



Restaurant Billing & Order Management System

A comprehensive solution for the fast-paced food industry, integrating order processing, database management, and report generation into a single streamlined application.

Project Overview

The Challenge

In today's fast-paced food industry, restaurants struggle with manual order management, leading to errors, delays, and poor customer experience.

The Solution

A web-based billing and reporting system that automates order processing, calculates bills (including GST), and provides comprehensive sales reports.

The Impact

Improved restaurant efficiency, reduced human error, and clear insights into sales performance for data-driven decision making.

Tools & Technologies



Python 3

Core programming language



SQLite

Database to store order details



Streamlit

User interface for billing & reports



Pandas

Data handling & report filtering



FPDF

PDF export functionality



Datetime

Time-stamped order records

Development Process



Requirement Analysis

Identified key needs—order placement, billing, storage, and reporting.

Database Design

Created an SQLite database with an orders table to store customer name, items, quantity, price, payment method, and order time.

Billing System

Developed a Streamlit interface to select items, calculate totals, apply GST, and record payment details.

Order Storage

Implemented backend logic to insert orders into the database for future retrieval.

Development Process (Continued)

Reports Section

Added multiple filters (Current Order, Daily, Weekly, Monthly, All Orders) with results displayed in a table format.

Export Features

Integrated CSV and PDF downloads so managers can save and share reports.

Testing & Validation

Verified order placement, calculations, and report accuracy with sample transactions.



Billing System Interface



Key Features

- Item selection with quantity adjustment
- Automatic price calculation
- GST application
- Multiple payment method options
- Customer information capture
- Order confirmation and receipt

The intuitive Streamlit interface allows staff to quickly process orders with minimal training, reducing wait times and improving customer satisfaction.



Reporting Capabilities



Daily Reports

View all transactions from the current day with totals and payment breakdowns.



Weekly Reports

Analyze sales patterns across the week to identify busy periods and trends.



Monthly Reports

Track longer-term performance with comprehensive monthly sales data.



All Orders

Access the complete order history for comprehensive analysis and auditing.

Restaurant RePOrts



Export Functionality

CSV Export

Export report data to CSV format for:

- Further analysis in spreadsheet software
- Data integration with other systems
- Custom report creation
- Data backup and archiving

PDF Export

Generate professional PDF reports for:

- Sharing with stakeholders
- Printing physical copies
- Official documentation
- Financial record keeping

Project Benefits

Operational Efficiency

Streamlines order taking and billing processes, reducing wait times and staff workload.

Error Reduction

Eliminates manual calculation errors in pricing, GST application, and change amounts.

Data-Driven Decisions

Provides comprehensive sales insights to optimize menu offerings, pricing, and staffing.

Improved Record Keeping

Maintains a secure, searchable database of all transactions for accounting and analysis.



Access & Next Steps

Project Access

Live Demo: <http://localhost:8501/>

GitHub Repository: github.com/Basheershaik2002/Restaurant-Billing-App

Skills Enhanced

- Python programming
- Database design and management
- Web application development
- Data visualization and reporting
- Real-world business problem solving

This project successfully combines billing automation, secure storage, and real-time reporting into one lightweight application, demonstrating how software can effectively solve real-world business challenges in the restaurant industry.