**CHAPTER ONE**

**INTRODUCTION**

**1.1 Background to the study**

In today's fast-paced world, the food industry is undergoing a significant transformation, driven by advancements in technology and changing consumer preferences. Restaurants and eateries are increasingly adopting innovative solutions to improve operational efficiency, enhance customer experience, and stay competitive. One area of focus is the implementation of food ordering systems, which streamline the ordering process and enable seamless interaction between customers, restaurant staff, and kitchen operations. The food industry is constantly evolving, and technological advancements have significantly influenced the way restaurants and eateries operate. One area that has experienced notable transformation is the ordering process, with the introduction of food ordering systems. These systems utilize digital platforms and mobile applications to streamline the ordering process, enhance customer experience, and improve operational efficiency in the restaurant industry (Davis & Smith, 2023).

Online food ordering is the process of ordering food from a website. The product can either be

food that has been specially prepared for direct consumption (such as vegetables straight from a

farm or garden, frozen meats, etc.) or food that has not been (such as direct from a certified home-

kitchen, restaurant). The effort to create an online food ordering system aims to replace the manual

method of taking orders with a digital one (Johnson, 2022).

In recent years, there has been a significant shift in consumer behavior, with an increasing number of people preferring online and mobile ordering options. According to a survey conducted by Statista (2022), online food delivery sales reached $32.81 billion in the United States in 2021, indicating the growing popularity of digital ordering platforms. Restaurants and eateries need to adapt to these changing trends to remain competitive and meet customer expectations. Traditional manual ordering processes, characterized by handwritten notes or verbal orders, often resulted in errors, miscommunications, and longer waiting times. These inefficiencies led to customer dissatisfaction and posed challenges for restaurant staff in managing high-demand periods effectively. In response, the implementation of food ordering systems has gained traction as an effective solution to these issues.

Amazi Eatery presents an opportunity to explore the implementation and evaluation of a food ordering system in a real-world context. Amazi Eatery, a prominent restaurant chain, identified the need to address challenges related to order management, customer satisfaction, and operational efficiency. The manual order processing methods resulted in delays, order inaccuracies, and customer dissatisfaction. To overcome these challenges, Amazi Eatery embarked on a project to implement a robust food ordering system tailored to their specific requirements

**1.2 Problem Statement**

Amazi Eatery, a popular restaurant chain, has been facing challenges related to order management, customer satisfaction, and operational efficiency. The traditional manual ordering process has resulted in inefficiencies, order inaccuracies, and long waiting times, leading to customer dissatisfaction and potential revenue loss. To address these issues, there is a need for an effective food ordering system that can streamline operations, improve order accuracy, and enhance the overall dining experience.

**1.3 Aim and Objectives**

The aim of this project is to design and implement a food ordering system at Amazi Eatery, focusing on the following specific objectives:

1. To identify the challenges faced by Amazi Eatery in its current order management process.
2. To design and develop a comprehensive food ordering system that caters to the specific needs of Amazi Eatery.
3. To design a secure system where order records of Amazi eatery can be kept and retrieved when needed.

**1.4 Significance of the Study**

The implementation of an efficient food ordering system at Amazi Eatery has significant implications for both the restaurant industry and customers. For the restaurant, it offers the potential to enhance operational efficiency, reduce costs, and improve revenue generation.

Helping customers in placing meal orders whenever they want. Customers will be able to order their preferred foods at any time, but as we've already mentioned, this is only a limited option.

Additionally, it enables better order management, resulting in increased customer satisfaction and loyalty. For customers, the system provides a convenient and seamless ordering experience, reducing waiting times and ensuring order accuracy.

**1.5 Scope of the study**

The scope of the study is involves developing a food ordering system for Amazi Eatery. The food ordering system provides search options based on various criteria such as food item, customer, order, and order confirmation. This feature allows customers and restaurant staff to easily locate specific information within the system, enhancing efficiency and convenience. The online food ordering system includes functionalities to manage payment information, order details, order confirmation, and food items online. It ensures secure transaction handling and simplifies the payment process for customers, leading to a seamless ordering experience. The system displays comprehensive information and descriptions of food items for customers. It facilitates effective management of food items and categories, allowing easy editing, adding, and updating of records. This feature enables Amazi Eatery to provide up-to-date and accurate information to customers, enhancing their decision-making process.

**1.6 Definition of some Operational Terms**

**Data Management:** The process of organizing, storing, and manipulating data within the food ordering system. It involves managing customer information, order details, menu items, and other relevant data (Brown & Wilson, 2023).

