Scientific Journal of Impact Factor(SJIF): 4.14

e-ISSN(O): 2348-4470
p-ISSN(P): 2348-6406

International Journal of Advance Engineering and Research Development

Special Issue for ICPCDECT 2016,Volume 3 Issue 1

Wireless Food Ordering System

Ingale Poonam,Computer Engineer,Computer Engineering,SVPM COE Malegaon, Maharashtra,India,poonamingale94@gmail.com

Kamble Poonam ,Computer Engineer,Computer Engineering,SVPM COE Malegaon, Maharashtra,India,pmkamble123@gmail.com

Kapse Priya ,Computer Engineer,Computer Engineering,SVPM COE Malegaon, Maharashtra,India,priyakapse25@gmail.com

Kokare Snehal ,Computer Engineer,Computer Engineering,SVPM COE Malegaon, Maharashtra,India,priyakapse25@gmail.com

Abstract: *The existence of wireless technology and the emergence of mobile devices enable a simple yet powerful infrastructure for business application. Some early efforts have been made to utilize both technologies in food ordering system implementations. However, the food ordering systems that have been proposed earlier exhibit limitations, primarily in cost effectiveness, allowing customizations and supporting real-time feedback to customers. The proposed system increases quality and speed of service. The order details from customer's touchpad are wirelessly updated in central database and subsequently sent to kitchen and cashier respectively. The restaurant owner can manage the menu modifications easily. The wireless application on mobile devices provide a means of convenience, improving efficiency and accuracy for restaurants by saving time, reducing human errors and real-time customer feedback.*

Keywords: Wireless Technology ,Restaurant Automation,Clustering, Android Application Recommendation Trust,Wi-Fi.

1 INTRODUCTION

The main reason for developing this project was to implement the latest web based technology into wireless food ordering system.The increasing number of restaurants and population of restaurant-goes have extra weight the need to raise up the working of hospitality industry. This research work intention at improving the quality of services and business of the wireless technology by include technology. A detailed research on the integration and use of technology in wireless industries displaying that many applications based on wireless technologies are already in use to give ability to partial automation of the food ordering process. In this project, we discuss about the integration of wireless technology in restaurants using android application. Our system have basic dynamic database utility system which retrieve all information from a centralized database. The tablet at the customer table contains the android application with all the restaurant and menu details.Wi-Fi connectivity provide in restaurant for connecting customer tablet, kitchen display and the cashier counter directly with each other . This wireless application is user-friendly, improves quality and accuracy for restaurants by saving time, minimize human errors and provides customer feedback. This system successfully overcomes the drawbacks in earlier outomated food ordering systems and is less expensive as it requires a one-time investment for gadgets.

2 EXISTING SYSTEM

The existing system is paper based. This system is used mostly in restaurants. In this, menu cards offered to customers in restaurant are made of Paper, hard board. Waiters use notepad to write the order of customers. The records are stored on paper. The working approach of this system is simple. Every time customer visits restaurant, occupy his table and selects his menu from available menu on paper menu card. When waiter arrives, he notes down order of customer in his notepad. As with anything paper based, it is so easy for things to get damaged by water due to mishandling, or paper being lost due to fire or accidents or just generally lost. There is wastage of time, money, and paper. As menu card is made up of paper, if restaurant management wants to update menu list or prices, it leads to wastage of paper and it will require reprinting of all the menu cards. Also, in many cases for small change to be made in menu card it is not convenient to print all menu cards again. Simply saying that menu card once printed can't be changed. Moreover, after some days the menu card lost its worthy look.

From the customer's point of view, this system is time consuming. As, one has to wait until the waiter comes to take the order, one has to call waiter number of times till he notices it, there can be misinterpretation while the waiter is writing your order on paper, and it might be possible that you are served with a wrong dish.

