

Digital Adroit Steward for Restaurants

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Abstract— Excess manpower and traditional ordering method are the major defects in existing restaurants. To overcome these defects the online page is designed using IoT, in which prospects can log in using the key provided by the administrator. Once the prospect logged in using the key, menus are displayed along with the cost of each item. The prospects can order their food, in which the ordered items get displayed in the kitchen display (using LCD) for the chef's notification and it also gets notified to the administrator. The prospect can also alter or cancel the items they have ordered within the given time limit(say 2 minutes). Once they finished their treat, the bill gets generated on the same page. It also gets notified to both prospects and the administrator. They can either pay their bill using Online payments or to the administrator. The restaurant has a threshold quantity for every dish in which the quantity gets reduced for each order. Once the quantity becomes zero the item gets removed from the menu. Hence the project is developed proficiently to assist restaurant owners automate their business operations.

Keywords: Webpage, Restaurant Management, Digital Menu, Database, Prospects

I. INTRODUCTION

Today the technological world's main focus is to automate every possible things to require an advantage in providing ease in human life. Automation makes things easier and helps to extend production and efficient for prospects alike. Image that we are visiting a traditional restaurant which involves selecting dishes from paper-based menu and being waited on to order the dishes to the restaurant's staff. Poor customer service in restaurants is often a deal-breaker for customers. The food prepared by our restaurant will be outstanding, the table settings will be delightful, but if our restaurant service is bad, customers will remember.

To resolve this we are proposing a Digital Adroit Steward for Restaurants food ordering web based application.

The automation in restaurants is the proposed system which will bring technology in the restaurants. The conventional method of human waiter and paper-based menu is very time consuming, where the customers have to wait for server to order. Whereas in digital adroit steward restaurants, with our online application the prospects just have to order via his or her mobile phone and do not need to wait for steward. This smart menu in place of paper -based menu card will support the go green theme. This online page will directly interact in the kitchen part. The Kitchen side gets notified by parameters during which it require is that the table number (from which the order came) and ordered food by the specific table. The system allow quick and straightforward managing an web menu which prospects can browse and use to place orders with just few clicks.

II. LITERATURE REVIEW

Mayurkumarpatel [1] had proposed the online food order system that's fulfilling the essential must order food during a restaurant. His aim is to create the ordering easy for both customers and waiters.

Noor Azah Samsudin[2] had discussed the "A Customizable Wireless Food Ordering System With Real-Time Customer Feedback."A mobile application is developed within which it makes prospects user-unfriendly. The order placed by the prospects may be visible only to the admin. The kitchen staff gets notified within the further stage.

Neeti Malik [3] had discussed the "Serving Robot New Generation Electronic Waiter" in which the maintenance of the robot is a difficult task without proper knowledge. The admin need to upgrade their knowledge.

Sushmita Sarkar [4] had proposed the Integration of Touch Technology in Restaurants using Android during which high requirement of tablet is usually recommended which is costlier. The items won't be updated automatically only the admins must modify changes within the tablets.

Nikhil Mehta [5] had proposed an automated food ordering system with-real time customer feedback.This is a simple food ordering system for the restaurant sector, made by combining the Android and Wireless technology. It will increase the speed of order with real time monitoring.A calculator will not be required if one's budget is limited. As an interesting and attractive user interface will attract more customers.

Meghana Nandri[6] had proposed a food ordering system by using RFID and MCU. By using this system, there are no possibilities of human error during the taking order and calculations. System provides straightforward to use the system for placing the order of food in restaurants. System is presented with an automated food ordering system with feature of feedback and wireless communication.

Akshay Maghnani [7] had proposed application based restaurant management system. The coding of the project is based on a platform provided by Google called as 'Firebase'. The process works as that we have first linked/import our project into firebase as it has a separate environment to work. The project basically maintains two applications i.e.

- 1) User Application
- 2) Admin Application

Prof.N.M.Yawale[8] has proposed an online ordering system. This system helps customer to order the food through android app. This app is made user friendly interface. This system also helps the customer to add or delete the order. This system also helps in reducing the unnecessary time delay.

