

# ASSIGNMENT #3

Restaurant Management System

**Advance Programming Techniques (CS-303)**

Submitted To:

**Dr. Usman Ali**

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## **Introduction:**

A Restaurant Management System (RMS) developed using Windows Forms in C# serves as an indispensable tool for enhancing the efficiency and organization of restaurant operations. Its significance lies in streamlining processes, facilitating seamless communication between staff members, and providing real-time insights into various aspects of the restaurant business. The advantages of such a system include improved order accuracy, enhanced customer service, efficient staff management, and data-driven decision-making. Now, let's delve into the key features of this RMS:

### **1. Login:**

Enables secure access control, ensuring only authorized personnel can interact with the system.

### **2. Dashboard**

- Serves as a centralized hub for managing and monitoring all restaurant activities.
- Provides a comprehensive overview, allowing quick navigation to different functionalities.

### **3. Categories:**

- Organizes menu items into logical groups for easy navigation and management.
- Enhances menu clarity and simplifies updates or additions.

### **4. Products:**

- Facilitates the addition, modification, and removal of menu items.
- Enables quick adaptation to changing customer preferences and seasonal offerings.

### **5. Tables:**

- Manages table reservations, occupancy status, and aids in efficient seating arrangements.
- Optimizes table turnover and enhances the overall dining experience.

### **6. Staff:**

- *Importance:* Handles employee information, roles, and schedules.
- *Advantage:* Improves staff management, leading to better coordination and service.

### **7. POS (Point of Sale):**

- Processes customer orders, handles transactions, and generates receipts.
- Streamlines the ordering process, reduces errors, and accelerates transaction speed.

### **8. Kitchen:**

Communicates orders to the kitchen staff, ensuring timely and accurate preparation.

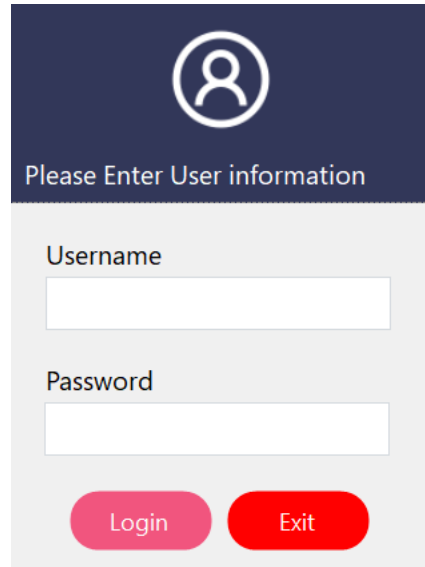
### **9. Reports:**

- Generates insightful reports on sales, inventory, and other key metrics.
- Informs data-driven decision-making, helping optimize business strategies and resource allocation.

