

# CENTRALIZED MODULAR APPLICATION FOR HOTEL

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**Abstract** - The goal of this application is to overcome the drawback of traditional queuing systems. The system we propose is a medium for ordering and verifying food online without the hassle of restaurants and weighing services. This system will improve the way customers order. The system offers menus online so customers can easily order according to their preferences. Even if you have a menu, customers can easily track their orders. The system also provides a feedback system that allows users to rate the food, hotel room services and other hotel facilities. In addition, the suggestion system recommends hotel staff of improvements and quality. The customer can pay online or pay with cash. A separate account is maintained for each user by providing an ID and password for more secure ordering and booking. Increased global competition, consumer demand and needs, quality and quality control have become fundamental strategic factors for achieving profitability and competitiveness in the ever-changing tourism market.

**Key Words:** Transactions, centralized, reviews, customer, admin

## 1. INTRODUCTION

With the rapid development of computer, control and communication technology, intelligent control and management of hotel rooms has become a hot field. [6] A centralized modular application is more than just an order checker, it is also a business intelligence system that handles both business needs and customer requirements. Also, the order processing part checks all the orders and creates an order queue so that the orders can be processed properly. As a service provider, you need an easy way to engage hotel customers and manage their day-to-day activities. This is currently done with a lot of paperwork and phone calls that are inefficient and waste time and effort.

For a solution, you can get information technology support. A web-based system is introduced to overcome these problems and improve coordination between internal and external users. The proposed web-based system will help handle the core operations of hotels and many other establishments. The web-based hotel management system allows external users to easily connect and make inquiries to the hotel, book rooms with

advanced facilities such as special packages, room types, related services, and much more. Internal users, web-based system. [5]

The Centralized Modular Application is a system that allows you to book rooms and browse online to see if a room is available. This project will reduce expense report errors and late customer invoices. There is a function to reduce mistakes when creating invoices. This software allows you to order reservations online. Website users can also search for hotels, view room availability, check room availability, and make real-time reservations. We are working on it. We are also helping as many venues as possible to reopen smoothly and welcome guests in a safe environment.

A centralized, modular application gives your customers and employees a frictionless digital menu experience. Smarter Menu was created to make our lives easier. QR Code Scan Smarter Menu offers customers a new way to check groceries faster and easier. They provide a QR code to check the menu. This allows customers to make payments without risking their safety. Smarter Menu provides QR code menus for restaurants to give your customers a better experience. Customers can view menus and pay directly from their table. Customers can book hotel rooms in advance and check if the rooms are available. Choose between airconditioned or non-airconditioned rooms depending on your comfort.

## 1.2. Overview

A centralized modular application, a system built with HTML, CSS BOOTSRAP, and JS, manages the entire hotel activity and provides appropriate functionality for different types of visitors. QR code scanning menus offer customers a new way to check groceries faster and easier. We have prepared a QR code that allows you to check the menu, so you can pay without risk. A separate database is maintained to handle all the details of the transactions.

This project aims to make various activities such as updating, maintaining and retrieving records more accessible. Only authorized users can get the easily accessible information they need from the file. The main goal of the entire system is to automate the process of keeping track of hotel data, customer data and other related transaction data all in one place. [3]

## 2. LITERATURE SURVEY

The literature review considers and surveys the work of other scholars and researchers who have addressed this particular topic (Centralized Modular Application). The development of internet technology has changed the way travelers travel. This paper takes the data of more than 140,000 Chinese reviews of 5-star hotels in Chongqing as the re-search object of "Trip.com Group" and uses machine learning algorithms to perform topic mining and sentiment analysis. Analyze customer needs and preferences accordingly. Features of online review texts. The study will help travelers reduce risk when making purchasing decisions and will serve as an important reference for hotel managers to implement their management and marketing strategies. (Yutong Lu; Yanling Huang; Haitao Yu; Yu Lan 2022).[2]