Mr. Maderla Rajesh[9] has proposed this online restaurant management system for Android. This system

uses the android mobile with the bluetooth technology. The menu will be displayed in the phone on the table. The selected menu will be displayed in the kitchen using the wireless RF communication system displayed using LCD.

Mr.VivekRajan[10] e-restaurant online management system. This system was proposed for the android and ios tablet. The menus are displayed in the tablet. The app for the iOS is more expensive. Hence they use a cloud based server for the menu display in the iOS and Android.

III. PROPOSED WORK

The projects that were proposed has some draw backs such as the ordering equipments are used like tablets that are provided by the restaurants and they use app for the ordering

and they use hardware equipments. These proposed ideas have some disadvantages like the tablet provided by the restaurants are the costliest way of ordering items. The app also consumes space in the mobile which makes the prospects inconvenient sometimes for ordering. The hardware used may get fault in over times and it need sum of money to repair it which may be the major loss for the restaurant. Hence the proposed idea here is to over comes all the disadvantages mentioned above.

Here is the block diagram of Digital Adroit Steward ordering system(Fig.1), where customer can access the web ordering system and that order takes place through the webpage. The bill gets generated through that page and they can pay the bill through online. This is the basic operation of the Digital Adroit Steward ordering system.

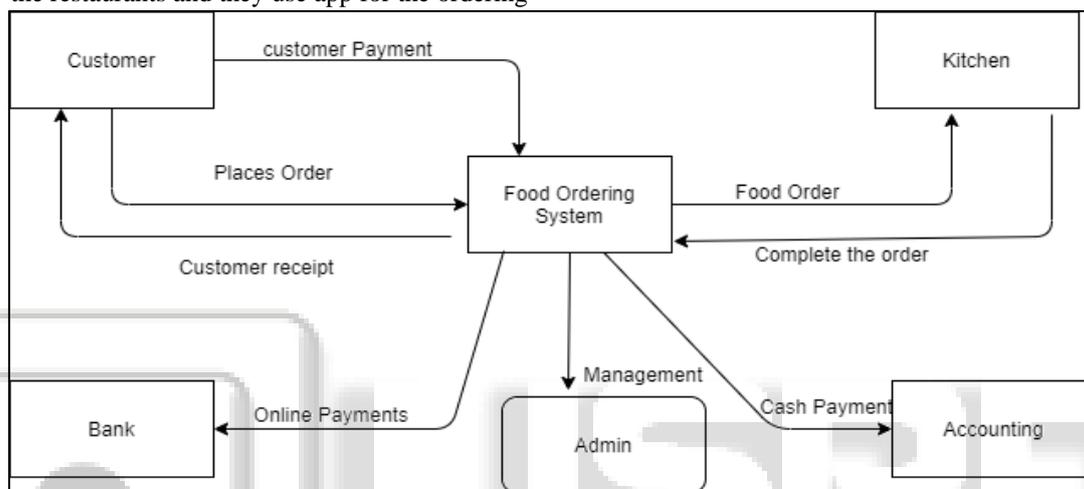


Fig. 1: Block Diagram of Digital Adroit Steward for Restaurants

Food Ordering System- Customers can place their order through their smart phone. Once the order gets placed it sends notification to the kitchen and therefore the chef are going to be preparing the ordered item. If the ordered dishes prepared, the chef notifies order make preparations. The waiter serves the food to the prospects.

Admin- the Admin can update the menu details as per the provision of dishes within the website and keep track on each and every order receive/serve and their payment details. They pay either through online or through the cash payments.

A. System Module and System Design

The restaurant owner or admin will have authority to log into the webpage and update the menu as per the provision of the dishes. The manager also will advertise the numerous offers of the day. Manager will dynamically add different varieties of food. After arrival of customer in restaurant, he or she registers the

Information and Key are generated by the manager to login to the webpage. Menu gets displayed and therefore the order sent to the restaurant manager or owner and therefore the kitchen staff will receive the ordered lists from the prospects phone. The restaurant owner can update the order status into the system. The customer can even view the order status and he has authority to cancel the order. Customer who is outside the restaurant will book table in restaurant by the key provided by the restaurant manager or owner or he/she will give order from his smart phone. After

having the food, customer can make payment by online or by cash and enter feedback regarding thereto restaurant system facility and services.

