

# Jangu Okyekole Bistro Management System

Mary Nansikombi and James Bray

## Project Overview

Jangu Okyekole Bistro is a new Ugandan restaurant quickly gaining popularity in its community so they decided to come up with an advanced system for tracking all of their metrics. The goal of the project is to centralize all of the data that wasn't tracked as meticulously. All aspects of the business will be tracked: customers, sales, employees, meals, ingredients, suppliers, supplier purchases, and discounts. The restaurant has quickly grown to serve 1000 customers a week, so this system will help to manage those customer relations in addition to tracking expenses. Since the restaurant only serves authentic and locally sourced ingredients, their expenses need to be tracked to ensure they're able to maintain their goal of providing excellent food and service while maintaining profitable margins. They currently make about \$30,000 in revenue per week, but their expenses are ranging from \$20,000 to \$25,000, and they're looking to improve their margins by tracking how often meals are to optimize their menu. The system will also allow the owners to track their employees, when they work, and how long they've been there. They hope that by utilizing this new system, they will be able to retain loyal customers as well as raise profit margins.

## Database Outline

- **Customers:** Holds details about the customers of the restaurant.
  - customer\_id: int, auto\_increment, not NULL, PK
  - name: varchar(50), not NULL, unique
  - email: varchar(50), not NULL, unique
  - phone\_contact: varchar(15), not NULL, unique
  - times\_dined: int, NULL, –calculated
  - vip\_customer: tinyint(1), not NULL
  - relationship: A M:M relationship with sales.
- **Customers\_sales (Intersection Table):** Facilitates the M:M relationship between customers and sales.
  - customer\_id: int, not NULL, FK
  - sale\_id: int, not NULL, FK
- **Employees:** Details about the employees of the restaurant
  - employee\_id: int, auto\_increment, not NULL, PK
  - name: varchar(50), not NULL
  - email: varchar(50), not NULL, unique
  - phone\_contact: varchar(15), not NULL
  - start\_date: date, not NULL,
  - hours\_worked: ENUM('morning', 'afternoon', 'evening'), not NULL
  - Relationship: A 1:M relationship between Employees and sales with the PK of the employee in a customer
- **Meals:** Details of the meals served at the restaurant
  - meal\_ID: int, auto\_increment, not NULL, PK
  - meal\_name: varchar(50), not NULL
  - meal\_price: int, not NULL
  - meal\_prep\_time: int, not NULL
  - description: varchar(100), not NULL

- Relationships: A M:M relationship between meals and sales as well as a M:M relationship between meals and ingredients.
- **Meals\_ingredients(Intersection Table):** Facilitates the M:M relationship between meals and ingredients.
  - meal\_ID: int, not NULL, FK
  - ingredient\_ID: int, not NULL, FK
  - quantity\_used: decimal (10, 2), not NULL
  - measurement\_unit: varchar(15), not NULL
- **Ingredients:** Represents the details of ingredients utilized in the meals
  - ingredient\_id: int, not NULL, PK
  - ingredient\_name: varchar(50), not NULL
  - cost: decimal (10,2), not NULL.
  - Relationships: A M:M relationship between meals and ingredients as well as a M:M relationship with supplier purchases.
- **Sales:** Holds details of the sales made to customers
  - sale\_id: int, auto\_increment, not NULL, PK
  - sale\_date\_time: datetime, not NULL
  - discount\_ID: int
  - total\_bill: decimal(10, 2), not NULL
  - Relationships: A M:1 relationship with employees, a M:1 relationship with discounts, a M:M relationship between sales and customers, and a M:M relationship between sales and meals.
- **Customer\_Sales\_Meals (Intersection table):** Facilitates the M:M relationship between sales and meals.
  - meal\_id: int, not NULL, FK
  - sale\_id: int, not NULL, FK
  - quantity\_sold: int, not NULL
  - price\_per\_meal: decimal (10,2), not NULL
- **Suppliers:** Represents details of the suppliers
  - supplier\_id: int, auto\_inc, not NULL, PK
  - supplier\_name: varchar(50), not NULL
  - supplier\_email: varchar(50), not NULL
  - supplier\_address: varchar(50), not NULL
  - Relationships: A 1:M relationship with supplier\_purchases
- **Supplier\_purchases:** Represents details of purchases made from the suppliers
  - purchase\_id: int, not NULL, PK
  - supplier\_id: int, not NULL, FK
  - purchase\_amount: decimal (10,2), not NULL
  - Relationships: A M:1 relationship with suppliers as well as a M:M relationship with ingredients.
- **Supplier\_purchases\_ingredients (Intersection Table):** Facilitates the M:M relationship between supplier\_purchases and ingredients.
  - purchase\_id: int, not NULL, FK
  - ingredient\_id: int, not NULL, FK
  - quantity\_purchased: decimal (10,2), not NULL
  - price\_per\_unit: decimal (10,2), not NULL
- **Discounts:** Represents types of discounts available to the customers.
  - discount\_id: int, not NULL, PK,
  - discount\_code: varchar(50), not NULL

- iscount\_category: varchar(50), not NULL
- Discount\_amount: decimal(5,2), not NULL
- Discount\_type: enum('Percentage', 'Fixed')
- Relationship: 1:M relationship between Discounts and customer sales, since each sale can only have one discount applied.

## Entity relationship diagram

