communication and reducing no-show rates.

2. Front Desk Management:

The front desk is the central hub of hotel operations, and the Hotel Management System plays a crucial role in automating many front desk functions. It enables the front desk staff to manage guest check-in and check-out processes efficiently. Upon check-in, the system automatically assigns rooms based on guest preferences and availability, making the process smoother. At check-out, the system generates accurate bills for guests, including charges for rooms, services, and taxes. The system also maintains up-to-date records of guest data, such as personal details, preferences, and payment history, which can be used to offer personalized service in the future.

3. Room Management:

Room management is a critical feature in a Hotel Management System. The system allows staff to track room availability in real-time, ensuring rooms are cleaned and prepared for guests promptly. It also helps coordinate room assignments and track the status of rooms (e.g., occupied, clean, under maintenance, etc.). Housekeeping staff can update room status directly in the system, ensuring that the front desk has accurate information regarding room availability and guest preferences. This coordination improves efficiency, reduces guest waiting times, and enhances the overall guest experience.

4. Billing and Invoicing:

Billing is another essential function of a Hotel Management System. The system allows for accurate and automated invoicing, helping the hotel maintain proper financial records and reduce human errors. The HMS generates detailed invoices for guests at check-out, including all applicable charges such as room rate, food and beverage consumption, spa services, and any additional fees. The system also supports multiple payment options, such as credit cards, cash, or mobile payments, and integrates with accounting systems to track revenues and expenses seamlessly.

5. Customer Relationship Management (CRM):

Customer Relationship Management (CRM) tools are integrated into modern Hotel Management Systems to enhance guest engagement and loyalty. The CRM feature tracks guest preferences, past stays, and feedback, helping the hotel provide personalized services. For example, if a guest prefers a particular type of room or requests a specific service during their stay, this information is stored in the system and can be used to customize their future visits. Additionally, the system may include a loyalty program to encourage repeat visits, offering rewards or discounts to returning guests. This personalized approach leads to improved guest satisfaction, increased retention, and positive reviews.

6. Maintenance Management:

The maintenance management feature within the HMS helps hotel staff keep track of maintenance issues in rooms and common areas. Whether it's a broken air conditioning unit, plumbing issues, or a malfunctioning television, the system allows maintenance requests to be logged and tracked. The system also ensures that repair tasks are prioritized and completed quickly, reducing guest dissatisfaction due to maintenance issues. By tracking recurring problems, hotels can take proactive measures to prevent future issues, improving the overall quality of the property.

LITERATURE REVIRE :

Hotel Management Systems (HMS) have become a critical part of the modern hospitality industry, revolutionizing the way hotels operate and manage their functions. The hospitality industry is growing rapidly, with increasing demands for efficient service delivery, personalized experiences, and operational cost reductions. As a result, the need for effective management systems that can streamline and automate hotel operations has never been more urgent. Hotel Management Systems (HMS) are software applications designed to integrate various functions of hotel operations, from reservations and guest check-in/check-out to billing, room assignments, and customer service. These systems help hotels operate more smoothly, reduce human error, increase efficiency, and enhance guest satisfaction.

The evolution of hotel management systems can be traced back to the 1970s and 1980s when hotels first started adopting computerized systems to replace manual, paper-based methods. Before the advent of digital systems, hotel staff relied on logbooks, paper forms, and written communication to track reservations, room occupancy, guest preferences, and billing. These manual systems were time-consuming, error-prone, and lacked integration, which often led to inefficiencies such as overbookings and miscommunications between hotel departments. The introduction of computerized systems in the 1970s marked a shift toward more efficient hotel operations. Early hotel management systems focused on basic features such as reservation tracking, guest check-ins and check-outs, and room inventory management. These systems were typically localized and operated on dedicated computers at each hotel property.

