Smart Restaurant Management Application

Ms.N.Anu Lavanya[1], Mr.S.Sanjay Narayanan[2], Mr.A.Praveen[3], Mr.A.Tamil Selvan[4]
[1]Assistant professor, Dept of Computer Science Engineering
[2, 3, 4]Dept of Computer Science Engineering
[1, 2, 3, 4] SSM Institute of Engineering and Technology, Dindigul.

Abstract- *The restaurant industry is one of the most dynamic industries that has seen significant growth over the years. With the increasing number of customers visiting restaurants, it has become challenging for restaurant owners to manage their operations effectively. Inefficient management can lead to customer dissatisfaction and loss of revenue. The Smart Restaurant Management Application is a proposed project that aims to streamline the restaurant management process by introducing a mobile application. The app will enable restaurant owners to manage their menu items and orders in a more efficient manner. On the other hand, customers can place their orders and make payments through the app. The proposed system will provide a convenient and accessible platform for restaurant owners and customers to manage their operations and orders. The system will improve the ordering process, reduce wait times for customers, and increase the table turnover for restaurant owners. Furthermore, the system will ensure the security and privacy of user data by utilizing encryption mechanisms to protect user data and prevent unauthorized access. Overall, the Smart Restaurant Management Application will bring significant benefits to the restaurant industry, revolutionizing the way restaurant owners and customers manage their operations and orders.*

Keywords- Smart restaurant, Front end: PHP, Back end: MY SQL

I. INTRODUCTION

An online food ordering system is a software application that enables customers to order food through a mobile app. It is an innovative way for restaurants to offer their menu items to customers and for customers to place their orders digitally. The system allows customers to easily browse menus, select items, customize orders, and pay for their food online. One of the benefits of an online food ordering system is that it streamlines the ordering process. It eliminates the need for customers to call in orders or wait in line, reducing wait times and increasing customer satisfaction. The system also allows restaurants to manage their orders more efficiently, reducing errors and improving order accuracy. Another advantage of online food ordering is that it provides a convenient and hassle-free way for customers to order food from their favourite restaurants. Customers can browse menus and place their orders from the comfort of their own home or office, at any time of the day or night. They can also easily track their orders and receive notifications when their food is ready for pickup or delivery. In addition, online food ordering systems offer a range of benefits for restaurants. They provide a cost-effective solution for managing orders, as they reduce the need for staff to take orders over the phone or in person. They also allow restaurants to expand their customer base by offering their menu items to a wider audience. Overall, online food ordering systems are becoming an essential part of the food industry, offering a faster, more accessible, and more convenient way of ordering food. They provide a range of benefits for both customers and restaurants, making them a valuable addition to any restaurant's operations. The system will provide a convenient and hassle-free way for customers to place orders, reducing wait times and errors. It will also help restaurants streamline their operations and expand their customer base, ultimately increasing revenue. The system will provide valuable data on customer ordering habits and preferences, allowing restaurants to make informed decisions about their menu items, pricing, and marketing strategies.

II. LITERATURE SURVEY

[**1**] V.SriharshaMajety.has introduced Swiggy

In 2015You want to eat at your favorite restaurant. Still, you have the usually tedious task ahead of you – from getting ready to arrive at the restaurant through modern-day traffic to waiting for your table. You make the unexpected decision to cancel your dining out plans and instead eat at home. Food ordering options are available, but you must still pick them up from the restaurant. As a result, eating at home often appears to be a better option after a long day at work. But then there is an app that comes to your rescue every time! The brand wants to ensure that no part of your meal is missing. The brand that comes to your aid whenever hunger tests your patience. The brand wants to ensure you don't miss out on any of your precious moments. The brand allows you to keep track of everything with a single tap. The brand not only looks after its customers but also its employees. They understand that there is a lot in a name.

[2]S.Pieska,M.Liuska has introduced Smart restaurant System in 2017 The Touch Pad allows customers to send food orders directly to the kitchen. Each table has its own image projector, projecting the menu on the table allowing customers to make an order by touching the table surface.This system increases quality and speed of service. This system also increases attraction of place for large range of customers. Implementing this system gives a cost-efficient opportunity to give your customers a personalized service experience. The main objective of this project is to make the ordering system of restaurant digital and effective. People would not have to wait for ordering the food and any kind of booking services which will be eliminating delay in services.

