



# Online Marketplace System

By

Muhammad Saeed Shaikh – 2022421

Affan Khan – 2022047

Syed Hanan Shabir – 2022565

Semester Project for CS232

Instructor: Abinta Mehmood

## Introduction:

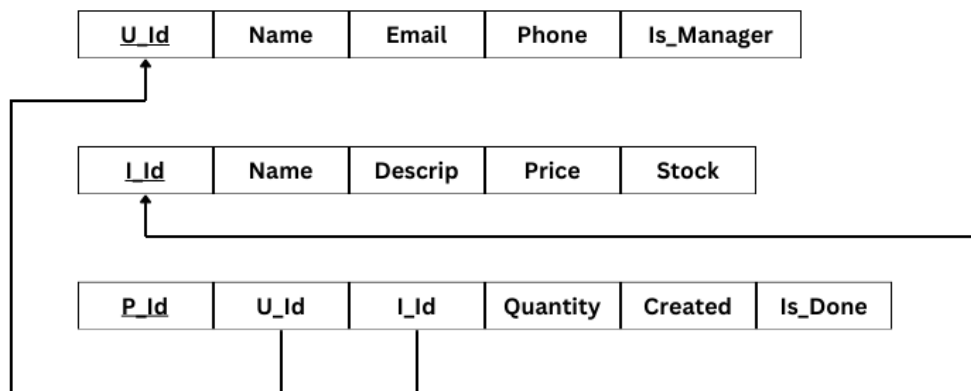
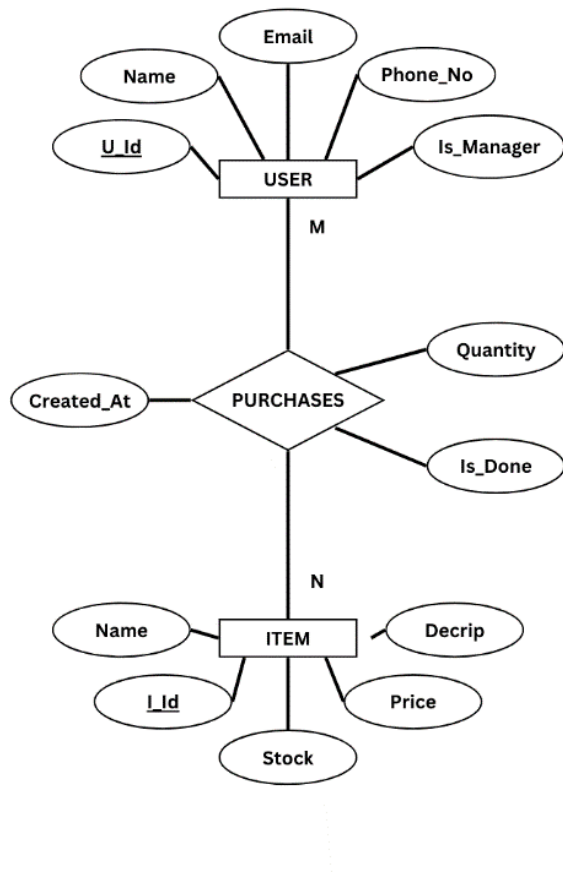
This document serves as a detailed and thorough record of the semester-long project undertaken to design and develop a database management system (DBMS) for an online marketplace. The project aimed to create a robust and strong database infrastructure capable of facilitating smooth and effortless online transactions while efficiently managing product information, user accounts, and order processing.

## Analysis:

This project requires implementation of the following features:

- Users
  - Creating a user
  - Logging in as a user
  - Different features for managers and customers
- Items
  - Display items
  - Creating new items
  - Updating item details
  - Deleting item
  - Buying Item
- Record Keeping
  - Recording sales
  - Show list of orders to be processed
  - Show list of already processed order

## Diagrams:



# Implementation of functions:

## Creation of tables:

```
CREATE TABLE users(  
    u_id SERIAL PRIMARY KEY,  
    name TEXT,  
    passwd TEXT,  
    email TEXT UNIQUE NOT NULL,  
    phone TEXT,  
    is_manager BOOLEAN NOT NULL  
);
```

```
CREATE TABLE items(  
    i_id SERIAL PRIMARY KEY,  
    name TEXT,  
    descrip TEXT,  
    price INT,  
    stock INT  
);
```

```
CREATE TABLE purchases(  
    p_id SERIAL PRIMARY KEY,  
    i_id INT NOT NULL,  
    u_id INT NOT NULL,  
    quantity INT NOT NULL,  
    is_done BOOLEAN NOT NULL,  
    created TIMESTAMP,  
    FOREIGN KEY(i_id) REFERENCES items(i_id),  
    FOREIGN KEY(u_id) REFERENCES users(u_id)  
);
```

