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CUSTOMISABLE RESTAURANT FOOD ORDERING AND MANAGEMENT SYSTEM

SHANMATHI R[1], Mrs. SOWNDHARYA M[2]

Student, Dept of Computer Science with Cognitive Systems, Dr. N.G.P Arts and Science College, Coimbatore, India[1]

Assistant Professor, Dept of Computer Science with Cognitive Systems, Dr. N.G.P Arts and Science College, Coimbatore, India[2]

INTRODUCTION

1.1 ABSTRACT

This project aims to create a web-based Restaurant Food Ordering System to improve efficiency and customer experience. By allowing customers to browse menus, place orders, customize selections, and make payments from their devices, the system reduces errors, shortens wait times, and enhances satisfaction. It also offers features like table pre-booking and customizable food options, creating a personalized experience. Overall, the system streamlines restaurant operations, reduces staff workload, and optimizes service delivery.

1.2 OBJECTIVES

This project proposes an Restaurant Food Ordering System to address inefficiencies in traditional food ordering methods. By automating the ordering and payment process, the system reduces errors, long wait times, and the reliance on cash transactions. Customers can browse menus, customize orders, and make secure payments directly from their Android devices. The app also provides real-time order updates, improving convenience and order accuracy, while helping restaurants enhance service speed and efficiency.

This project develops Restaurant Food Ordering System to improve both customer experience and restaurant operations. Customers can easily browse the menu, customize orders, and make secure digital payments. The app ensures accurate orders with direct communication between the kitchen and customers, along with real-time order updates. For restaurants, it automates order-taking, reduces staff workload, and includes tools for menu management, order tracking, and reporting. This system enhances customer satisfaction, reduces operational costs, and improves service efficiency, creating a seamless dining experience.

2.SYSTEM STUDY

2.1 EXISTING SYSTEM

Traditional restaurant ordering systems rely on manual processes, leading to issues like order errors, delays, and limited customization options. Customers often can't personalize meals or track their order status in real-time, causing frustration. Additionally, the lack of pre-booking features and poor inventory management reduces efficiency and customer satisfaction. These challenges highlight the need for a digital, automated solution to improve accuracy, speed, and convenience in the dining experience.

DRAWBACKS OF EXISTING RESTAURANT ORDERING SYSTEMS

- High Chance of Human Errors in Order-Taking
- Long Wait Times During Peak Hours
- Limited Customization Options for Customers
- Lack of an Integrated Table Reservation System

2.2 PROPOSED SYSTEM

The proposed web-based food ordering system improves customer experience and restaurant operations by allowing customers to browse menus, customize orders, and pre-book tables easily. It reduces human errors, offers personalized meal options, and provides real-time order tracking. The system also includes a table reservation feature to minimize wait times and digital payment options for secure transactions. Overall, it enhances accuracy, speed, and convenience, leading to greater customer satisfaction and increased restaurant productivity.

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ADVANTAGE OF THE PROPOSED SYSTEM

- Faster Order Processing
- Customization
- Improved Accuracy
- Table Reservation
- Enhanced Customer Satisfaction

3.SYSTEM SPECIFICATION

3.1 HARDWARE SPECIFICATIONS

- Processor : Intel 3
- Installed memory (RAM) : 8 GB
- Hard Disk : 500 GB
- Operating System : Windows 10 /11- 64 bit

3.2 SOFTWARE SPECIFICATIONS

- Front end: Html. Css
- Programming Language: PHP
- Database : MySQL

3.3 SOFTWARE DESCRIPTION

HYPERTEXT MARKUP LANGUAGE

HTML stands for "Hypertext Markup Language". HTML is a SGML (Standard Generalized Markup Language) application widely used to create web pages. It is basically a formatting language and not a programming language.HTML is a language that is easy to write, easy to understand and highly portable. HTML is not a compiled language and is directly interpreted by a browser.HTML is the set of instructions. Each instruction is called as an element or Markup. It is used to structure and format documents for presentation on the web. HTML enhances ASCII files with markup tags that permit the display of a variety of fonts, images, and highlighting options. It also designates structural elements such as headers, lists, and paragraphs, and provides hypertext links to other documents on the Internet.

