

Food Kiosk: Smart Food Ordering System for Restaurants.

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ABSTRACT

The project is Food Kiosk: Smart Food Ordering System for Restaurants. The purpose of this project is to develop a computerized and mobilized food ordering system that can be used to revolutionize the traditional ordering system which is currently carried out in majority of the food and beverage industries. The manual ordering system which means all work and procedures are recorded manually and it also includes huge amount of paper work that is not effective and efficient. This causes the business to encounter trouble regarding human error due to the huge amount of manual work that is being operated in business routine. Thus, this computerized and mobilized food ordering system is designed to assist the business routine in term of having better management as well as easier to handle daily business operation. The accentuate feature of the system is it does not limit the ordering procedures to desktop as portability and adaptability is the current trend. 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 where they are in control choosing what they want, when they want it from dining to ordering to payment and feedback with the help of trending technologies like internet of things, Cloud computing etc.

Keywords: Food Kiosk, Smart Food Ordering, Cloud Computing

I. INTRODUCTION

The main goal is to maintain the restaurant's functions in an effective and accurate manner and also to reduce the use of manual entries. Manual errors occur on daily basis in traditional method followed by the restaurants. Digital system can reduce these errors as the order is placed digitally. Food ordering through application reduces the requirement of manual labor as simultaneous orders can be handled easily with just a single click and it also reduces the queue at the counter for billing as the bill is directly generated by application. Touch screen is the latest technology and the applications work well with it rather than the professional keypad based systems. Three related concepts are encompassed by the general scope of the Restaurant Menu and Ordering System. The first pertains to the replacement of paper based menus using an electronic format, the second relates to a complementary electronic strategy for the front of house handling of a customer's order and the third surrounds the process of transferring said electronic orders to the kitchen for preparation. It should be noted that while the suggested strategy incorporates the use of various hardware components, the primary focus of the presented SRS relates to the constituent software elements. The following are the features which can be a part of the proposed system: Ordering, Waiting, Billing, Table Reservation, and Home Delivery.

II. STATEMENT OF SCOPE

- In view of the rapid development of computer technology in almost all the fields of operation and its use in relation to information management, it has become important to look into the development of online ordering system for firms to meet up with demands of the customers.

III. PROPOSED ARCHITECTURE

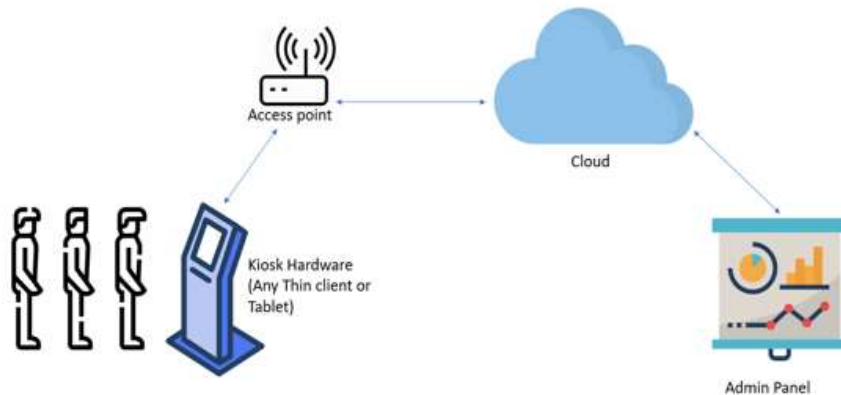


Figure 1 - System Architecture

The objective of this proposed system is to make an electronic device integrated with biosensors that can detect food spoilage. The use of sensors that can measure different parameters of food like TVOC, ethanol, and methane level. The block diagram below shows the model of the device. The device consists of a microcontroller ESP32, electrical and biosensors like TVOC sensor, MQ135 sensor, and ethanol gas sensor. The proposed solution senses TVOC level, Ethanol, harmful gases in related food. Sensor monitors the food quality. TVOC and ammonia sensors measure the TVOC and ammonia content for particular food item. Machine learning model uses trained model to predict if the given food item is spoiled or not based on the TVOC and ammonia content. ESP32 (microcontroller) sounds a buzzer when it encounters a spoiled food item. This data is sent to a cloud platform. Number of spoiled food occurrences can be monitored and machine learning model can be deployed again to predict average shelf life of given food items.

