

# DATA BASE FINAL PROJECT

## What is the system for?

This system is designed as a simplified e-commerce platform **similar to "Noon"**, where users can register, browse products, place orders, and make payments.

It manages the main components of online shopping such as Users, Products, Orders, Order Items, and Payments, ensuring smooth and reliable transactions.

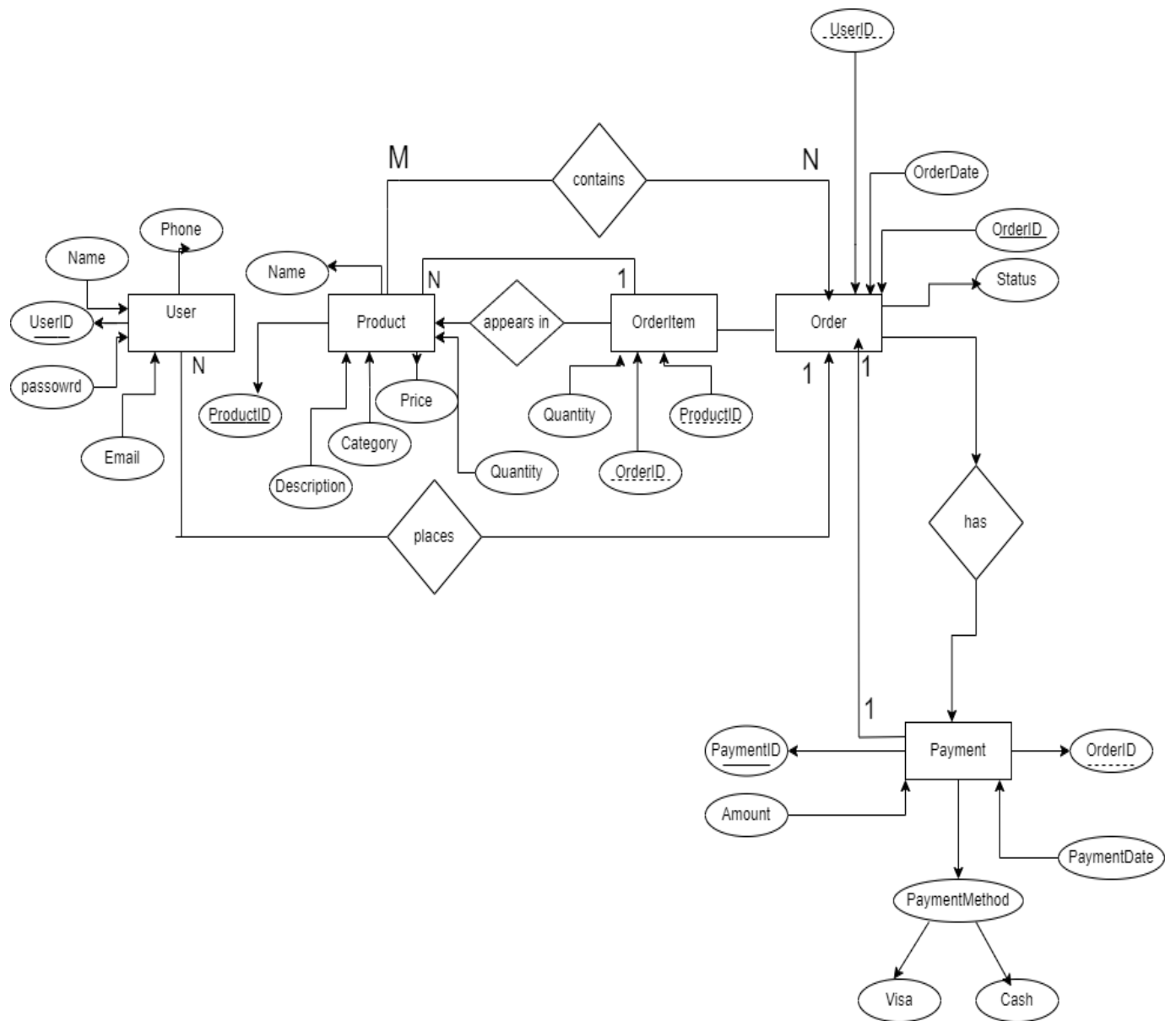
## Who are the users?

**Customers:** These are the people who:

- Register on my platform.
- Browse and search for products.
- Place orders.
- Make payments for the products they wish to buy.