## Forms

### 1. Login

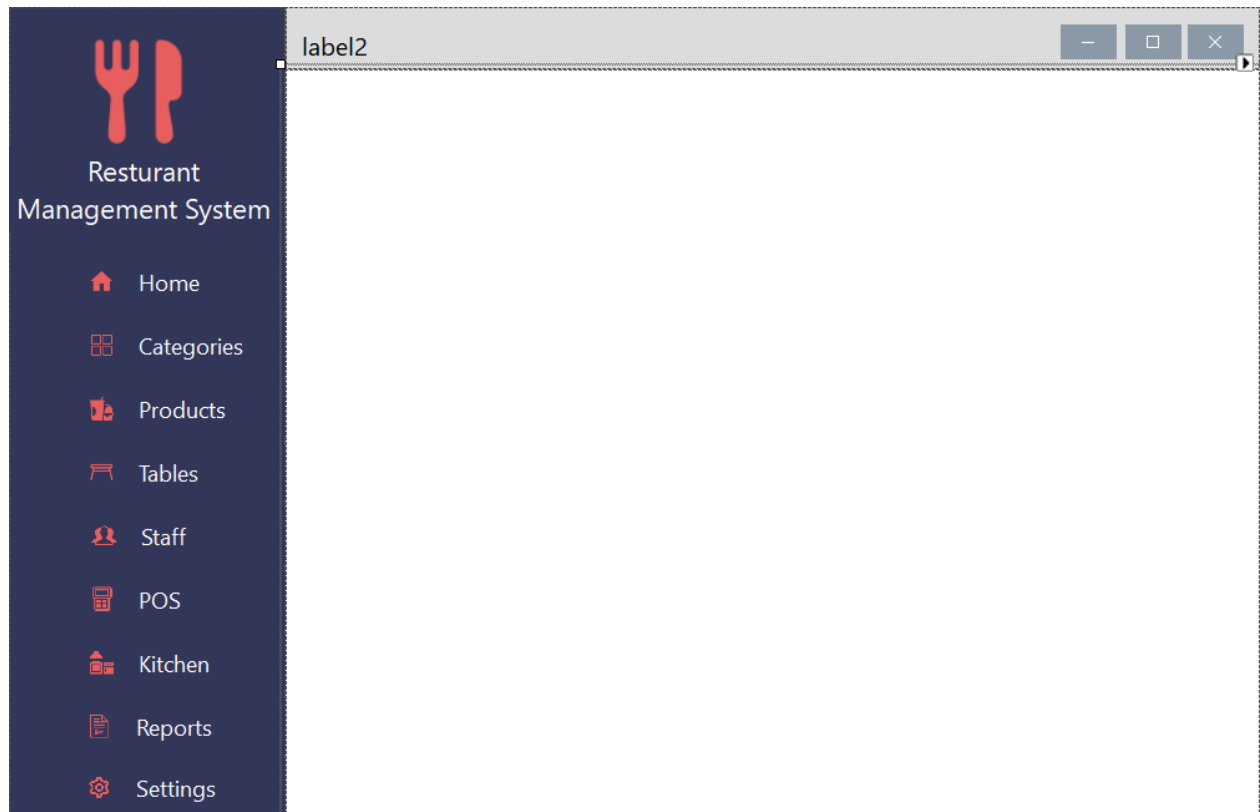
To authenticate user, only registered users can login



A login form with a dark blue header containing a white user icon and the text "Please Enter User information". Below the header, there are two input fields: "Username" and "Password". At the bottom, there are two buttons: a pink "Login" button and a red "Exit" button.

### 2. Dashboard

From Here User can Navigate to different sections and perform different operations



### 3. Categories:

You can view the Categories of Food available in Restaurant i.e., BBQ, Fast Food, Drinks

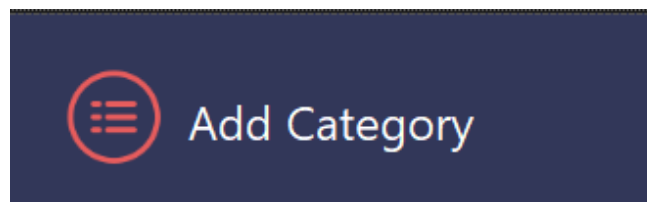
Category List

Search

Search Here

Sr#	Name
-----	------

**Add Category:** This will show up when you click on plus option, you can add new categories here



Name

SAVE

CLOSE

#### 4. Products:

You can view the Products available in Restaurant i.e., Pizza, Burger, Biryani, Sprite

Product List

+

Search

Search Here

Sr#	Name	Price	Category
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**Add Product:** This will show up when you click on plus option, you can add new products here

Product Details

Name

Price

Category

Browse

SAVE

CLOSE

## 5. Tables:

You can view the Tables Capacity available in Restaurant

Table List

Search

Search Here

Sr#	Name
-----	------

**Add Tables:** You can add new tables, if you add more and give name like Table 1, 2 and so on.

Table Details

Name


SAVE

CLOSE


## 6. Staff:

You can view the Staff List currently working in Restaurant i.e., Waiter, Cashier, Sweeper

Staff List




Search

 Search Here

Sr#	Name	Phone	Role
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**Add Staff:** You can add new staff, by clicking + button when you hire new

 Staff Details

Name

Phone

Role

SAVE

CLOSE

## 7. POS

### 1. Center Section - Product Display:

- Displays a grid of product images in the center of the screen.