3 PROPOSED SYSTEM

The proposed system is an application of integration of hotel management systems by web services technology is presented. Digital Hotel Management integrates lots of systems of hotel industry such as Ordering System Kitchen Order Ticket (KOT), Billing System, Customer Relationship Management system (CRM) together. This integration solution can add or expand hotel software system in any size of hotel chains environment. 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. In current formal dining environments, some form of physical static menu is utilized to convey the available food and beverage choices to customers. Said menus are generally paper based and hence impose restrictions on the textual real estate available and the ability a restaurateur has to update them. This document specifies the requirements for a restaurant paper menu and ordering replacement strategy to alleviate the problems associated with the current archaic method. Three related concepts are encompassed in the proposed system 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.

4 Mathematical Model

Set Theory:

Our system can be represented as set X={I,O,S,F,C}
where,
I=set of inputs
O=set of outputs
S= set of outputs in success
F = set of outputs in failure
C = set of constraints
I = A, S
where,
A = set of food order
S = set of food details
Food order ={Dish 1, Dish 2,....Dish n }

Food Details= {Category, Subcategory,Menu Dishes
O = { Bill, Recommendations, offers }
Bill={ BN,BA,LFI,MPT }
R=f R1,R2,....Rn g
Offers= { Offer 1, offer 2, ...offer n
where,
BN=bill number
BA=bill amount
LFI= list of food items
MPT=mode of payment
R=Recommendations
S= PTn, PUn
where,
Gn = set of generated bill (updated)

Rmd = set of recommendations (updated)
Os = Set of offers gives (update)
F = PTo,PUo, NULL
where,
Gbo = set of bill not generated (wrongly updated/not updated)
Rmdo = set of recommendation not give (wrongly updated/not updated)
Oso= set of are not give(not update)
NULL represents no output
C = " The table should be present in required range of Wi-Fi"

5 System Architecture:

A description of the program architecture is presented. Subsystem design or Block diagram,Package Diagram,Deployment diagram with description is to be presented. When the customer enters the restaurant, he would surf on the tablet to order his menu. He could also surf quickly if he has already decided upon what to order. He would click the item he wants to order and after he is sure he wants each item in the list, he would click confirm. The confirmed order would be displayed on the display screen in the kitchen. After the chef has completed preparing the item, it would be notified to the customer. After the customer has completed eating the food, bill would be directly displayed on his tablet as well as managers system.

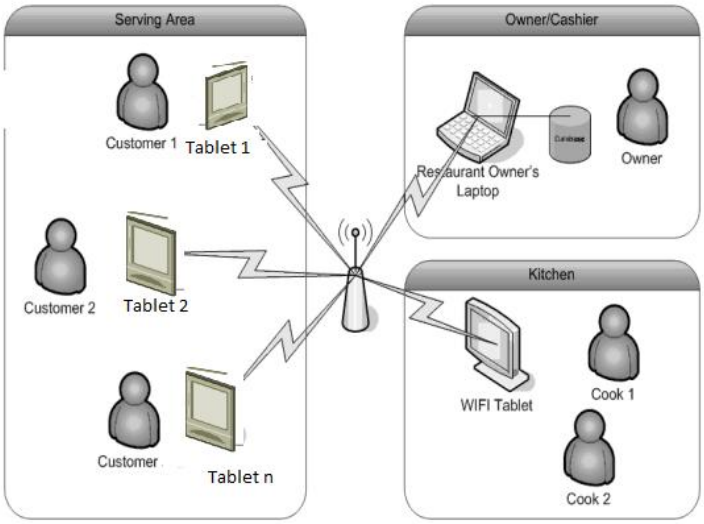

Figure 1: Architecture diagram

6 Algorithm

6.1 K-means algorithm

- Partition object into k nonempty subset.
- Compute seed point as the centroid of the cluster of the current partition. The centroid is the center(mean point) of the cluster.
- Assign each object to the cluster with the nearest seed point.
- Go back to the step 2 , stop when no more new assignment.

.

