



Project Report: Food Court Management System

1. Executive Summary

The **Food Court Management System (FCMS)** is a console-based application designed to streamline the ordering process for customers and provide essential data analytics for management. Built using **Python** with **SQLite** for data persistence and **Matplotlib** for visualization, the system offers distinct workflows for users (placing orders, feedback) and employees (data retrieval and analysis). The primary goal is to digitize order logging and provide actionable insights into popular items and customer demographics.

2. Project Goals

The main objectives for developing the FCMS were:

- **Order Digitization:** To move away from manual order taking by implementing a structured digital ordering process.
- **Customer Profiling:** To capture and store basic customer demographic data (name, age, city, country) for targeted marketing and analysis.
- **Data Persistence:** To securely store all customer profiles and transaction records using a **SQLite database**.
- **Business Intelligence:** To provide managers (employees) with tools to visualize key metrics like **popular menu items** and **customer distribution**.

3. Technical Architecture and Tools

Component	Technology/Library	Purpose
Programming Language	Python 3.x	Core application logic and execution.
Database	sqlite3	Used to create and manage the foodcourt.db file, storing profiles and orders tables.
Data Visualization	matplotlib.pyplot	Generates graphical representations (Bar, Pie, Histogram) of business data.
User Interface	Command-Line Interface (CLI)	Provides interactive text-based input and output for both user and employee roles.

4. System Functionality

4.1. User Workflow

The user section focuses on the transaction process:

- **Profile Creation:** New users can create a profile which is saved to the database.
- **Order Placement:** Users can view the fixed menu (defined in the menu dictionary) and place an order for multiple items and quantities.
- **Bill Generation:** The system calculates and displays the total bill based on the items and quantities ordered.
- **Feedback:** A prompt is included for users to provide a service rating.

4.2. Employee Workflow

The employee section is the analytical tool, offering five options:

1. **Fetch Profiles:** Retrieves all records from the profiles table.
2. **Fetch Orders:** Retrieves all records from the orders table.
3. **Popular Menu Item Visualization:** Generates a Bar Chart showing total quantity ordered per item.
4. **Customer Distribution:** Generates a Pie Chart illustrating the percentage distribution of customers across different cities.
5. **Order Bill Distribution:** Generates a Histogram showing the frequency distribution of total bill amounts among all customers.

5. Conclusion and Future Scope

The FCMS successfully demonstrates a foundational approach to managing transactions and extracting value from operational data in a food court setting.

Key Achievements:

- Successful integration of database operations with user interaction.
- Effective use of Matplotlib to translate raw data into insightful visualizations for management.