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Indian Kitchen: An online tiffin management system

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Abstract: The requirement for home-made and favorable meal options among bachelors and working professionals has increased the need for an efficient tiffin delivery system. This research paper focuses on the different preferences of its customers. The approach includes interviews, case studies, and surveys to understand the content of this research paper is a result of thorough review of related work and literature. It investigates in the various challenges that the existing tiffin delivery systems face in meeting the requirements of their customer base. This paper focuses on the need for incorporating technology in enhancing the accessibility and efficiency of this service. It emphasizes the use of mobile applications and online platforms for delivering satisfying services. It explores the use of data analytics for customization of the menu and location preferences for the tiffin services for timely deliveries Strategies proposed by this research paper are based on the rigorous study and the insights from industry experts. These strategies are believed to improve the variety, affordability, quality and efficiency of the tiffin delivery services.

Keywords: Online tiffin delivery system, web application shift from regular traditional cooking practices subscription service Automation

INTRODUCTION

In today's fast-paced world, the requirement for convenient tiffin delivery systems has reached its zenith. These services eliminate the need to dine out frequently by delivering to the customer nutritious food at their convenience.
This research paper, understanding the evolving need for an efficient tiffin delivery system, studies the dynamics of, and focuses on enabling such a system while catering to the unique requirements of each customer.
The shift from regular traditional cooking practices to opting for tiffin delivery services is widely conspicuous and is based off several factors. Time constraints, living away from family, and convenience are a few of the factors that drive bachelors and working professionals to opt for these services. Furthermore, the rise in nuclear, double income families also poses a significant factor in the decrease in traditional cooking methods.

However, the importance of nutritious, home-cooked food in Indian households is prominent. This amplifies the requirement of a tiffin delivery system that caters to the culinary preferences of each and every customer.

This research paper explores the motivations that drive the need for efficient tiffin delivery systems and also delves into the challenges faced by such systems in providing the customers with accessible meal solutions. Additionally, it aims at providing valuable insights regarding development of strategies to enhance the sustainability of tiffin delivery.

Ultimately, this research contributes towards understanding the dynamics of the tiffin delivery systems as an efficient and accessible meal solution for bachelors and working professionals in urban areas.

LITERATURE REVIEW

The existing system of the tiffin management is based on phone calls. Dabbawalla's and the customers are connected using just phone calls. Money transfer, selecting food items, contact with delivery boy, everything is done on phone.
Book based records are maintained for registering customers, managing monthly bills, etc. this leads to a very tedious jobs, creating a lot of disparities.
Let us understand how traditional tiffin management system use to work:

- Customers place orders for tiffin meals either in person or through telephone calls. Orders are placed for individual meals or as part of a subscription service

- where customers receive meals regularly on specified days.
- Once the meals are prepared, they are packed in tiffin boxes or containers. These containers are then delivered to customer's homes or workplaces by tiffin vendors, who use bicycles, scooters, or on-foot delivery methods.

While traditional tiffin management systems have their advantages, they also face challenges such as limited reach, scalability issues, and difficulties in maintaining consistent quality and hygiene standards. Additionally, manual ordering and delivery processes may lead to errors or delays.

Fig(1): Traditional Dabbawalla's

Need for online Tiffin management system:

Fig(2)

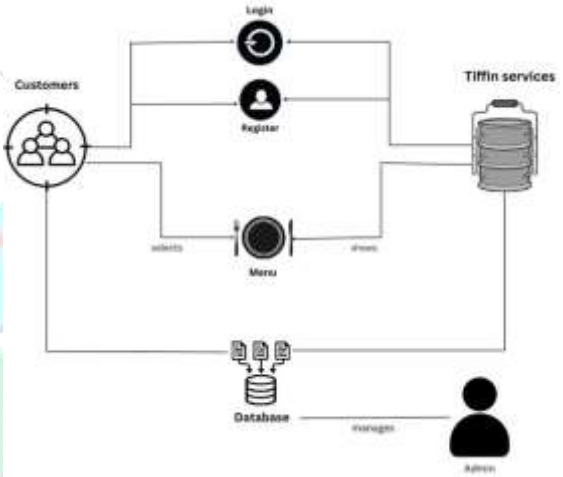
The need for an online tiffin management system arises from several factors such as consumer needs, advancement in technology and for more convenience and efficiency.
In today's fast paced world, people are always looking for convenient ways to access meals. Online tiffin management systems makes ordering meals from comfort of your workplace easy and efficient. This appeals busy professionals, students who do not have time to cook.
Unlike traditional tiffin services that are limited by physical location, online platforms have the potential to reach more people. Customers can place orders from anywhere with internet access, allowing tiffin providers to serve customers in distant neighbourhoods, cities, or even across regions
Online tiffin management system not only helps to improve efficiency but is also a great step towards

digitalization and innovation in food services industry.

