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ONLINE FOOD ORDERING APPLICATION REPORT

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ABSTRACT

The Online Food Ordering System's main purpose is to maintain track of information such as Item Category, Food, Delivery Address, Order, and Shopping Cart. It keeps track of information about the Item Category, the Customer, the Shopping Cart, and the Item Category. Only the administrator gets access to the project because it is totally built at the administrative level. The project's purpose is to develop software that will cut down on the time spent manually managing Item Category, Food, Customer, and Delivery Address. It saves the Delivery Address, Order, and Shopping Cart information.

I. INTRODUCTION

1.1 Motivation

My motivation for creating this app stemmed from the fact that my family works in the fast food industry, and I dislike waiting in lines or having to call ahead to place an order, especially during peak lunch or dinner hours. In addition, I value my current knowledge of the Java and JSP programming languages, as well as understanding how strong and dynamic they are when it comes to web design and application development. Because I found them to be highly beneficial when working on the technologies, I used JavaScript, JSP, HTML, and Java to develop this application on the client side, and Oracle database on the back end.

1.2 Problem Definition

The technology we recommend is an easy-to-use online meal ordering system for customers. It overcomes the disadvantages of traditional queueing systems. Our system is both a convenient way to order food from restaurants and a mess service. The procedure of taking a customer's order is made easier with this technology. Customers may place orders fast utilising the online meal ordering system, which generates an online menu. Customers can also use a meal menu to keep track of their orders. Users can also rate the food goods using this system's feedback feature. In addition, based on the user's ratings, the proposed system can recommend hotels and meals, and the hotel staff will be notified of any quality adjustments.

II. LITERATURE SURVEY

Given below are the research papers used for our analysis whilst considering various approaches.

In [1] along with customer feedback for a restaurant a design and execution of wireless food ordering system was carried out. It enables restaurant owners to setup the system in wireless environment and update menu presentations easily. Smart phone has been integrated in the customizable wireless food ordering system with real- time customer feedback implementation to facilitate real- time communication between restaurant owners and customers.

In Paper [2], the purpose of this study was to investigate the factors that influence the attitude of internet users towards online food ordering in Turkey among university students. A Technology Acceptance Model (TAM) developed by Davis in 1986 was used to study adoption of Web environment for food ordering. Trust, Innovativeness and External Influences are added to the model as main factors along with TAM.

In Paper [3], the research work aims to automate the food ordering process in restaurant and also improve the dining experience of customers. Design implementation of food ordering system for restaurants were discuss in this paper. This system implements wireless data access to servers. The android application on user's mobile will have all the menu details. Kitchen and cashier receive the order details from the customer mobile wirelessly. These order details are updated in the central database. The restaurant owner can manage the menu modifications easily.

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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.

In Paper [5],the purpose of the study was The application is based on user's requirement and is user cantered. All issues related to all user which are included in this system are developed by this system. If people know how to operate android smart phone wide variety of people can use the application. This system will solve the various issues related to Mess service. To help and solve important problems of people implementation of Online Food Ordering system is done. It can be concluded that, based on the application: Orders are made easily by this system; Information needed in making order to customer is provided by the system. Receiving orders and modifying its data is possible through the application and it also helps admin in controlling all the Food system.

III. SOFTWARE REQUIREMENTS SPECIFICATION

3.1 Introduction:-

The next part provides an overview of the Software Requirements Specification developed from the subject Online Food Ordering System (SRS). To begin, the document's purpose and intended audience are described. The scope of the project is then specified in the paper, with a special emphasis on what the resulting programme will do and the benefits that come with it. There is also a glossary of terms used throughout the SRS. Finally, to facilitate reader comprehension and navigation, a full overview of the document is provided.

3.1.1 Project Scope

It could be beneficial for gaining complete information about perfect management. In a short period of time, the collection will be obvious, simple, and sensible. It will let a person understand the previous year's management in a clear and vivid manner. It also helps to finish all existing projects related to the Online Food Ordering System. The cost of collecting the management will be reduced, and the collection process will be more efficient.

