Smart Menu Card Using QR Code

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Abstract - *This proposed project uses a digital menu card, which has many advantages over the conventional approach, in place of physical menu cards. The user experience of how modern people order food will be significantly improved. We have developed a mobile application that offers users a straightforward user interface and lots of options when placing food orders. The clients of the consumer and the management of the restaurant will each have a unique set of interfaces. Then, using a straightforward interface, they can quickly browse the menu and choose the food of their choosing. Unlike paper menu cards, the restaurant personnel may easily change the offered dishes. This eliminates confusion and considerably increases efficiency. Once the food has been delivered, customers have the option to pay using a mobile API. They can keep track of payments for and orders for meals on the restaurant side of things. Both the user's and the restaurant staff's experiences will be significantly enhanced by this system. The system contains real-time updated digital menu cards for every restaurant in the database. This enables customers to choose meals in accordance with their preferences and gives users an overview of the foods that are offered in all eateries. The application will fundamentally alter the hotel sector.*

Key Words: User Interface, QR Code, Mobile API, Digital Menu Card

1. INTRODUCTION

A smart menu card system using QR code is a modern way of providing menu information to customers in restaurants, cafes, and other food establishments. The system works by generating a unique QR code for each table or customer, which can be scanned using a smartphone camera. Once scanned, the QR code directs the customer to a digital menu that can be accessed on their device. The digital menu typically includes images and descriptions of the dishes, as well as pricing. Customers can easily browse the menu and make their selections without the need for physical menus or interaction with a waiter or waitress. The hotel sector will make a significant technological advance with the completion of this project. This will make using the app to order food easier and better. The app will have a fantastic user interface, and ordering food will be quite simple. This will facilitate speedy payments through the app's built-in net banking features. Once effectively

implemented, it will save expenses for the restaurants and draw clients by offering tempting menu prices. Additionally, the menus will be updated in real-time, making users aware of any modifications made to the menu by the staff. The software will transform the outdated practice of placing orders using paper menu cards for the benefit of both customers and restaurant personnel.

1.1 Advantages

1. Contactless ordering: With a smart menu card system, customers can scan a QR code with their smartphone and view the menu without touching a physical menu card or interacting with a waiter. This eliminates the need for physical contact and reduces the risk of transmission of germs.

2. Increased efficiency: A smart menu card system can make the ordering process more efficient by allowing customers to place their orders directly from their smartphones. This can reduce wait times for customers and improve table turnover for restaurants.

3. Improved customer experience: A smart menu card system can provide customers with more information about the dishes, such as ingredients. This can help customers make more informed choices and provide a better overall dining experience.

4. Easy to update: A smart menu card system is easy to update, which means that restaurants can quickly make changes to the menu without having to reprint physical menus. This can save time and money for restaurants and ensure that customers have access to the most up-to-date menu.

5. Marketing opportunities: A smart menu card system can provide restaurants with opportunities to market their dishes and promotions to customers. For example, restaurants can include pictures and descriptions of their specials or offer discounts to customers who scan the QR code.

2. MOTIVATION

Developing a smart menu card system using QR codes can benefit both customers and restaurant owners, providing a convenient and efficient dining experience while also improving cost-effectiveness and data insights. The primary objective of our design proposes that instead of physical menu cards, we can use a digital menu card that will provide a numerous advantage over the traditional system. It will greatly improve the user experience of the way modern people order food. We propose to build a mobile application that provides simple UI and great flexibility to users to order their food.

The objective is to create different set of interfaces for the consumer's clients and the restaurant management. Once the user logs in, he/she is to select the restaurant they are in. Then they can browse through the menu easily through a simple interface and select their choice of dish. The available dishes can be updated easily by the restaurant staff unlike the paper menu cards. This greatly improves efficiency and removes confusion. Once the food is delivered clients can choose to pay through mobile API.

On the restaurant side of things, they can keep track of food orders and payments. This system will greatly improve the experience of both the user and the restaurant staff. There will also be a common interface for all the restaurants. The user just has to select the particular restaurant outlets. To ensure that the app has the digital menu cards of all the restaurants in the database which will be updated real time. This allows the user to get an idea about the dishes available in all restaurant.

3. PROBLEM STATEMENT

Traditional restaurant menus have been widely used for a long time, but they can pose several issues such as contamination, maintenance, and lack of flexibility. With the current COVID-19 pandemic, the issue of contamination has become even more significant, with the need to minimize contact between people and objects. Therefore, there is a growing demand for a smart menu card system that can provide a contactless and efficient solution. One possible solution is to implement a smart menu card system using QR code technology. This system can allow customers to access the menu using their smartphones by scanning the QR code. It can eliminate the need for physical menus, reduce contamination risks, and allow for more flexibility in updating the menu. Competition in the restaurant business has increased with advances in food ordering techniques. The traditional food ordering system is a completely manual process that involves waiters, pen and paper contain errors in both writing down orders and making calculations which makes it difficult to track the sales record. Therefore, the problem statement is how to design and implement a smart menu card system using QR code technology that can provide a cost-effective, reliable, and user-friendly solution for restaurant owners and customers alike.
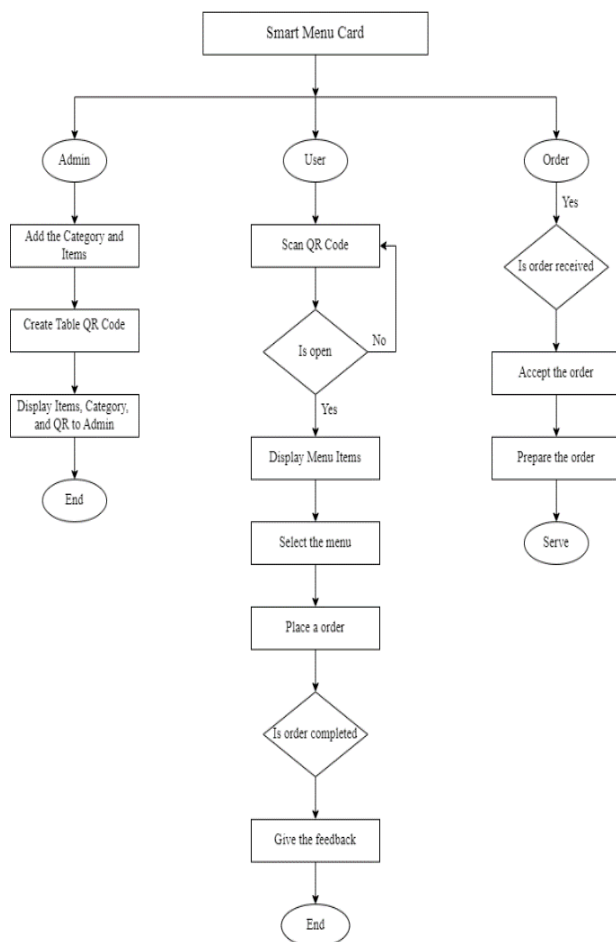
4. PROPOSED SYSTEM