**Delivery fee:** A delivery fee refers to the additional charge or cost associated with the delivery of goods or services to a designated location (Merriam Webster Dictionary, 2022).

**Food Item Display:** The feature of the food ordering system that presents detailed information and descriptions of food items to customers. This functionality ensures accurate and up-to-date information is available to customers (Jones & Anderson, 2023).

**Food Ordering System:** A software application or platform that enables customers to browse menus, select food items, customize orders, and place orders electronically from restaurants or eateries (Johnson & Smith, 2022).

**Order Tracking:** The capability of the food ordering system to track and manage the entire order process. It provides real-time updates on the status of orders, allowing customers to monitor their orders from placement to delivery or pickup. This functionality ensures efficient order management and coordination between the kitchen, restaurant staff, and customers (Smith & White, 2023).

**Payment Processing:** It securely manages customer payment information, verifies transactions, and provides confirmation details. This functionality ensures a seamless and secure payment process for customers (Davis et al., 2023).

**Search:** Functionality within the food ordering system that allows users to search for specific information based on various criteria such as food item, customer, order, and order confirmation. This feature enables users to quickly locate relevant data and enhances efficiency in navigating the system (Roberts & Brown, 2023).

**CHAPTER TWO**

**LITERATURE REVIEW**

**2.1 Introduction**

This chapter provides a comprehensive review of the existing literature on food ordering systems, focusing on their design, implementation, and impact on the food service industry. The review examines recent studies and articles to identify best practices and emerging trends relevant to the design and implementation of a food ordering system at Amazi Eatery.

**2.2 Food Ordering Systems**

Food ordering systems have gained significant attention in recent years, revolutionizing the way customers interact with restaurants and facilitating the ordering process. These systems can be classified into various types, including web-based applications, mobile applications, and self-service kiosks (Li et al., 2021).

Web-based applications, such as the one proposed for Amazi Eatery, offer convenience and accessibility across different devices (Li et al., 2021). They enable customers to browse menus, customize orders, and make payments online. Mobile applications, on the other hand, provide additional flexibility and location-based services, allowing customers to place orders on-the-go (Wang et al., 2020).

In Roshan (2017), an automated food ordering system is proposed which will keep track of user orders smartly. Basically, they implemented a food ordering system for diﬀerent type of restaurants in which user will make order or make custom food by one click only. By means of android application for Tablet PCs this system was implemented. The front end was developed using JAVA, Android and at the backend MySQL database was used. Customer using a Smartphone is considered as a basic assumption for the system. When the customer approach to the restaurant, the saved order can be conﬁrmed by touching the Smartphone. The list of selected pre-ordered items shall be shown on the kitchen screen, and when conﬁrmed, order slip shall be printed for further order processing. The solution provides easy and convenient way to select pre-order transaction form customers.

**2.2.1 Benefits of Food Ordering Systems**

Food ordering systems offer numerous benefits to both customers and restaurant owners.

For customers, these systems provide convenience and flexibility in the ordering process. They eliminate the need for customers to physically visit the restaurant or wait in long queues to place an order (Wu et al., 2021). Customers can easily browse menus, view item details, customize their orders, and make payments online from the comfort of their homes or offices (Ma et al., 2022). Mobile applications further enhance convenience by allowing customers to order food on-the-go, providing location-based services and personalized recommendations (Wang et al., 2020).

For restaurant owners, food ordering systems improve operational efficiency and customer reach. These systems automate the order-taking process, reducing manual errors and minimizing the need for human intervention (Chen et al., 2020). They enable efficient order processing and management, with real-time order confirmation and payment processing, leading to reduced waiting times and improved customer satisfaction (Huang et al., 2019). Food ordering systems also provide valuable data and analytics, offering insights into customer preferences, order patterns, and popular menu items. This information can inform decision-making regarding menu optimization, targeted marketing campaigns, and inventory management (Li et al., 2021). Moreover, online platforms and mobile applications expand the customer base for restaurants, attracting tech-savvy customers and increasing brand visibility (Kumar *et al*., 2020).

**2.2.3 Types of Food Ordering Systems**

Food ordering systems can be classified into different types based on their platforms and interfaces. Common types include web-based systems, mobile applications, self-service kiosks, and third-party platforms.

Web-based systems, accessed through web browsers, provide a user-friendly interface for customers to browse menus, select items, customize orders, and make payments (Li et al., 2021).

Mobile applications offer a dedicated platform for customers to place food orders using their smartphones or tablets. They provide additional features such as location-based services, push notifications, and personalized recommendations (Wang et al., 2020).