Our project aims to automate business procedures, so we've attempted to automate a number of processes in an Online Food Ordering System.

A person needs fill out several forms on a computer system, and a huge number of duplicates of the forms can be generated swiftly.

- In a computer system, it is not essential to create the manifest; instead, we can print it directly, saving time.
- Assisting employees in documenting their efforts in their different work areas.
- To make the most of resources by boosting their productivity through automation.
- The system creates a variety of data that can be used for a variety of purposes.
- It satisfies the user's needs.
- Be simple to understand and operate for both the user and the operator • Have a nice user interface • Be extendable
- The project was completed on time and on budget.

3.1.2 User Classes and Characteristics

Users Classes:-

Admin Section:

o It aids in database management and application upkeep.

o This will not be available to the general public.

o It will be granted all of the application's rights.

Customer Part:

o This section is for people who want food delivered to their homes.

o If the user does not have an account, he or she can create one.

o Valid credentials must be provided upon registration.

o This information will be double-checked.

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o He will have access to services such as ordering, updating, cancelling, and a variety of payment alternatives.

Chef Section:

- The person who wants to make his own food and want to sell to customers they can login or sign up under this section.
- While registration also the details provided should be valid and in correct format.
- He is provided with features like posting dishes, updating dishes, deciding the price of his dishes & confirmation about his order.
- If somebody orders a dish then the notifications will come to the chef and he is having that freedom to accept and rejecting that order.

User Characterstics:-

The ONLINE FOOD ORDERING SYSTEM's end-users are divided into three groups: unskilled, partly skilled, and highly skilled.

Because the users of the surface computers are walk-in customers, no prior skills or knowledge should be anticipated beyond basic abilities to operate an automated system no more complex than a parking metre or vending machine.

Partially Skilled user:-

Users with only a basic understanding of the system: The users of the tablets and displays are waiters and cooks, respectively, and they should be able to utilise the system and instruct others with minimal training. They must be able to describe all parts of the user interfaces, with the exception of the server. Admins are in a similar situation, though they will have to learn new elements of the system (such as refunds), which should not be too tough. This user type is expected to have earned a high school diploma or its equivalent.

Highly skilled user:-

The initial installation and configuration of hardware and the constituent ONLINE FOOD ORDERING SYSTEM system components (especially the server) will almost certainly necessitate the assistance of someone with significant computer experience, including extensive knowledge of networks and operating systems. Although the programme should not be overly complicated, it is not expected to be completely "plug and play." Users in this category should have a high school diploma or equivalent, as well as substantial computer expertise.

3.1.3 Assumptions:-

None of the constituent system components will be deployed as embedded applications, according to the SRS. The implication is that the target hardware will be capable of deploying standalone programs/applications without the need for bespoke embedded firmware. Tablet PCs with suitable computing capability and battery life are also expected to be used. The system's surface computers should be able to be used/left on for long periods of time (enough for daily use) and be programmable in the same way as x86 architecture computers are. Finally, for system communication, it is anticipated that the deployment environment can handle an IEEE 802.11 wireless network.

REQUIREMENTS

The functional and non-functional requirements for the subject ONLINE FOOD ORDERING SYSTEM are presented in the next section. The functional needs are mentioned first, in order of importance to the whole system, clients, waiters, chefs, and administrators. Following that are the non-functional requirements for safety, security, the interface, human engineering, qualification, operation, maintenance, and performance. A natural language description was used to specify the functional requirements.