The following screenshots are Digital Adroit Steward process.

The web page will open via accessing local Wi-Fi of restaurant or through their mobile data.

IV. ADMIN WEB PAGE



Fig. 2: Admin login Page

Fig.2 shows that the Admin has a login page through which he can update the availability of dishes and generate the key to the prospects. After logging in the admin can trace out the ordered status of the food item.



Fig. 3: Pop up

Fig.3 shows that after entering login details of admin, the acknowledgement is sent as confirmation dialogue box as admin logged successfully.



Fig. 4: Menu alter page

Fig.4 shows that after logging in the admin can include or add the food items through this page by entering details such as food category, food name, food price, and food quantity and food description



Fig. 5: Add Today's special menu

Fig.5 shows that this page is to add the today's special menu item of the restaurant for the prospective to order the items. This page is the special page of the restaurant.



Fig. 6: Menu page view

Fig.6 shows that the quantity of the food items gets altered automatically for every order. Once the quantity of the dish is zero, the item will be removed from the menu automatically.

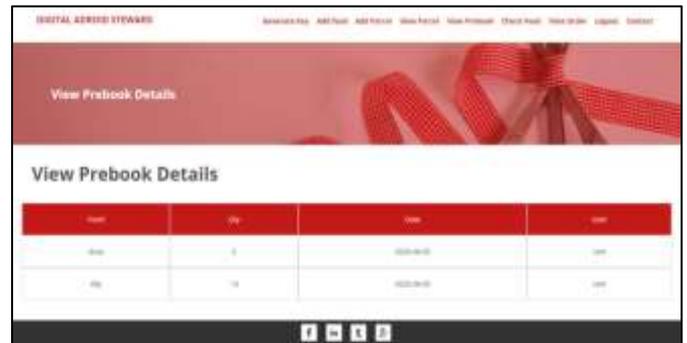


Fig. 7: Pre book page view

Fig.7 shows that this is the pre booking view page for the admin to know about the prospects preorder items of food. In this page he is notified about the items are pre booked by the prospect and the quantity and the name of the prospect and the date on which the order is pre booked by the prospect.



Fig. 8: Order details

Fig.8 shows that the order details of the parcel edit item of the prospect are view edit this page by the admin. This page notified with the name of the user, item ordered, quantity of the item, price, table number, data and the status of the item. In this page admin selects the item and update whether the items is shipped or delivered to the prospect.



Fig. 9: View parcel

Fig.9 shows that this page is for the admin to view the parcel and the billing details of the parcel item. Here the details about credit/debit card are given by the prospect in the page to make the billing.



Fig.10: Key generation page

Fig.10 shows that from the details given in the fig.2 the admin can generate unique key for the prospect and also provides the table number. The table number is entered based on the available table.

V. PROSPECTS WEB PAGE

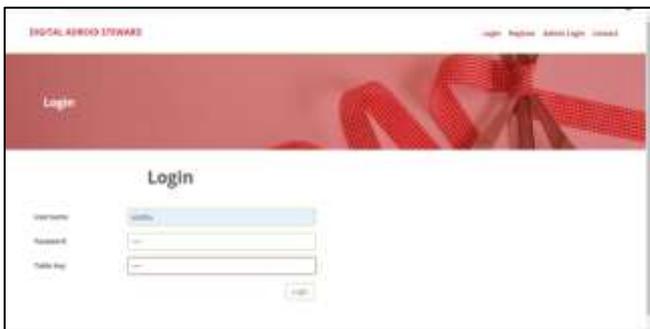


Fig. 11: Login Page for Prospects

Fig.11 shows that the Prospects can log in using the key provided by the administrator.



Fig .12: Registration Key for user

Fig.12 shows that Prospects login can be made once they register. The prospect enters his/her details like prospect mail id, phone number, and address for the registration purpose. If the prospects are with the similar names, it gets confused for the admin to generate keys. To eradicate this problem and to make ensure that the prospects are given with the mail id and the phone number. Hence prospects are supposed to provide their details. After this process admin will generate unique keys for the respective prospect. This is to reduce the problem that occurs during the payment of the bill.

