**SALES AND INVENTORY SYSTEM FOR KAPEÑA CAFE**

A Project Proposal Presented to the

Faculty of Datamex College of Saint Adeline, Inc.

In Partial Fulfillment of the Requirements for the

Degree of Bachelor of Science in Information Technology

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**INTRODUCTION**

A Sales and Inventory System is designed to make it easier and faster for businesses to manage their goods and sales. It allows users to organize product information and keep track of stock levels. The system uses a desktop-based procedure in place of manual techniques, which reduces time, prevents errors, and protects company data. To ensure that only authorized personnel may use the system, it also features a login system. It can also produce data on stock levels and sales. These abilities let employees and business owners make smarter decisions on when to change prices, stock up, or remove of things that are not selling. All things considered, the system enhance daily operations, improves productivity, and increase customer service.

Many companies still use spreadsheets or written records to keep track of sales and inventory. This takes more time and typically result in errors, insufficient documentation, and delays in daily work. Employees may find it difficult to monitor which products are doing well, which are running low, or the cause of stock problems. Businesses may end up overstocking, running out of essential supplies, and even lose money as a result. Making decisions gets more difficult and less precise in the absence of a suitable mechanism. A desktop-based sales and inventory system is important for this reason; it improves the process, lowers errors, keeps records secure and accessible, and facilitates more efficient and successful business operations.

The main goal of this system is to improve inventory and sales management's quickness, simplicity, and usability. There's no need to write everything down because the system tracks sales and updates the stock automatically. Businesses benefit from time savings, error prevention, and safe, well-organized documents. With just a few clicks, it also makes it easy to generate sales records, determine which products require restocking, and check product availability.

**CLIENT INFORMATION**

Kapeña Cafe, owned by Mr. Dee Peña, is located at Union Bank Plaza. The café serves brewed coffee, specialty drinks, pastries, and light snacks to office workers and walk-in customers. It is managed by a small team composed of a manager, a cashier, and baristas. The manager takes care of the daily operations, buys supplies, and checks the inventory. The cashier handles customer payments and keeps track of sales, while the baristas prepare the drinks, maintain their quality, and assist customers.

Even though the team works hard under Mr. Peña’s guidance, Kapeña Cafe still experiences problems with stock management, sales recording, and keeping up with customer demand. Supplies are currently monitored using handwritten lists and simple notes. As the number of customers increased, especially during busy hours, these manual methods caused issues like inaccurate sales records, wrong stock counts, and confusion about which supplies needed to be restocked.

These problems have slowed down operations, affected the quality of service, and made it harder for the team to make decisions for the business. To address this, the café plans to use a computerized sales and inventory system that will help them monitor stocks properly, record sales accurately, and prepare reports that can guide better business decisions growth.

**PROJECT SCOPE**

The project's goal is to use VB.NET 2010 to create a desktop-based sales and inventory system for Kapeña Cafe. To help in business management, the system will have features like accurate inventory tracking, organized daily sales recording, and accurate reporting tools. Kapeña Cafe will be able to process orders quickly, reduce shortages of products, and keep inventory records organized with the help of a secure and user-friendly interface.

* **Product Inventory Tracking**: monitors stock levels, updates quantities upon sales, and notifies low-stock items.
* **Category-based Product Management**: allows grouping of items like coffee, pastries, drinks for easier organization.
* **Inventory Report Generation**: tracks item consumption, stock in, and stock out history.
* **Real-Time Stock Adjustment**: for handling spoilage, returns, or manual stock updates.

**Inclusions**

* Real-time sales transaction recording.
* Recording of stock in and stock out.
* Name, price, category, and product details management.

**Exclusions:**

* Delivery tracking and customer-side ordering are not included in the system, which is solely for internal use.
* The system does not involve payroll management, salary computation, or staff attendance.
* Predictive analytic and sales forecasting will not be included in the system's basic reporting capabilities.
* The system does not support multi-location management; it is only intended for use in a single branch.

**Assumptions**

* Staff and admin can use the system with little training because they have a basic understanding of computers.
* accurate internet connection is available at the café.
* All necessary product and inventory information, including product names, categories, prices, and initial stock levels, will be supplied by the café.
* The system will only be used in one branch.
* Users will enter correct data into the system and adhere to standard protocols.
* Throughout development and implementation, the café will designate a point person or representative for communication.

