SELF ORDER SPOTON INTERACTIVE IN-BUILT CONSOLE

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Abstract:

The idea is to develop a table-inbuilt console based interactive system for manual ordering system. This interactive system can be used in coffee shops, clubs, public restaurants or bars. The aim is to provide every table with a touch screen based console that can be used by customers as an interactive interface between the customers as well as restaurant manager or administrator.

Our system will allow the user to view menu items and order them accordingly. The consoles shall be centrally connected to a central server where actual centralized order processing of all clients can be done. A single administrator can view / monitor all the orders from this centralized server. The system also saves time for both customers as well as hotel owner for order placement.

Keywords: **In-built console, Interactive Interface and Centralized Administration.**

I. INTRODUCTION

The advancement in information and communication technology (ITC) has greatly influenced the business transactions. The adoption of wireless technology & emergence of mobile devices has led to automation in the hospitality industry. Business in hospitality industry such as restaurants can be improved with the combination of wireless and mobile technologies. The competition in restaurant business has increased with the advancements in food ordering techniques.

An earlier food ordering systemwas entirely a manual process which involved waiters, pen and paper. The waiter had to note down orders from customers, take these orders to kitchen, update them in records and again make bill. Even though this system is simple it may involve human errors in noting down the orders. To overcome these limitations in manual system some systems were developed later like PDA based systems and multi-touchable restaurant management systems to automate food ordering process.

A. In-built console for ordering automation

The basic idea to develop the in-built console for ordering automation of restaurants with interactive ordering system [1]. The system targets to provide each table in the restaurant with an in-built console. The in-built console on the table will help the person to have full access to the menu been provided by the restaurant. The person has to select the particular course. After selecting, the person will have every minute details of the cuisine. All the details like its origin, the ingredients possessed by it. The person can also customize the recipe of the course that is going to be ordered. So in brief he will be able to increase the pointer for the spice if he needs spicy food and vice versa for all tastes. Moreover he can ask for suggestions.

The person ordering the food can also know which cuisine id popular in the mass. The people will come to know about the popularity of the food from the reviews and the hits for the cuisine. The reviews will obviously be given by the people coming to the restaurant which

already had that cuisine. Thus the indirect communication between the people will help to grow the popularity of the course.

Apart from the food ordering the person will also be able to navigate through the entertainment facilities. The entertainment facilities will be varying from movies to games. This for the customers to keep busy till the order gets ready. The entertainment facilities will be provided by the administrator itself. The admin will more over manage the processing of the orders also. The admin will see where to place the orders in the kitchen and to which chef kitchen according to which chef is been idle to take the order.

This is been done to reduce the waiting period for preparing order. To implement this, server will be using multi-server querying mechanism. Thus this is going to benefit a lot to the people coming in the restaurants. Moreover at chef console, the chef will make the order s on the basis of first come first server basis.

On the customer side, the entertainment facilities will be under the control of administrator. The facilities will only be started once the order is been place to the chef. So whenever person comes to the restaurant the only visible thing on the console will be welcome screen followed by the menu for the respective courses. Once the order has been placed, the facilities will be opened for the customer. This kind of security is for the stalkers who just come to have fun in this place. This will help the person to focus on the main purpose that is to have a delightful dinner and not to do other stuff since those things will be secondary purpose of the system.

Once the person is finished with the course he will be able to see the bill details and pay the bill at the counter. Later the reviews will be asked for the purpose to make any improvement in the course if suggested by the customer. This will help the other people coming to the place to know more about the cuisine from the last people coming to the place to know more about the cuisine from the last people coming to the place thus improving the e standard of the restaurant.

PDAs (personal digital assistants) are well known for their portability feature and ability to communicate with personal computers but they too have some limitations. PDA-based systems lack ubiquitous communication, are

exposed to health hazards ,has lower GPU (graphical processing unit) and hardware support due to which menu customization and real time communication cannot be done, and increase the restaurant expanses when needed in large quantity.

The multi-touchable restaurant management systems [2] also have limitations like: they usually require low resolution output of the monitor, can produce activation without touching the screen and the cost to produce the special Infrared bezel for touch screens is very high. The CWOS-RTF was developed as one of the solutions for the PDA based system. It is a wireless food ordering system which made the use of smart phones to place orders. Taking an idea from this system we have proposed our system, which is specially designed for console Devices.

II. SYSTEM DESIGN CONTEXT

It shows the System Context Diagram. In this context diagram first registered customer has to logon console using username and password. Once the customer successfully logged in the offers and extra features like Wi-Fi net access [3] will be available to that customer. If the customer is not a registered customer then for that customer the default session will be created which will not offers the extra features.

After successfully login the menu will be display to the customers and from these menus [4] the customers will select the items of their choice for ordering the food. Once the order is placed it will go to the server machine queue and based on the order type they will decide which order is handled by which chef and then respective chef start making the food.