6.2 Apriori algorithm

- First,minimum support is applied to find all frequent itemset in a database.
- . Second,these frequent itemsets and the minimum confidence constraint are used to form rules.
- While the second step is straight forward,the first step needs more attention.

.

7 Goals and objectives

- The system has a user-friendly user interface.
- The system will help to reduce the cost of labour.
- Handles the payment for the user-defined order
- Save customer's time.
- more comfortable ordering environment.
- real-time feedback between the restaurant owner and customers

8 Application

1. Use in any city Hotel.
2. useful in restaurant.
3. notification Management.
4. Attractive Profile.
5. Flexibility.
6. Customer Feedback
7. Hotel system

9 Related Work

(a) Reference [1] Implementing Customizable Online Food Ordering System Using Web Based Application PERSONAL DIGITAL ASISTANTS(PDA'S) BASED SYSTEM: A number of wireless systems likeWOS, i-menu, FIWOS were developed when new technologies and approaches being introduced to automate the food ordering process. All the above systems were PDA- based. The feature of PDA systems was that customers or waiters key in ordering process.

(b) Reference [2] Enabling Efficient Multi-Keyword Ranked Search Over Encrypted Mobile Cloud Data Through Blind Storage Paper Based Menu Card: In mobile cloud computing, a fundamental application is to outsource the mobile data to external cloud servers for scalable data storage. The outsourced data, however, need to be encrypted due to the privacy and confidentiality concerns of their owner. This results in the distinguished diffculties on the accurate search over the encrypted mobile cloud data. To tackle this issue, we develop these archable encryption for multikeyword ranked search over the storage data.

(c) Reference [3] ELECTRONICMENUCARD FOR RESTAURANTS Paper Based Menu Cards: The traditional paper based system is one of the most extensively used systems worldwide. In this system all records are stored on paper. However, this system is plagued with various problems.

(d) Reference [4] Design and Implementation of Digital dining in Restaurants using Android Multitouch Technology: Multi-touch technology is an enhancement to the existing touch technology where users are allowed to control and perform operations simultaneously on the electronic visual displays using multiple fingers or gesture inputs. Large displays such as from the tabletop and the wall-screen are deemed to be essentials when dealing with multiple users sharing the same display for information visualization purposes. It is reported that the social interaction is highly

(e) Reference [5] Integration of Touch Techno logy in Restaurants using Android This research work aims at improving the quality of services and business of the hospitality industry by incorporating technology. A detailed research on the integration and utilisation of technology in hospitality industries showcased that various applications based on wireless technologies are already in use enabling partial automation of the food ordering process. In this paper, we discuss about the integration of touch technology in restaurants using android. This system is a basic dynamic database utility system which fetches all information from a centralized database.

10 CONCLUSION

The proposed system would attract customers and also adds to the efficiency of maintaining the restaurants ordering and billing sections. This system successfully over comes the drawbacks in earlier Personal Digital Assistant (PDA) based food ordering system and is less expensive and more effective than the multi-touchable restaurant management systems.

References

[1] Ashutosh Bhargave, Niranjan Jadhav, Apurva Joshi, Prachi Oke, Prof. Mr. S. R Lahane International Journal of Scientific and Research Publications, Volume 3, Issue 4, April 2013 1 ISSN 2250-3153

[2] IJISET -Implementing Customizable Online Food Ordering System Using Web Based Application,Vol. 2 Issue 4, April 2015.

[3] IJRET:ELECTRONIC MENU CARD FOR RESTAURANTS, Vol. 2 Issue 4, April 2014.

[4] IJRET:Automated Food Ordering System with Real-Time Customer Feedback, eISSN: 2319-1163,Volume: 03 Issue: 04 | Apr-2013.

[5] M.H.A. Wahab, H.A. Kadir, N. Ahmad, A.A. Mutalib and M.F.M. Mohsin, Implementation of network-based smart order system, International symposium on Information Technology 2010.