Interactive HTML:

Html TagThe first and last tags in a document should always be the HTML tags. These are the tags that tell a Web browser where the HTML in your document begins and ends. The absolute most basic of all possible Web documents is:

<Html >
</Html>

Head Tag The HEAD tags contain all of the document's header information. When I say "header," I don't mean what appears at the top of the browser window, but things like the document title and so on. Speaking of which...

Body Tag BODY comes after the HEAD structure. Between the BODY tags, all of the stuff that gets displayed in the browser window is found. All of the text, the graphics, and links, and so on these things occur between the BODY tags.

Forms Tag Forms provide a unique feature to HTML. Forms allow you to collect data from the end user and return that data to an executable code. The <FORM> element is used to start a form.

Attributes Tag ACTION-The ACTION attribute specifies what program or HTML file is to be called when the submit button is pressed. The ACTION is specified as a URL.

The <INPUT> Element The<INPUT> tag provides some type of data entry in the form depending on the value of its type attribute.

JavaScript

JavaScript is a cross-platform, object-based scripting language primarily used for client-side web development. It is embedded in HTML pages and executed by web browsers to add interactivity and dynamic behavior to web pages. JavaScript can also be used on the server side for tasks similar to languages like Perl or ASP.

CASCADING STYLE SHEETS (CSS)

Introduction to CSS

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Cascading Style Sheets (CSS) is a stylesheet language used to control the presentation and layout of web pages. It works alongside HTML to define how elements appear on the screen, including their color, size, spacing, positioning, and responsiveness. CSS allows developers to separate content (HTML) from design (CSS), improving code maintainability and making websites more visually appealing.

Key Features of CSS

1. Separation of Content and Design
2. Cascading Nature
3. Selector-Based Styling
4. Responsive Design Support
5. Cross-Browser Compatibility

Advantages of CSS

Improved Website Design – Creates visually appealing layouts.
Better Maintainability – Separates content from styling for cleaner code.
Responsive Web Design – Adapts to different screen sizes.
Faster Page Loading – Reduces HTML file size by moving styling to CSS.
Cross-Browser Compatibility – Ensures consistent appearance on all browsers.

MySQL

MySQL is an open-source relational database management system (RDBMS) that is widely used for storing, managing, and retrieving structured data efficiently. It is based on the Structured Query Language (SQL) and is one of the most popular database solutions for web applications, enterprise systems, and data-driven applications.

Key Features of MySQL

1. **Relational Database Structure**
   - Stores data in **tables** with predefined relationships between them.
   - Supports **primary keys, foreign keys, indexes**, and constraints to maintain data integrity.
2. **High Performance & Scalability**
   - Optimized for **fast query execution** with indexing and caching mechanisms.
   - Can handle **large-scale databases** with millions of records efficiently.
3. **Data Security & Integrity**
   - Provides **user authentication, encryption, and access control mechanisms** to secure data.
   - Ensures **ACID (Atomicity, Consistency, Isolation, Durability)** compliance for reliable transactions.
4. **Multi-User & Multi-Threaded**
   - Supports **multiple concurrent users** with efficient query processing.
   - Uses a **multi-threaded architecture** to improve performance.
5. **Cross-Platform Support**
   - Compatible with **Windows, Linux, macOS**, and cloud-based environments.
   - Can be integrated with various programming languages like **Python, Java, PHP, C++, and more**.

PHP (Hypertext Preprocessor)

Introduction to PHP

PHP (Hypertext Preprocessor) is a server-side scripting language used for web development. It runs on various platforms and generates dynamic web content by executing scripts on the server. PHP is popular for its simplicity, flexibility, and efficiency in creating websites, CMS, e-commerce platforms, and APIs.

Key Features of PHP

1. Open-Source & Free
   - PHP is open-source, meaning it is free to use, modify, and distribute. Developers worldwide contribute to its continuous improvement.
2. Embedded in HTML
   - PHP code can be easily embedded within HTML files, allowing developers to mix static content (HTML) with dynamic content (PHP).
3. Cross-Platform Compatibility
   - PHP is compatible with Windows, macOS, Linux, and Unix and supports all major web servers, including Apache, Nginx, and IIS.
4. Supports Multiple Databases

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- PHP seamlessly integrates with MySQL, PostgreSQL, MariaDB, MongoDB, SQLite, and other databases, making it ideal for database-driven applications.

