

Smart Residency Booking Organization

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Abstract:

The Smart Residency Booking Organization is mainly developed for easy room booking and residency management. In old methods, most residency records are written manually, so maintaining customer details and booking information becomes difficult. Sometimes it may also create booking mistakes and confusion in room availability. This project is useful for both customers and admin users because all booking activities can be managed through a website. Customers can see room details, check room availability, and book rooms online. Room information, booking details, payments, customer records, check-in, and check-out activities can be managed through the admin side. The system also includes a peak alert feature that helps identify when most rooms are occupied. The project is created using HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL. Using this system reduces paperwork and makes the booking process faster and simpler. This paper describes the working process of modules and future improvements of the Smart Residency Booking Organization.

Keywords — Smart Residency Booking, Residency Management System, Online Room Booking, Check-In and Check-Out, Peak Alert, HTML, CSS, JavaScript, Bootstrap, PHP, MySQL, Web Application, Customer Management.

I. INTRODUCTION

The Smart Residency Booking Organization is a project developed for handling room booking and residency activities in a simple way. In many residencies, staff members still write booking details and customer records manually. Because of this, updating information and checking room availability may become difficult. Sometimes booking mistakes can also happen when records are not maintained properly. Customers also tend to spend more time contacting the residency for booking and room details.

In this project, users can open the website and view room information easily. You could also query the availability of rooms before booking. The room booking details could be kept much

cleaner. Customer details, payment records, room status, check-in, and check-out details can be updated from the admin page whenever required. You also have a peak alert feature in the project.

HTML, CSS, JavaScript, Bootstrap, PHP, and MySQL are used for developing the project. The system reduces manual writing work and helps maintain records in a better way. Using this application makes residency management easier and more organized for daily usage.

II. LITERATURE SURVEY

Smart Residency Booking Organization is used for managing room booking activities through a website. In certain residencies, booking entries are written separately and maintained manually. This could lead to longer time to check room details and customer information.

Sometimes staff members may find it difficult to update booking records regularly. The management of the residency may also have difficulty to handle many booking records manually.

This project is developed to make residency management easier and more organized. Users can open the website and view room details before booking. Available rooms can also be checked through the system. Room booking details, customer information, and payment records are maintained through the website. Room details can also be modified whenever necessary. There is also a "peak alert" in the project which detects when there are high number of rooms in use. Check-in and check-out details are also maintained in the system.

III. PROPOSED SYSTEM

This proposed Smart Residency Booking Organization is a web based architecture which can provide an easy room booking and residency management. The system helps customers and administrators to manage the booking activities in a more organized and simple way. The project is developed in HTML, CSS, JavaScript, Bootstrap, PHP, MySQL.

The system begins with User Interface Layer where the customers can login into the website to see the details of the rooms, check the availability of the rooms and book the rooms. The entered information is then passed to the Application Server where PHP logic is used to process booking requests and control system operations.

Room Management Module Used to maintain Room details Room status Pricing information and availability updates. Booking Management Module: Manages booking records and customer reservation details. The Customer Management Module is used to store customer information for future reference and for managing bookings.

The system also has a Payment Management Module to track payments and generating receipts. A separate module is

maintained for check-in and check-out activities helps to update the details of room occupancy. The peak alert feature of the project will alarm when room occupancy is high.

All the records are stored in MySQL Database Module to maintain the room details, booking information, customer records and payment history. The system also permits the admin to generate reports and download receipts.

The Payment Receipt Module finally generates a receipt in PDF format, once the payment has been processed successfully. The details of the rooms are visible in the admin dashboard. Booking records are shown together with payment information. Everything seems to be accessed via the website interface.

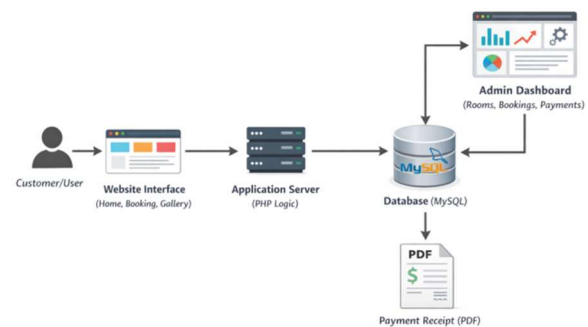


Fig. 1 System Architecture

Architecture of the Smart Residency Booking Organization is shown in Figure 1. The system has different modules that work together to manage residency activities in a simple and organized way.

The first section is the user side, which displays the details of the rooms, check and book the rooms by website interface. The details are entered and sent to the application server by the web site where the booking and management operations are done in PHP.

Room management section is used to manage the room details and availability. The database contains information of booking details and customer information for future reference. The admin dashboard helps to manage rooms,

bookings, payments, reports, check-in and check-out activities.

The MySQL database stores all important information about rooms, customers, bookings and payments. Payment receipts and reports are also generated by the system. The architecture facilitates, accelerates and streamlines the management of residency.

