

# 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.

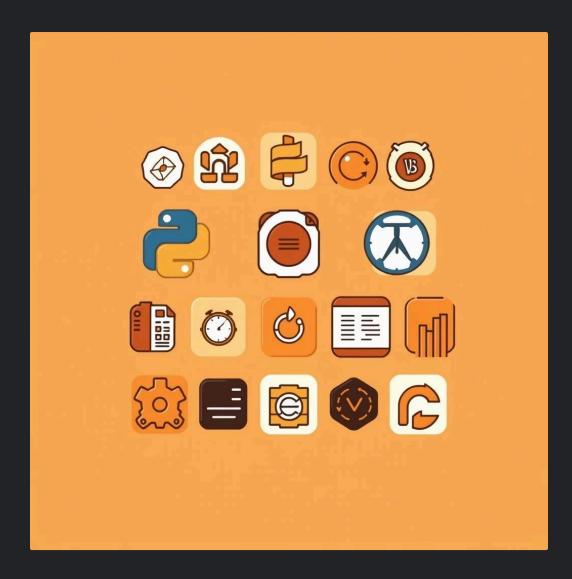
#### The Solution

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



# 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.