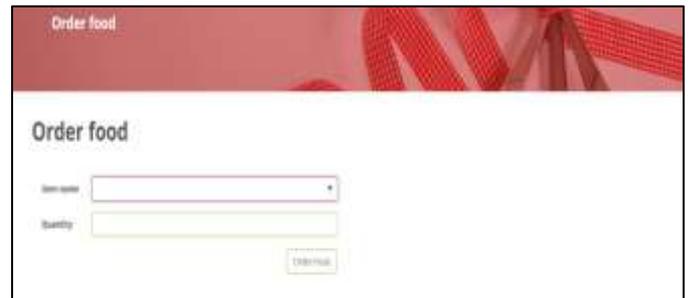


Fig. 13: Food ordering page

Fig.13 shows that this page is for the prospect to order the item. Here the menu is displayed for the prospect. The item can be selected by the prospect based on their wish of having the food.

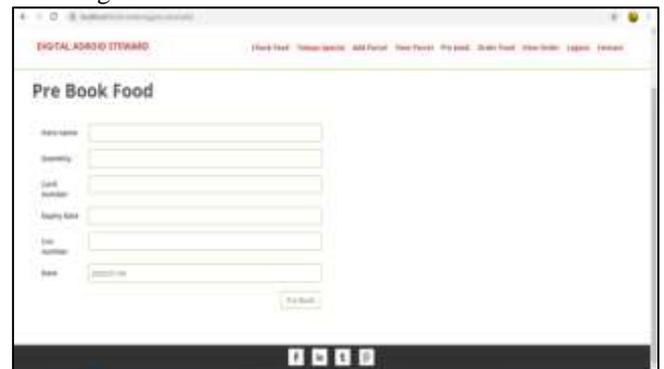


Fig. 14: Pre book page for prospect

Fig.14 shows that this pre book view is for the prospect to pre book their food item during waiting for the table to be occupied by them.

Food	Qty	Price	Total	Unit	Qty	Table number	Date	Status
MAGAL_DOSA	2	10	20	HTB	120	2	2020-08-12	Delivered
idly	1	8	8	HTB	120	3	2020-08-12	Pending
Dosa	2	20	40	HTB	120	3	2020-08-12	Pending

Fig. 15: Order details

Fig.15 shows that this page is about the order details of the prospect's order for the prospect to get to know about the order status like delivered or pending.

Food name	Food description	Price	Type	Available	Date
idly	idly with chutney	8	breakfast	10	2020-08-12
dosa	and dosa	20	break	10	2020-08-12
MAGAL_DOSA	chutney	10	HTB	10	2020-08-12

Fig. 16: View food

Fig.16 shows that view food page is to get notify about the items that are available. The quantity is also get notified. With the help of this page the prospect can identify whether the food is available. For every order of item the quantity get decremented and the quantity becomes null when the item gets fully sold.

Fig.17: Parcel page

Fig.17 shows that in this page the prospect can order parcel. Even after having his meal he can order parcel. This page can be viewed by the admin and the prospect as in the case, prospect approach the restaurant only for the parcel and also the prospect can order the parcel after having his food in the restaurant.

Item	Description	Type	Quantity Available	Price	Order Quantity	Total Price
Item	Description	Type	10	20	2	40
			Total			40

Fig. 18: Billing page

Fig.18 shows that this page is for the prospect to make the billing. The bill for the food item order and had by the prospect is shown in the page. The prospect makes the payment through this page by entering the card details.

VI. CONCLUSION

Thus the food ordering system helps the customers to easily order the food in the restaurant. It is a user-friendly system where it allows the management to view the order status and alter the menu. It is a wireless technology, in which human errors can be drastically reduced. The bill is automatically generated to the management and customers where they can pay through online or in the cash counter that decreases the wrong calculations. This system allows both the customers and management to save time and improves the performance of management and quality of service for the customers. This software automatically decreases the dishes count which saves time and increases the performance.

VII. FUTURE SCOPE

The current food ordering system can be further expanded by having virtual environment into the restaurant. The live order status will be updated visually to prospects which can be done through virtual reality technology.

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