

SYNOPSIS ON FOODIE CONNECT (2025)

SUBMITTED TO

Mrs. Sunitha S Nair

Head of department

Department Of Computer Science

And Application

SUBMITTED BY

Abhay S Babu (33222825003)

Aby Thomas (33222825007)

Adithyan Shine (33222825011)

Moncy Varghese (33222825048)

Varun R (33222825061)

UNDER THE GUIDANCE OF

Mr. Goutham Krishna L U

Assistant Professor

Department of Computer Science

And Applications

Department Of Computer Science And Application

Christ Nagar College Maranalloor

INTRODUCTION

The restaurant industry has rapidly evolved with the rise of digital technology, making it essential for businesses to adopt modern solutions to keep up with customer expectations. The Restaurant Portal Management System aims to streamline restaurant operations by integrating various processes into one unified digital platform. This system addresses the increasing demand for online ordering, table reservations, real-time delivery tracking, and efficient inventory management, ensuring that restaurants can offer a seamless and satisfying customer experience.

As the restaurant landscape becomes more competitive, customers are looking for more than just great food—they expect convenience and efficiency. With the rise of food delivery apps and online ordering platforms, the expectations for fast service and easy communication have only grown. Restaurants that cannot adapt to these trends risk losing customers to more tech-savvy competitors. The Restaurant Portal Management System fills this gap by offering a solution that not only meets customer demands but also enhances internal restaurant processes.

This platform integrates essential functions such as point-of-sale (POS) systems, staff management, vendor coordination, and inventory tracking, all in one place. By doing so, it eliminates the need for fragmented tools, reducing the manual workload and increasing operational efficiency. With the ability to automate tasks, streamline order tracking, and provide real-time insights, restaurants can focus on delivering exceptional food and service while the system handles the operational complexities.

Furthermore, the Restaurant Portal Management System leverages data to provide valuable insights that can help restaurants make informed decisions. This includes analytics on customer preferences, peak hours, inventory levels, and financial performance. With these insights, restaurant owners and managers can optimize operations, reduce costs, and ultimately increase profitability. In short, the system is designed to help restaurants thrive in the digital age by improving both customer satisfaction and business efficiency.

OBJECTIVE OF THE PROJECT

The primary objective of the Restaurant Portal Management System is to provide a comprehensive, all-in-one solution that connects restaurants, customers, and vendors through a user-friendly platform. This digital solution aims to revolutionize restaurant operations by automating key processes, thereby enhancing efficiency and productivity. The system consolidates order management, inventory tracking, reservations, and vendor relations into a single, cohesive platform, eliminating the need for multiple disconnected systems.

A key focus of the project is to improve operational efficiency. By automating tasks such as order tracking, inventory management, and staff scheduling, restaurants can reduce manual effort and human errors. This not only helps in speeding up service but also ensures that restaurant staff can focus more on delivering quality food and a pleasant dining experience. Efficient operations lead to better resource allocation and cost savings, which directly benefit the business's bottom line.

Another significant objective is to enhance customer experience by offering streamlined online ordering and real-time delivery tracking. In today's world, customers expect to have the convenience of browsing menus online, placing orders with a few clicks, and tracking their delivery status in real-time. The system ensures that customers are engaged at every step, from order placement to delivery, improving their overall dining experience and fostering customer loyalty.

Additionally, the system provides advanced financial control by integrating with the restaurant's POS system. This allows for detailed financial reporting and real-time sales tracking, which gives restaurant owners better insight into their business performance. By offering these tools, the project aims to empower restaurant managers to make data-driven decisions that enhance operational efficiency, improve customer retention, and increase revenue.

Key Features:

- **Centralized Order Management:** Efficient tracking of orders from online placement to delivery or pickup.
- **Online Ordering System:** Enable customers to browse menus, place orders, and select delivery or pickup options.
- **Reservation System:** Manage table bookings with automated confirmations and reminders.
- **Real-Time Delivery Tracking:** Keep customers updated on their order's status.
- **Payment Processing:** Secure payments with multiple options for easy checkouts.
- **Customer Relationship Management (CRM):** Manage customer data, loyalty programs, and feedback.
- **Staff & Vendor Management:** Efficiently handle schedules, inventory, and supplier relationships.

