

Group 61

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CMPE 232 Relational Databases
E-Commerce System Phase 2

Changes we made after phase 1 of the project;

Firstly, the returned_products and delivered_products tables have been removed from the database. Two attributes have been added to the order_details table. These are unit_price and quantity. The order_date attribute has been removed from the orders table. The constraint of the order_id attribute in the order_details table is set to unique.

Description of the Tables

Based on the feedback from phase 1, we have made changes to both our ER Diagram and our SQL script. We now believe that our project is much more realistic and reasonable. The following section demonstrates our attributes and explains each table.

1-Categories:

The information a user of an e-commerce system might need to know about a category, such as category_id and category_name, is taken into account when assessing and determining attributes. Because each category must have its own id in order to be descriptive, category_id is chosen as the primary key. For the product table, category_name is a foreign key.

2-Customers:

All necessary information about a customer is assigned as attributes which are customer_id, customer_first_name, customer_last_name, customer_user_name, customer_password, customer_gender, customer_address, customer_phone_number.

3-Order_details:

In our order details table, it can be considered as an information part that the user can view after placing an order. We have order_detail_id as a primary key also we have product_id, order_id, payment_info_id, order_date, total_price, quantity, unit_price.

4-Orders:

While buying the products user wants to buy, the user assigns the products that match the order_id in the order table according to the customer_id in our order table. order_id is a primary key. And customer_id is a foreign key for customer table.

5-Payment_info:

After the user selects and purchases the products, payment_info_id is the primary key in our table showing the payment information of the fees for the products. We have credit_card_no and customer_id attributes. Customer_id is the foreign key for the customer table.

6-Product_comments:

It is the table that lists the comments made by the customers for the products. comment_id is the primary key. customer_id and product_id are the foreign key for our other tables.

7-Products:

It is the table containing the products created for customers to purchase. In our table, product_id is the primary key of our product table. In addition, our table has the following attributes. Product_name, product_price, stock_amount, category_id.

8-Products_rate:

It keeps data given by users for products and evaluated on 5 points.

Explanation of the Java Application Program

We created a Java database application program that connects to our database and performs tasks related to our domain. Because it is a demo, it is not fully functional. To successfully launch the application, four variables are required at the start. JDBC DRIVER, DB URL, User, and Password are the three variables. These variables are required to connect the servers at the schools. Following a successful connection, we are greeted with a message, and the Java Application Program requests the operation we wish to perform. We can only insert, select, delete, and list on certain tables because it is not fully functional.

When we run the Java application, if a connection is established successfully, we are greeted by a list of operations from which to choose. If the connection fails, the message "There was an exception in connecting" appears in the console.

```
public class DBConnection {

    public static Connection c = null;

    // public static Statement stmt = null;
    public DBConnection() {
        try {
            Class.forName("org.postgresql.Driver");
            c = DriverManager.getConnection("jdbc:postgresql://10.98.98.61:5432/group61", "group61",
                "YnF#GBs7TYEe+Cg*");
            c.setAutoCommit(false);
            System.out.println("Opened database successfully\nWelcome to our program :");
        } catch (Exception e) {
            System.err.println(e.getClass().getName() + ": " + e.getMessage());
            System.exit(0);
        }
    }

    public void closeConnection() throws SQLException {
        c.commit();
        c.close();
    }
}
```

In the first stage, the program requests an username and password from the user every time. So you have to log in to make transactions in our system. If you have registered before, enter it by pressing 1, otherwise, press 2 to enter.

```

Opened database successfully
Welcome to our program :)
Welcome to the E-commerce
Login or SignUp!
1 - Login
2 - Sign Up
3 - End Program
1
Enter an username: admin
Enter a password: 1234
admin Welcome!
What do you want ?
1 - List all users
2 - List all products
3 - Add products
4 - Delete products
5 - Quit Account

```

```

Enter a product id:
144
-----
144 deleted from table
-----
What do you want ?
1 - List all users
2 - List all products
3 - Add products
4 - Delete products
5 - Quit Account