Entity	Attributes
Users	UserID, Name, Email, Password, Phone
Products	ProductID, Name, Description, Price, Quantity, Category
Orders	OrderID, UserID, OrderDate, Status
OrderItem	OrderID, ProductID, Quantity)
Payments	PaymentID, OrderID, Amount, PaymentDate, PaymentMethod

# The ERD:



# THE MAPPING:

## User:

<u>UserID</u>	Name	Email	Password	Phone
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## Products:

<u>ProductID</u>	Name	Description	Price	stock
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## orders:

<u>OrderID</u>	UserID .....	OrderDate	Status
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## Payment:

<u>PaymentID</u>	..OrderID.. .....	PaymentDate	Amount	Method
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## OrderItem

<u>OrderItem</u>	OrderID .....	ProductID .....	Quantity	Price
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# Normalization:

**1NF:**

Paymet amount	Paymet Method	Quantity	Product Price	ProductName	UserEmail	User Name	<u>Order ID</u>
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## Users

**2NF:**

Email	Name	UserID
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## Product

Price	Name	ProductID
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## Order

OrderID	UsrerID
---------	---------

## OrderItem

OderID	ProductID	Quatitiy
--------	-----------	----------

## Payment:

PaymentID	OrderID	PaymentDate	Amount	Method
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**3NF**

All tables are in 2NF

There are no transitive dependencies

Each non-key attribute depends only on the primary key of its own table

# Insert Sample Data & SQL Queries:

```
MySQL 9.3 Command Line Client

show tables' at line 1
mysql> show tables;
+-----+
| Tables_in_ecommerceadb |
+-----+
| orderitems              |
| orders                  |
| payments                |
| products                |
| users                   |
+-----+
5 rows in set (0.013 sec)

mysql> SELECT * FROM orderitems;
+-----+
| OrderItemID | OrderID | ProductID | Quantity |
+-----+
| 1 | 1 | 1 | 1 |
| 2 | 2 | 2 | 2 |
| 3 | 2 | 3 | 1 |
| 4 | 1 | 1 | 1 |
| 5 | 2 | 2 | 2 |
| 6 | 2 | 3 | 1 |
+-----+
6 rows in set (0.006 sec)

mysql> SELECT * FROM orders;
+-----+
| OrderID | OrderDate | Status | UserID |
+-----+
| 1 | 2025-05-13 | Pending | 1 |
| 2 | 2025-05-13 | Shipped | 2 |
| 3 | 2025-05-13 | Pending | 1 |
| 4 | 2025-05-13 | Shipped | 2 |
| 5 | 2025-05-13 | Delivered | 1 |
| 6 | 2025-05-13 | Pending | 1 |
| 7 | 2025-05-13 | Shipped | 2 |
| 8 | 2025-05-13 | Delivered | 1 |
| 9 | 2025-05-13 | Pending | 1 |
| 10 | 2025-05-13 | Shipped | 2 |
+-----+
10 rows in set (0.005 sec)

mysql> SELECT * FROM payments;
+-----+
| PaymentID | OrderID | Amount | PaymentMethod | PaymentDate |
+-----+
| 1 | 1 | 15000.00 | Visa | 2025-05-13 |
| 2 | 2 | 20500.00 | Cash | 2025-05-13 |
| 3 | 1 | 26200.00 | Visa | 2025-05-13 |
| 4 | 2 | 12000.00 | Cash | 2025-05-13 |
| 5 | 3 | 350.00 | VodafoneCash | 2025-05-13 |
| 6 | 1 | 15000.00 | Visa | 2025-05-13 |
| 7 | 2 | 20500.00 | Cash | 2025-05-13 |
+-----+
7 rows in set (0.004 sec)
```