EXISTING SYSTEM

Traditional restaurant management systems are often disjointed and inefficient, relying on separate tools for order management, inventory tracking, and customer relations. These systems lack the modern integration necessary to handle the demands of today's fast-paced, digital environment. In many cases, restaurants still rely on manual processes, such as paper-based order taking, which can lead to errors, delays, and miscommunication. These outdated practices not only slow down service but also negatively impact the customer experience.

One major issue with existing systems is the lack of real-time updates. In most restaurants, inventory management is done manually, making it difficult to keep track of stock levels accurately. This often results in restaurants either running out of key ingredients or overstocking, leading to food wastage. Similarly, menu updates and pricing changes can take time to implement, meaning that customers may encounter discrepancies between what is listed online and what is actually available in the restaurant.

Another major limitation is the absence of a unified platform for online ordering and payment processing. In many cases, restaurants depend on third-party delivery apps, which not only charge high commissions but also limit the restaurant's control over customer interactions. Furthermore, these disconnected systems mean that customer data is not stored or analyzed in a meaningful way, preventing restaurants from building personalized marketing strategies or loyalty programs.

The lack of automation also hinders staff management and operational efficiency. Employee scheduling, shift management, and performance tracking are often handled manually, which increases the risk of scheduling conflicts and inefficiencies. Moreover, without a consolidated system, restaurants cannot easily track employee productivity or customer feedback, making it difficult to optimize operations. These challenges underscore the need for a more integrated, automated solution like the Restaurant Portal Management System.

Disadvantages of Existing Systems:

1. **Disconnected Systems:** Multiple systems for order, delivery, and inventory management.
2. **Manual Processes:** Time-consuming order and inventory tracking.
3. **Outdated Information:** Inaccurate or delayed menu and pricing updates.
4. **Limited Online Ordering Options:** No integrated platform for customers to place orders directly.
5. **Lack of Automation:** Separate tools for payment processing, inventory management, and customer feedback.

PROPOSED SYSTEM

The Restaurant Portal Management System aims to address the shortcomings of traditional restaurant management systems by offering a fully integrated solution that combines multiple functionalities into a single, cohesive platform. This system will revolutionize the way restaurants manage their operations by automating key tasks, reducing manual errors, and providing real-time insights into performance metrics. The proposed system is designed to streamline processes such as online ordering, inventory management, staff scheduling, vendor relations, and point-of-sale integration.

One of the key features of the proposed system is its ability to manage online orders and table reservations in real-time. Customers can browse the restaurant's menu, place orders, and even track the delivery status through the system's user-friendly interface. For reservations, the system sends automated confirmations and reminders, ensuring that customers have a seamless dining experience. This feature not only improves customer satisfaction but also helps the restaurant maintain better control over its seating arrangements and order flow.

The system also includes advanced inventory management capabilities. By tracking stock levels in real-time, the system ensures that restaurants always have the right amount of ingredients on hand. Automated reordering features allow restaurants to sync with their vendors, preventing stockouts and reducing food waste. This integration between inventory and vendor management is crucial for optimizing supply chain efficiency and reducing operational costs.

Furthermore, the system integrates seamlessly with the restaurant's POS, allowing for secure payment processing, detailed financial reporting, and real-time sales tracking. The POS integration also simplifies the billing process, ensuring that payments are processed quickly and accurately. Additionally, the system's reporting and analytics tools provide valuable insights into customer preferences, peak service times, and operational efficiency, empowering restaurant managers to make data-driven decisions that improve overall performance.

Advantages of the Proposed System:

1. Admin Dashboard: Manage orders, menus, payments, and customer profiles efficiently.
2. Online Ordering: Allow customers to place orders for delivery or pickup with real-time tracking.
3. Customer Dashboard: Customers can browse menus, order food, make reservations, and track deliveries.
4. Staff Management: Streamline employee scheduling and role assignment.
5. Vendor Management: Sync vendor deliveries and inventory updates for seamless operations.
6. POS Integration: Unified payment and billing processing through a seamless POS system.

