Database Structure Document (Excel or PDF)

1. Overview

This document outlines the database structure for the **Pizza Shop Billing Web Application**. It includes the table definitions, fields, data types, and relationships between the tables. The document also includes a backup procedure for the database.

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2. Database Tables

Below are the tables, their fields, and data types as per the SQL queries:

Table 1: Items

Field Name	Data Type	Description
item_id	INT	Primary Key, Auto Increment
name	VARCHAR(255)	Name of the item
description	TEXT	Description of the item
price	DECIMAL(10,2)	Price of the item
category	VARCHAR(255)	Category of the item (e.g., Pizza, Drink)
created_at	TIMESTAMP	Date and time when the item was created
updated_at	TIMESTAMP	Date and time when the item was created
image_url	VARCHAR(255)	URL for the item's image

Table 2: Invoices

Field Name	Data Type	Description
invoice_id	INT	Primary Key, Auto Increment
customer_name	VARCHAR(255)	Name of the customer
date	DATE	Date the invoice was created
total_amount	DECIMAL(10,2)	Total amount of the invoice
tax_amount	DECIMAL(10,2)	Tax applied on the invoice
net_amount	DECIMAL(10,2)	Net amount after applying tax
created_at	TIMESTAMP	Date and time when the invoice was created
updated_at	TIMESTAMP	Date and time when the invoice was last updated

Table 3: Invoice_Items

Field Name	Data Type	Description
id	INT	Primary Key, Auto Increment
invoice_id	INT	Foreign Key referencing **Invoices** Table
item_id	INT	Foreign Key referencing **Items** Table
item_name	VARCHAR(255)	Name of the item
quantity	INT	Quantity of the item purchased
price	DECIMAL(10,2)	Price of the item at the time of purchase
amount	DECIMAL(10,2)	Total amount for the item (quantity * price)

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3. Relationships Between Tables

- **Items** to **Invoice_Items**: One-to-many relationship (each item can be linked to multiple entries in Invoice_Items.
- **Invoices** to **Invoice_Items**: One-to-many relationship (each invoice can have multiple items).
- **Invoices** and **Items** are linked through invoice_id and item_id in the Invoice_Items table

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4. Sample SQL Schema

sql

```
CREATE TABLE Items (
    item_id INT PRIMARY KEY AUTO_INCREMENT,
    name VARCHAR(255),
    description TEXT,
    price DECIMAL(10,2),
    category VARCHAR(50),
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    image_url VARCHAR(255)
);

CREATE TABLE Invoices (
    invoice_id INT PRIMARY KEY AUTO_INCREMENT,
    customer_name VARCHAR(255),
    date DATE,
    total_amount DECIMAL(10,2),
    tax_amount DECIMAL(10,2),
    net_amount DECIMAL(10,2),
    created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP,
    updated_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP
);

CREATE TABLE Invoice_Items (
    id INT PRIMARY KEY AUTO_INCREMENT,
    invoice_id INT,
    item_id INT,
    item_name VARCHAR(255),
    quantity INT,
    price DECIMAL(10,2),
    amount DECIMAL(10,2),
    FOREIGN KEY (invoice_id) REFERENCES Invoices(invoice_id),
```

```
    FOREIGN KEY (item_id) REFERENCES Items(item_id)
);
```

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5. Database Backup Procedure

To backup the PostgreSQL database, use the following steps:

1. **Open the terminal or command prompt**.

Backup Command: Use the following command to create a backup of the database:

```
pg_dump -U your_username -W -F t your_database_name > backup_file.tar
```

2. Replace:
    - your_username with your PostgreSQL username.
    - your_database_name with the name of the database.
    - backup_file.tar with your desired backup filename.
3. This will generate a .tar backup file containing all the tables, data, and relationships.
