Food Court Based Web Application

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Abstract— The Food Court Management System is a web-based platform designed to streamline and enhance the overall process of food ordering, delivery, and management. In an era characterized by rapid technological advancements and changing consumer preferences, this system addresses the growing demand for efficient and user-friendly solutions in the food industry. The system encompasses a user-friendly interface for both customers and restaurant owners, offering a seamless and convenient experience. Customers can easily browse through a diverse range of menus, place orders, and track their delivery in real-time. On the other hand, restaurant owners can efficiently manage their menu items, process orders, and monitor business performance through a centralized dashboard.

The Food Court Management System aims to revolutionize the way food businesses operate by leveraging technology to enhance customer satisfaction, streamline operations, and foster growth. By providing a comprehensive solution for online food management, this system contributes to the digital transformation of the food industry, catering to the evolving needs of both customers and restaurant owners.

Keywords— Leveraging, streamline, management, comprehensive, interface

Introduction

Currently, the way schools/college food courts work is that you pay for the food and you wait for the food in line but the problem is that all the students in a facility have the same time slot for the break hence a group of people end up rushing towards the canteen at the same time this creates a lot of inconvenience for the court staff as well as the students and since the time is limited some students end up not eating food or wasting their food. This is where the Food court Management system enters it helps in streamlining the whole process wherein students can order their food via their phones beforehand from the website in which the user has to enter the college email id and then they are ready to order via e-menu and do the payments as well and this helps the college to keep a track on the canteens transactions.[in case of any frauds] and as soon as a user orders anything the website will alert about it the kitchen staff and they can start preparing it. Ultimately Food Court Management System will help streamline this whole cumbersome process and change the age-old ways of doing things The food ordering system contains e-menu cards that contain the details of the food. It will provide the list of their various items menu list. The customer can select the desired item and can pay the amount. Immediately after booking, the canteen people will get the information of the order and they will prepare the order. The food will be ready in advance and the customers need not wait near the delivery place. The digitalization of the canteen system will help provide better service to the users and the time consumption will be reduced. The updation and deletion of any item can be done. The online system will be helpful for the food makers to prepare the food as early as possible. As a result, there will be quick service to the customers. No queues can be formed for waiting for the food. The updation of the data to the database will be monitored by the admin. The user's data like recognizing the regular users to the canteen will be done and sent to the database. The security of data is done by the encrypted format and server databases of the institution.

I. LITERATURE REVIEW

Serhat Murat Alagoz & Haluk Hekimoglu (2012), opined that e-commerce is dynamically growing worldwide, the food industry is also indicating an increased growth. They have suggested the Technology Acceptance Model (TAM) as a base to study the acceptance of online food ordering apps. Their analysis of data stated that the attitude towards online food ordering is due to the ease and usefulness of online food ordering process and also vary according to their innovativeness against information technology, their trust in e commerce websites and few external influences. [1]

Ashoutosh bhargve (2013) said that Foodpanda an online food ordering apps has been launched in the Indian market since May 2012. Foodpanda first major move was acquisition of TastyKhana, which was started in Pune in year 2007.With acquisition of TastyKhana and JUST EAT, it is now available in over 200 cities and delivery partner with over 12,000 restaurants. JUST EAT which was launched in Denmark in 2001 and was listed publicly on the London Stock Exchange is also mentioned. Their Indian venture was come as Hungry Bangalore in 2006. It was reintroduced in 2011 when JUST EAT acquired a majority share in the business. Today, the company partners with over 2,000 restaurants.[2]

H.S. Sethu & Bhavya Saini (2016), their idea was to analyze the student's perception, behavior and satisfaction of online food ordering and delivery applications. Their study shows that online food ordering apps secure their time due to easily availability. It is also found that visibility of their favourite food at any point of time and always access to internet ,free data are the main reasons for using the apps.[3]

According to **Sheryl E. Kimes (2011),** his study found that perceived control and convenience associated with the online food ordering services were important for both users and non-users. Non-users need more personal attention and also had high uncertainty towards use of early technologies.time. While individual resource selections did not predict total task time, the average interval between these refreshes did.[4]

According to Leong Wai Hong (2016), the technological advancement in many industries has **changed the** business model to grow. Efficient systems can help improve the productivity and profitability of a restaurant. The use of online food delivery system is believed that it can lead the restaurants business grow from time to time and will help the restaurants to facilitate major business online.[5]