### 2. Right Dock - Product Details List:

- Displays detailed information about the selected product.
- Includes options for quantity, customization, and addition to the order.

### 3. Left Dock - Categories List:

- Clicking on a category filters the products displayed in the center section accordingly.

### 4. Upper Bar - Order Types:

- Features an upper bar where you can choose from three order types: Dine In, Deliver, and Takeaway. Selection of waiter and table options for Dine In.

### 5. Bill List Option:

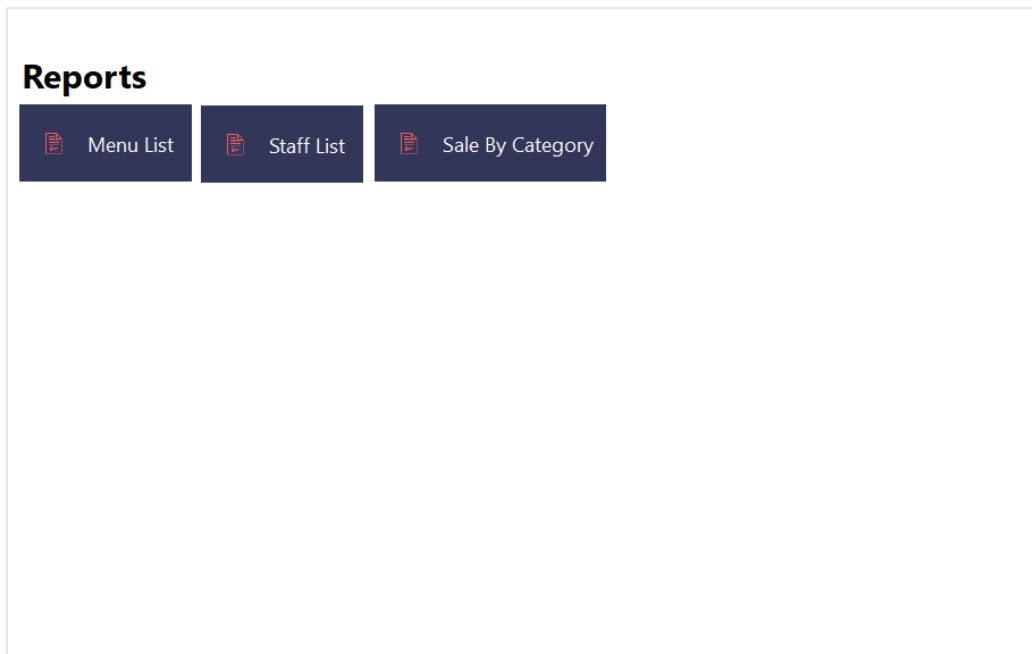
- An option in the upper bar for accessing the list of orders with their status. Provides an overview of ongoing orders, order completion, and other relevant details.

The screenshot displays the POS system's upper bar and table list. The upper bar is dark blue with a light blue background for the buttons. It includes a fork and knife icon, the text 'POS', and several buttons: 'New' (with a plus icon), 'Hold' (with a hand icon), 'Bill List' (with a document icon), 'KOT' (with a trash icon), 'Delivery' (with a truck icon), 'Take Away' (with a box icon), 'Din In' (with a person icon), 'Table Waiter' (with a person icon), and a power button icon. Below the upper bar is a search bar with a magnifying glass icon and the text 'Search Here'. To the right of the search bar is the word 'Table'. Below these is a table with columns: 'Sr#', 'Name', 'Qty', 'Price', and 'Amount'. The table is currently empty. At the bottom right of the screen, there is a dark blue bar with the text 'Total 0.00'.