5. Extensive Library Support
   - PHP has built-in libraries for handling file manipulation, session management, form handling, encryption, and more.
6. Security Features
   - PHP provides security functions like data encryption, secure session handling, SQL injection prevention, and XSS (Cross-Site Scripting) protection.
   -

Advantages of PHP

Easy to Learn – Beginner-friendly syntax.
Highly Scalable – Suitable for both small and large applications.
Large Community Support – Millions of developers contribute to PHP libraries.
Cost-Effective – Free to use, reducing development costs.
High Performance – Faster execution compared to other scripting languages.

4.SYSTEM DESIGN

4.1 ER DIAGRAM

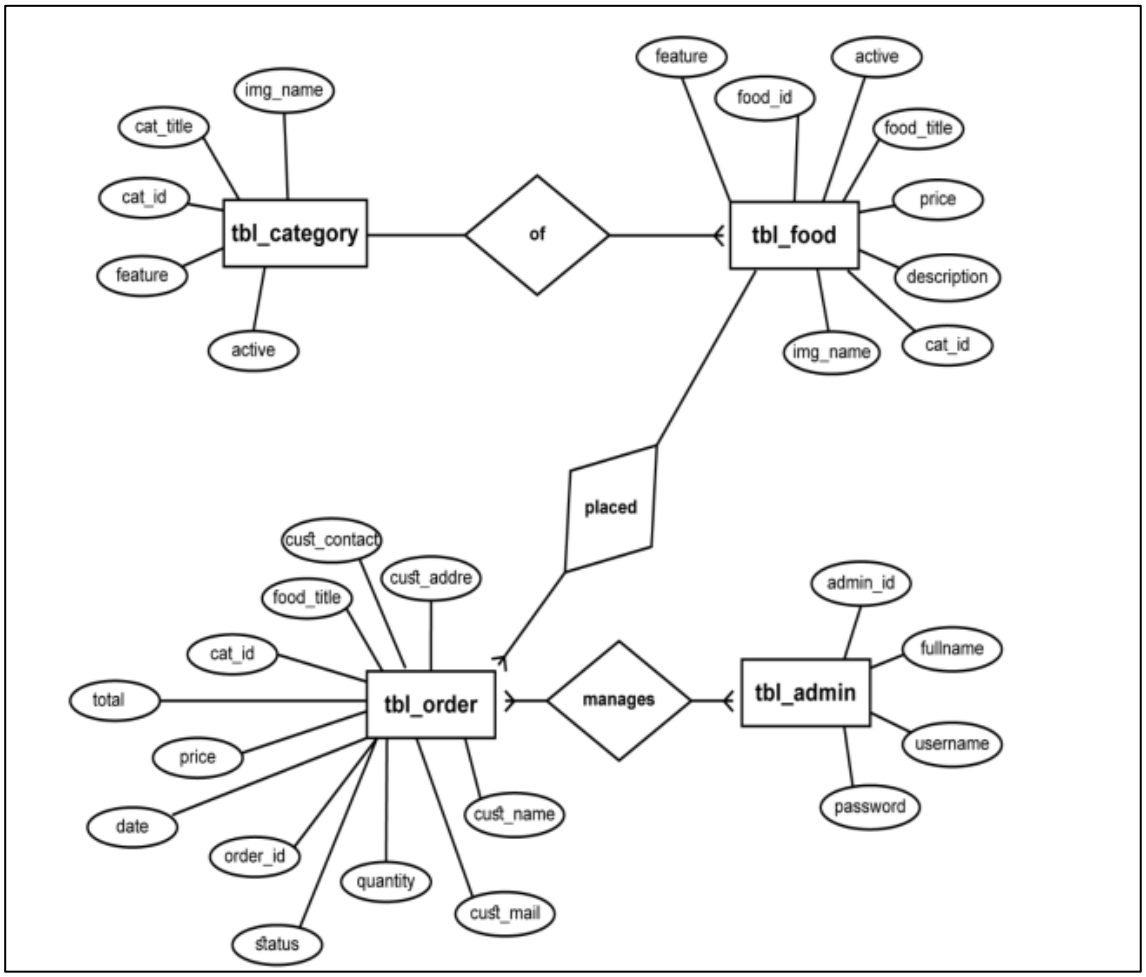

FIG:1

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DFD DIAGRAM

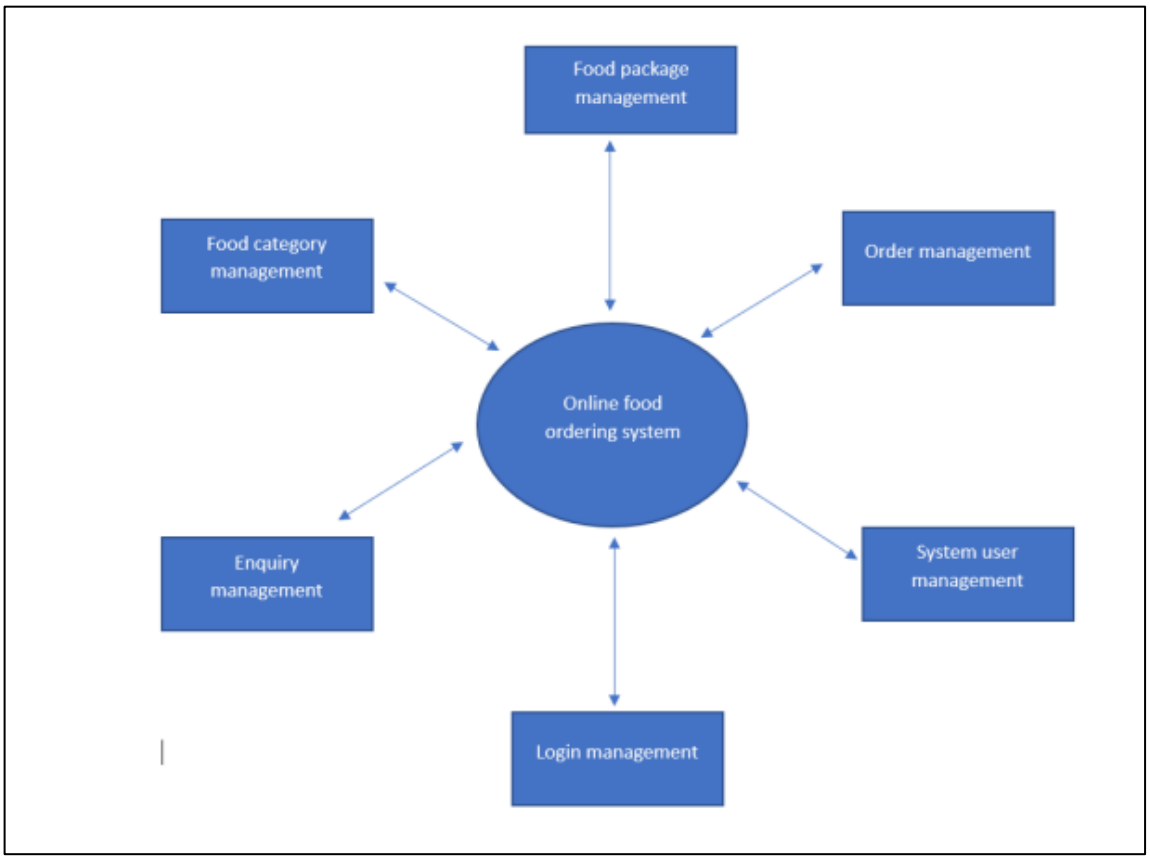

FIG:2

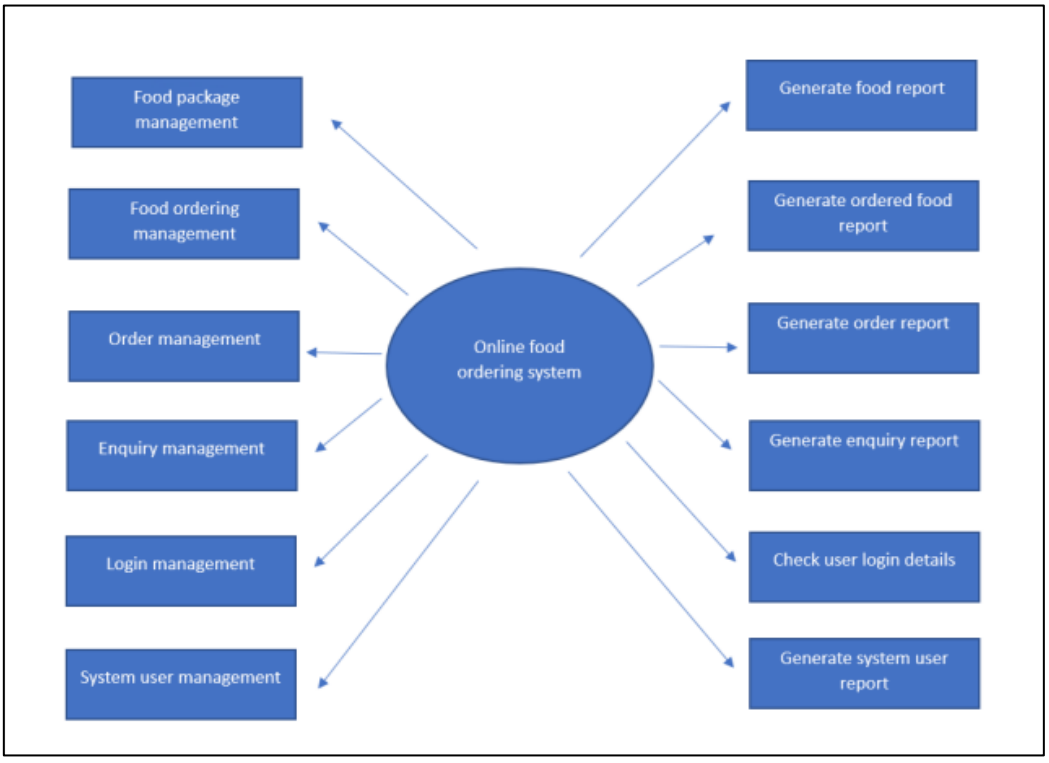

FIG:3