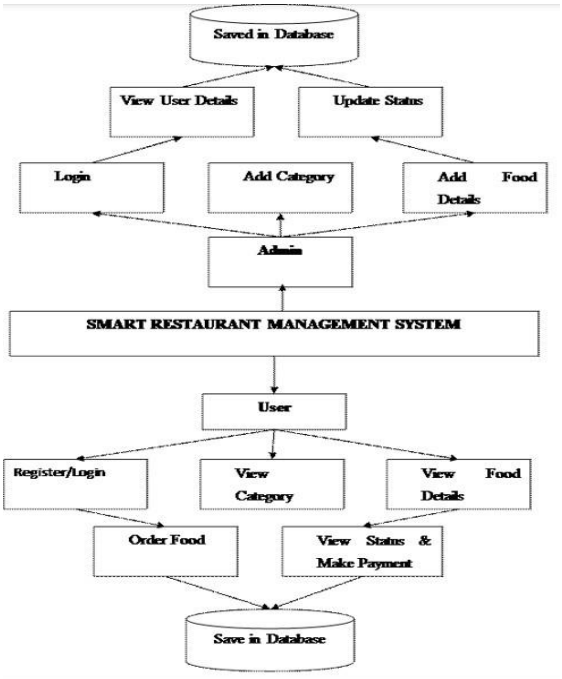
III. PROPOSED SYSTEM

A proposed system for a smart restaurant management system would include several key components and features designed to address the problems mentioned earlier. Here are some of the key features that could be included: Mobile ordering and payment: The system could include a mobile app that allows customers to order and pay for their meals directly from their smart phones. This would reduce wait times, increase order accuracy, and enhance the overall customer experience. Automated order management: The system could use advanced algorithms and machine learning techniques to automatically manage orders, including routing orders to the appropriate kitchen stations and updating order status in real-time. Inventory management: The system could include inventory management tools that allow restaurant owners and managers to track inventory levels in real-time, set reorder thresholds, and receive alerts when inventory levels are low. Overall, a smart restaurant management system would aim to automate and optimize various aspects of restaurant operations, resulting in increased efficiency, profitability, and customer satisfaction.

ADVANTAGES

- Improved Efficiency
- Cost Savings
- Enhanced Customer Experience
- Improved Communication

SYSTEM ARCHITECTURE



IV. MODULE DESCRIPTION

Restaurant

- Login
- Add Category
- Add Food Details
- Update Status
- View User Details

Customer

- Register
- Login
- View Category
- View Food Details
- Order Food
- View Status
- Make Payment

Restaurant

Login

Restaurant owner can log in using their unique credentials, which they would have received upon registration. The login page will require the restaurant's username and password to access the system.

Add Category

Add category name, such as "Vegetarian" or "Non-vegetarian." Once the category name is entered, they can save the category to add it to the system. The new category will now be available for the restaurant owner to add food items to it.

Add Food Details

This module includes details such as the food name, description, category, price, and any additional options such as size or add-ons. The restaurant owner can also upload an image of the food item to make it more visually appealing to customers.

Update Status

In this module, Once an order is received, the restaurant can update the status of the order to indicate its progress, such as "Order Received," "Preparing Food," "Cooking," "Ready for Delivery," or "Delivered."

View User Details

It allows the restaurant owner to access and manage customer information. This feature can help the restaurant to improve customer service and tailor their offerings to meet the needs of their customers.

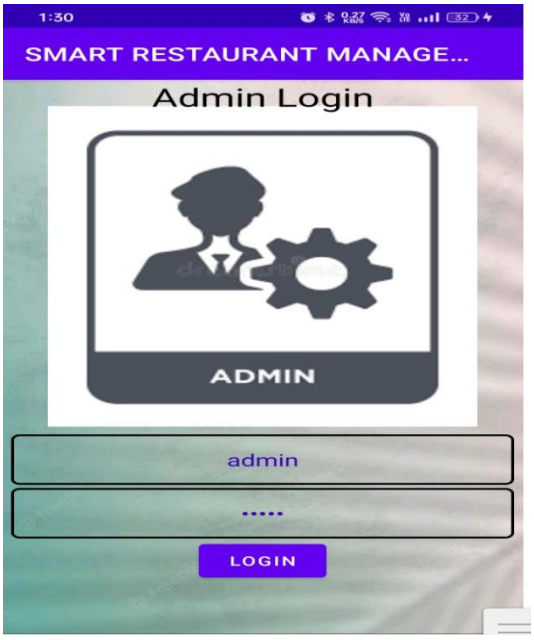


Fig.1: Admin Login

Customer

Register

To register as a new customer, the user can navigate to the registration page and enter their personal information such as their name, email address, phone number, and address. They will also need to create a unique username and password to access their account.