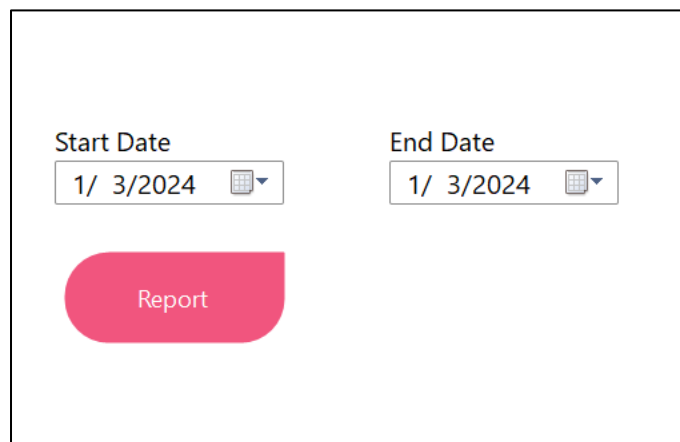
Sr#	Name	Qty	Price	Amount
-----	------	-----	-------	--------



## 8. Reports:

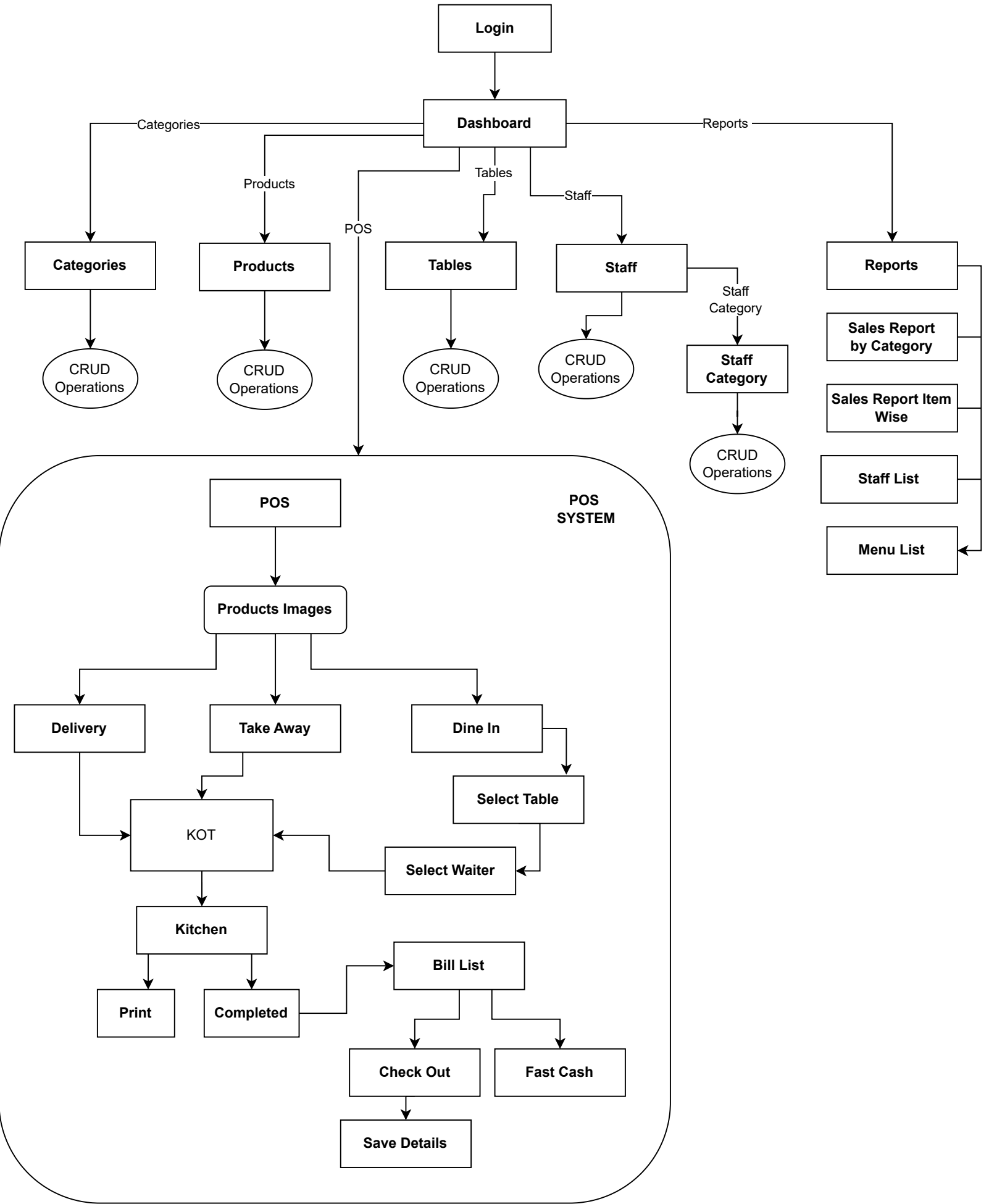


- **Menu List:**  
You can Generate the whole menu list by clicking on it. It contains Product Images, name and Price
- **Staff List:**  
You can generate Staff List with their work history
- **Sales by Category:**  
You can Generate Reports of sales from one date to another filtered by category