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Go to Settings to activate Windows.

```
MySQL 9.3 Command Line Client

mysql> SELECT * FROM payments;
+-----+
| PaymentID | OrderID | Amount | PaymentMethod | PaymentDate |
+-----+
| 1 | 1 | 15000.00 | Visa | 2025-05-13 |
| 2 | 2 | 20500.00 | Cash | 2025-05-13 |
| 3 | 1 | 26200.00 | Visa | 2025-05-13 |
| 4 | 2 | 12000.00 | Cash | 2025-05-13 |
| 5 | 3 | 350.00 | VodafoneCash | 2025-05-13 |
| 6 | 1 | 15000.00 | Visa | 2025-05-13 |
| 7 | 2 | 20500.00 | Cash | 2025-05-13 |
+-----+
7 rows in set (0.004 sec)

mysql> SELECT * FROM products;
+-----+
| ProductID | Name | Description | Category | Price |
+-----+
| 1 | Laptop | Gaming Laptop | Electronics | 15000.00 |
| 2 | Phone | Android Smartphone | Electronics | 10000.00 |
| 3 | Charger | Fast Charger | Accessories | 500.00 |
| 4 | Laptop | Gaming Laptop with RTX GPU | Electronics | 25000.00 |
| 5 | Smartphone | Latest Android smartphone | Electronics | 12000.00 |
| 6 | Wireless Mouse | Ergonomic and wireless | Accessories | 600.00 |
| 7 | Backpack | Laptop backpack with USB charger | Accessories | 350.00 |
| 8 | Laptop | Gaming Laptop | Electronics | 15000.00 |
| 9 | Phone | Android Smartphone | Electronics | 10000.00 |
| 10 | Charger | Fast Charger | Accessories | 500.00 |
| 11 | Laptop | Gaming Laptop with RTX GPU | Electronics | 25000.00 |
| 12 | Smartphone | Latest Android smartphone | Electronics | 12000.00 |
| 13 | Wireless Mouse | Ergonomic and wireless | Accessories | 600.00 |
| 14 | Backpack | Laptop backpack with USB charger | Accessories | 350.00 |
| 15 | Monitor | 27 inch 4K UHD monitor | Electronics | 8000.00 |
| 16 | Keyboard | Mechanical keyboard with RGB | Accessories | 1200.00 |
| 17 | Earbuds | Wireless noise-canceling earbuds | Electronics | 1500.00 |
| 18 | Smartwatch | Waterproof fitness tracker | Electronics | 2000.00 |
| 19 | Desk Lamp | LED desk lamp with touch control | Home | 300.00 |
| 20 | Chair | Ergonomic office chair | Furniture | 2500.00 |
+-----+
20 rows in set (0.004 sec)

mysql> SELECT * FROM users;
+-----+
| UserID | Name | Email | Password | Phone |
+-----+
| 1 | Zizi | zizi@mail.com | zizi123 | 01111111111 |
| 2 | Ali | ali@mail.com | ali123 | 01234567890 |
| 3 | Zizi | zizi@example.com | zizi123 | 01000000001 |
| 4 | Ahmed | ahmed@example.com | ahmed123 | 01000000002 |
+-----+
4 rows in set (0.004 sec)
```

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mysql&gt; SELECT \* FROM users;

UserID	Name	Email	Password	Phone
1	Zizi	zizi@mail.com	zizi123	0111111111
2	Ali	ali@mail.com	ali123	0123456789
3	Zizi	zizi@example.com	zizi123	0100000001
4	Ahmed	ahmed@example.com	ahmed123	0100000002
5	Sara	sara@example.com	sara123	0100000003
58	Zizi	zizi@example.com	zizi123	0100000001
59	Ahmed	ahmed@example.com	ahmed123	0100000002
60	Sara	sara@example.com	sara123	0100000003
61	Omar	omar@example.com	omar123	0100000004
62	Mona	mona@example.com	mona123	0100000005
63	Hana	hana@example.com	hana123	0100000006
64	Tarek	tarek@example.com	tarek123	0100000007
65	Laila	laila@example.com	laila123	0100000008
66	Mostafa	mostafa@example.com	mostafa123	0100000009
67	Nour	nour@example.com	nour123	0100000010

15 rows in set (0.005 sec)

mysql&gt; USE ECommerceDB;

Database changed

mysql&gt; SHOW TABLES;

Tables_in_eCommerceDB
orderitems
orders
payments
products
users

5 rows in set (0.037 sec)

mysql&gt; SELECT COUNT(\*) FROM Products;

COUNT(*)
20

1 row in set (0.093 sec)

mysql&gt; SELECT \* FROM Products LIMIT 10;

ProductID	Name	Description	Category	Price
1	Laptop	Gaming Laptop	Electronics	15000.00

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mysql&gt; SELECT \* FROM Products LIMIT 10;