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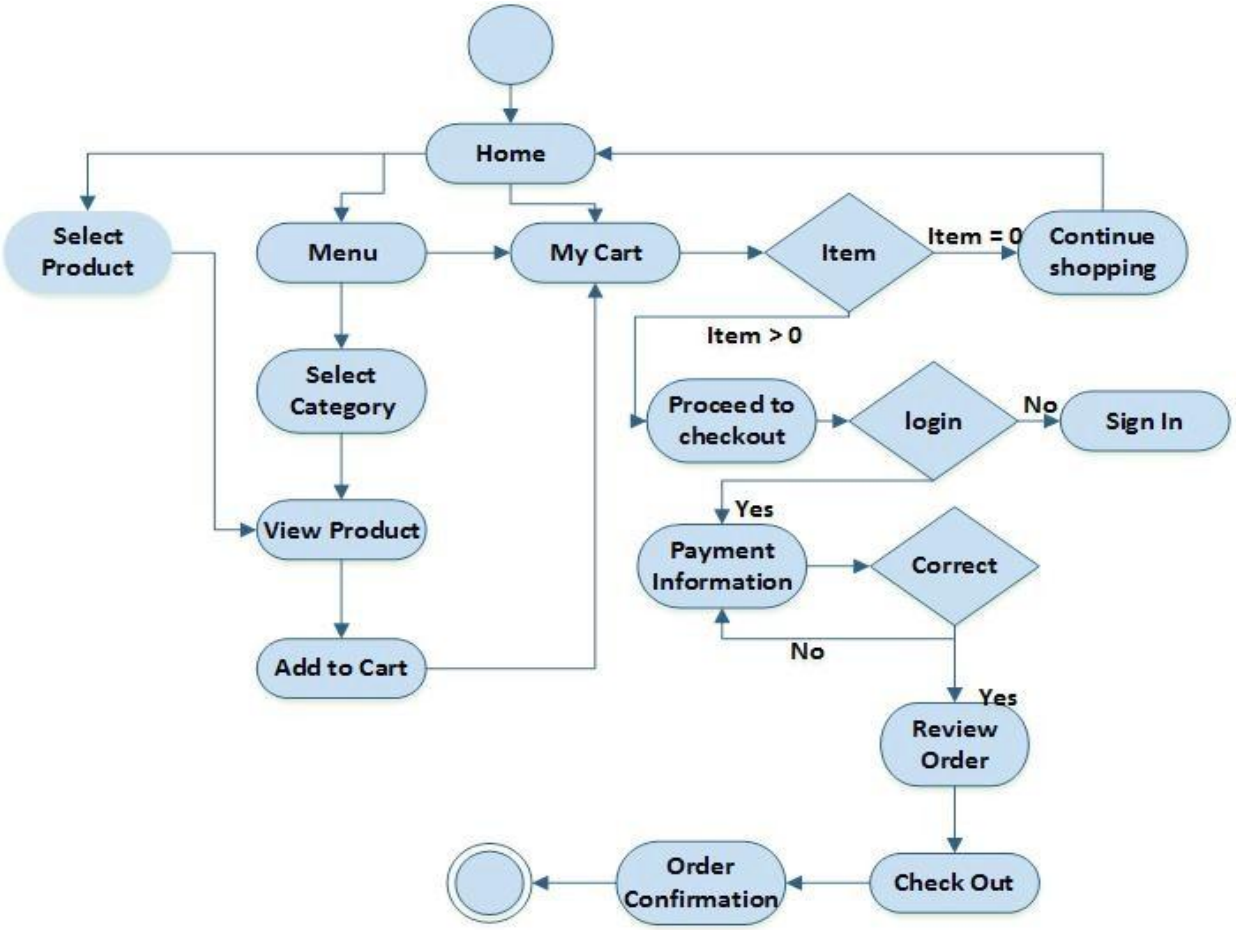

3.3 External Interface Requirements (If Any)

3.3.1 User Interface:-

System interfaces

The ONLINE FOOD ORDERING SYSTEM links with a current payment system, which includes a cash register and a software-accessible credit/EFTPOS system, to manage client invoicing quickly and conveniently. The payment system should be able to communicate information about whether or not the payment was successful to the ONLINE FOOD ORDERING SYSTEM system.

3.3.1 User interfaces

There are three separate user interfaces in the ONLINE FOOD ORDERING SYSTEM software, each of which is coupled to a physical hardware component (see Section 2.1.3). The three user interfaces accessible are Surface Computer UI, Tablet UI, and Display UI.