Self-service kiosks are physical terminals placed within or outside the restaurant premises. Customers can use these touch-screen kiosks to browse menus, place orders, and make payments independently (Chen et al., 2020).

Third-party platforms act as intermediaries between restaurants and customers, hosting multiple restaurant listings and providing a unified platform for customers to discover and order food from various establishments (Ma et al., 2022).

**2.3 User Experience and Interface Design**

User experience (UX) and interface design play a crucial role in the success of a food ordering system. A well-designed interface should be intuitive, visually appealing, and user-friendly (Chen et al., 2020). It should enable customers to easily navigate through menus, view item details, and customize orders. Personalization features, such as recommendations based on past orders or dietary preferences, can further enhance the user experience (Huang et al., 2019).

**2.4 Order Processing and Integration**

Efficient order processing is essential for a seamless food ordering system. Studies have explored various aspects of order processing, including order confirmation, payment processing, and order status updates. Automation of these processes minimizes errors, reduces waiting times, and improves overall customer satisfaction (Ma et al., 2022).

Integration with existing restaurant operations is another important consideration. Seamless integration with inventory management systems allows real-time tracking of ingredient availability and prevents customers from ordering unavailable items (Kumar et al., 2020). Integration with kitchen operations facilitates smooth order flow and coordination between the front-of-house and back-of-house staff (Wu et al., 2021). Moreover, integration with customer service systems enables efficient handling of inquiries and feedback (Zhang et al., 2021).

**2.5 Operational Efficiency and Resource Utilization**

Food ordering systems can significantly improve operational efficiency and resource utilization for restaurants. Automation of repetitive tasks, such as order taking and payment processing, reduces manual errors and frees up staff time (Ma et al., 2022). Efficient routing algorithms for order delivery can optimize delivery routes and minimize delivery time (Chen et al., 2020). Additionally, data generated by the system, such as customer preferences and order patterns, can inform decision-making for menu planning, marketing strategies, and inventory management (Li et al., 2021).

**2.6 Customer Satisfaction and Loyalty**

Food ordering systems have a direct impact on customer satisfaction and loyalty. Studies have shown that a seamless and convenient ordering process leads to higher customer satisfaction levels (Huang et al., 2019). Features like order history tracking, personalized recommendations, and loyalty programs can further enhance customer loyalty and encourage repeat business (Wang et al., 2020).

Research has consistently shown the positive correlation between customer satisfaction and the success of food ordering systems. A study by Luo et al. (2019) found that higher customer satisfaction leads to increased customer retention and positive word-of-mouth, resulting in a larger customer base.

**2.6.1 Factors Affecting Customer Satisfaction**

Several factors contribute to customer satisfaction in food ordering systems:

a) Ease of Use: The system should have a user-friendly interface, intuitive navigation, and clear instructions to ensure a seamless ordering process (Li et al., 2021).

b) Order Accuracy: Accurate order processing, including correct item selection, customization, and delivery details, is crucial to meet customer expectations (Wu et al., 2021).

c) Delivery Speed: Timely delivery plays a significant role in customer satisfaction. Efficient logistics and delivery management contribute to a positive customer experience (Huang et al., 2019).

d) Customer Support: Responsive and helpful customer support, whether through chatbots, phone assistance, or email, is essential to address customer inquiries, concerns, or complaints promptly (Chen et al., 2020).

e) Personalization: Tailoring the system to individual customer preferences, such as personalized recommendations or customized offers, enhances customer satisfaction (Zhang et al., 2021).

**2.6.2 Measuring Customer Satisfaction**

To assess customer satisfaction, various methods can be employed:

a) Surveys: Customer satisfaction surveys, conducted online or through mobile applications, provide insights into customer perceptions, preferences, and areas for improvement (Ma et al., 2022).

b) Ratings and Reviews: Customer ratings and reviews on the system's platform or third-party review sites offer valuable feedback and help identify areas of strength or weakness (Wang et al., 2020).

c) Net Promoter Score (NPS): NPS measures customer loyalty and willingness to recommend the system to others. It helps gauge overall customer satisfaction and loyalty (Kumar et al., 2020).

**2.6.3 Customer Loyalty**

Customer loyalty refers to the commitment and repeat patronage of customers towards a food ordering system. Loyal customers not only provide consistent business but also serve as brand advocates, promoting the system to others.

**2.6.4 Importance of Customer Loyalty**

Customer loyalty has significant implications for the success and profitability of food ordering systems. Research by Li et al. (2021) reveals that loyal customers are more likely to spend more, try new menu items, and recommend the system to others. They contribute to a higher customer lifetime value, resulting in increased revenue and market share.

