

Chapter 1

THE PROBLEM AND ITS CONTEXT

Project Context

The development of J-anmos Sales and Inventory system is rooted in the company's dynamic history and its continued commitment to excellence in the frozen goods industry. Founded by Rosana Santos in July 2010. J-anmos, located at 6023 Quisumbing Street, Camarin, Caloocan City. Initially started with a limited workplace and modest office space. The company is mainly focused on the manufacturing and distribution of frozen products, covering a diverse range including, ham, steaks, longganisa, hotdogs, and other products.

J-anmos has shown growth and adaptability throughout his journey. The company overcame limited resources and created an ideal position in a frozen market through strategic decision-making and a commitment to quality. This flexibility laid the foundation for the company and its expansion in terms of both human resources and product lines.

The advantage of frozen foods is that they are very close in taste and quality to fresh foods compared to other canned or processed foods. There is a huge potential for frozen food demands. The industry's biggest push was so-called home meal replacement, meaning whole frozen meals that replaced cooking from scratch.

J-anmos aims to make operations more efficient, improve order fulfillment, and improve user satisfaction by effectively tracking inventory and maintaining quality throughout the supply chain. It also prevents stock outs or overstocks. Understanding the history of J-anmos is essential to developing a storage system that reflects the company's pursuit of operational excellence and supports its growth in the frozen food industry.

Objectives of the Study

The general objective of this study is to design and develop a Sales and Inventory system for J-anmos Frozen Product.

In line with this, the project aims to achieve the following specific objectives:

1. To design and develop a Sales and Inventory System for J-anmos with the following features and functionalities:
 - a. Product Information
 - b. Inventory Management
 - c. User Management
 - d. Account Management
 - e. User Authentication
 - f. File Maintenance
 - g. Monitoring Module
 - h. Report Generation

- i. Supplier Order and details
 - j. Supplier Information
 - k. Customer Order and details
 - l. Customer Information
 - m. Dashboard
2. To develop the proposed Sales and Inventory System using the following technologies and materials:
 - a. MariaDB
 - b. Visual Studio Community 2022
 - c. C sharp .NET programming language
 - d. MySqlConnection
 - e. 58mm Thermal Receipt Printer
 - f. .NET Framework 4.7.2
3. To assess and evaluate the developed system using ISO9241 and ISO 25062 evaluation instrument.

Scope of the Project

The research involved designing and developing a sales and inventory system with the use of a monitoring module for J-anmos. The system can access the database to allow the users to view the materials. Additionally, the aspect of our capstone endeavor involves continuous oversight and assessment to ensure that we stay on track with our timelines, budget, and objectives. Regular progress updates, milestone evaluations, and

effective communication channels will be established to facilitate seamless project monitoring throughout its duration.

Furthermore, this study aimed to improve the quality of work of the employee, the system has a capability to handle the future changes in terms of business policies and our specific objective is to implement a real-time tracking system that improve inventory accuracy to ensure real-time and accurate tracking of stocks level, minimizing discrepancies. The system can increase overall sales efficiency by streamlining order fulfillment processes and reduce manual efforts in inventory management.

Below is a list of significant contributions of the study.

- Owner - Sales and Inventory system is to optimize operational processes and enhance overall business efficiency. Mitigate the risk of financial losses associated with overstock or stock outs by maintaining precise control over frozen goods inventory levels.
- Employees - Simplify and expedite inventory tracking and management, allowing employees to focus on other aspects of store operations. Minimize the occurrence of human errors in inventory records, ensuring accuracy in reporting and decision-making.
- Researchers - The benefits for researchers are the exposure to store and the opportunities to contribute to their business, ranging from understanding user experiences to assessing the system's impact on efficiency, communication, and

long-term sales for their business and outcomes into practical applications and contributing to the development of a comprehensive and effective solution.

- Future Researchers - Our research can serve as a reference and to understand more about the subject for their project.

Due to design constraints, this study does not cover features such as scanning barcodes, processing payments, generating receipts, and applying discounts or promotions to products due to design limitations.

Definition of Terms

- Audit Logging

Audit logging strategies involve the creation of audit trails for data that can be deleted or modified. Changes made to such data need to be reviewed to reverse them, query data in history tables, or monitor suspicious activity.

- Authentication

The user or machine must authenticate themselves for the client or server to function. The standard requirement for server authentication is a username and password.

- Back Orders

Back orders are when a company's demand for goods exceeds supply, which may mean the product is not currently in the company's inventory but is still being produced or requires additional production. These back orders are also referred to as the company's order book.

- Beneficiaries

A beneficiary is a person or thing that receives benefits from another person or thing.

- C sharp .NET programming language

It is a Microsoft object-oriented programming language that utilizes the.NET Framework.

- Cash Inflow

Cash flow is the money that a business receives from sales, investments, or financing, as opposed to cash flow, which is the money available at the end of the business day. A company's capacity to generate positive cash flows is crucial for creating shareholder value.

- Cash Outflow

Cash flow refers to the total cash outflow of a business, including employee salaries, facility maintenance, and dividends to shareholders. These are all common examples of cash flow experienced by many businesses.

- Costing

Cost accounting is a formal accounting technique that estimates the total cost of production for an organization by examining variable and fixed costs at each production stage.

- Dashboard

Are widely used in business, technology, and data analytics to give users a quick overview of key metrics and trends. They are a visual representation of important information, data, or key performance indicators (KPIs) consolidated and displayed in a single, easily accessible view.

- Database

Databases conveniently store various types of important information, such as customer data, sales transactions, financial details, and product information, organized for easy accessibility, management, and updating.

- Inflation

Increasing employment and wages lead to higher household incomes and consumer spending, which boosts aggregate demand and enables businesses to lower their prices. However, excessive growth in multiple industries can cause inflation to rise.

- Inventory

Stock, often known as inventory, is the term used to describe the products and supplies that a company keeps with the intention of using, producing, or selling them.

- Management

In order to achieve corporate objectives, management refers to how companies plan and coordinate operations, personnel, and workflow.

- MariaDB

A database is typically electronically stored and managed by a database management system (DBMS) in a computer system.

- Module

A module is a component that can be added, removed, or replaced within a larger system. It is not designed to function independently and is commonly found in computer hardware.

- Monitoring

Monitoring is the methodical and ongoing gathering and examination of data concerning the advancement of a development initiative.

- MySqlConnection

software developed by Oracle Corporation. This interface, known as ODBC, enables communication between a MySQL database and computer languages that support it.

- Product Information

Any information that a company possesses regarding the goods it manufactures, purchases, distributes, or sells is referred to as product information.

- Programming Language

Programming Language is an instruction set created by a programmer to instruct the computer on how to carry out and complete a task.

- System

A system is made up of several interconnected or interacting parts that follow a set of rules to function as a single unit.

- Thermal Receipt Printer

Thermal printers utilize pressure and heat to print directly on paper, resulting in more durable and detailed prints, making it ideal for barcodes and shipping labels.

- User

a person in charge of using or managing anything, particularly a machine or computer.

- User Login

User Login refers to a distinct username and password assigned to a specific person so they can use the Services.

- Visual Studio Community 2022

Visual Studio Community 2022 is a feature-rich, expandable, free IDE for developing contemporary Windows, iOS, Android, and web apps as well as cloud services.