Billing software systems should include additional features that increase awareness of restaurant services by enhancing the consumer's experience across the grocery chain. This allows customers to log into their accounts, access rewards, place orders and fully recharge along with payment options. "The goal of this initiative is to change the traditional way restaurants order. In the era of Covid-19, everyone wanted contactless service. Access and order food contactless. Digital menu cards help bridge the communication gap between waiters and customers, ensuring the correct order is taken. It's also less likely that an order will be mixed up with another table." (Namrata Singhal, E. Kongbel 2022)[1]

According to Dukare Siddhesh Sudam and Bhalerao Akanksha Santosh (2022), the purpose of an integrated hotel management system is to make the system easy to use for both managers and customers. Administrator needs to notify customers of hotel room availability, and customers should be able to check if there are rooms available at a particular hotel. Customers should be able to book available hotel rooms in advance according to their needs to make their stay more comfortable. [4]

"Through this system, you will be able to manage various functions such as booking rooms and halls, ordering meals, managing employees and suppliers, etc. Using React JS, Express JS, Node JS and Mongo DB, I am planning to develop this web application. This system will address the problem of hotel management and avoid the problems that occur when performing tasks manually. The main goal of this whole process is to make this system today. This online hotel management system can therefore provide a more user-friendly and GUI-focused experience to better serve your hotel to both near and far customers. It was developed to provide a more practical, well-organized and fast way to process things." (W.P.S.W. Weerasinghe, K.D. MI Jayatilaka, W.V.C. Prasadi, M.D.K.M. Goonetilleke, D.I. De Silva, Piyumika Samarasekara 2022)[10]

"As competition among hotels intensifies, it is a wise choice to improve hotel management and implement information construction. Developed in . This system has the functions of reservation, checkout and billing. With this system, you can manage hotel rooms conveniently and quickly, so that the processing efficiency is greatly improved and the management is more modern." (Wei Wei ; Zhengwei Lou , 2019).[7]

## 3. METHODOLOGY

### 3.1. Existing System

The food and beverage industry is currently a rapidly growing industry. Grocery is a basic need, so there is no shortage of customers in the industry. However, in restaurants with a large customer base, it can be very difficult to keep the customers satisfied as the restaurant is overwhelmed.

Rush can lead to wrong orders being served to customers and more likely to lose your customer base due to poor customer service. The order processing part does not take into account all orders, causing problems with the order of serving the tables in hotel or online mode. Customer do not have clear idea of the room situation as all the data the receptionist provided to the customer was based on paper work and not updated automatically.

### 3.2. Proposed System

The goal of the proposed system is to eliminate manual record keeping and introduce electronic record keeping to ensure that proper records of transactions are maintained. This system is committed to providing customers with better service, providing employees with a more convenient and efficient way of working and a better room management platform.

The system into two modules: ordinary users and systems administrators. Different identity users can use the different features that the system is open to.

#### 3.2.1. User Module

This module is used by ordinary users, new users must first register account and then log in to the system to access their account[8]. Users must be authenticated, and only enter the correct user information in line with system requirements.

The user can view information about hotel like, number of available rooms, types of room and their costs. User can access details about the hotel like its location, email and phone number to ask queries. They can also see the feedback provided by various users who have experienced the services of the hotel.

QR menu can be accessed by scanning the QR code. The logged user can see their transaction history as well as current payment details. They can also see the table available to dine and book tables according to their preference. The user can request for quotation.

The logged user can access their profile information provided by them while registering to the system. The profile information can be updated by the user according to their convenience. All these features enable the user to access all the facilities provided by the hotel with ease. The Figure below shows all the features and facilities user can access.

