I-Chop House
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Abstract:
To provide solution to the persisting problems related to automation we propose a system: i-Chop House that will help automate the entire process of searching menu, booking (reservation), placing order, tracking order, displaying orders on chef’s dashboard, payment and feedback etc. in just a click of the button.

I. INTRODUCTION

In our day-to-day lives, we come across various technology friendly things. Now-a-days hotels or restaurants are also getting automated. But when we visit hotels the only part of automation we encounter is at the owner’s end. This may give a rise to the problem of theft and robbery. Restaurants serve various types of customers with respect to order placement and physical abilities. These customers need to be handled in different way. Customers with take away and home delivery order placements are usually provided with automation like online ordering but for regular (pre-booking or reserving) customers and walk-in customers automation is not provided. At the same time if automation for all the above-mentioned customers is provided then customers with physical disabilities like blindness and elderly people who are not technology friendly are unheeded. In order to avoid this discrimination between various types of customers i-Chophouse provides us with the following solution:

1. Two types of login should be provided
   a. Guest – for customers walking in and placing take away order.
   b. Regular (permanent) – for customers who are reserving tables or placing home deliver

2. Elderly and Blind People – Voice to text and text to voice conversion at customer’s end

Users are not able to track order in an automated way, here i-Chophouse plays an important role of providing an intelligent service to the customers where they will be able to track their order concerning to the time left.

II. EXISTING SYSTEM

Currently, the usage of technology to simplify tasks and automate processes is increasing tremendously. There has been slight progress in the usage of technology to assist individuals in their mission for healthy eating. Moreover, the usage of technology in restaurants has not progressed much in the last decade. Therefore, a need exists to overcome the problems with the previous art and predominantly for a way to abridge the task of ordering meals by patrons. Some of the systems orders food remotely using their handheld devices.

A. Comparison with other Systems

Traditional system of catering is a very time consuming and is prone to mismatch of orders due to human errors. The problem with the self-service ordering system is that self service restaurants are more popular in metro cities so in smaller cities there are barely any self service restaurants available. Many a times these self-service systems take unreasonable amount of delays to deliver the order. Our aim is to develop a cost effective system which could work in small restaurants that are not willing to invest huge amount of money in these systems.

B. Solution

In our Proposed system above mentioned issues are diluted as the operations take place in following manner:

1. The handheld device make use of key pad entry for taking an order, which may be presented on an LCD screen before sending the order to the chef side.
2. The menu is presented on a separate device called a display device which displays the ordering numbers associated with different food orders.
3. In its widest application, the owner may also post a previewing menu on a website, and the components of the hand-held device entrenched in a cell phone.
4. A customer order number may be sent to the hand-held device, but there is no means described for conveying a table ID.
5. No graphic representation of the food items available is presented on the screen.
6. Nor are there pop-up displays of food offerings to explore further and further the details of the menu.

However, these devices are intended to be functioned by the waiter, hence; the level of detail, comprising graphic illustrations of the food offering need be nominal, as the waiter knows the menu.

III. PROPOSED SYSTEM

A. Comparison with other Systems

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B. Solution

In our Proposed system above mentioned issues are diluted as the operations take place in following manner:
1. Customer side operations such as Searching menu, Booking or reserving Table, Tracking order, Payment are carried out from customers end i.e. customer dashboard.

2. Chef side operations such as refreshing the index, checking prepared items and view items are carried out at chef’s dashboard.

3. The receptionist or owner’s dashboard will be used by customers, simply to view the availability and unavailability w.r.t time of tables.

As shown above, Customers, Chef, Admin (Either receptionist or owner) dashboards are connected to each other via server. This server communicates with database for data Updation, Insertion and Deletion purpose.

Figure 1. System Block Diagram

B. Working

The I-Chop House is an overall system that gives the customer greater control over the dining experience, while decreasing expenses for the restaurant industry. The E-Menu essential allows a restaurant diner to transfer order directly to the kitchen thereby bypassing the waiter, and ending the traditional waiter-dependency. The E-Menu puts total control of the dining experience, from menu review to bill payment, in the hands of the customer. Within the food preparation or kitchen area the orders placed and confirmed via the E-menus are displayed for preparation by restaurant staff.