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5.SYSTEM IMPLEMENTATION

The implementation of the Customizable Restaurant Food Ordering and Management System involves multiple stages, including system design, development, integration, testing, and deployment. The system is built using web technologies and consists of both a customer-facing interface and an admin panel for restaurant management.

- Technology Stack
- System Modules and Implementation
  1. Customer Module (Ordering System)
  2. Table Reservation System
  3. Kitchen & Order Management System
  4. Admin Panel (Restaurant Management)
- Integration with External Systems
- Testing and Deployment

6.CONCLUSION

The Customizable Restaurant Food Ordering and Management System enhances dining by allowing customers to personalize orders, streamlining operations with automated order processing and real-time tracking. It also includes features like table pre-booking, inventory management, and data analytics for better business decisions. This system reduces wait times, human errors, and staff workload, while improving customer satisfaction and operational efficiency, giving restaurants a competitive edge in the digital era.

7.SCOPE OF THE PROJECT

- **Customer Ordering**: Allow customers to browse menus, customize orders, and make payments via a web application.
- **Table Reservation**: Enable customers to pre-book tables for a specified time to avoid wait times.
- **Order Management**: Provide restaurant staff with tools to manage orders, track status, and update menus in real-time.
- **Customization Options**: Allow customers to personalize their food orders based on preferences and dietary needs.
- **Efficiency Improvement**: Streamline restaurant operations by automating order-taking, reducing human error, and improving service speed.