## User:

```
CREATE OR REPLACE PROCEDURE new_user(  
    n_name TEXT,  
    n_email TEXT,  
    n_passwd TEXT,  
    n_phone TEXT,  
    status BOOLEAN  
)  
language plpgsql  
AS $$  
BEGIN  
INSERT INTO users(name, email, passwd, phone, is_manager) VALUES (n_name, n_email,  
n_passwd, n_phone, status);
```

```
END;$$
```

```
CREATE OR REPLACE FUNCTION authenticate(  
    n_email TEXT,  
    n_passwd TEXT  
)  
RETURNS INT  
LANGUAGE plpgsql  
AS $$  
DECLARE  
    result_id INT;  
BEGIN  
    SELECT u_id FROM users  
    INTO result_id  
    WHERE email = n_email AND passwd = n_passwd;  
    IF FOUND THEN  
        RETURN result_id;  
    ELSE  
        RETURN -1;  
    END IF;  
END;$$
```

```
CREATE OR REPLACE FUNCTION check_valid_user(  
    n_email TEXT  
)  
RETURNS INT  
LANGUAGE plpgsql  
AS $$  
DECLARE  
    result_id INT;  
BEGIN  
    SELECT u_id FROM users  
    INTO result_id  
    WHERE email = n_email;  
    IF FOUND THEN  
        RETURN 0;  
    ELSE  
        RETURN 1;  
    END IF;  
END;$$
```

```
CREATE OR REPLACE FUNCTION check_manager(  
    auth_id INT  
)  
RETURNS BOOLEAN  
LANGUAGE plpgsql  
AS $$  
DECLARE
```

```

        result_m BOOLEAN;
BEGIN
    SELECT is_manager FROM users
    INTO result_m
    WHERE u_id = auth_id;
    RETURN result_m;
END;$$

```

## Items:

```

CREATE OR REPLACE PROCEDURE new_item(
    n_name TEXT,
    n_descrip TEXT,
    n_price INT,
    n_stock INT
)
language plpgsql
AS $$
BEGIN
INSERT INTO items(name, descrip, price, stock) VALUES (n_name, n_descrip, n_price, n_stock);
END;$$

```

```

SELECT i_id, name, descrip, price, stock FROM items;

```

```

SELECT i_id, name, descrip, price, stock FROM items WHERE i_id=1;

```

```

CREATE OR REPLACE PROCEDURE update_item(
    n_i_id INT,
    n_name TEXT,
    n_descrip TEXT,
    n_price INT,
    n_stock INT
)
language plpgsql
AS $$
BEGIN
UPDATE items SET name = n_name, descrip = n_descrip, price = n_price, stock = n_stock
WHERE i_id = n_i_id;
END;$$

```

## Records

```

CREATE OR REPLACE PROCEDURE new_purchase(
    n_u_id INT,
    n_i_id INT,
    n_quantity INT

```

```

)
language plpgsql
AS $$
BEGIN
INSERT INTO purchases(u_id, i_id, quantity, is_done, created) VALUES (n_u_id, n_i_id,
n_quantity, false, CURRENT_TIMESTAMP(0));
UPDATE items SET stock = stock - n_quantity WHERE i_id = n_i_id;
END;$$

CREATE OR REPLACE VIEW completed_records AS
SELECT p_id, u.name u_name, u.email u_email, u.phone u_phone, i.name i_name, quantity,
created
FROM purchases
JOIN users u ON purchases.u_id = u.u_id
JOIN items i ON purchases.i_id = i.i_id
WHERE is_done = true
ORDER BY created DESC;

CREATE OR REPLACE VIEW remaining_records AS
SELECT p_id, u.name u_name, u.email u_email, u.phone u_phone, i.name i_name, quantity,
created
FROM purchases
JOIN users u ON purchases.u_id = u.u_id
JOIN items i ON purchases.i_id = i.i_id
WHERE is_done = false
ORDER BY created ASC;

CREATE OR REPLACE FUNCTION check_record(
    c_id INT
)
RETURNS BOOLEAN
LANGUAGE plpgsql
AS $$
DECLARE
if_exist BOOLEAN;
BEGIN
SELECT EXISTS(SELECT * FROM purchases WHERE c_id = p_id AND is_done = false) INTO
if_exist;
IF if_exist THEN
UPDATE purchases SET is_done = true WHERE p_id = c_id;
END IF;
RETURN if_exist;
END;$$

```

# UI Examples:

Sports Goods

Register

Login

Email

Password

Login

Sports Goods

Register

Name

Email

Phone #

☒ Customer ☐ Manager

Password

Register

Sports Goods

New Item

Purchase Records

Logout

You Have Been Logged In

Sports Shoes

37 remaining

Power through your workouts with our selection of sport shoes! Designed for comfort and performance, these shoes provide the support and flexibility you need to conquer any activity. Whether you're hitting the gym, court, or track, find the perfect pair to help you reach your fitness goals.

UpdateDelete

Swimming Goggles

23 remaining

Dive into comfort and clarity with our high-performance swimming goggles! Featuring a leak-proof seal and wide range of vision, these goggles will keep your eyes protected and focused underwater. Perfect for lap swimmers, recreational enthusiasts, or anyone who wants to enjoy the pool without irritation.

UpdateDelete

Cricket Bat

62 remaining

Unleash your inner batsman with this top-quality cricket bat! Crafted from premium English willow for exceptional power and durability, this bat boasts a large sweet spot for clean strikes. The lightweight handle ensures for smooth stroke play and ultimate control at the crease. Dominate the pitch with this precision instrument.

UpdateDelete



Sports GoodsLogout

New Item

Name

Description

Price

Stock

CreateBack

Sports GoodsLogout

Records

Records To Be Processed

Processed Records

Customer	Email	Phone	Item	Quantity	Created	Check
customer	customer	0300-0000000	Cricket Bat	12	April 28, 2024, 12:07 p.m.	☑
customer	customer	0300-0000000	Sports Shoes	3	April 28, 2024, 8:37 a.m.	☑

Back

Sports GoodsLogout

Buying Sports Shoes

In Stock: 37

How Many?

Buy