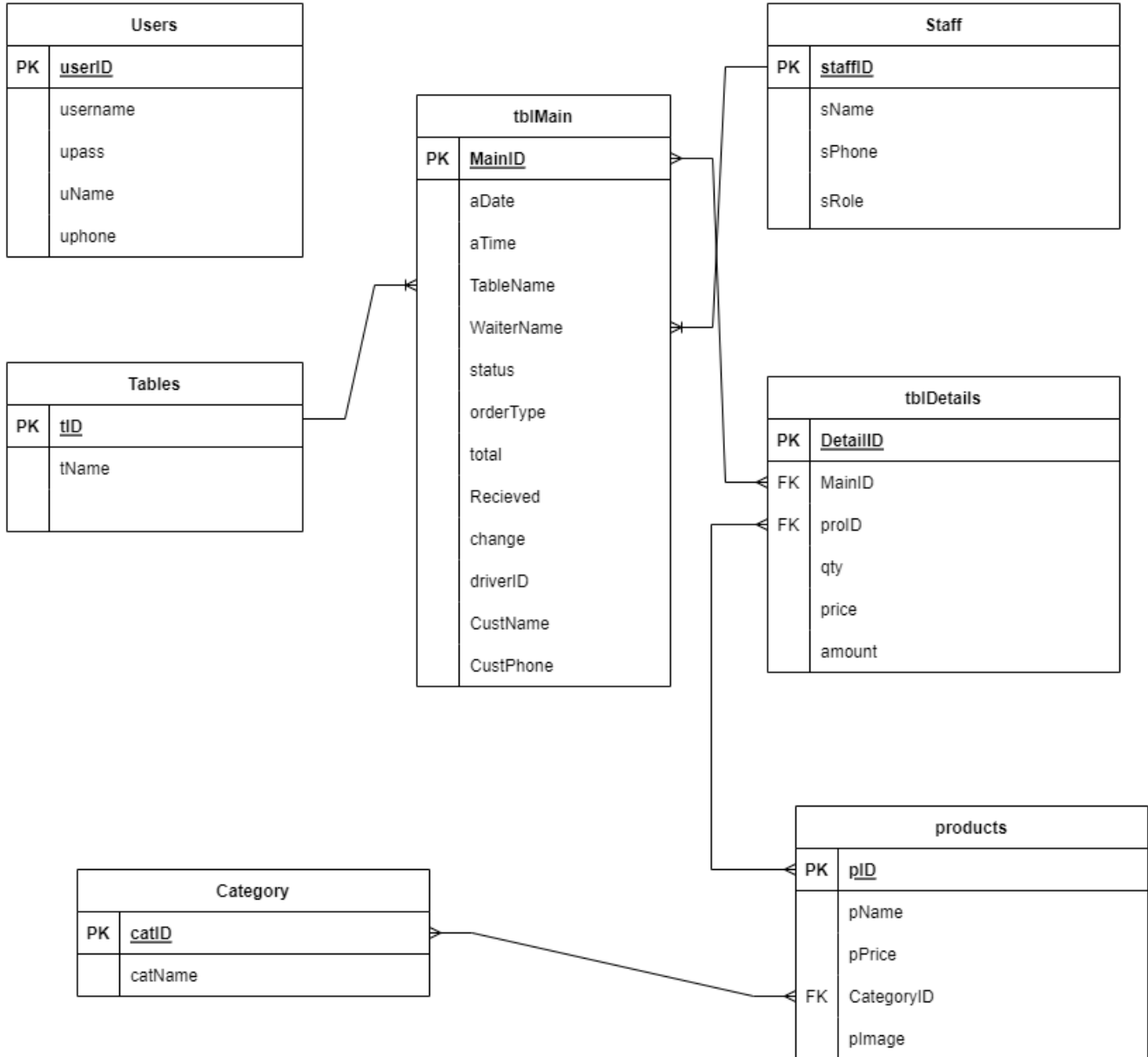
A form for generating a report. It features two date pickers side-by-side. The first is labeled "Start Date" and the second is labeled "End Date". Both pickers show the date "1/ 3/2024" and have a small calendar icon with a dropdown arrow. Below these two pickers is a large, rounded pink button with the word "Report" written in white text.