User Interface Design is concerned with the interaction between a user and a computer. It covers everything from starting the system to logging in to the final presentation of essential inputs and results. The whole flow of screens and communications is referred to as a dialogue. The following are some guidelines for designing a user interface:

1. The system's user should always be aware of what to do next.
2. The screen should be set up so that various types of data, instructions, and messages are always presented in the same general area.
3. Messages, instructions, and other information should be given for the system user to read for a sufficient amount of time.
4. Don't employ display features excessively.
5. User-enterable fields and answers should have default values.
6. If a mistake is found, the user should not be allowed to continue.

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7. The system user should never see an operating system notice or a fatal error.

3.5 System Requirement

3.3.1 Database Requirement:-

Firebase

Firebase

It also helps with the creation of app storage and authentication features.

A cloud-hosted database, the Firebase Realtime Database is a database that is updated in real time. All linked clients' data is saved in JSON format and synchronised in real time. When you construct cross-platform apps with our Apple, Android, or JavaScript SDKs, all of your clients share a single Realtime Database instance and are automatically updated with the most recent data.

Firebase is a Backend-as-a-Service (BaaS) platform that offers a variety of tools and services to help developers create high-quality apps more quickly.

If we had to characterise the BaaS, we'd say it's a cloud computing service model that lets web and mobile app developers connect their apps to backend cloud storage and APIs supplied by backend apps.

In fact, it allows app developers to establish Remote Configs, Notifications, and Real-time Databases for apps across several platforms.

It also helps with the creation of app storage and authentication features.

The Firebase Realtime Database is a cloud-hosted database that is updated in real time. The data of all linked clients is kept in JSON format and synced in real time. All of your code is portable when you use our Apple, Android, or JavaScript SDKs to create cross-platform apps. clients share a single Realtime Database instance and are automatically updated with the most recent data.

Firebase is a Backend-as-a-Service (BaaS) platform that provides developers with a set of tools and services to help them build high-quality apps faster.

We'd describe the BaaS as a cloud computing service paradigm that allows web and mobile app developers to link their apps to backend cloud storage and APIs provided by backend apps.

In fact, it allows app developers to establish Remote Configs, Notifications, and Real-time Databases for apps across several platforms.

Furthermore, Firebase may be utilised to improve user experience and engagement by increasing app marketing.

Advantages:-

1. Real-time Database Helps to Store and Synchronize Data
2. Firebase has Become Smarter with Google Analytics
3. Firebase Offers Facility of Crash Reporting to Fix Bugs Quickly

IV. SYSTEM DESIGN

4.1 Entity Relationship Diagram (ERD)

The Entity Relationship Diagram (ERD) is a visual representation that "allows specification of an enterprise schema that depicts the overall logical structure of a database" and "facilitates database design" (Korth, Sudarshan and Silberschatz, 2010). The database design for a restaurant application is shown in the ERD below.