**Constraints**

* The project needs to be finished within the established spending limit and time frame.
* The system cannot handle multi branch operations and is only intended for use in a single location.
* This project does not include advanced features like accounting modules, delivery tracking, or customer-facing apps.
* Users timely and accurate data entry is crucial to the accuracy of reports and inventory.

**PROJECT APPROACH**

To achieve the objectives of the Sales and Inventory System, our method emphasizes creating a reliable, efficient, and user-friendly solution through an organized yet flexible procedure. Providing a system that improves sales and inventory tracking and makes it quicker, more accurate, and easier to manage is intended to help owners and employees.

**Methodologies and Frameworks**

For this project, we will use the Agile methodology. Agile is a flexible, team-based approach that allows us to build the system in small, manageable parts (called iterations or sprints). This means we can regularly test features, gather feedback, and make improvements throughout the development process. Agile is a good fit for this kind of project because it allows us to stay responsive to the real needs of users and make changes quickly if needed.

**Advantages**

* Regular updates and testing throughout development
* Continuous involvement of business owners and staff
* Ensures the system meets real user needs through feedback

**Key activities and milestones**

* Requirement Gathering - To learn about outlining procedures, requirements, and objectives, meet with stakeholders
* UI/UX Design - Create simple user interfaces for smooth use and interaction
* Development Phase 1: Core Sales and Inventory - Develop features for inventory tracking, stock updating, and sales recording
* Development Phase 2: Admin Panel - Create an admin dashboard to handle reports, users, and products
* Internal Testing - To find and fix bugs, do internal QA testing
* User Testing (UAT) - Allow end users to provide comments and test the technology in real scenarios
* Deployment - Deploy the system in a live server
* User Training - Conduct training workshops to show managers and employees how to properly use the system
* Post launch Support and Maintenance - After launch, maintain monitoring on the system, fix problems, and respond to user inquiries

**PROJECT TEAM**

Every team member contributes unique strengths that are essential for the project's success and accomplishment. Their tasks are assigned based on their own skills and knowledge, as shown below.

**Gentile, Eljay J.**

Role: Developer

Skills & Experience: A skilled programmer and designer. He led the design of Meow’s Adventure and was a member in developing the Web based Computer Laboratory Management System (CLMS) thesis project during his second year.



**Fuentes, Marlon**

Role: System Analyst/ Data Gatherer

Knows well how to communicate. A good problem-solver. He is also a good programmer, in how to use HTML and Visual Basic.

**Villas, Lalaine M.**

Role: System Analyst/ Data Gatherer

Skills & Experience: A critical thinker skilled in assessing the reliability of sources. Proficient in data entry software, spreadsheets, and online data collection tools.

**Gasalao, John Kean A.**

Role: System Analyst/ Data Gatherer

Skills: A sharp problem solver and critical thinker who breaks down complex ideas, explains them clearly, and listens with purpose turning challenges into smart solutions.

**PROJECT TIMELINE**

The phases of the Software Development Life Cycle (SDLC) provide the framework for this project's development.

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| --- | --- | --- | --- |
| Phase | Title | Duration | Key Activities/Deliverables |
| Phase 1 | Brainstorming | Week 1 | We chose a system to use for our thesis |
| Phase 2 | Project Planning | Week 2 | Create Project Proposal and chose a role |
| Phase 3 | Requirement Gathering | Week 3-4 | Features and client information |
| Phase 4 | System Design | Week 5-6 | layout, wireframe, and UI/UX design |
| Phase 5 | Front End | Week 7-8 | Designing User Interface coding |
| Phase 6 | Back End | Week 9-11 | Coding, database |
| Phase 7 | Testing | Week 12 | function test, debugging and fix error |
| Phase 8 | Deployment | Week 13 | Cleaning, live demo |

### *Tabel 1. Project Timeline*

**Dependencies**

* Phase 1: Brainstorming - We started talking about what system we would choose and how the flow of our chosen system would be.
* Phase 2: Project Plan - We have made a proposal and we have discussed what our roles will be in the thesis.
* Phase 3: Requirements Gathering - Depends on brainstorming to define what flow to create.
* Phase 4: System Design - Create a design layout and UI/UX design.
* Phase 5: Frond End - depends on the system design for the UI.
* Phase 6: Back End - It is necessary that the design and also the database are complete.
* Phase 7: Testing - All system features need to be tested and errors fixed.
* Phase 8: Deployment - clear all data used before demo.