IV. PROPOSED ALGORITHM

In this system customer orders the food by using android based touchpad. Fig. 1. Shows the algorithm for the proposed system. Customer first orders the food from the touchpad looking at various combination of food which is further carried to the kitchen for fulfilling the order and the same is passed for billing at the each customer's tablet. This proposed system presents an automated food ordering system with-real time customer feedback. This system is convenient, effective and easy thereby improving the performance of restaurant's staff. It will also provide quality of service and customer satisfaction. Overall conclusion is that, this is a fabulous food ordering system for the restaurant sector, made by combining the Android and Wireless technology.

V. RESULT

FIGURE 1

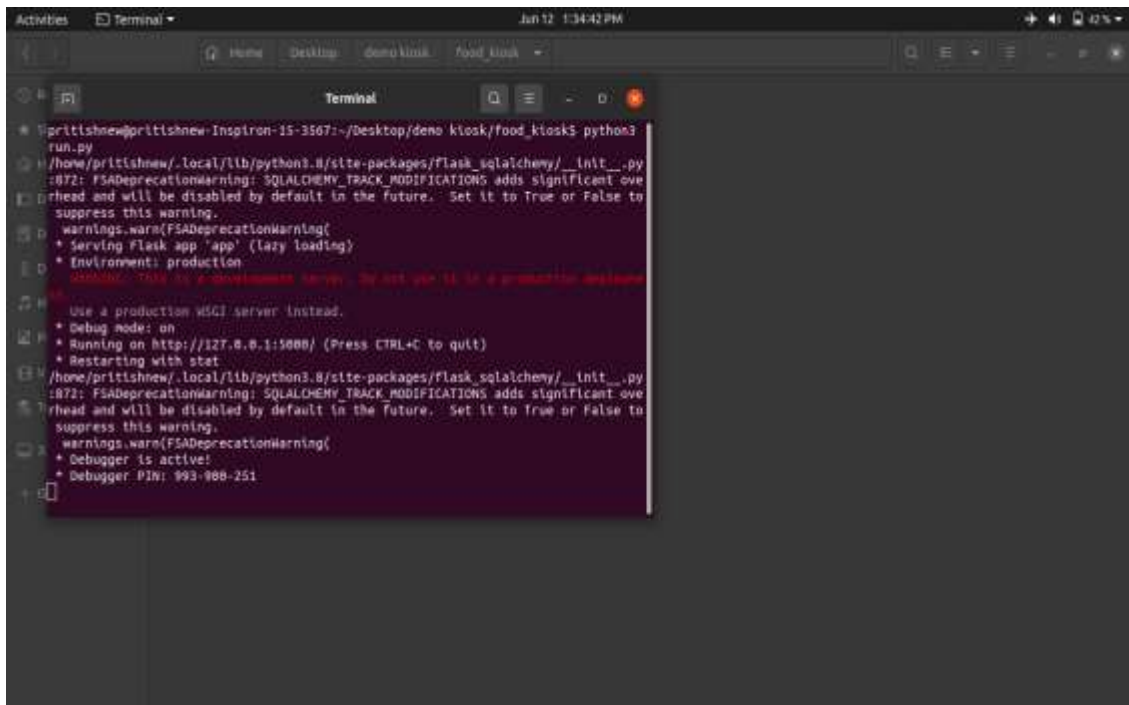


Figure 2 - Main Page



Figure 3 - Restaurant List

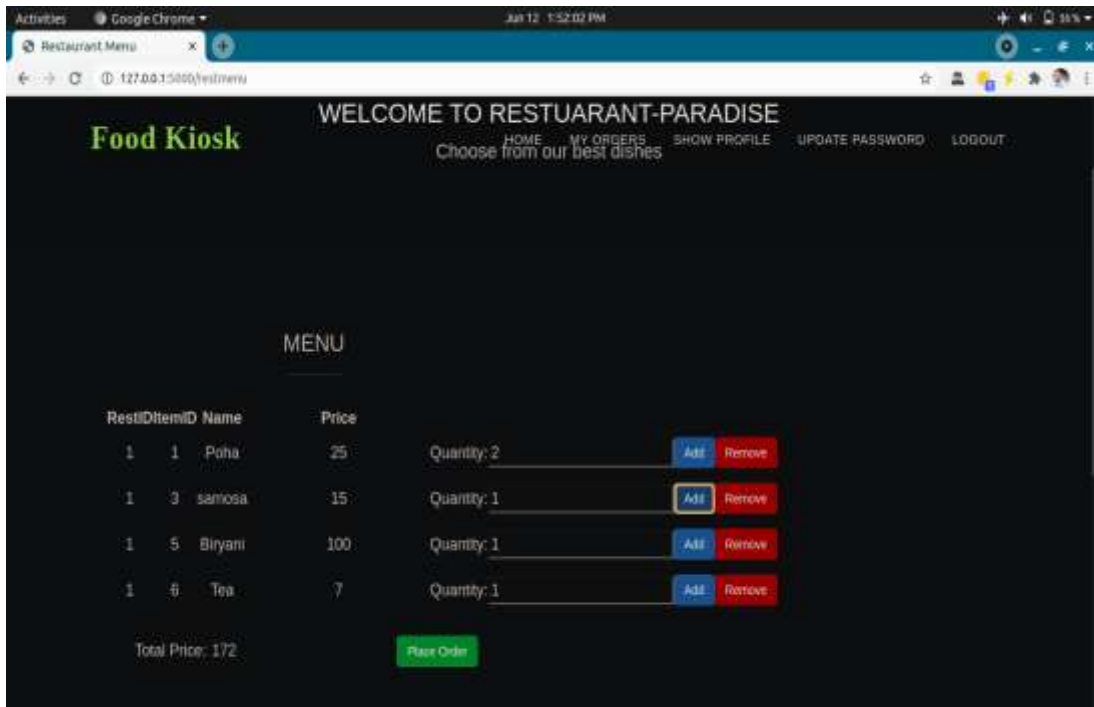


Figure 4 - user order

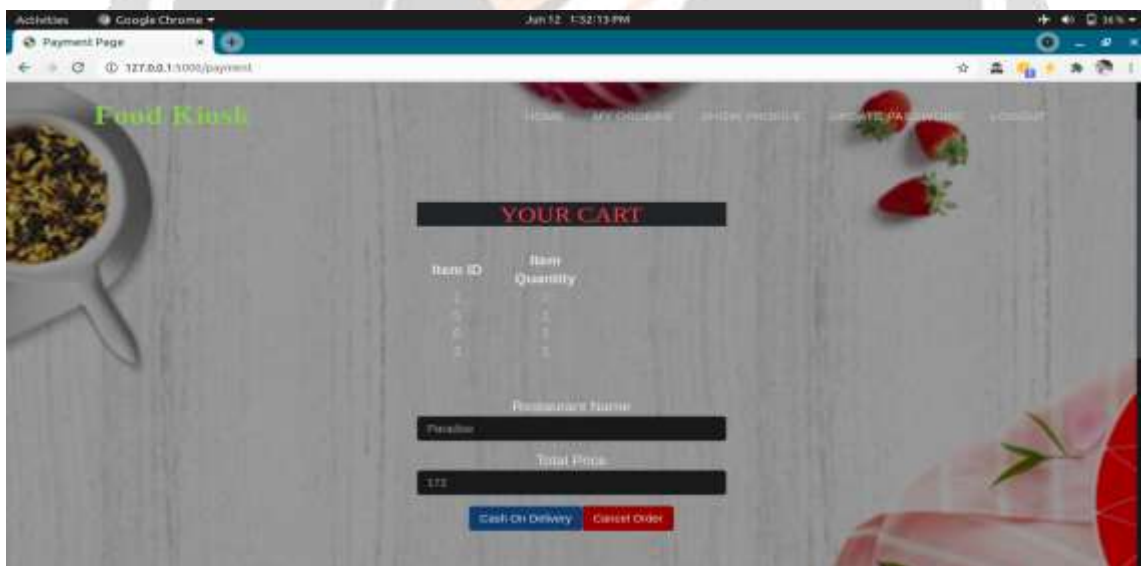


Figure 5 - Order List

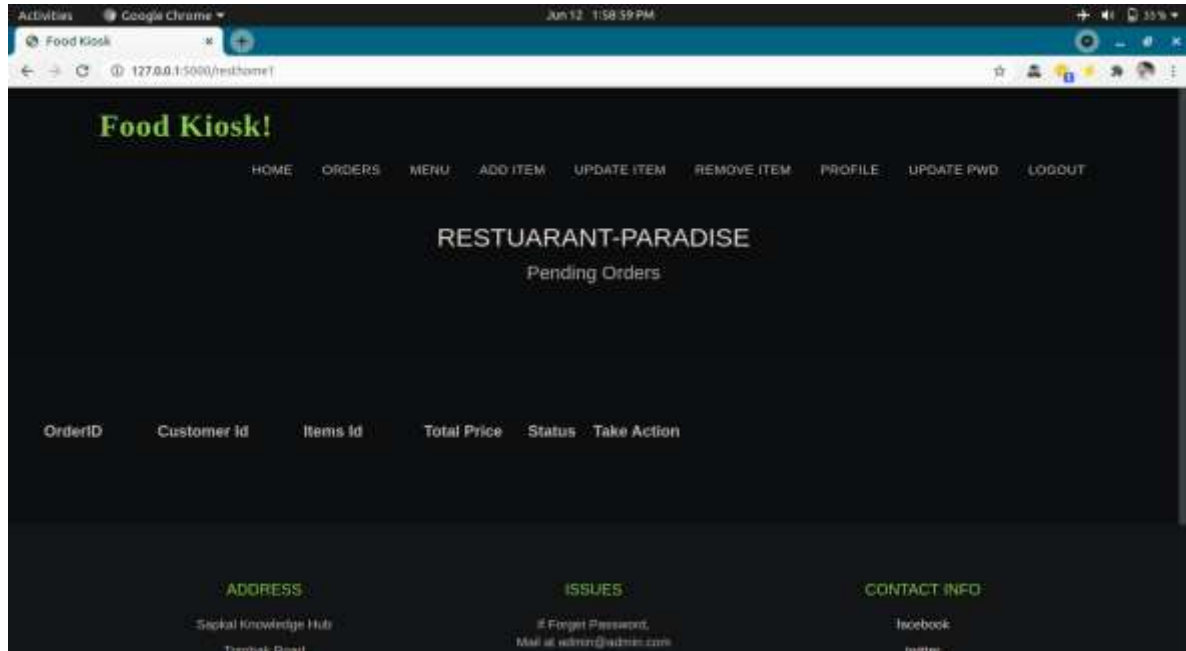


Figure 6 - Restaurant Terminal

IV. CONCLUSION

This system will minimize the number of employees at the back of the counter. Also, the system will help to reduce the cost of labor and errors. Addition to this, this will avoid long queues at the counter due to the speed of execution and number of optimum screens to accommodate the maximum throughput. An automated touch based digital smart system for the restaurant is proposed to overcome the traditional method of pen and paper. This system changes the manual process of food ordering and thus reduce manpower and saves cost of labor. It requires only one time investment in installing the devices in the restaurant. It eliminates human errors due to automation. It saves time. Since this system makes the fast Smart it prevents from queue formation. It also simplifies the overall food ordering process with real time feedback from customers making the system more dynamic.

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