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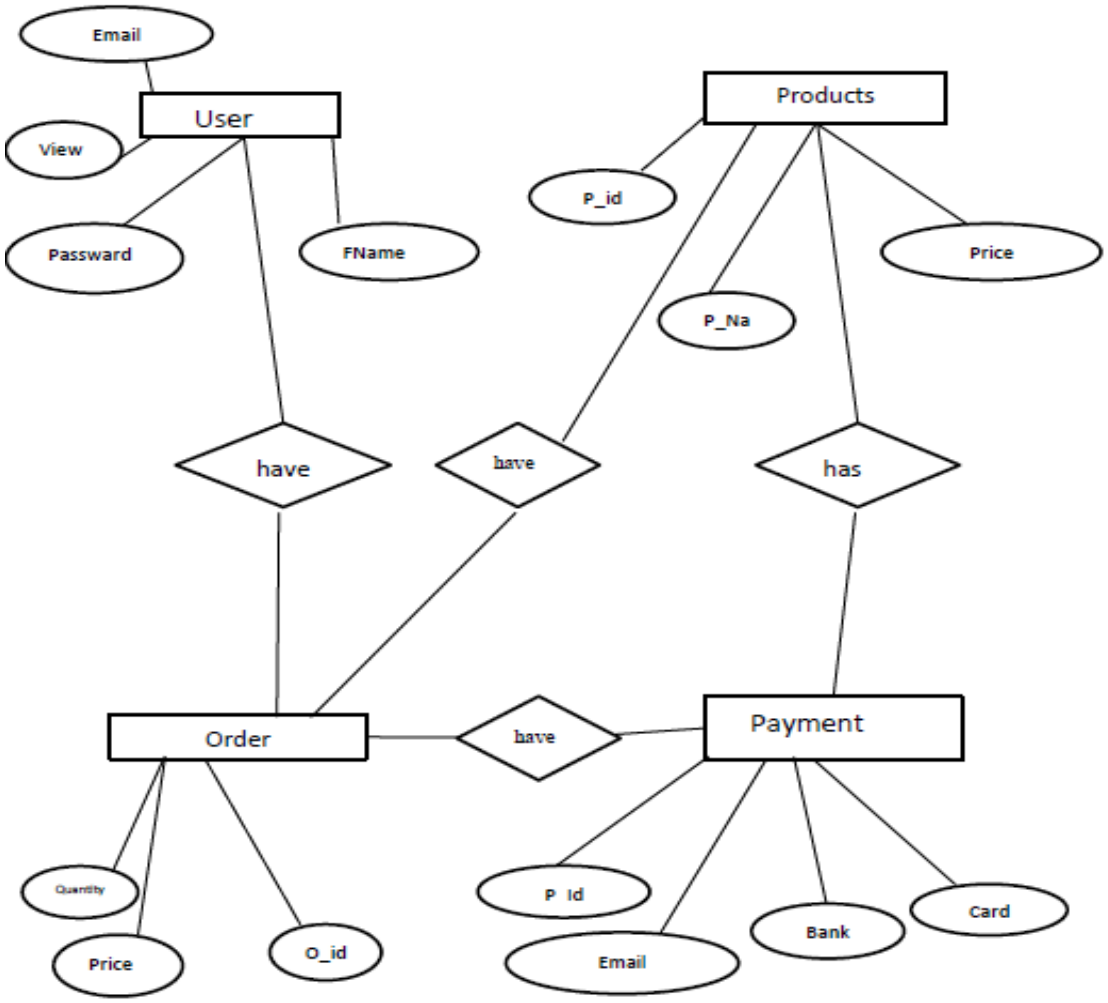
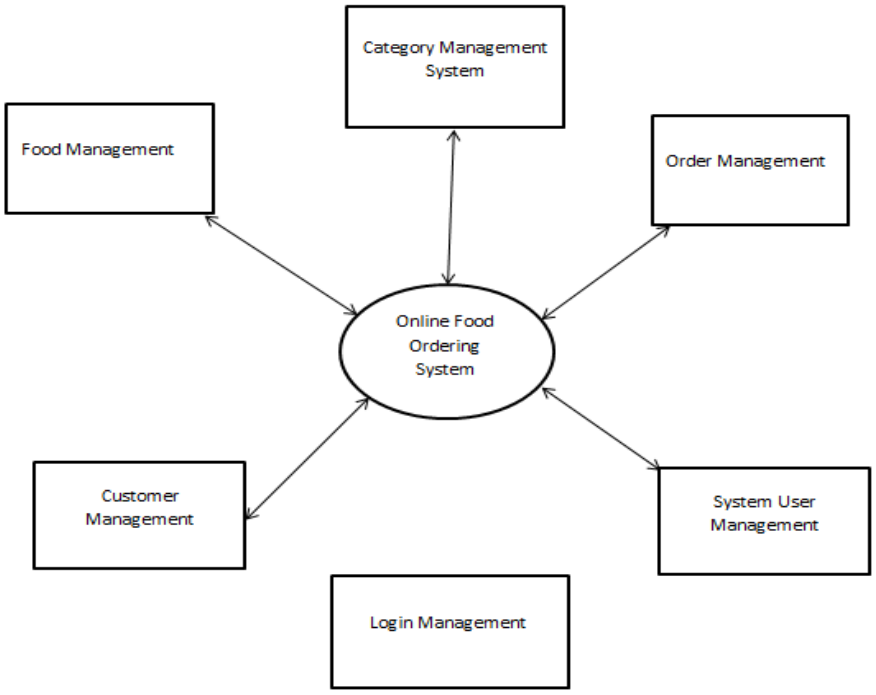