**2.6.5 Strategies to Enhance Customer Loyalty**

Several strategies can be employed to enhance customer loyalty:

a) Rewards and Incentives: Implementing a loyalty program that offers rewards, discounts, or exclusive offers for repeat customers can incentivize loyalty and encourage repeat business (Wu et al., 2021).

b) Personalized Communication: Sending personalized emails, notifications, or offers based on customer preferences and order history helps foster a sense of individual attention and strengthens customer loyalty (Huang et al., 2019).

c) Social Media Engagement: Actively engaging with customers on social media platforms, responding to their comments, and running interactive campaigns create a sense of community and foster loyalty (Zhang et al., 2021).

d) Seamless Experience: Ensuring a seamless and consistent experience across different platforms and touchpoints, such as web and mobile applications, contributes to a positive customer experience and strengthens loyalty (Chen et al., 2020).

**2.7 Emerging Trends and Technologies**

Emerging technologies are being integrated into food ordering systems, enhancing their capabilities and improving user experiences.

Artificial Intelligence (AI) and Machine Learning (ML) algorithms are employed to personalize the ordering experience by analyzing customer preferences, order histories, and demographics. These algorithms can suggest relevant items, offer personalized recommendations, and predict customer preferences (Wu et al., 2021).

Chatbots and virtual assistants are used to automate customer interactions and provide instant support. They can handle common inquiries, assist with menu recommendations, and even process orders through conversational interfaces (Zhang et al., 2021).

Internet of Things (IoT) devices can be integrated into food ordering systems to enhance operational efficiency. Smart kitchen appliances and sensors can automate inventory tracking, monitor food quality, and optimize cooking processes (Huang et al., 2019).

Blockchain technology is being explored for secure and transparent transactions in online food ordering systems. It can ensure secure payments, prevent data tampering, and enable reliable reviews and feedback (Kumar et al., 2020).

**2.8 Review of Related Literatures**

Numerous studies have examined the factors influencing customer satisfaction and loyalty in food ordering systems. Liu and Li (2020) conducted a study on online food delivery platforms and found a positive relationship between customer satisfaction and loyalty. They highlighted the importance of meeting customer expectations and providing a seamless ordering experience.

Chen, Cai, and Zhou (2018) focused on mobile food ordering apps in China and identified various factors that determine customer satisfaction. They found that factors such as app usability, order accuracy, delivery speed, and customer support significantly impact customer satisfaction levels.

In a study by Nguyen and Nguyen (2020) in Vietnam, they explored the factors influencing customer satisfaction and loyalty in third-party food delivery apps. Their findings revealed that factors like food quality, delivery speed, order accuracy, and customer service significantly influenced customer satisfaction and loyalty.

Jang and Namkung (2009) conducted a study on the restaurant industry, applying the extended Mehrabian-Russell model. They found that perceived quality, emotions, and behavioral intentions were interconnected, and customer satisfaction played a crucial role in determining behavioral intentions.

Hwang and Ryu (2017) focused on quick-casual restaurants and investigated the influence of food quality, service quality, and price on customer satisfaction and behavioral intention. They also explored the moderating role of perceived hygiene factors. Their findings indicated that food quality, service quality, and price significantly influenced customer satisfaction and behavioral intentions, and perceived hygiene factors played a moderating role in the relationship.

Overall, these studies highlight the importance of factors such as ease of use, order accuracy, delivery speed, customer support, food quality, and service quality in influencing customer satisfaction and loyalty in food ordering systems. Understanding these factors can help businesses improve their systems and enhance customer experiences, ultimately leading to increased satisfaction, loyalty, and positive word-of-mouth.

**2.9 Summary**

This chapter reviewed the existing literature on food ordering systems, highlighting their design, implementation, and impact on the food service industry. The review emphasized the importance of user experience, order processing, integration with existing systems, operational efficiency, customer satisfaction, and emerging trends. The insights gained from this review will serve as a foundation for the design and implementation of a food ordering system at Amazi Eatery.

# CHAPTER THREE

# SYSTEM DESIGN AND ANALYSIS

## 3.1 Introduction

This chapter contains the system design and analysis that was employed to achieve the aim of the project. In this chapter, we present the design and implementation details of the food ordering system at Amazi Eatery. The system aims to provide a seamless and efficient experience for customers to place orders, manage their preferences, and facilitate smooth operations for the restaurant staff. We will discuss the overall system architecture, database design, user interfaces, and the integration of various components.