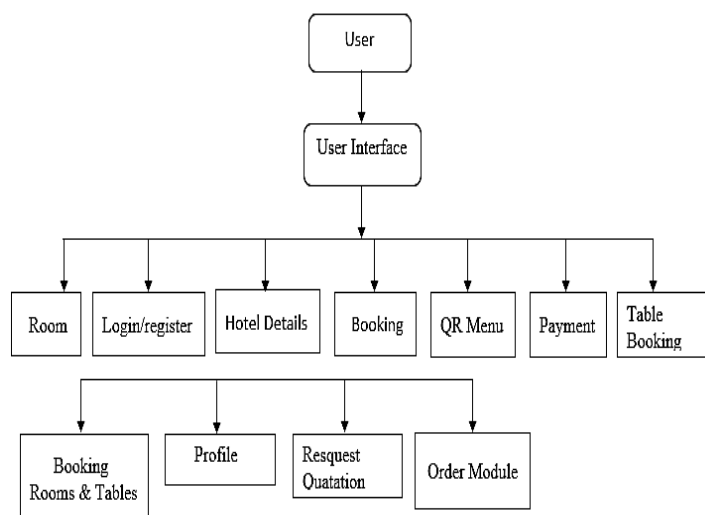


Figure 1. User flow diagram

### 3.2.2. Administrator module

The system administrator can perform related operations on the guest room information, or handle the check-out, etc. This module manages all the users who login to the system, and performs operations on the information added by the ordinary users and administrators.

The admin can update the information about hotel rooms and their availability. They can update table information that is, add or delete tables or edit tables. They can manage payment information in the database; can manipulate food information. Access of all the databases is limited to the administrator of the system, so the data is secure. The figure below shows the admin dashboard and the features that admin can access and manipulate.

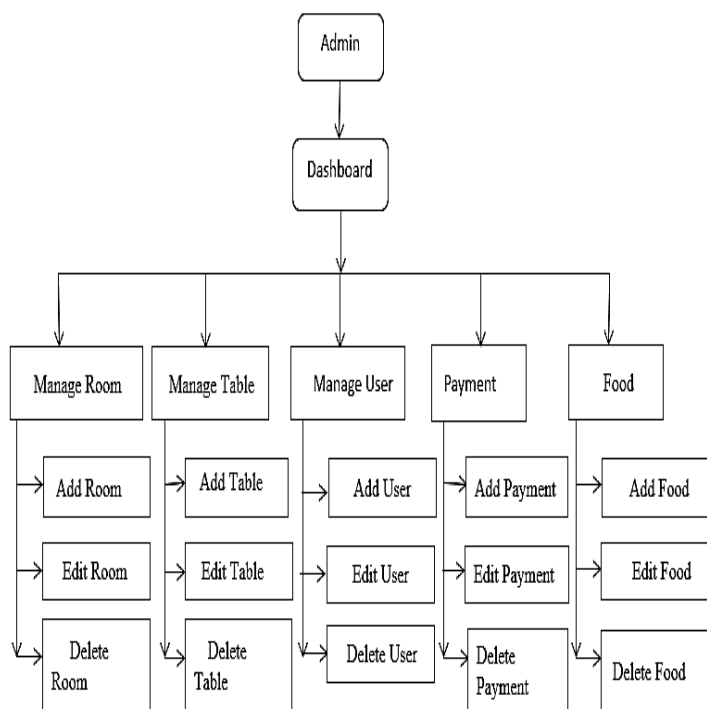


Figure 2. Admin flow diagram

## 4. ADVANTAGES

It provides adequate record keeping; to eliminate manual record keeping and install an electronic record keeping thereby ensuring adequate record of transactions are kept. [9] This ensures a centralized system where all the data and information you need can be easily accessed, tracked and monitored. It provides maximum accountability and minimises wastage of time and resources. Increases profit line for the organization; when there is proper management of resources this will enable increased profit line for the organization. Reduced time consumption; the web application will enhance the search facility whereby users of the system can search for all kinds of data using various criteria.

This application will be very handy to the user as well, it will automatize the work such as gathering information, gathering Hotel Staff information, food ordering and Hotel administration in general. The application also helps in removing data redundancy as the database is maintained properly. Overall with the centralized system all necessary data and information can be accessed easily.

## 5. CONCLUSION

In order to improve management methods and practices and regularly improve the quality of work, hotel computer management operation has become a very important task. A centralized modular application is a system that allows you to book rooms and check if a room is available using online browsing. Also, the order processing part checks all the orders and creates an order queue so that the orders can be processed properly. Through this project, we will reduce expense invoice errors and reduce delays in getting invoices to customers. It has features that reduce errors when creating invoices. It has a simple and beautiful interface Overall centralized, modular application gives your customers and employees a frictionless digital menu experience.

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