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9. APPENDIX

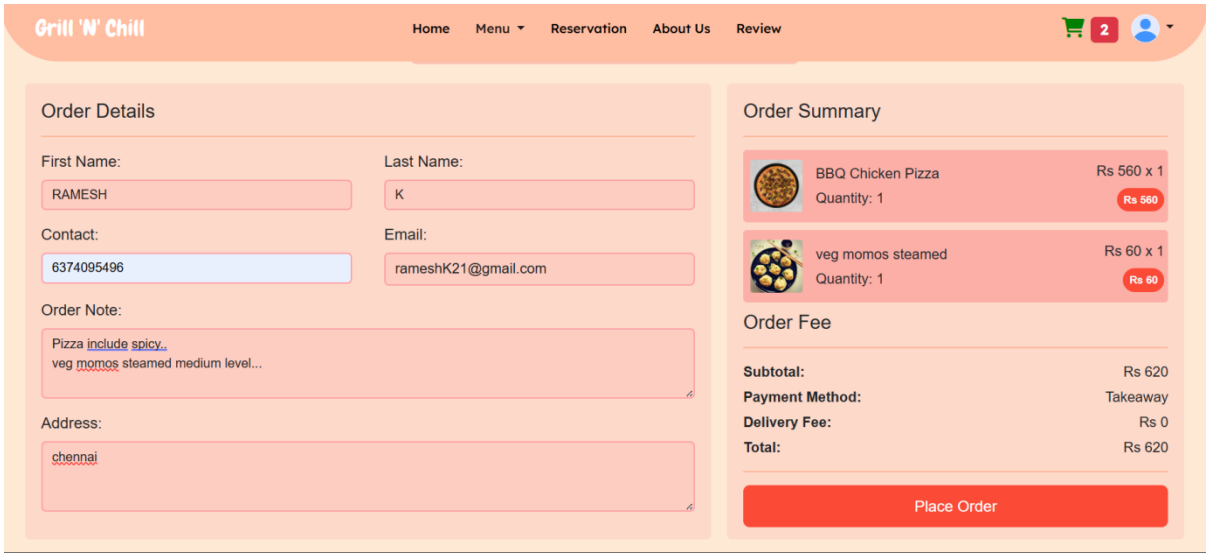

FIG:4

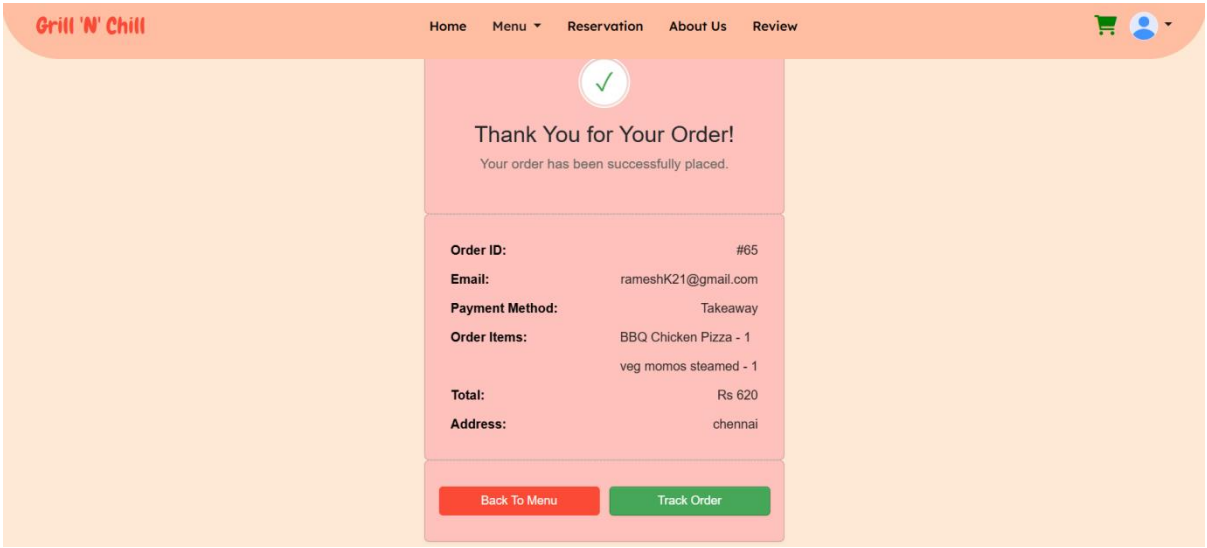

FIG:5