**Some Contents are Missing in Forms which would show on runtime after we complete our code and perform CRUD Operation**

# Navigation Diagram



## ERD Diagram



## Database Script

```

-- Users Table
CREATE TABLE Users (
    userID INT PRIMARY KEY IDENTITY,
    userName VARCHAR(50) not null,
    upass VARCHAR(10) not null,
    uName VARCHAR(50) not null,
    uPhone VARCHAR(20),
);
    
```

```

-- Tables Table
CREATE TABLE Tables (
    tID INT PRIMARY KEY IDENTITY,
    tName VARCHAR(100)
);

-- Staff Table
CREATE TABLE Users (
    staffID INT PRIMARY KEY IDENTITY,
    sName VARCHAR(50),
    sPhone VARCHAR(50),
    sRole VARCHAR(50)
);

-- Category Table
CREATE TABLE Category (
    catID INT PRIMARY KEY IDENTITY,
    catName VARCHAR(100)
);

-- Products Table
CREATE TABLE products (
    pID INT PRIMARY KEY IDENTITY,
    pName VARCHAR(50),
    pPrice FLOAT,
    CategoryID INT,
    pImage IMAGE
);

-- Main Table
CREATE TABLE tblMain (
    MainID INT PRIMARY KEY IDENTITY,
    aDate DATE,
    aTime VARCHAR(15),
    TableName VARCHAR(10),
    WaiterName VARCHAR(50),
    status VARCHAR(10),
    orderType VARCHAR(15),
    total FLOAT,
    received FLOAT,
    change FLOAT,
    driverID INT
    CustName VARCHAR(50),
    CustPhone VARCHAR(50),
);

-- Detail Table
CREATE TABLE tblDetails (
    DetailID INT PRIMARY KEY IDENTITY,
    MainID INT,
    proID INT,
    qty INT,
    price FLOAT,
    amount FLOAT,
);

```

## Project Distribution

Member Name	Roll Number	Responsibility
Anas Majeed	21011519-019	<ul style="list-style-type: none"><li>• Database Creation</li><li>• Login Section</li><li>• Dashboard Section</li><li>• Categories Section</li><li>• Tables Section</li><li>• Staff Section</li><li>• Products Section</li></ul>
Zain Ali	21011519-152	<ul style="list-style-type: none"><li>• POS Screen</li><li>• Kitchen Screen</li><li>• Load Transactions and Checkout</li></ul>
Muneeb Shahzad	21011519-121	<ul style="list-style-type: none"><li>• Add Customer and Delivery</li><li>• Reciepts Print</li><li>• Generate and Design Reports</li></ul>