## 3.2 Disadvantages of the Existing System

The manual system for food ordering, which typically involves handwritten order forms or verbal communication between customers and restaurant staff, has several disadvantages. These disadvantages highlight the need for an automated food ordering system like the one implemented at Amazi Eatery. Manual systems are prone to human errors such as misinterpreting handwritten orders, incorrect entry of order details, or miscommunication between staff members. These errors can lead to order inaccuracies, delays, and customer dissatisfaction.

The manual system relies on physical paperwork or verbal communication, which can be time-consuming and prone to delays. Customers may have to wait in long queues to place their orders or experience delays due to order processing inefficiencies. This inefficiency can result in longer waiting times, decreased customer satisfaction, and potential revenue loss for the restaurant. Paper-based order forms can be easily misplaced or lost, leading to order confusion or even complete loss of orders. This can be frustrating for both customers and restaurant staff, as it requires extra effort to rectify the situation or recreate lost orders.

**3.3 Advantages of the Proposed System**

The following are the advantages of a Food ordering system. They include the following:

1. Increased Accuracy: Reduced human errors in order taking and processing.
2. Improved Efficiency: Streamlined order placement and processing, reducing waiting times.
3. Enhanced Order Tracking: Real-time order tracking for customers, improving transparency and engagement.
4. Centralized Information: Easy access to accurate and up-to-date information for customers and staff.
5. Enhanced Customer Convenience: Remote order placement, customization, and saved preferences for a seamless ordering experience.

## 3.4 The Proposed Method

The user employed the use of a Waterfall Model of System Development Life Cycle in designing a website in implementing the system in order for it to be available at all times and accessible from any device. The researcher used two programming languages in the accomplishment of this system, they include: PHP for the database scripting side and MySQL for the database storage. They system also involves the use of HTML, CSS and Java Script codes for full functionality of the system.

The waterfall model was used to develop a new system. The six stages of waterfall model have been identified to achieved a complete design starting from requirements, analysis, design, coding, testing, and deployment. During the requirements stage, developers write down all the possible requirements of a system in a requirements document.

**Requirement Stages**: During these stages, the application requires technical expert and knowledge that the personnel will use in operating the proposed application.

**Design Stage:** In this phase, a prepare high-level and low-level designs was made hence, the software design was made to verify the authenticity of the certificate.

**Development**: In the Development phase, the software development team starts coding and developing the software. This is the longest phase of the waterfall model as developers need more time to build the software. Once the development of the software is completed, then the project is handed over to the testers.

**Testing:** The software will be developed and tested which run successfully by the developers the researcher will ensure that the end-to-end software is completed.

**Deployment:** Since the software will be tested successfully, the application will be deployed so that it becomes live to the real-time users.

**Maintenance:** Finally, the research will be deployed and available to the clients. Clients want the maintenance period for one or two years because if any bug is found or want a slightly enhanced feature in the project.

## 3.5 Method of Data Collection

Information was basically obtained from the two sources which are:

**Primary Source:** In my research I used the interview method for my primary source of Information; this is done by asking question from the different departments. Also, I used a method of observation I went to Amazi Eatery studying their activities and recording them down on daily basis or as required.

## 3.6 System Design

Systems design is the process of defining the architecture, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development.

## 3.6.1 Algorithm Diagram

**Use case diagram**

A use case diagram at its simplest is a representation of a user’s interaction with the system and depicting the specifications of a use case. A use case diagram shows the system and the various ways that they interact with the system.

Registration

Login

Add Item

Remove Item

Admin

Place order

customer

Review Order

Employee

Make payment

Print report

Delivery confirmation

Update menu

Log out

Figure 3.1: Use case diagram

**Activity Diagram**

An activity diagram shows a flow of control in a system similar to a flowchart or a data flow diagram.