According to **Varsha Chavan, et al, (2015),** the use of smart phone mobile interface for consumers to view order and follow has helped the restaurants in delivering orders from consumers immediately. The increase in uses of smart phones and computers are giving platform for service industry. Their Analysis concluded that this process is convenient, effective and easy to use, which is expected to better day by day in coming times.[6]

India holds the record for being probably the foremost youthful populace all throughout the globe with the traditional age remaining at 27 years. This has brought about indiscreet buying power on the grounds that the willingness to try out new **food applications in India is high**, further prompting the use of the same (Inc42 Media, 2020) (Business Insider, 2020)[7]

The young crowd is more inclined towards food which is high in nutrition. Whereas, brand name plays a vital role in customer perception, which has high influence in to their **purchasing behavior, Aaker (2000).[**8]

Muthumani et al. (2017) study reveals that it's as yet not pleased and safe for consumers while buying on the web. It expresses that web based shopping is famous among young people for satisfying their prerequisites.[9]

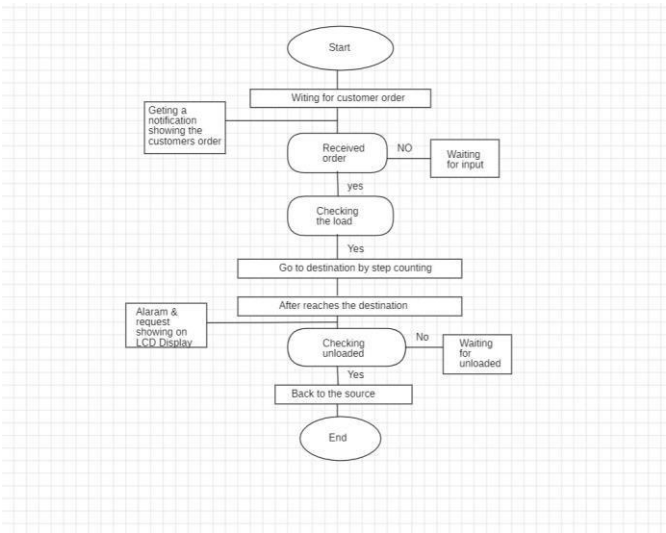
According to Vincet et al., (2016) the principle aim of this study was to understand the fundamental correlation between convenience motivation, post-usage usefulness, price positioning, time consumed during the process, prior online purchase knowledge, consumer approach and behavioral towards OFD services.[10]

With the growing popularity of various OFD apps and easy access to internet, the impact of the same was studied by **S. Manju (2019)** and also the impact of the OFD apps in our daily routines and factors contributing to the OFD services. In next few years market volume of online food delivery is of $5.7 billion by 2022.[11]

As per the study conducted by **Preeta & Iswaraya (2019)** to analyze perception towards online order and delivery application, considering demographic as a part of its study, young person are mostly likely to order online restaurant delivery, using one of these services.[12]

According to Yota Pavlou, Consultant, CPRD stated that food consumption and shopping behavior shifted massively because of Covid-19. Since large number of people started ordering their groceries online, it was a challenge for retailers to satisfactorily complete orders. With restaurants being closed, it added a heavy toll on the online grocery ordering since there was an increase in ordering slots, individuals started turning to online food delivery services.[13]

II. METHODLOGY



- Android devices have gained immense popularity and have revolutionized the use of mobile technology in the automation of routine task in wireless environment.
- Android is a Linux based operating system for mobile devices such as smart-phone and tablet.
- To develop a reliable, convenient and accurate food ordering system is considered as a general objective of the study.
- To develop a system that will surely satisfied the customer service will be considered as an objective. One of the Objective is to design a system that is able to accommodate huge amount of orders at a time and automatically compute the bill.
- To evaluate its performance and acceptability in terms of security, user-friendliness, accuracy and reliability is an important objective. To improve the communication between the client and customers is one of the objective.
- The architectural design consists of 3 main users: - Service Consumer, Owner of Mess/Restaurant, and Employee of mess.
- Here the main function is, in what pattern user will search the service so for that purpose a part of Geo-Hashing Algorithm is used, and GPS system should be on. Person can have the facility to search service by location that is home location of the person is detected with GPS and according to selected option location of nearby service get searched. Another way for searching is by cost. Here user must give input in terms of rupees that in what range he/she need service per plate if there are any service provider within that area than the list will display.
- overcome the limitations of above system, an online food ordering system based on internet of things is proposed. It is a wireless food ordering system using android devices