PROJECT DESCRIPTION

The Restaurant Portal Management System will be built using Angular and .NET for backend development, along with HTML, CSS, and JavaScript for the front-end interface. The system comprises several key modules, each designed to handle a specific aspect of restaurant operations, with the added functionality of online ordering.

Modules and Their Functions:

1. Admin Module

FN 1: User Management

- **Function:** Create and manage staff accounts, define roles, and permissions.
- **Input:** Staff Details, Role Definitions, Permissions
- **Output:** Staff Accounts Created/Updated, Roles and Permissions Defined

FN 2: Menu Management

- **Function:** Add, edit, and remove menu items; set prices, discounts, and special offers.
- **Input:** Menu Item Details, Prices, Discounts, Special Offers
- **Output:** Menu Updated Successfully

FN 3: Online Ordering Management

- **Function:** View, manage, and track real-time online orders placed for delivery or pickup.
- **Input:** Order Details
- **Output:** Order Status Updated, Orders Managed

FN 4: Reservation Management

- **Function:** Manage table bookings, send confirmations, and reminders.
- **Input:** Reservation Details
- **Output:** Table Booked, Confirmation and Reminder Sent

FN 5: Payment Processing

- **Function:** Integrate payment gateways, process payments, refunds, and generate invoices.
- **Input:** Payment Information, Refund Requests
- **Output:** Payment Processed, Refund Issued, Invoice Generated

FN 6: Inventory Management

- **Function:** Track stock levels, automate supply orders, and generate inventory reports.
- **Input:** Stock Levels, Supply Orders
- **Output:** Inventory Updated, Reports Generated

FN 7: Staff Management

- **Function:** Manage employee schedules, working hours, and role assignments.
- **Input:** Employee Schedules, Working Hours, Role Assignments
- **Output:** Schedules Managed, Hours Tracked, Roles Assigned

FN 8: Reporting & Analytics

- **Function:** Generate sales, customer insights, and operational metrics reports.
- **Input:** Report Criteria
- **Output:** Reports Generated

FN 9: System Integration

- **Function:** Integrate third-party tools and sync with POS systems for unified management.
- **Input:** Integration Details
- **Output:** Systems Integrated, Data Synced

2. User (Customer) Module

FN 1: Menu Exploration

- **Function:** Browse menus with descriptions, images, prices, and daily specials.
- **Input:** Menu Queries
- **Output:** Menu Displayed

FN 2: Online Ordering

- **Function:** Place delivery or pickup orders, track order status, and view order history.
- **Input:** Order Details
- **Output:** Order Placed, Status Updated, Order History Displayed

FN 3: Reservation Management

- **Function:** Book tables online and receive reservation confirmations.
- **Input:** Reservation Request
- **Output:** Table Booked, Confirmation Received

FN 4: Payment Processing

- **Function:** Securely pay online using multiple methods and download invoices.
- **Input:** Payment Information
- **Output:** Payment Successful, Invoice Downloaded

FN 5: Content Access

- **Function:** Access restaurant details, contact information, and blog posts.
- **Input:** Content Request
- **Output:** Content Displayed

3. Staff Module

FN 1: Order Management

- **Function:** View and manage customer orders in real time.
- **Input:** Order Details
- **Output:** Orders Managed

FN 2: Reservation Management

- **Function:** Oversee table bookings and send confirmations.
- **Input:** Reservation Details
- **Output:** Bookings Managed, Confirmations Sent

FN 3: Employee Scheduling

- **Function:** Track working hours and shift assignments.
- **Input:** Employee Schedule Details
- **Output:** Schedules Tracked

FN 4: Reporting

- **Function:** View relevant operational and sales reports.
- **Input:** Report Request
- **Output:** Reports Displayed

4. Vendor Management Module

FN 1: Vendor Profiles

- **Function:** Create and manage vendor profiles and product catalogs.
- **Input:** Vendor Details, Product Catalogs
- **Output:** Vendor Profiles Managed

FN 2: Supply Ordering

- **Function:** Track and manage supply orders and deliveries.
- **Input:** Supply Order Details
- **Output:** Orders Tracked, Deliveries Managed