4.2 Data Flow Diagram:-



Zero level DFD

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A data-flow diagram is a visual representation of data flowing through a system or a process. The DFD also includes information on each entity's outputs and inputs, as well as the process itself. There are no control flows, decision rules, or loops in a data-flow diagram.

4.3 System Implementation Plan

Model View Controller, or MVC as it is more commonly known, is a software design pattern that is used to construct web applications. The Model View Controller pattern is made up of three parts:

- Model - The lowest level of the pattern, which is responsible for data upkeep.
- View- This is in charge of displaying all or a portion of the data to the user.
- Controller - Software code that manages the Model's and View's interaction. MVC is popular because it separates the application logic and user interface layer, which allows for responsibility separation. All application requests are accepted by the Controller, which then works with the Model to prepare any data that the View requires. The View then uses the data generated by the Controller to create a final presentable response. The MVC abstraction can be graphically represented as follows. Diagram of MVC (Model View Controller Flow)

Project Planning:

An example of a software project plan is as follows:

1) Within the company: How will the project be implemented? What are the constraints (in terms of time, money, and personnel)? What does it mean to have a market strategy?

2) Client meetings: Meetings with customers on a weekly or timely basis, with a progress update presentation. Customers' feedback is also considered, and modifications and improvements are implemented as needed. Project milestones and deliverables are also shown to the customer.

For a successful software project, the following steps can be followed:

Select a project

- project's aims and objectives are as follows:-
  - Understanding specification and requirement
  - Methods of analysis, design and implementation
  - Testing techniques
  - Documentation
- Project milestones and deliverables
- Budget allocation
  - Exceeding limits within control
- Project Estimates
  - Cost
  - Time

V. OTHER SPECIFICATION

5.1 ADVANTAGES

- It’s fast, easy and comfortable.
- Less hassle for you.
- An online menu is simpler to manage.
- It’s just one click away.

5.2 Limitations of the System

There are also certain limitations to the system. The shopping cart in the system only has basic features and does not allow for extensive cart customisation. Furthermore, server side programming handles almost all of the application's capabilities, including validation. It adds to the server's workload, especially when the programme receives a big number of users. Using client-side languages like JavaScript or HTML 5 to validate data can help solve this problem. The order model has also been developed. On the other hand, the controllers

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and functions for pushing data into the order table have yet to be built. As a result, you won't be able to see the orders you've placed.

The following is a list of restrictions that can be found in the Online Food Ordering System:

- Due to some criticality, an Excel export for Food Item, Category has not been established.
- Because the transactions are carried out in an off-line environment, no online data for the customer, order collection, or amendment is possible.
- Due to batch mode execution, no off-line reports of Food Item, Confirm Order, or Customer may be created.

5.3 Applications:-

- Food-to-go merchants, restaurants, and takeaways benefit from online food ordering software created expressly for them. Clients appreciate the convenience of ordering food online, hence online food ordering is rapidly growing. Get our online meal ordering app and expand your sales channels.
- Customers can place orders from their PCs, tablets, and cellphones via Celexsa's online meal ordering app. They can browse your menu options, pick what they want, and place an online order. Payment will also be made via the internet. Customers can have their meals delivered or pick them up in person.
- Using an online food ordering app or a restaurant ordering app has several advantages, including lower labour costs, fewer walk-away customers, and quicker wait times. This restaurant online ordering system is designed for multi-location food to go chains and independents, including restaurants, cafes and coffee shops, fast food, take-out, and other catering services.
- Getting your business online allows you to make a lot more sales, which will help you build a better reputation in the market. Existing customers will have a fantastic new way to order with your online menu, and new customers will find you quickly through popular web search engines. The system is customised to match the look and feel of your current website. We assist entrepreneurs in expanding their businesses in the digital age.