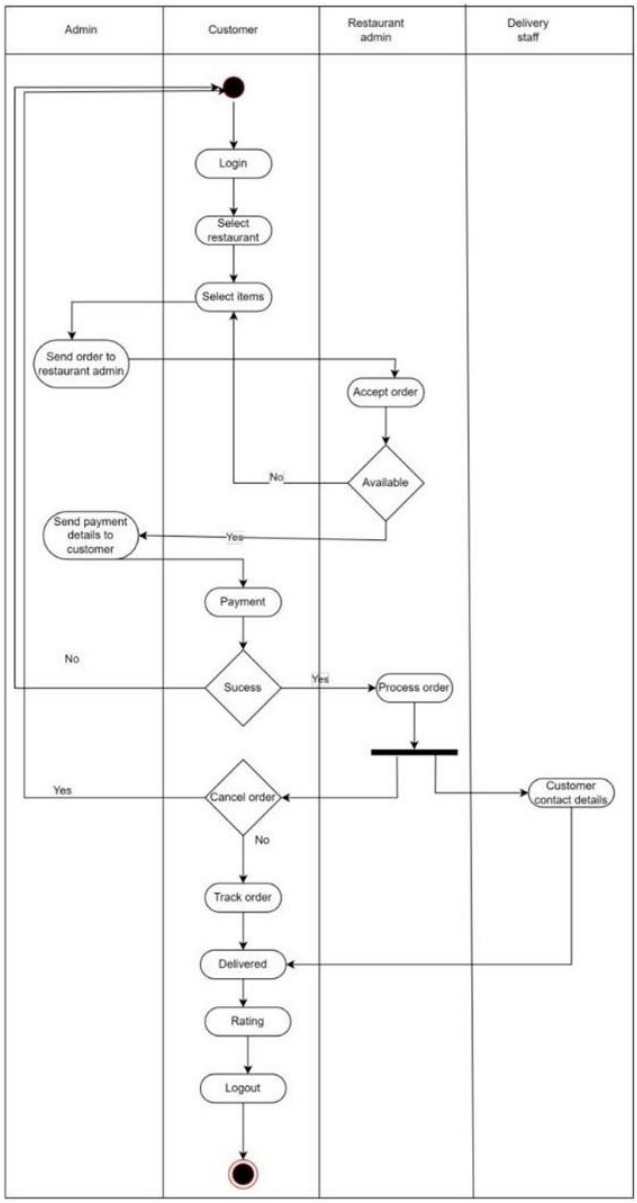
Implementation Details:

Firstly we have made log in screen with the help of components of buttons and image then we have designed sign up screen similarly by taking components. For button components we have already coded it and importing this components now for giving functionalities to these buttons we used firebase to store user details of user id and password.

After Successfully logging in we redirect user to home page here user have to select the place here we have used google API functionality for searching places and then selecting restaurant.

Working Methodology:

A food court-based web application typically follows a user-centric methodology, prioritizing convenience and choice. The process begins with user research to understand preferences, dietary restrictions, and browsing behaviors. Next, the application's architecture is designed to streamline navigation, with features such as search filters, menus, and interactive maps for efficient selection. Development involves creating a robust backend system for order processing, inventory management, and payment integration, ensuring seamless transactions. User experience is enhanced through intuitive interfaces, personalized recommendations, and real-time updates on order status. Continuous testing and iteration refine the application's functionality and performance, ensuring reliability during peak usage times. Additionally, incorporating feedback mechanisms encourages user engagement and loyalty, fostering a dynamic ecosystem for both customers and vendors within the food court environment.



Result & Discussion

The final output is a complete web based Restaurant Management System, which can be used in any kind of restaurant. This Restaurant Management System can help to manage the Restaurant more effectively, efficiently and smoothly. This is more secured and there will be speedy and well ordered authentication procedure for the maintenance of records. At present time, in this technology based world, people likes and wants everything to be smooth and efficient through the use of data and information. In this perspective, our Restaurant Management System can be an ideal platform for the users. Its user friendly interface can help the customers to find his/her desired menu item and place order with a few click. Customers can easily place an online order by browsing the menu options, pick what they want sitting at home. And can also receive their food in a short period of time

Performance

Restaurants, takeaways, and businesses that sell food to go profit from internet meal ordering software designed specifically for them. Customers like the ease of online meal ordering, which is why it is expanding quickly. Expand your sales channels by downloading our online food ordering application.