FN 3: Contract Management

- **Function:** Oversee vendor contracts, renewal schedules, and terms.
- **Input:** Contract Details
- **Output:** Contracts Managed

FN 4: Vendor Payments

- **Function:** Process payments for supplies and manage invoices.
- **Input:** Payment Information, Invoice Details
- **Output:** Payments Processed, Invoices Managed

REQUIREMENT SPECIFICATIONS

(a)HARDWARE REQUIREMENTS

Processor	:	Intel core i7 Processor
Speed	:	3GHz or above
RAM	:	3GB or above
Hard Disk Capacity	:	1TB
Keyboard	:	Multimedia
Keyboard Mouse	:	Standard
USB	:	2.0 & 3.0

(b)SOFTWARE REQUIREMENTS

Operating System	:	Windows 11
Front End	:	Angular JS
Backend	:	.NET
Tools used	:	Visual Studio Code
Database	:	MySQL

FUTURE SCOPE

The Restaurant Portal Management System has a wide range of possibilities for future expansion and development. One promising area is the integration of artificial intelligence (AI) to provide personalized recommendations to customers based on their order history and preferences. With AI, the system could suggest new dishes, offer personalized discounts, and even predict future customer behaviour, helping restaurants enhance customer engagement and loyalty. AI-driven insights could also help restaurant managers make better inventory and staffing decisions by analysing trends and predicting peak demand periods.

Another potential development is the integration of third-party delivery services directly into the platform. While the system already supports real-time order tracking, future updates could include partnerships with popular delivery apps to streamline logistics and offer customers more delivery options. This would not only increase the restaurant's reach but also provide a more convenient and efficient delivery service for customers. Additionally, advanced delivery tracking features could offer more precise estimates on delivery times, further improving the customer experience.

As technology continues to advance, blockchain could be integrated into the system to enhance the security and transparency of vendor payments and contracts. By using blockchain technology, restaurants could ensure that all transactions are securely recorded, eliminating the possibility of tampering or disputes. Blockchain could also be applied to loyalty programs, creating a more secure and transparent way of managing customer rewards and promotions.

Finally, the development of a dedicated mobile app could greatly enhance the system's usability and accessibility. Customers could use the app to place orders, make reservations, and track deliveries from their smartphones. Restaurant staff could also use the app to manage orders, check inventory levels, and communicate with vendors on the go. By expanding the system to mobile devices, the Restaurant Portal Management System could offer even greater flexibility and convenience for both customers and restaurant staff.

CONCLUSION

The Restaurant Portal Management System is a comprehensive solution that addresses the various challenges faced by modern restaurants. By integrating online ordering, reservations, inventory management, and POS systems into one unified platform, the system simplifies restaurant operations and enhances the overall customer experience. Through automation and real-time data tracking, the system reduces manual effort, increases accuracy, and ensures that restaurants can focus on what matters most—providing great food and service.

With its robust set of features, the system empowers restaurant owners and managers to make data-driven decisions that improve operational efficiency and profitability. The system's ability to track customer preferences, optimize inventory, and manage staff schedules allows restaurants to operate more smoothly and effectively. Moreover, the integrated customer relationship management (CRM) tools help build long-lasting relationships with customers by offering personalized experiences and loyalty rewards.

Looking to the future, the system has the potential to evolve with emerging technologies such as AI, blockchain, and mobile integration. These advancements will further enhance the system's capabilities, allowing restaurants to stay ahead of industry trends and deliver exceptional service to their customers. The Restaurant Portal Management System is not just a solution for today's challenges but also a scalable, future-proof platform that will continue to meet the evolving needs of the restaurant industry.

In conclusion, the Restaurant Portal Management System offers a transformative solution for restaurants looking to modernize their operations and stay competitive in an increasingly digital world. Its comprehensive functionality, ease of use

REFERENCES

Book References:

1. Pro C# 10 and the .NET 6 Platform; By Andrew Troelsen
2. Angular Up and Running: Learning Angular Step by Step; By Shyam Seshadri
3. Mysql: Learning Mysql : Get Handle Your Data; By Vinius

Web References:

1. petpooja.com
2. touchbistro.com