

# **CAKE SHOP PRODUCT & ORDER MANAGEMENT SYSTEM**

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**PROJECT PROPOSAL**

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MANAGEMENT SYSTEM**

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# **1. INTRODUCTION**

Managing products lists, updating orders, maintaining inventory manually is challenging for a home baker transitioning to a completely developed cake shop, especially as it grows day – by – day.

As to tackle these challenges and ensure smooth operations, I am designing a Cake Shop Product & Order Management System. This system is a feature-rich desktop application designed to streamline the operations of a cake shop. This system will upgrade the overall customer experience by ensuring accurate and timely order processing, maintaining an organized product catalogue, and providing a reliable means of customer management.

The application leverages the power of Java for a robust and user-friendly interface, combined with the simplicity and reliability of an SQL database for data storage. By automating key business processes, the Cake Shop Product & Order Management System will significantly reduce administrative overhead, minimize errors which can be occurred when doing calculations manually, and improve the operational efficiency of the cake shop, thereby enabling staff to focus more on customer service and the product quality.

## **1.1 Background & Motivation**

The cake industry has seen significant growth in recent years, with more home bakers developed their passion by transitioning to a completely developed cake shop. But when companies grow it gets harder to keep track of product stock, orders, other business operations manually and to maintain the product quality.

Many home bakers struggle in keeping track of their products, handling numerous orders, and maintaining accurate records manually, as the manual system is tedious and has lot of paperwork. It is not much accurate and doubtfulness exists in the manual system. Number of registers have to be maintained. Calculations should be done manually. Stock has to be check up-to-date. [1] which often leads to errors, inefficiencies, and unhappy customers.

The motivation behind developing the Cake Shop Product & Order Management System arise the need to simplify and automate these processes. By providing a dedicated solution that addresses the unique needs of a cake shop, this system will help bakers transition smoothly from a home-based business to a professional retail environment. The application will not only enhance operational efficiency but also improve customer satisfaction through accurate order processing and better management of product inventories.

## 1.2 Aim and Objectives

### 1.2.1 Aim

The aim of this project is to simplify and automate the management of product listing, inventories and customer orders of expanded cake shop.

### 1.2.2 Objectives

- To do a critical analysis of system requirements.
- To make database that is consistent, reliable and secure.
- Automate and simplify the core business processes of a cake shop.
- To develop a well-organized information storage system.
- Increase operational efficiency.
- Provide functionalities for adding, updating, and deleting cake products.
- Optimize Order Processing
- To evaluate the proposed system.
- Process sales transactions and generate invoices.
- Generate insightful reports on sales, inventory, and customer data

## 1.3 Project Scope

The Cake Shop Product & Order Management System is designed to smooth and automate the operations of a cake shop, focusing on essential functionalities to enhance efficiency and customer satisfaction.

The system will include user authentication to ensure secure access and role-based permissions for managers and employees. It will make product management, easier by making it possible to add, update, and delete cake products, along with maintaining detailed product catalogues. Inventory management features will monitor stock levels, generate low-stock alerts, and manage inventory renewal. [2] The order management module will enable the creation, tracking, and updating of customer orders, ensuring accurate and timely order processing. Customer management will handle customer information. The sales and billing functionality will process transactions, generate invoices, and handle payment tracking. Finally, the system will offer analytics to generate insightful reports on sales, inventory, and customer data, aiding in strategic decision-making.

By automating these key business processes, the system aims to reduce administrative overhead, minimize errors, and improve the operational efficiency of the cake shop, allowing staff to focus on their craft, product quality and customer service, rather than getting stuck down by administrative tasks. [3]

## **1.4 Overview**

This system is a desktop application designed to modernized and automate the key operations of a cake shop. This system will include functionalities for user authentication, product management, inventory management, order management, customer management, sales and billing, and reporting and analytics. By combining these features, the system aims to enhance operational efficiency, reduce administrative overhead, and minimize errors. It will enable ensure accurate order processing, managing customer information, processing sales transactions, maintaining an orderly product catalogue, monitor stock levels, safe user access, and will generate insightful data for reports. The system works to reduce the human efforts. Due to totally computerized occurrence of error is less & works smoothly. This is a user friendly system. [1] In the end, the approach will increase customers happiness by freeing up staff members to concentrate more on providing quality product and services.

## 2. Analysis

This analysis is essential to ensure that the system meets the expectation of its users and operates effectively within the specified constraints.

### 2.1 Functional Requirements

- User Authentication and Role Management – System allow users (cashier, inventory manager, shop manager/ owner etc.) to log in with unique credentials and provide role-based access control.
- Product Management – System enable users to add, update, and delete cake products and maintain updated and detailed product catalogue.
- Inventory Management –System monitor stock levels of ingredients and manage inventory renewal. Which will prevent stock outs and ensure popular products are always available.
- Order Management – System enable users to create, track the current process and update customer orders. Which ensures timely order processing and will improve customer satisfaction.
- Customer Management – System saves the customer details, including contact details and the date of order which can be used to inform about discounts giving and remind of the date purchase if its bought for an event (birthday cake, anniversary cake).
- Sales and Billing – System process sales transactions and generate invoices.
- Reporting and Analytics – System provides valuable insights into sale trends, customer behaviour, and other key metrics helping cake shops make informed decisions. [4]

### 2.2 Non-functional Requirements

- Reliability – System must be reliable with minimal downtime and error rates.
- Performance – System should be installed and run on a good computer with the minimum requirements stated below. [5]
- Scalability – System must be scalable to handle an increasing number of product orders when the business grows.
- Security – Access to system should be restricted to employees of the cake shop with the right credentials. Also software files will be exclusively accessible to the owner only. [5]



- Portability – system should provide flexible to any kind of hardware and operating systems.
- Usability – system should be user friendly for all staff members, regardless of their technical proficiency.

## 2.3 Success Factors

Below are the prerequisites which are essential for the successful implementation and use Cake shop product & order management system.

### 2.3.1 Hardware Requirements

Minimum requirements needed to be fulfilled are stated below.

*Table 1 - Hardware Requirements*

Name of the component	Specification
Processor	i3 CORE or above
Memory	16GB
Hard disk	500GB
Monitor	15" color monitor

### 2.3.2 Software Requirements

- Windows 7 and above.
- NetBeans
- MYSQL

### 2.3.3 User training

Even though the system is user-friendly it is a must for users to receive or an adequate training to effectively use the system or to have literacy on computers.

## References

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