Through this food ordering website, customers may place orders from their computers, tablets, and mobiles. They can look through your menu options, choose what they want, and submit an order online. Internet-based payment will also be accepted. Meals can be picked up in person or delivered to customers.

There are many benefits to using an online food ordering app or a restaurant ordering app, including reduced labour expenses, fewer walk-away customers, and shorter wait times. This restaurant's online ordering system is intended for independent and multi-location chains that offer food to go, including eateries, fast food outlets, take-out, and other catering services.

Putting your company online will enable you to generate a lot more revenue, which will enhance your marketability. Your online menu will give current clients a terrific new option to place orders, and new customers will easily find you thanks to well-known search engines. To complement the style and feel of your present website, the system is tailored. In the digital age, we help business owners grow their enterprises.

Conclusion

Food Court Management System is a web-based technology that aids the restaurant industry in carrying out tasks effectively and efficiently. It aids in managing cash flow for managers. Managers can view analytics data to assess company growth. The manager can control orders and employee schedules by using this system. The full complement is a restaurant management system. It provides access to the Online Order platform, third-party connectors software, and comprehensive CRM solution, which together cover a sizable portion of your restaurant's requirements. They are not the outdated hardware and software sets for restaurants that were previously offered. They are the hottest things around, smooth, manageable, inexpensive, and quick.

In the "Food Ordering Project," we made every effort to meet all the demands of the restaurant. Because it is straightforward and adaptable, the project is successful. The biggest benefit of my project is that it draws plenty of users because of its simplicity. A novice user may operate it with ease. Any type of restaurant can utilize our software. By automating meal ordering, billing, and inventory control, the restaurant management system assists the restaurant manager in managing the restaurant more successfully and efficiently. The system handles the transaction and stores the data produced. These data will be used to create reports that assist the restaurant manager in making wise business decisions. For example, the manager can decide whether more waiters, delivery men, delivery carts, and cooks are needed based on how many clients will be present during a specific time period. When this project is finished, all security concerns will be resolved. Additionally, a quick and secure authentication process will be used for record maintenance. Because it automatically pulls information about a consumer from the database on subsequent visits, data entry is quick and easy. As a result, our program will undoubtedly succeed in replacing the antiquated manual way of storing secure information. The work plan also specifies the specific front end and back end characteristics of the technology being used in the project. Future project goals and its scope have been elaborated.

Future Work

Each project should pay close attention to future development because it contains the system's most recent features. It lessens software issues and defects. It develops a close relationship with customers based on their comments or preferences. Developer will incorporate certain dynamic elements that are briefly described below into my restaurant management system.

The present system depends on online management. This can be improvised by the automation of the software. The data storing will take time and requires manual observation. With the help of automation, it would store the data instantly. This will reduce the effort and time the manual observation. The updated data will be finalized and alerted from time to time to the admin. The machine learning algorithms can also be used for the prediction of the most preferred item by the customers. The customers will give feedback and this will be sent to the database.

Reporting module with real time mechanism.

Modern architecture with smooth transitions.

System for email and mobile confirmation.

Selling Point

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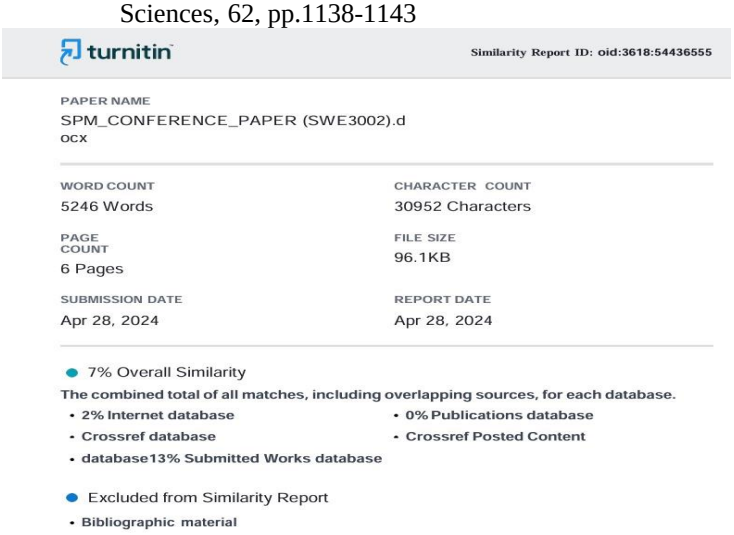

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