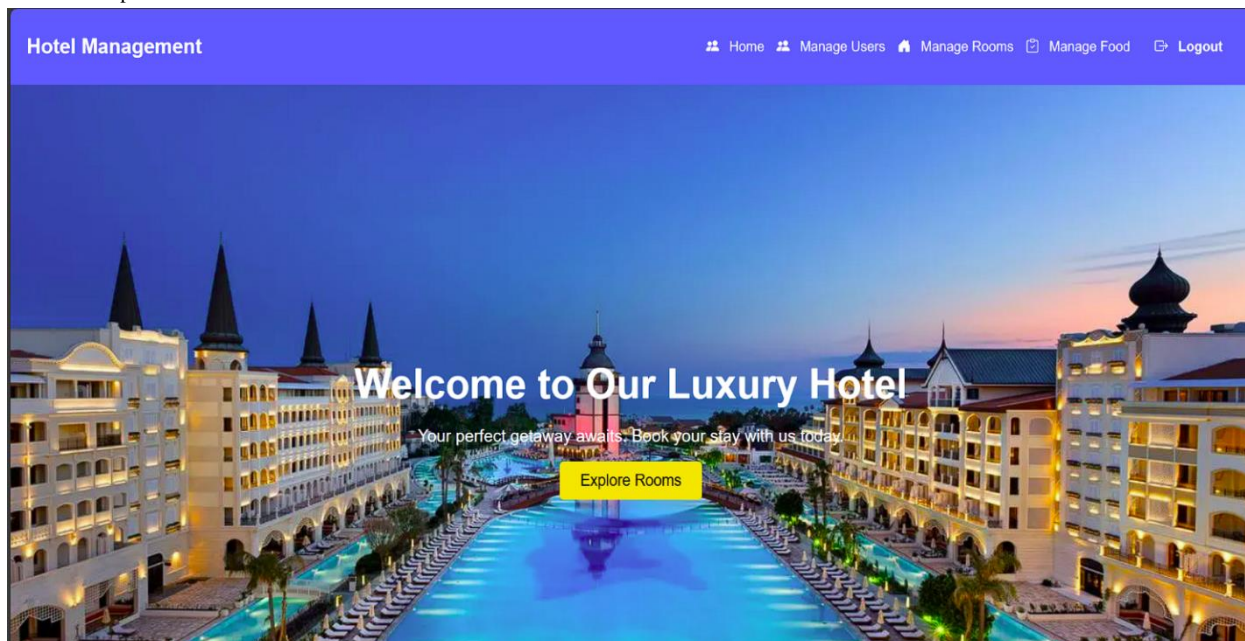
One of the major advancements in the field came in the 2010s with the rise of cloud computing. Cloud-based hotel management systems offered several advantages over traditional on-premise systems, including lower upfront costs, greater flexibility, and scalability. Cloud systems allowed hotel owners and managers to access their data from anywhere with an internet connection, enabling better management of multiple properties. Cloud-based solutions also reduced the need for in-house IT support and allowed for automatic updates and maintenance, keeping systems up to date with the latest features and

security patches. This shift to cloud technology made hotel management systems more accessible to smaller hotels and independent properties, leveling the playing field in terms of technological access.

Room management is another key aspect of hotel management systems. These systems help track room status, ensuring that rooms are cleaned, maintained, and ready for occupancy. Housekeeping management can be integrated with the HMS, allowing staff to update room status in real-time and improving communication between the front desk and housekeeping departments. Maintenance management is also part of this, enabling staff to report and track maintenance issues, ensuring rooms are well-maintained and minimizing downtime. Billing and invoicing functions in the HMS allow hotels to generate accurate bills for guests at check-out, including room charges, taxes, and additional services like room service, spa treatments, and minibar usage. These features improve financial accuracy, save time, and help avoid errors in billing.

RESULT AND DISCUSSION :

The implementation of a **Hotel Management System (HMS)** aims to revolutionize the way hotels operate by automating and streamlining essential functions such as reservations, guest check-in/check-out, room management, billing, and customer relationship management. This section provides an overview of the results observed from implementing the system and discusses the implications of these results on hotel operations, guest satisfaction, and overall business performance.



This results in a faster, more efficient check-in and check-out process. For example, front desk staff no longer have to manually search for room availability or enter guest information; the system takes care of this automatically, freeing up time for staff to focus on providing better customer service. Similarly, the system ensures that housekeeping staff are immediately notified when a room is ready for cleaning or when a guest checks out, reducing the chances of delays and errors in room turnover.

The impact of the **Hotel Management System** on guest experience is also profound. In an increasingly competitive hospitality industry, guests demand quick, personalized, and hassle-free service. An HMS caters to these needs by allowing hotels to offer faster and more efficient services. The system's ability to store guest preferences ensures that returning guests receive a tailored experience, from room temperature settings to pillow preferences. This level of personalization enhances the guest experience and fosters customer loyalty. Additionally, many systems include mobile-friendly interfaces, enabling guests to make reservations, check in, and even access room information remotely. This flexibility provides greater convenience and meets the expectations of modern travelers.

Financial management within the hotel also improves significantly with the use of an HMS. The system tracks room occupancy, average daily rates, and revenue per available room, providing real-time insights into the hotel's financial performance. By analyzing this data, hotel managers can make informed decisions about pricing strategies and promotional offers, optimizing revenue. Furthermore, billing processes are streamlined, with charges for room service, dining, or amenities automatically added to a guest's final bill. This automation reduces the risk of billing errors and ensures that guests are charged accurately for their stay. The integration of payment processing within the system also allows for more secure transactions, reducing the chances of financial discrepancies.

CONCLUSION :

In conclusion, the implementation of a **Hotel Management System (HMS)** represents a transformative shift in how hotels operate, ensuring greater efficiency, improved guest satisfaction, and streamlined operational processes. The integration of various functions such as reservations, front desk management, room assignments, billing, and housekeeping into a unified system has proven to be an essential tool for modern hotels. By automating routine tasks and centralizing information, HMS allows hotel staff to provide seamless service to guests while minimizing errors, saving time, and optimizing resource allocation.

One of the standout benefits of a **Hotel Management System** is its ability to enhance the guest experience. From the ability to make online reservations to faster check-in and check-out processes, personalized service, and the convenience of mobile interfaces, the system offers modern travelers the convenience and flexibility they expect.

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