Our proposed system uses a digital menu card, which has many advantages over the conventional approach, in place of physical menu cards. The user experience of how modern people order food will be significantly improved. We propose creating a mobile application that offers users a straightforward user interface and lots of options when placing food orders. For the restaurant management and the consumer's clients, there will be various sets of interfaces. The user must choose the restaurant they are currently in after logging in. Then, using a straightforward interface, they can quickly browse the menu and choose the food of their choosing. Unlike paper menu cards, the restaurant personnel may easily change the offered dishes. This eliminates confusion and considerably increases efficiency. Once the food has been delivered, customers have the option to pay using a mobile API. They can keep tabs on payments and food orders for the eatery. The system contains real-time updated digital menu cards for every restaurant in the database. This enables customers to choose meals in accordance with their preferences and gives users an overview of the foods that are offered in all eateries. The application will fundamentally alter the hotel sector.

1. Menu Creation: The first step is to create a digital menu. This can be done by creating a website or mobile app that displays the menu items, their descriptions, prices, and images. This menu should be easily accessible and editable by the restaurant staff.

2. QR Code Generation: Once the digital menu is created, QR codes should be generated for each menu item. These codes can be generated using a QR code generator tool, which will allow you to customize the design and information encoded in the QR code.

3. QR Code Display: Once the QR codes are generated, they can be printed and displayed at each table or provided to customers as part of a take-out or delivery order.

4. Customer Scanning: Customers can then use their smartphones to scan the QR code at their table or on their order, which will take them directly to the digital menu on the restaurant's website or app.

5. Ordering and Payment: Customers can browse the menu, select items, customize their orders, and place their order directly through the digital menu. They can also pay for their order using a payment gateway integrated into the website or app.

6. Order Confirmation: Once the order is placed, the restaurant staff will receive a notification and can confirm the order details.

7. Order Preparation and Delivery: The restaurant staff will then prepare the order and deliver it to the customer's table or pack it for take-out or delivery.
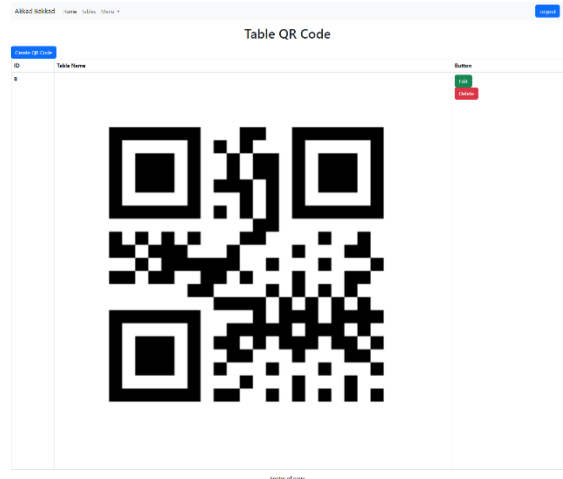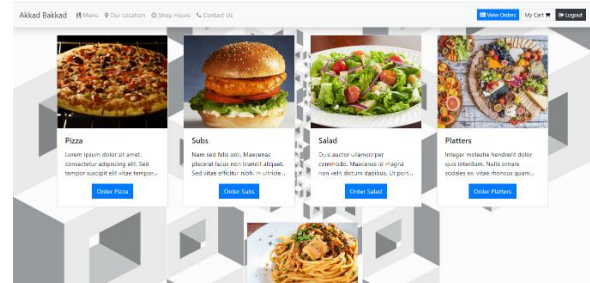

Fig 2: System QR Code Generator

Fig 3: System Homepage

6. CONCLUSION

The hotel sector will make a significant technological advance with the completion of this project. This will make using the app to order food easier and better. The app will have a fantastic user interface, and ordering food will be a breeze. This will also make it easier to send rapid payments using the app's built-in net banking features. When effectively implemented, it will save expenses for the restaurants and draw clients by offering tempting menu prices.

People will greatly benefit from this software because it allows them to access restaurant menus from anyplace. Additionally, the menus will be updated in real-time, making users aware of any modifications made to the menu by the staff. The software will transform the outdated practice of placing orders via paper menu cards for the benefit of both customers and restaurant personnel.

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Fig 1: System Flowchart

5. RESULT

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