```

```

List of all customer:
-----
1 - Sandra Bain
2 - Jeffrey McDonnell
3 - Joyce Rodgers
4 - Herman Bell
5 - Mildred Smith
6 - Marlon Hodges
7 - Clarence Nason
8 - David Gonzalez
9 - Linda Burman
10 - Spring Moser
11 - Geneva Johnston
12 - Brandy Morris
13 - John Peake
14 - Margaret Oquendo
15 - Frank Amerson
16 - Kim Harrison
17 - Norman Martinez
18 - John Hamann
19 - Norma Bradley
20 - Elvira Johns
21 - Mildred Jones
22 - Rick Moss
23 - Bernadine Mozingo
24 - April Bennett
25 - Bruce Jenkins
26 - Kenneth Jacobs
27 - Patrica Tevis
28 - Esther Jones
29 - Brenda Lindstrom
30 - Roxanne Conyers
31 - Rebecca Putnam
32 - Mathew Thomas
33 - Leonardo Weese
34 - Jill Brown
35 - Berenice Hendrick
36 - Clinton Moreno
37 - Mildred Pugh
38 - Stacey Dotson
39 - Sandra Kerr
40 - Heather Brooks
41 - Jose Carver
42 - Matthew Parnell
43 - Kathryn Cleland
44 - Cole Gray
45 - Amanda Reed
46 - Mary Moore
47 - Kathy Williams
48 - Robert Miller
49 - Lindsay Bourgeois
50 - admin admin

```

In our program, when the user presses 3, a new product is added. If you press 2 our program list all products. And also, if you press 4 the selected products are deleted by program.

Press 5 for quit account.

```

Enter a product name:
Apple
Enter a product price:
5.99
Enter a stock amount:
1000
Enter a category id:

List of all categories:
-----
1 -> Pets
2 -> Electronics
3 -> Sports
4 -> Home
5 -> Fashion
6 -> Books
7 -> Beauty & Cosmetics
8 -> Toys
9 -> Baby
10 -> Food
10
-----
The product has been successfully added.
-----

```

```

List of all products:
-----
1-N&D Dog food 80.00$
2-Asus Rog Strix Computer 2499.99$
3-Ezydog Collar 12.00$
4-Cat & Dog Brush 9.00$
5-Dogy Harness 22.49$
6-Pet Grooming Glove 17.89$
7-Nest Cat Lounge Bed 49.00$
8-Royal Canin Cat Food 19.99$
9-Animal Bowls 10.99$
10-Petptow Cat Furniture Protector 15.99$
11-Bird Street Bistro Parrot Food 5.72$
12-Bird Ladder 27.99$
13-Pet Nail Grinder 35.99$
14-Dog Bark Collar 48.99$
15-Huawei Phone 378.50$
16-Apple AirPods 200.00$
17-Samsung TV 3500.00$
18-Corby Drone 450.99$
19-PlayStation 5 400.00$
20-Access Point Wifi 420.00$
21-Huawei Powerbank 50.00$
22-Vaillant Air Conditioner 77.00$
23-Harman Kardon 45.00$
24-Fujifilm SLR 356.45$
25-Nintendo Wi 149.99$
26-Bosch Refrigerator 188.35$
27-Sony Camera 358.50$
28-Apple Iphone 12 1000.00$
29-English Home Siesta Mikrofiber 234.35$
30-Bystag Biblo Faces 432.00$
31-Brady Alorka 345.33$
32-Schafer Famos 95.00$
33-Porland Areca 657.00$
34-Fissler Vitaquick 720.00$
35-Opalin Vesta 99.00$
36-Yet Design Studio Rota 130.00$
37-Armutland Pufumo 325.24$
38-Jumbo 1800 350.00$
39-Ordo Veni Hermes 744.00$
40-Riva Garden 356.53$
41-Riva Garden 356.53$
42-Ocean Home Mega 2000.00$
43-Niron Ela Baza 464.25$
44-Plactic Sports Water Bottle 1000.00$
45-Lintelek Fitness Tracker 27.99$
46-Sunny Health Indoor Cycling 327.97$

```

Relationship Schema Model