During this time period the customer will enjoy other features on the console such as gaming, live videos streaming,checking reviews and feedback of the previous customers. Once the order is made the customer will get notify via pop-ups on their console.Once the customer finished their meal the bill will be automatically generated at manager machine and customer gives their review and feedback about food.
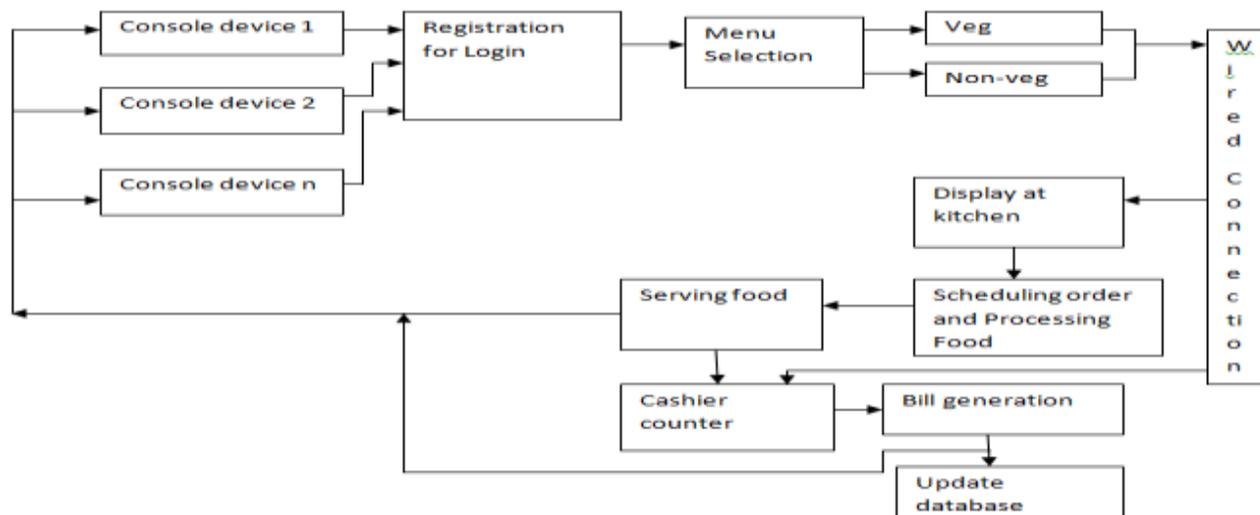
Fig (a). Architecture Diagram

Figure (a) shows the basic architecture design. In this architecture customer will have to login registration then place the order for food through the in-built console which is connected to the server machine in kitchen and server machine at cashier counter.

Through this console, order will display on the kitchen console with the help of this the server machine come to know the track of order the customer is giving and in the same way the chef will prepare the order and serving to customers simultaneously. At cashier counter, it will generate bill details based on served orders from kitchen and send it to respective console using console_id. Then further updates will be done in database.

III. SYSTEM HARDWAREDESIGN

A console device is an electronic visual display that the user can control through simple or multi-touch gestures[5] by touching the screen with one or more fingers. Some consoles can also detect objects such as a stylus or ordinary or specially coated gloves. The user can use the touch screen to react to what is displayed and to control how it is displayed. The console device enables the user to interact directly with what is displayed, rather than using a mouse, touchpad, or any other intermediate device (other than a stylus, which is optional for most modern console device).

Console device are common in devices such as game consoles, all-in-one computers, tablet computers, and smart-phones. They can also be attached to computers or, as terminals, to networks. They also play a prominent role in the design of digital appliances such as personal digital assistants (PDAs), satellite navigation devices, mobile phones, and video games and some books. The popularity of smart-phones, tablets, and many types of information appliances is driving the demand and acceptance of common console device for portable and functional electronics.

Console device are found in the medical field and in heavy industry, as well as for automated teller machines (ATMs), and kiosks such as museum displays or room automation, where keyboard and mouse systems do not allow a suitably intuitive, rapid, or accurate interaction by the user with the display's content.

Historically, the touch-screen sensor and its accompanying controller-based firmware have been made available by a wide array of after-market system integrators, and not by display, chip, or motherboard manufacturers. Display manufacturers and chip manufacturers worldwide have acknowledged the trend toward acceptance of console device as a highly desirable user interface component and have begun to integrate console device into the fundamental design of their products.

IV. BENEFITS OF CONSOLE APPROACH

A console approach is more efficient than traditional system, according to the time constraint.It reduces the workload of "Middle man (waiter)" and makes the customer feel special by making offers to customer.It is also less prone to human error.

V. LIMITATIONS OF CONSOLE APPROACH

It can be costly because of the installation of the new system in small places.Security and integrity of the console can be compromised.

But it can prove a great deal of promising standard of service as far as five star hotels are been taken into consideration. If owner needs to install it at small places the places should be such where customers frequency is at peak time of the day like pubs, clubs at weekends.

VI. SIGNIFICANCE

In restaurant this approach can be used when the rush is at peak for most of the time such as in a luxurious restaurant. Even in a pubs and clubs where the most of youth crowd comes, they can make a dedication of a song through our system. Other places like resorts, where a special package on special occasion is offered to customers. In Office canteens employee can make their regular orders during lunch, tea break etc.

VII. FUTURE SCOPE

Tables have flat surfaces made from industrial glass, which provides additional breakage and spilled water protection. The picture is displayed directly under the glass that is why the interactive surface, as well as both crispness and quality of the image are just impressive.

It will keep working even if every single visitor sitting at the table puts his hands on the surface. Additionally,it is implemented with gesture support, what means that every visitor can interact with the table at a 3 inch (8 cm) distance above the surface without even touching it.It is made up of protective glass with shock proof and screen is placed below it with multi-touch pad and sensors.

VIII. CONCLUSION

Self-OrderSpotOn Interactive In-Built Console is the basic idea to develop the in-built console for ordering automation of restaurants with interactive ordering system. The system targets to provide each table in the restaurant with an in-built console. The in-built console on the table will help the person to have full access to the menu been provided by the restaurant. So the indirect communication between the people will help to grow the popularity of the course.

This is been done to reduce the waiting period for preparing order. To implement this, server will be using multi-server querying mechanism.Thus this is going to benefit a lot to the people coming in the restaurants. Moreover at chef console, the chef will make the order s on the basis of first come first server basis.

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