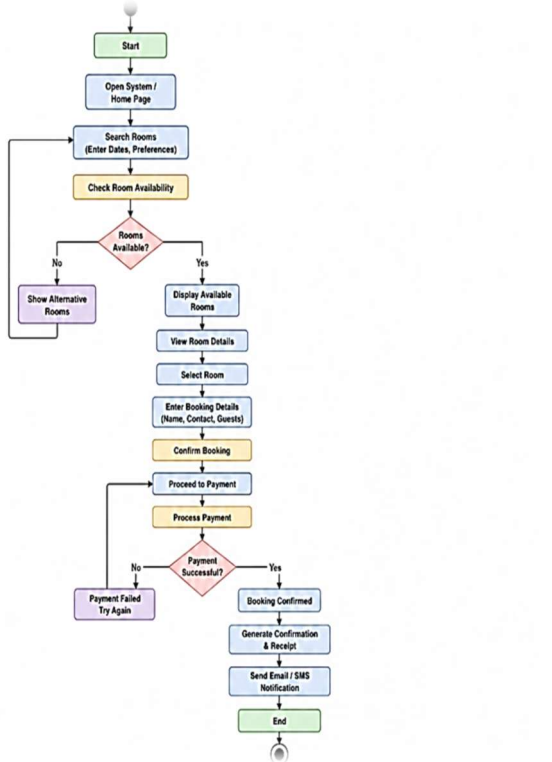


Fig. 1 Activity Diagram(User)

The user activity diagram shown in Figure 2 shows the booking process of the customers in the Smart Residency Booking Organization. The process starts when the customer opens the home page or a website. Guests can enter their booking details and check availability to search for rooms.

In case rooms are available then the system displays the available room details to the customer. The customer selects a room and fills in their booking details such as name, contact details and guest details. The user then confirms the booking and moves on to the payment section.

The job will also process the payment and check whether that running is successful. If the payment fails, then customer is allowed to retry

for pay. Upon successful payment your booking is confirmed and a booking receipt is generated. It can also send an e-mail or SMS notification containing the confirmation data.

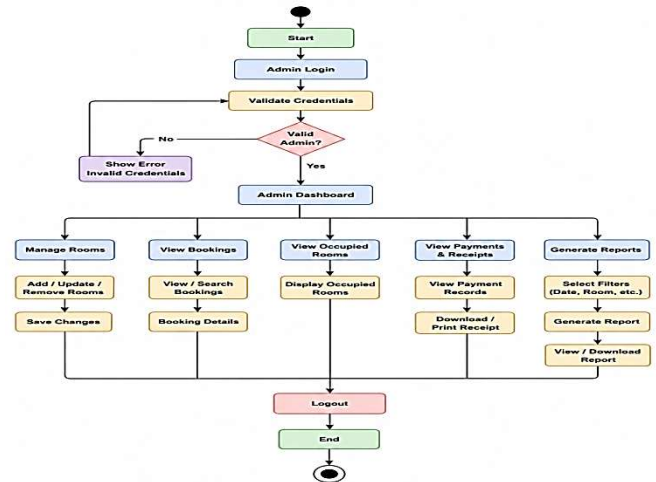


Fig 3: Activity Diagram(Admin)

The admin activity diagram shown in Figure 3 shows the activities done by administrator in the Smart residency Booking Organization. The beginning of the process is Admin login and credential validation. The system returns with an error message if the entered login credentials are wrong.

The administrator dashboard is rendered after successful authentication. Admin can manage the rooms, add/delete a room with information about booking and customers. It gives you insight into occupied rooms and room availability as well.

The admin section allows them to view their payment records and booking receipts. Admins can generate reports too. They base them on booking information and it seems room management functions play into it as well. It keeps the track of when you checked in and checked out. Once done with the required activities, admin can logout from the system.

IV. CUSTOMIZED REIDENCY MANAGEMENT APPROACH:

Smart Residency Booking Organization helps in managing the different activities of the resident based on user and admin perception. The system is not purely manual driven. Booking Information, room details and Customer record is all maintained on the website rather than writing them down. Such a method helps reduce confusion regarding booking and ensures easy room management.

V. CONTINUOUS SYSTEM IMPROVEMENT:

In the next few years, new technology and advanced features can be introduced in the system for improvement. Better if you add online payment gateway integration with some cloud storage and mobile application charms that will have a notification system. Frequent updates to enhance system dependability and reservation handling.

VI. EFFICIENCY AND SYSTEM PERFORMANCE:

Smart Residency Booking Your application helps in reducing the burden of manual work by managing residency and storing information about bookings effortlessly. It helps save time, increases booking accuracy and reduces the complications involved in managing rooms. The project is designed to make nightly residency operations easier for both the customers and the administrators.

VII. CONCLUSION AND FUTURE ENHANCEMENT:

Designing the Smart Residency Booking Organizational that makes room booking and managing residency more convenient through a web application. It helps decrease the amount of manual work required for maintaining record of booking and customers information. Given this framework, room availability, bookings, payments and check-in/ out activities can be operated more easily. The peak alert option can also help to recognize the increased room occupancy. This project is made using HTML, CSS, JS, Bootstrap, PHP with MySQL. In

summary, the system delivers benefits at multiple levels of the booking Management of residency activities is more streamlined for both customers meaning it makes these tasks much easier. In the future, we could implement support for online payment gateway and mobile application facilities. The system can also incorporate features like email alerts, SMS alerts, and QR-enabled check-in. Cloud storage integration and multi-factor authentication can also work to protect data better while improving performance on the system. Further, you can add functionalities which make residency management more hassle free and easy for users.

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