Smart Restaurant Food Ordering & Billing

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Abstract

The smart restaurant is a concept where a restaurant working is based on using state of the art technology from reservation to ordering and storing customer records. The traditional restaurant system working is replaced by use of smart phones, tablets or graphical user interface interactive touch screens. Customers will order their meal through tablets, so that the order is directly rooted to the admin. Also customer's records are permanently maintained in the central server which can be used later for marketing, accounts and sales purposes. The smart restaurant reduces the staff employed for hospitality services thus increasing the profit margins. The kitchen will have an interface where orders will be served according to priority (first come first serve).Official website also help customers to know more about the restaurant and its services, and will facilitate online ordering and prior reservation of table.

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1.Introduction

The advancement in technology has greatly influenced the business transactions. The adoption of digital technology has led to automation in the hospitality industry. Business in hospitality industry such as restaurants can be improved with the help of digital systems. The competition in restaurant business have increased with the advancements in food ordering techniques.

This project aims to automate the food ordering and billing process in restaurant as well as to improve the dining experience of customers. Here we discuss about the design & implementation of Smart Restaurant ordering system with real time with customer's feedback for restaurants. The system on user's table will have all the details of his account as well as menu.

2.Literature survey

There is also a development in an interest based application in [1], suggested that the employers/students can place the order by selecting the nearby canteen/cafeteria through the

android application pre-installed in their smart phones. The food is served to the designated place by the canteen personals. This will help in saving the time of the employers/students and they can get fresh and healthy food in their place only. As android apps consume the space in mobile memory and such third-party apps will irritate with advertisements. The service gets increased.

In [2] an automated food ordering system is proposed which will keep track of user orders smartly. Basically, they implemented a food ordering system for different type of restaurants in which user will make order or make custom food by one click only. By means of android application for Tablet PCs this system was implemented. The front end was developed using JAVA, Android and at the backend MySQL database was used.

In [3] Customer using a Smartphone is considered as a basic assumption for the system. When the customer approach to the restaurant, the saved order can be confirmed by touching the Smartphone. The list of selected preordered items shall be shown on the kitchen screen, and when confirmed, order slip shall be printed for further order processing. The solution provides easy and convenient way to select pre-order transaction form customers.

In Paper [4], this research works on efforts taken by owners of restaurants to adopt information and communication technologies such as PDA, wireless LAN, costly multi-touch screens, etc. to enhance dining experience. This paper highlights some of the limitations of the conventional paper based and PDA-based food ordering system and proposed the low-cost touch screen-based Restaurant Management System using an android Smartphone or tablet as a solution.

3.Technical specification

The technologies which are used to implement the project are,
a) Embedded C
b) HTML and CSS
c) Django and python
d) SQLite3

Software Design:
a) To developed Website, we used HTML and CSS.
b) For cloud we used PostgreSQL. PostgreSQL is used as the primary data store or data warehouse, for many Web, mobile, Geospatial and analytics application.
c) Python and Django are used to make Website Effective. Django is a high level python web frameworks that enables rapid development of secure and maintainable websites.
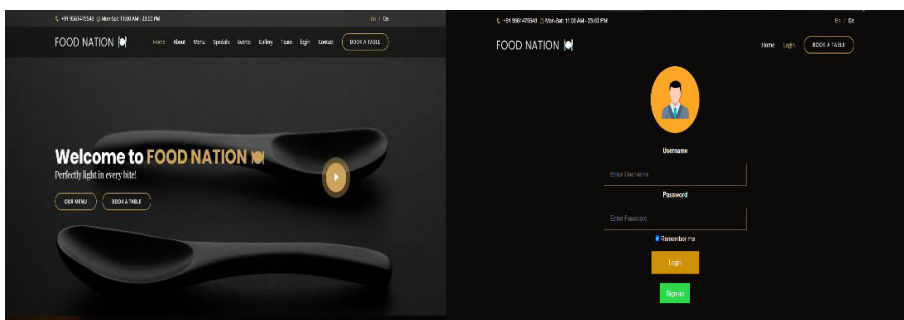
4.Working

The tablet which placed on the table of customers will shows the menu on screen. The customer will select the food items and placed his/her order though tablet. This data will be sent to the server and then it will visible on admin screen, admin will call waiter to delivered food at a particular table.

The data given by admin is go through validation block the function of validation block as shown in figure below is to ensure that your documents are properly form to fit your application expectations or notthen it will visible on dashboard. Dashboard contains current order number,Order details, bill calculator, graphical detailsand numberof order and this all data goto data base, a data base is a collection of information that is organised so that it can be easily accessed,manage and updated. Computer database typically contain aggregations of data records or files, containing information about sales, transaction and interaction with specific customer and all these data updates on cloud.
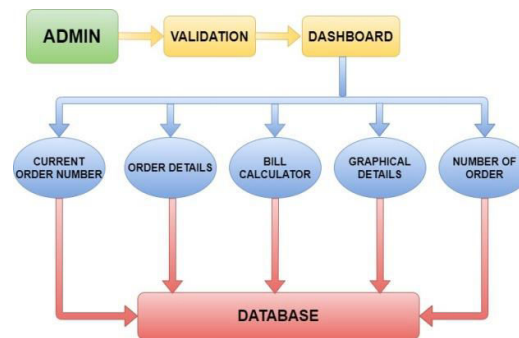
5.Advantages

a) Faster service
b) No more waiting to catch the waiter's eye.
c) As customers place their own orders, waiter's staff numbers can be reduced.
d) Create and modify food and drink menus.
e) The environment of restaurant is more manage and supports digital activities rather than manual access. This can reduce the number of restaurant staffs saving the cost of labour to great extent.
f) Less chance of misunderstanding and user frustration.

6.Future Enhancement

The module of stock maintenance and raw material management can be added to the existing system to ease the work ofrestaurant admin. Enhance user interface by including more interactive features. Allow customers to customize theirorders. In future, work can be done on providing provisions to accept different types of payments like credit cards, debit, tips, etc. We can also add different payment options such as Google Pay, PhonePe etc. We can also add a feature tosee live order status and provide deals to influence customer regularity.

7.Conclusion

This system will minimize the number of employees at the back of the counter. Also, the system will help to reduce the costof labour and errors. Addition to this, this will avoid long queues at the counter due to the speed of execution and number ofoptimum screens to accommodate the maximum output.

8.Acknowlegement

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