

VELVET PATISSERIE RESTAURANT MANAGEMENT SYSTEM

Project Report

1. PROJECT OVERVIEW

Project Name: Velvet Patisserie Restaurant Management System

Technology: Python 3.x with Tkinter GUI

Purpose: To create an interactive menu and order management system for a bakery that allows customers to view items and add them to their order with real-time bill calculation.

Duration: November 2025

Team: Development Team

2. INTRODUCTION

Velvet Patisserie is a Python-based desktop application designed to streamline the ordering process at a bakery. The system provides a user-friendly interface where customers can browse the bakery menu, add items to their order, and view the running total. This application improves the ordering experience with an intuitive design and animated visual feedback.

3. FEATURES

- Menu Display - Shows all bakery items with prices in a clean, organized format
 - Add to Order - One-click buttons to add items to the shopping cart
 - Order List - Dynamically updates the list of selected items
 - Bill Calculation - Automatically calculates and displays the total amount
 - Visual Feedback - Animated color effect on the total for enhanced UX
 - Simple Interface - Easy to use for customers of all ages
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4. MENU ITEMS

Item	Price (Rs.)
Classic Vanilla Bean Cake	750
Chocolate Molten Cake with Ice Cream	1000
Pain au Chocolat	650
Cinnamon Rolls	700
Lemon Blueberry Cupcake	350
Gourmet Macarons	900

Table 1: Bakery Menu Items

Total Menu Items: 6

Price Range: Rs. 350 - Rs. 1000

5. SYSTEM REQUIREMENTS

Hardware

- Processor: Intel Core i3 or equivalent
- RAM: 2 GB minimum
- Storage: 100 MB free space

Software

- Python 3.x
 - Tkinter (pre-installed with Python)
 - Operating System: Windows, macOS, or Linux
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6. HOW TO RUN

1. Install Python 3.x on your system
 2. Save the script as: `velvet_patisserie.py`
 3. Open terminal/command prompt
 4. Run: `python velvet_patisserie.py`
 5. The application window will open automatically
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7. HOW IT WORKS

1. Menu Dictionary - Stores all bakery items and their prices
 2. BakeryApp Class - Manages the entire application interface
 3. Add Button - When clicked, adds the item to the order list
 4. Total Calculator - Updates the bill amount in real-time
 5. Order Display - Shows selected items with individual prices
 6. Animation - Brief color change on total for visual confirmation
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8. KEY COMPONENTS

Components Used

- Tkinter Widgets: Frame, Label, Button, Listbox
- Data Structure: Python Dictionary for menu storage
- Logic: Event-driven programming with callback functions

Code Structure

The application follows a modular architecture with the following components:

- Menu Dictionary containing all items and prices
- BakeryApp Class with initialization and order management methods
- Display functions for menu and order list
- Total calculation and update functionality
- Main execution entry point

9. TESTING

Feature	Status
Menu Display	Working
Add to Order	Working
Bill Calculation	Working
Order List Update	Working
UI Responsiveness	Working

Table 2: Feature Testing Status

10. STRENGTHS

- Simple and intuitive design
- Fast performance with minimal resource usage
- Visual feedback with animations
- Lightweight and portable
- Easy to modify and extend

11. LIMITATIONS

- No item quantity selection (single quantity per click)
- Cannot remove items from the order
- No data persistence (order lost when app closes)
- No payment gateway integration
- No database backend

12. FUTURE ENHANCEMENTS

1. Quantity Selection - Allow users to select item quantities
 2. Remove Items - Add delete button for each order item
 3. Clear Order - Reset all items with one click
 4. Bill Printing - Generate and print receipts
 5. Order History - Save previous orders
 6. Database Integration - Store orders in SQLite/MySQL
 7. Payment Gateway - Integrate online payment methods
 8. Discount System - Apply promotional codes and discounts
 9. Admin Panel - Manage menu items and prices
 10. Search Function - Quick search for menu items
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13. CONCLUSION

The Velvet Patisserie Restaurant Management System is a simple yet effective solution for bakery ordering. The application successfully demonstrates core concepts of Python GUI programming with Tkinter. While the current version meets basic requirements, implementing the suggested enhancements would transform it into a complete point-of-sale system suitable for commercial use.

Recommendations

- Deploy as a desktop application for in-store use
 - Expand with database connectivity
 - Add payment integration for online orders
 - Develop a complementary mobile version
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14. ACKNOWLEDGMENTS

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