1. **GUEST User**

In this user check the availability of table if table is available then he/she books the table otherwise wait for table to be available. Once table is available he books it and go to respective table now the user has provided two logins one for regular customer and other for guest if user wants to be a regular customer they can register by entering the name and mobile number. After login user will check the menu list then place order. Same order is displayed to chef dashboard and accordingly chef prepares food. Now once order is ready chef puts table number tag and food on kitchen platform and user get notified about it customers then collect it from there. After that payment is made by customer for this various options are available like cash or online. He/she can go for online or offline payment like Debit card, credit card etc.

Figure 2. User Flow diagram

2. **Registered User**

Here user simply login then check the menu list then place order. In payment process again he/she can go for Online or offline payment that maybe cash on delivery or credit/debit card.
i-Chop House is significant for various reasons apart from solving current issues faced, as i-Chop House provides both, customers and owners with following features:

- Decreases Manual Effort and chances of software vulnerabilities.
- Eliminates fear of Theft or Fraud.
- Provides in-house service i.e. affordable by common man, as it is cost effective.
- Various reports to view total sales, details of registered members with facility to print report or export all data.
- Online payment processing for orders and Integration of multiple payment gateways including PayPal, Google Checkout, Credit Cards (data capture only), etc.
- Available in Mobile & PDA versions.

**HTML:**

HTML 5 is a revision of the Hypertext Mark-up Language (HTML), the standard programming language for describing the contents and appearance of Web pages. HTML5 was developed to solve compatibility problems that affect the current standard, HTML4. HTML5 provides one common interface to make loading elements easier. For example, there is no need to install a Flash plugin in HTML5 because the element will run by itself. One of the design goals for HTML5 is to support for multimedia on mobile devices.

**CSS3:**

CSS3 is the latest version of the CSS specification. The term “CSS3” is not just a reference to the new features in CSS, but the third level in the progress of the CSS specification. CSS3 contains just about everything that’s included in CSS2.1 (the previous version of the specification). It also adds new features to help developers solve several problems without the need for non-semantic mark-up, complex scripting, or extra images.

**PHP:**

PHP is open source and free dynamic scripting language code may be embedded into HTML code, or it can be used in combination with various web template systems, web content management system and web frameworks. Other benefit that you get with PHP is that it’s a server side scripting language; this means you only need to install it on the server and client computers requesting for resources from the server do not need to have PHP installed; only a web browser would be enough.

**MYSQL:**

MySQL supports multiple storage engines each with its own specifications while other systems like SQL server only support a single storage engine. MySQL has high performance compared to other relational database systems. This is due to its simplicity in design and support for multiple-storage engines. Cost effective, it's relatively cheaper in terms of cost when compared to other relational databases. In fact, the community edition is free. The commercial edition has a licensing fee which is also cost effective compared to licensing fees for products such as Microsoft SQL Server.

**V. USER INTERFACE**

**In house Services:**

Exclusively for guest customers who walk in a restaurants.
VI. RESULT ANALYSIS

The main issue with in-house service is that it should be unique for each and every hotel. But if a user from home is trying to access this site from a remote location it should not be possible to do so. Therefore the best solution for the same was to encrypt the link for every hotel in QRcode and to make available the physical copy of QRcode at every hotel location. For eg:

![QRcode Image]

Figure 6. QRcode

A user will scan the above code the following way using his normal camera:

![Scanning QRcode Image]

Figure 7. Scanning QRcode

VII. CONCLUSION

I-Chop House is the smart way of providing service to the customers by implementing intelligent booking technique, simplified and eye pleasing order placing system and eco-friendly part of paperless system helping owners modify their current method of payment to an intelligent one.

VIII. REFERENCES


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[5]. https://www.zomato.com

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