ProductID	Name	Description	Category	Price
1	Laptop	Gaming Laptop	Electronics	15000.00
2	Phone	Android Smartphone	Electronics	10000.00
3	Charger	Fast Charger	Accessories	500.00
4	Laptop	Gaming Laptop with RTX GPU	Electronics	25000.00
5	Smartphone	Latest Android smartphone	Electronics	12000.00
6	Wireless Mouse	Ergonomic and wireless	Accessories	600.00
7	Backpack	Laptop backpack with USB charger	Accessories	350.00
8	Laptop	Gaming Laptop	Electronics	15000.00
9	Phone	Android Smartphone	Electronics	10000.00
10	Charger	Fast Charger	Accessories	500.00

10 rows in set (0.010 sec)

mysql&gt; SELECT \* FROM Products WHERE ProductID = 1;

ProductID	Name	Description	Category	Price
1	Laptop	Gaming Laptop	Electronics	15000.00

1 row in set (0.011 sec)

mysql&gt; CREATE TABLE Products (

-&gt; ProductID INT PRIMARY KEY,

-&gt; ProductName VARCHAR(100),

-&gt; Price DECIMAL(10, 2),

-&gt; Quantity INT

-&gt; );

ERROR 1050 (42501): Table 'products' already exists

mysql&gt; SELECT ProductName, Price FROM Products;

ERROR 1054 (42S22): Unknown column 'ProductName' in 'field list'

mysql&gt; SELECT \* FROM Products

-&gt; WHERE Price &gt; 100;

ProductID	Name	Description	Category	Price
1	Laptop	Gaming Laptop	Electronics	15000.00
2	Phone	Android Smartphone	Electronics	10000.00
3	Charger	Fast Charger	Accessories	500.00
4	Laptop	Gaming Laptop with RTX GPU	Electronics	25000.00
5	Smartphone	Latest Android smartphone	Electronics	12000.00
6	Wireless Mouse	Ergonomic and wireless	Accessories	600.00
7	Backpack	Laptop backpack with USB charger	Accessories	350.00
8	Laptop	Gaming Laptop	Electronics	15000.00
9	Phone	Android Smartphone	Electronics	10000.00
10	Charger	Fast Charger	Accessories	500.00
11	Laptop	Gaming Laptop with RTX GPU	Electronics	25000.00

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```
MySQL 9.3 Command Line Client

mysql> SELECT * FROM Products
-> LIMIT 5;
+-----+-----+-----+-----+-----+
| ProductID | Name      | Description      | Category | Price |
+-----+-----+-----+-----+-----+
| 1 | Laptop | Gaming Laptop | Electronics | 899.99 |
| 2 | Phone  | Android Smartphone | Electronics | 10000.00 |
| 3 | Charger | Fast Charger | Accessories | 500.00 |
| 4 | Laptop | Gaming laptop with RTX GPU | Electronics | 25000.00 |
| 5 | Smartphone | Latest Android smartphone | Electronics | 12000.00 |
+-----+-----+-----+-----+-----+
5 rows in set (0.007 sec)

mysql> SELECT Products.ProductID, Products.ProductName, Categories.CategoryName
-> FROM Products
-> JOIN Categories ON Products.CategoryID = Categories.CategoryID;
ERROR 1146 (42502): Table 'ecommercedb.categories' doesn't exist

mysql> SELECT * FROM Products
-> WHERE Price = (SELECT MAX(Price) FROM Products);
+-----+-----+-----+-----+-----+
| ProductID | Name      | Description      | Category | Price |
+-----+-----+-----+-----+-----+
| 4 | Laptop | Gaming laptop with RTX GPU | Electronics | 25000.00 |
| 11 | Laptop | Gaming laptop with RTX GPU | Electronics | 25000.00 |
+-----+-----+-----+-----+-----+
2 rows in set (0.104 sec)

mysql> SELECT DISTINCT Price FROM Products;
+-----+
| Price |
+-----+
| 899.99 |
| 10000.00 |
| 500.00 |
| 25000.00 |
| 12000.00 |
| 600.00 |
| 350.00 |
| 15000.00 |
| 8000.00 |
| 1200.00 |
| 1500.00 |
| 2000.00 |
| 300.00 |
| 2500.00 |
+-----+
14 rows in set (0.026 sec)

mysql> DROP TABLE Products;
```

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**SECTION/ A3**

**THANK YOU...**