**Critical paths**

* Phase 1: Brainstorming – We finalized the system and flow.
* Phase 2: Project Plan – We drafted the proposal and allocated our roles.
* Phase 3: Requirements Gathering – We captured the features required and system flow.
* Phase 4: System Design – We designed the layout, UI/UX, and system structure.
* Phase 5: Frond End – We developed the interface according to the design.
* Phase 6: Back End – We implemented the functions and database.
* Phase 7: Testing – We tested all the features and resolved the issues.
* Phase 8: Deployment – We cleaned the test data and got ready for the demo.

**RISK MANAGEMENT**

**Identification of potential risks that may impact project success.**

**Data Loss or Corruption** - Hardware problems, user error, or power outages can all cause important records, including inventory and sales data, to be lost or corrupt.

**Unauthorized Access or Data violation** - insufficient safety features can allow unauthorized users to access the system, that could result in data theft.

**System Downtime or Technical Glitches** - Software flaws or system failures could cause problems with operations, causing errors in storing sales and inventory data or delays in transactions.

**Incorrect Inventory Entries** - Invalid product amounts or details entered might lead to shortages, overstocking, or variances in inventory.

**Mitigation Strategies for Addressing Identified Risks**

**Regular Data Backup** - Set up automatic daily backups to ensure important data can be recovered in case of loss or corruption.

**User Authentication and Access Control** - Implement a login system with role-based access so that only authorized users can access sensitive parts of the system.

**System Testing and Regular Maintenance** - Test the system thoroughly before full implementation and schedule regular maintenance to prevent or quickly fix technical issues.

**Verification of Inventory Data** - Use standard procedures for checking and entering inventory data to avoid input errors, including double checking records when needed.

**COMMUNICATION PLAN**

The goal of this communication plan is to ensure smooth, consistent, and effective collaboration among the project team throughout the development of the Sales and Inventory System. It aims to establish clear channels for sharing updates, resolving issues, and making decisions. By promoting transparency and timely information flow, the plan helps prevent misunderstandings, keeps everyone aligned with project goals, and supports the successful and on-time delivery of the system.

**Stakeholders**

* Project Manager
* Developer
* System Analyst

**Communication Methods**

Group Chat Messenger – for quick updates and coordination.

* Email – for formal updates and document sharing
* Google Drive – for file storage and documentation
* Google Meet – for online team meetings

**Frequency of Communication**

* Daily: Updates and coordination via group chat
* Weekly: Online meetings every Tuesday night to discuss progress, issues, and upcoming tasks.

**Responsibilities**

* Project Manager: Oversees all communication flow and ensures updates are delivered on time
* Developer: Responsible for Creating the system
* System Analyst: Maintains documentation and logs of project developments

**PROJECT GOVERNANCE**

To ensure the successful development and implementation of the Sales and Inventory System for Kapena Café, a clear and organized project governance structure is essential. Just like how the system itself brings structure and efficiency to business operations, the project behind it also requires a solid foundation of roles, responsibilities, and decision-making processes.

The project will be governed through a collaborative approach, where decisions are made based on regular discussions, feedback, and careful planning. This means that all key stakeholders including the project manager, developers, end users, and business owners will have clearly defined roles to ensure smooth progress and accountability throughout each phase of the project

**Roles and Responsibilities of Project Stakeholders**

* Project Manager – Oversees the entire project, sets timelines, and ensures that all goals are met on schedule. They also serve as the main point of communication between the development team and the business stakeholders.
* System Developers – Responsible for designing, coding, testing, and deploying the Sales and Inventory System. They work closely with users to ensure the system meets real world needs.
* End Users (Staff) – Involved in testing and giving practical feedback. As the main users of the system, their experience helps shape a user-friendly interface and effective workflow.

**Appendix**

This section presents the screenshots of the developed system, showcasing its user interface and main functionalities. Each figure highlights the design and interaction flow of the Sales and Inventory System for Kapeña Café.

## Appendix A - Supporting Diagrams

**A.1 Entity Relationship Diagram (ERD)**

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*Figure A.1: Complete ERD of the database schema*

**A.2 Data Flow Diagram (DFD)**

**A diagram of a company

Description automatically generated**

*Figure A.2: Data Flow Diagram of the system*