PROBLEM STATEMENT

Online services like Zomato, swiggy are already present as an alternative to order food online. This current system does not have any facilities for home food services like mess and tiffin services. Our application helps to fix this problem. It targets the mess and tiffin service in a region and connect them online with the customers, making their jobs less hectic. Our application will help people to choose more healthier and better food at at reasonable rate.
Our application contains 3 important users- customer, tiffin services and admin. When a

person needs to find a new tiffin service in his area, he will explore our application to find detailed information about the mess

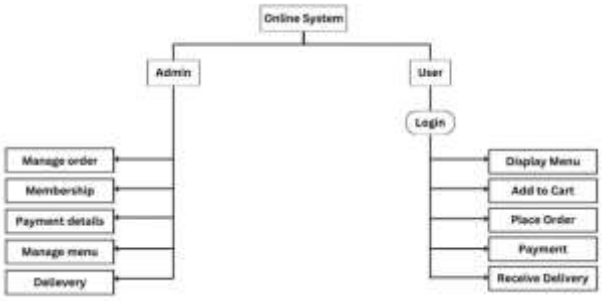


Fig(3):System Architecture

SYSTEM DESIGN

We will use html, CSS and java script to design our user interface and oracle SQL for database management.

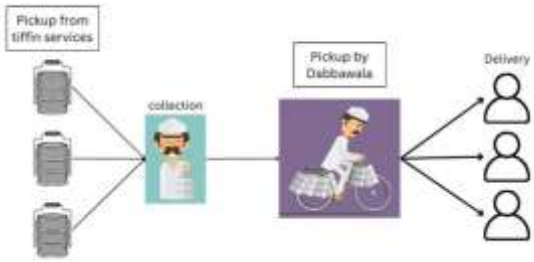
- Data flow diagram: a data flow diagram is a graphical representation of flow of data through information system. It creates an overview of the system



Fig(4) Data flow diagram

- Activity Diagram: An activity diagram is a type of behavioral diagram in the Unified Modelling Language (UML) used to model the flow of activities or actions within a system or process. It visually represents the

sequential and parallel activities involved in completing a task or achieving a specific goal.



Fig(4) Activity Diagram

Objectives:

a. to develop a tiffin management system that enhances the efficiency and convenience of ordering, managing, and delivering tiffin meals.
b. To streamline ordering and delivery process
c. To make a user-friendly interface with various features, i.e., increasing efficiency.

CHALLENGES AND SOLUTIONS

With great work comes great responsibility. As a team its our duty to solve every problem that came while developing the application. The common real-life examples that can be encountered, if we think of challenges are

1) Quality of Food:
Issue: Many customers complain about the quality of food provided by tiffin services, as it may not always meet their expectations in terms of taste, hygiene, and nutritional value.
Solution: Focus on using fresh, highquality ingredients and maintaining proper hygiene standards in the kitchen.

2) Variety and Options:
Issue: Customers desire more variety and options in the tiffin service menu.
Solution: Offer a diverse menu with options for different dietary preferences and rotate dishes regularly to keep it exciting.

3) Pricing:
Issue: Some customers find tiffin services expensive, especially on a tight budget.
Solution: Offer affordable meal plans or introduce budget-friendly options without compromising on quality.

4) Inventory Management:
Issue: Ensuring a balanced supply of ingredients while minimizing waste.
Solution: Implement efficient inventory management systems to track ingredient usage and optimize purchasing.

5) Regulatory Compliance:
Issue: Meeting food safety regulations and licensing requirements can be challenging.
Solution: Stay updated with local regulations, obtain necessary licenses, and ensure compliance with food safety standards.

6) Food Safety:
Issue: Ensuring food is prepared, stored, and transported safely to prevent contamination.
Solution: Follow strict hygiene practices, maintain proper temperature control, and adhere to food safety protocols.

7) Timely Deliveries and Logistics:
Issue: Punctual delivery is crucial for customer satisfaction.
Solution: Optimize delivery routes, use efficient transportation methods, and provide accurate delivery estimates to customers.

Conclusion:
This Website provides a computerized and automated version of Online Tiffin Service System which will benefit the users who search Tiffin service online.

It makes entire process online and can generate reports. It has a facility of user's login where users can book tiffin service and also view their invoice details.

The website was designed in such a way that future changes can be done easily. The following conclusions can be deduced from the development of
the project

- Automation of the entire system improves the productivity.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The System has adequate scope for modification in future if it is necessary.

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