VI. CONCLUSION

Finally, for the online meal ordering system, we created a secure, user-friendly food ordering administration system. Whether they are Administrators or Customers, this system can look after them all. This system will let them manage client meals, delivery boy data, and expand without creating any disruption. This system is completely secure because each user is assigned a unique user ID and password, preventing unauthorised access. With online payment, registration, and cancellation, it's a lot easier to use. As a result, using this strategy will help to minimise labour expenses while also giving clients more opportunity to enjoy the services.

VII. FUTURE WORK

The work that will be implemented with future editions of the software is described in the following section.

- Allow customers to modify orders: Allow clients to customise their food orders.
- Improve the user interface by include more interactive features for the user. Add information about deals and promotional offers on the home page. Add a week/worth day's of recipes to the home page.
- Payment Options: PayPal, cash, and gift cards are just a few of the options available. Allows you to save payment details for future use.
- Delivery Options: Include a delivery choice.
- Order Process Estimate: Show the customer a graphical order status gauge.
- Order Status: Only active orders will be shown to restaurant employees.
- Order Ready notification: Send an Order Ready notification to the customer.

VIII. REFERENCES

[1] Kirti Bhandge, Tejas Shinde, Dheeraj Ingale, Neeraj Solanki, Reshma Totare,"A Proposed System for Touchpad Based Food Ordering System Using Android Application", International Journal of Advanced Research in Computer Science Technology (IJARCST 2015).

[2] Varsha Chavan, Priya Jadhav,Snehal Korade,Priyanka Teli, "Implementing Customizable Online Food Ordering System Using Web Based Application", International Journal of Innovative Science, Engineering Technology(IJISET) 2015.

[3] Resham Shinde, Priyanka Thakare, Neha Dhomne, Sushmita Sarkar, "Design and Implementation of Digital dining in Restaurants using Android", International Journal of Advance Research in Computer Science and Management Studies 2014.

[4] Ashutosh Bhargave, Niranjan Jadhav, Apurva Joshi, Prachi Oke, S. R Lahane,"Digital Ordering System for Restaurant Using Android", International Journal of Scientific and Research Publications 2013.

[5] Khairunnisa K., Ayob J., Mohd. Helmy A. Wahab, M. Erdi Ayob, M. Izwan Ayob, M. Afif Ayob, "The Application of Wireless Food Ordering System" MASAUM Journal of Computing 2009.

[6] Noor Azah Samsudin, Shamsul Kamal Ahmad Khalid, Mohd Fikry Akmal Mohd Kohar, Zulkifli Senin, Mohd Nor Ihkasan," A customizable wireless food ordering system with real time customer feedback", IEEE Symposium on Wireless Technology and Applications(ISWTA) 2011.

[7] Serhat Murat Alagoza, Haluk Hekimoglub," A study on tam: analysis of customer attitudes in online food ordering system", Elsevier Ltd. 2012.

[8] Patel Krishna, Patel Palak, Raj Nirali, Patel Lalit," Automated Food Ordering System", International Journal of Engineering Research and Development (IJERD) 2015.

[9] Mayur D. Jakhete, Piyush C. Mankar," Implementation of Smart Restaurant with e-menu Card," International Journal of Computer Applications 2015 of Smart Restaurant with e-menu Card," International Journal of Computer Applications.

[10] Abhishek Singh, Adithya R, Vaishnav Kanade, Prof. Salma Pathan" ONLINE FOOD ORDERING SYSTEM" International Research Journal of Engineering and Technology (IRJET) 2018.