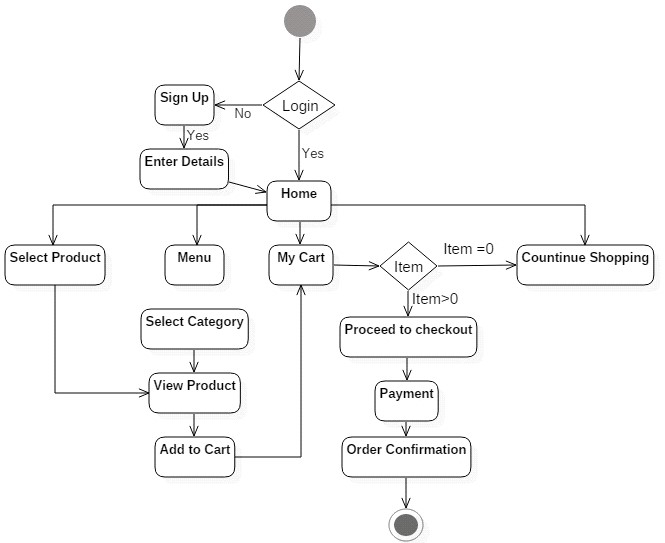


Figure 3.2: Activity Diagram for Online food ordering system

**3.6.2 System Architecture**

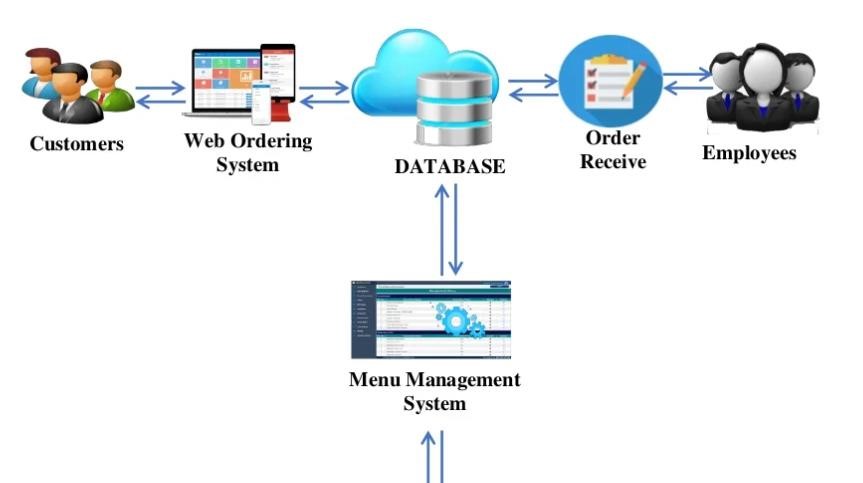


Figure 3.2: System architecture

## 3.6.3 Database Tables/Queries Structures

The database is used to store all information that pertain the food ordering records. Below are the database table for the new system.

**Table 1: Items Table**

Top of Form

| **Name** | **Type** | **Extra** |
| --- | --- | --- |
| id Primary | int(11) | AUTO\_INCREMENT |
| name | varchar(250) |  |
| price | varchar(250) |  |
| deleted | varchar(250) |  |

**Table 2: Users table**

**Top of Form**

| **Name** | **Type** | **Extra** |
| --- | --- | --- |
| **id Primary** | int(11 | AUTO\_INCREMENT |
| **Name** | varchar(50) |  |
| **role** | varchar(255) |  |
| **username Index** | varchar(50) |  |
| **email** | varchar(50) |  |
| **password** | varchar(50) |  |
| **contact** | bigint(11) |  |
| **address** | varchar(50) |  |
| **verified** | varchar(50) |  |
| **deleted** | varchar(50) |  |

**Table 3: Items Table**

Top of Form

| **Name** | **Type** | **Extra** |
| --- | --- | --- |
| id Primary | int(11) | AUTO\_INCREMENT |
| name | varchar(250) |  |
| price | varchar(250) |  |
| deleted | varchar(250) |  |

Bottom of Form

**Table 4: Orders Table**

Top of Form

| **Name** | **Type** | **Extra** |
| --- | --- | --- |
| id Primary | int(11) | AUTO\_INCREMENT |
| customer\_id Index | varchar(250) |  |
| address | varchar(250) |  |
| description | varchar(250) |  |
| date | varchar(250) |  |
| Payment\_type | varchar(250) |  |
| total | varchar(255) |  |
| status | varchar(255) |  |
| deleted | varchar(255) |  |

Bottom of Form

## 3.6.4 Entity Relationship Modelling

An Entity Relationship (ER) Diagram is a sort of flowchart that shows how "entities" in a system, such as people, things, or concepts, interact with one another. ER Diagrams are most commonly used in the disciplines of software engineering, corporate information systems, education, and research to build or troubleshoot relational databases.