Login

To log in as a customer, the user can navigate to the login page and enter their username and password. Once they have entered the correct credentials, they will be directed to their account dashboard.

View Category

To view the available categories, the customer can log in to their account and navigate to the menu section. From there, they can select the category they are interested in, such as "vegetarian," "non-vegetarian," or any other category created by the restaurant owner.

View Food Details

Using this module, customers can view the details of a specific food item, including its description, price, and any other relevant information.

Order Food

To order food, the customer can log in to their account and navigate to the menu section. From there, they can select the category of food they are interested in and browse the available items. Once they have selected the desired food items, they can add them to their cart and proceed to the checkout page.

View Status

To view the status of their order, the customer can log in to their account and navigate to the order history section. From there, they can select the relevant order and view its current status, such as "Order received," "Preparing," "Out for delivery," or "Delivered."

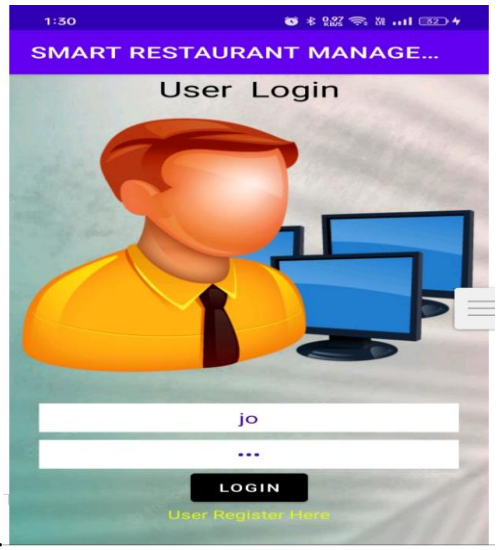


Fig.2: User Login

Make Payment

Once the customer has selected their desired food items and proceeded to the checkout page, they can select their preferred payment method, such as credit card, mobile wallet, or cash on delivery. If the customer chooses to pay online, they can enter their payment details securely

Testing:

The philosophy behind testing is to find the errors. A good test is one that has a high probability of finding an undiscovered error. A successful test is one that uncovers the undiscovered error. Test cases are devised with this purpose in mind. A test case is a set of data that the system will process as an input.

Fig.3: Food Details

V. CONCLUSION AND FUTURE WORK

Conclusion:

In conclusion, a smart restaurant management system can provide numerous benefits to restaurant owners, managers, staff, and customers. By leveraging advanced technologies such as mobile devices, cloud computing, and artificial intelligence, these systems can automate and streamline various tasks such as order management, inventory management, and staff scheduling, leading to increased efficiency, accuracy, and profitability. Moreover, smart restaurant systems can also enhance the customer experience by providing features such as mobile ordering and payment, customer feedback and loyalty tools, and real-time order status updates, resulting in increased customer satisfaction and loyalty.

Future Work:

In future work, there are numerous ways in which smart restaurant systems can be enhanced in the future. By leveraging advanced technologies and incorporating new features and capabilities, these systems can help restaurants to optimize their operations, increase revenue, and improve the overall dining experience for their customers.

REFERENCES

[1] Conder, Shane, and Lauren Darcey. Android Wireless Application Development: Advanced Topics. Vol. 2. Addison-Wesley Professional, 2012.
[2] Hsiao, Kuo-Lun. "Android smartphone adoption and intention to pay for mobile internet: Perspectives from software, hardware, design, and value." Library Hi Tech 31.2 (2013): 216-235.
[3] Jackson, Wallace, and Kunal Mittal. Android apps for absolute beginners. Apress, 2011.
[4] Murphy, Mark L., and Grant Allen. Beginning Android. Vol. 6. Apress, 2009.
[5] R.M. Wahul, B.Y. Pawar “Mobile payment based Android baesd Applications for Android Phone”. International Journal of Innovative Science and Modern Engineering (IJISME) ISSN: 2319- 6386, Volume-3 Issue-6, May 2015.
[6] Reto Meier, “Professional Android Application Development" Wiley Publishing Inc., 2009.
[7] Satya Komatineni, “Pro Android" - Apress Publications, 2009.
[8] Wallace Jackson's (2011) "Android Apps for Absolute Beginners" Apress Publications.

[9] Yarger, Randy Jay, et al. MySQL and mSQL. O'Reilly & Associates, Inc., 1999.
[10] Greenspan, Jay, and Brad Bulger. MySQL/PHP database applications. John Wiley & Sons, Inc., 2001.