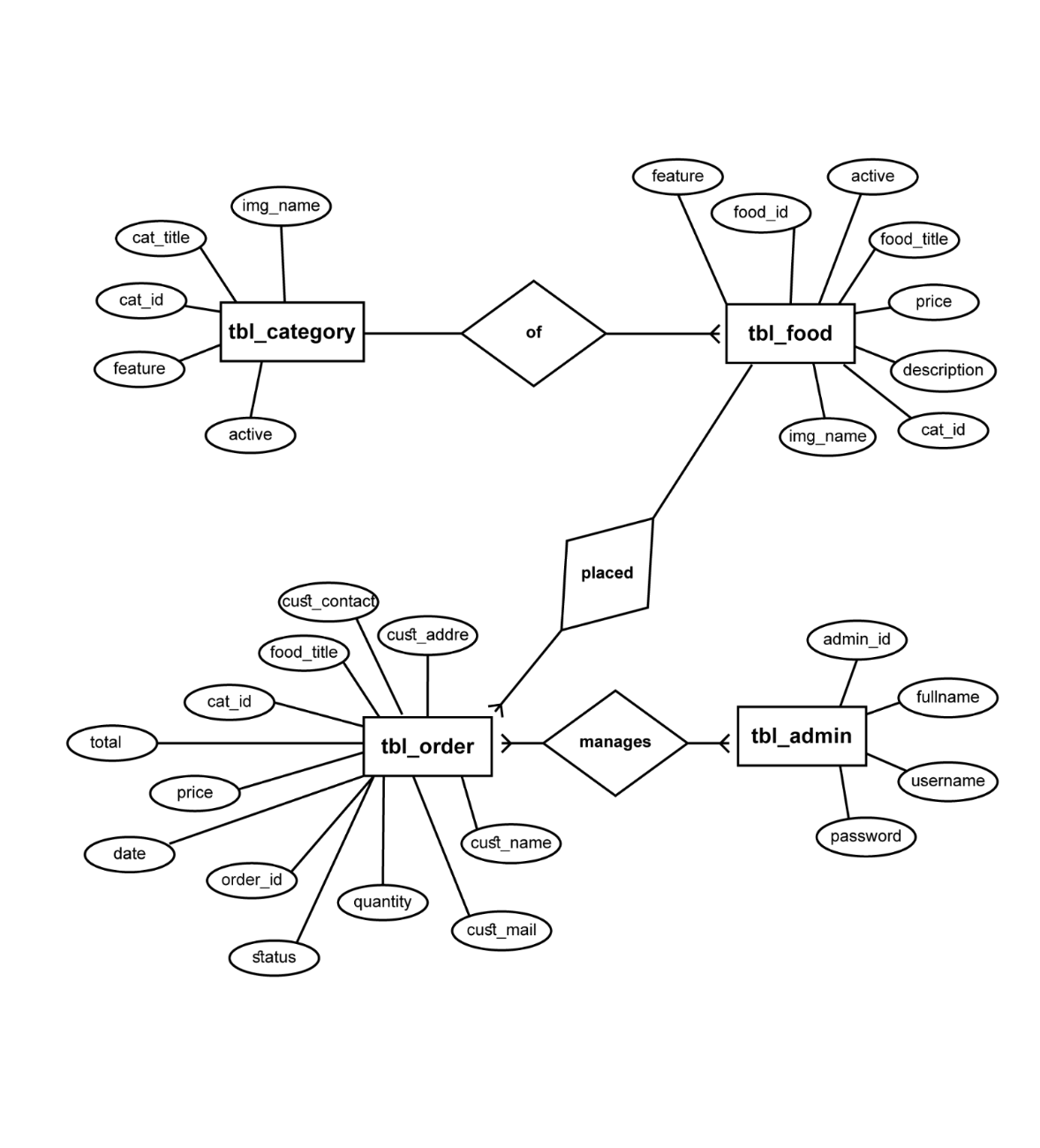


Figure 3.3: Entity Relationship Modelling

## 3.6.5 Database Entity Relationship Diagram

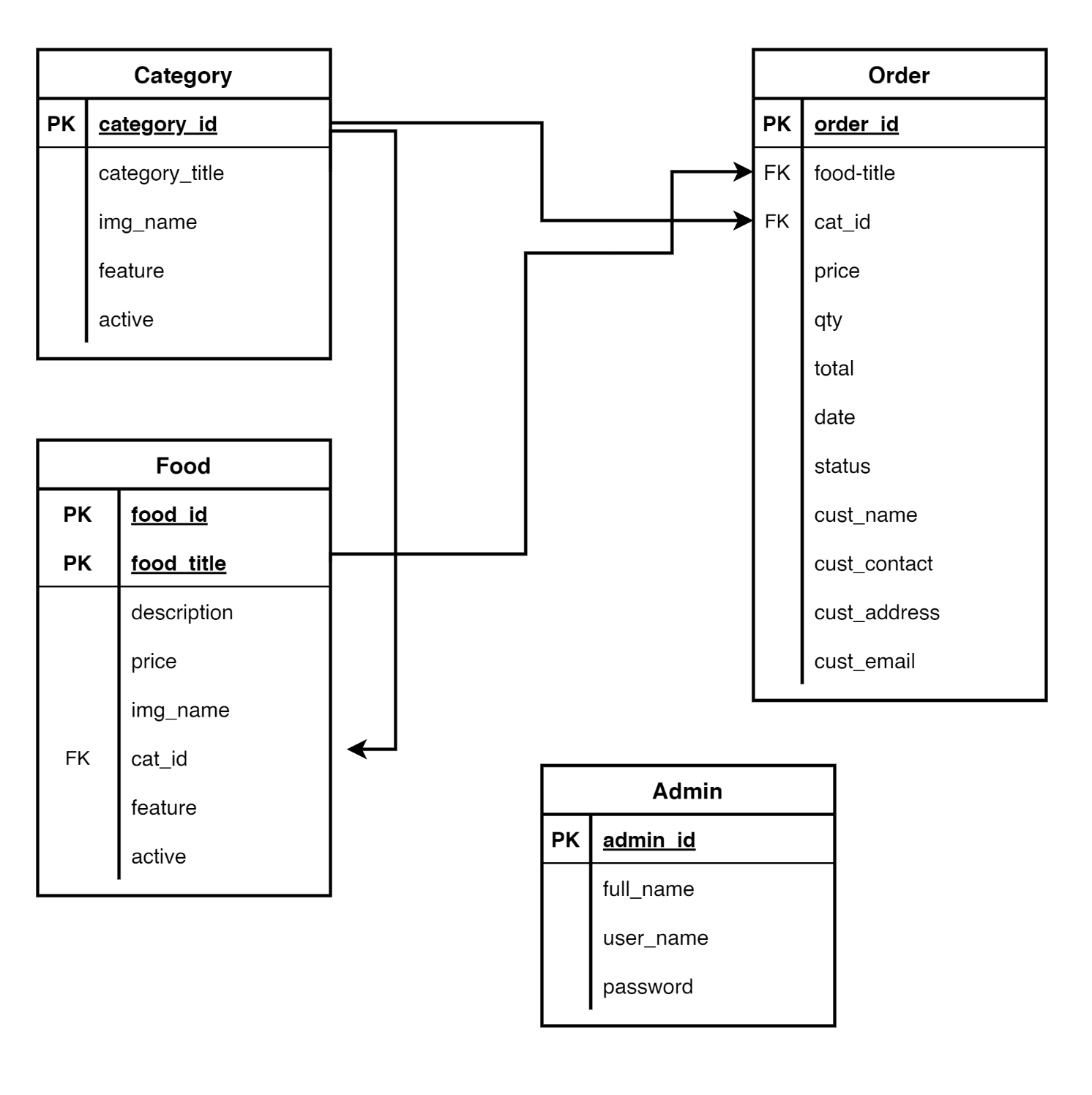


Figure 3.4: Entity Relationship Diagram

## 3.6.6 Input and Output Design

**REGISTER NOW!**

Username

Phone number

**REGISTER**

Enter Name

Password

Already have an account? **Login**

Figure 3.5: Registration Form

**LOGIN FORM**

username

password

**Register Now!**

**LOGIN**

Figure 3.6: Login form

**ORDER FOOD**

Item name

**SUBMIT ORDER**

Price/piece

Quantity

Item name

Price/piece

Quantity

Item name

Price/piece

Quantity

Figure 3.7: Order Form

**PAYMENT**

Payment type

**SUBMIT**

Address

Card Number

CVV Number

**Amount payable: 1200**

Figure 3.8: Payment Form

**ORDERED ITEM(S)**

**Order No.:** 9

**Date**:

**Payment Type:** Wallet

**Address:** Multipurpose Hall, Federal Polytechnic, Mubi

**CANCEL ORDER**

**Status**: Yet to be delivered

**Bottle water** 1 N 200

**Fried Rice** 2 N 1000

**Total**  **N 1200**

## 3.7 System Requirement Specification

## 3.7.1 Hardware Requirements

The software to be design needs the following hardware for an effective operation of the newly designed system.

1. A system running on intel, P(R) duo core with higher processor
2. The-Random Access Memory (RAM) should be at least 512MB.
3. At least 20-GB hard disk.
4. A monitor.

## 3.7.2 Software Requirements

The software requirements include:

1. A window 7 or higher version of operating system.
2. XAMP or WAMP for Database
3. PHP
4. MySQL
5. Browser

## 3.7.3 Personnel Requirement

Any computer literate who has a technical knowhow of internet surfing can use the system because it is user friendly.

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