

# PROJECT – “ONLINE SHOPPING SYSTÉM”

## INTRODUCTION TO THE ONLINE SHOPPING SYSTÉM

The Online Shopping System is a digital platform designed to facilitate the purchasing of goods and services through the internet. It allows customers to browse, select, and purchase items from the comfort of their own homes or on the go, offering a convenient and efficient way to shop. The system typically integrates various components such as product catalogues, user accounts, payment gateways, and order management systems to provide a seamless shopping experience.

Key features of an Online Shopping System include:

1. **Product Catalogues:** A wide range of products displayed with detailed descriptions, images, prices, and availability.
2. **User Accounts:** Customers can create personal accounts to track their orders, save payment methods, and receive recommendations based on previous purchases.
3. **Shopping Cart:** A virtual cart where customers can add items before proceeding to checkout.
4. **Payment Gateway Integration:** Secure processing of online payments through various methods like credit/debit cards, digital wallets, and net banking.
5. **Order Management:** Customers can view their order history, track the status of current orders, and manage returns or exchanges.
6. **Customer Reviews and Ratings:** Users can read reviews and ratings from other customers to help make informed purchasing decisions.
7. **Search and Filtering:** Customers can search for specific items or filter products based on categories, prices, brands, etc.
8. **Responsive Design:** The system is designed to work seamlessly across different devices like smartphones, tablets, and desktops, ensuring accessibility for all users.

The Online Shopping System simplifies the traditional shopping process by providing a user-friendly interface, robust security features, and multiple payment options, making it easier for customers to shop at their convenience. Whether for retail, groceries, or specialty products, online shopping systems have become an essential part of the modern retail landscape.

# DESCRIPTION OF ER DIAGRAM

-- Project - "Online Shopping System"

-- The Project shows ER Diagram of system, Tables, Inserting data & Queries are solved by using MySQL

-- 1. ER Diagram is drawn in Paint app

/\*In an online shopping system, the following main entities are typically involved:

1.Category

2.Supplier

3.Product

4.Customer

5.'Order'

6.OrderDetail

7.Payment. \*/

/\*ER Diagram Layout:

Here's a description for each relationship:

Customer - Category: One-to-Many (one customer can place multiple Category).

Category - Product: Many-to-Many (each Category can have multiple Product).

Product - 'Order': Many-to-One (each Product has one 'Order').

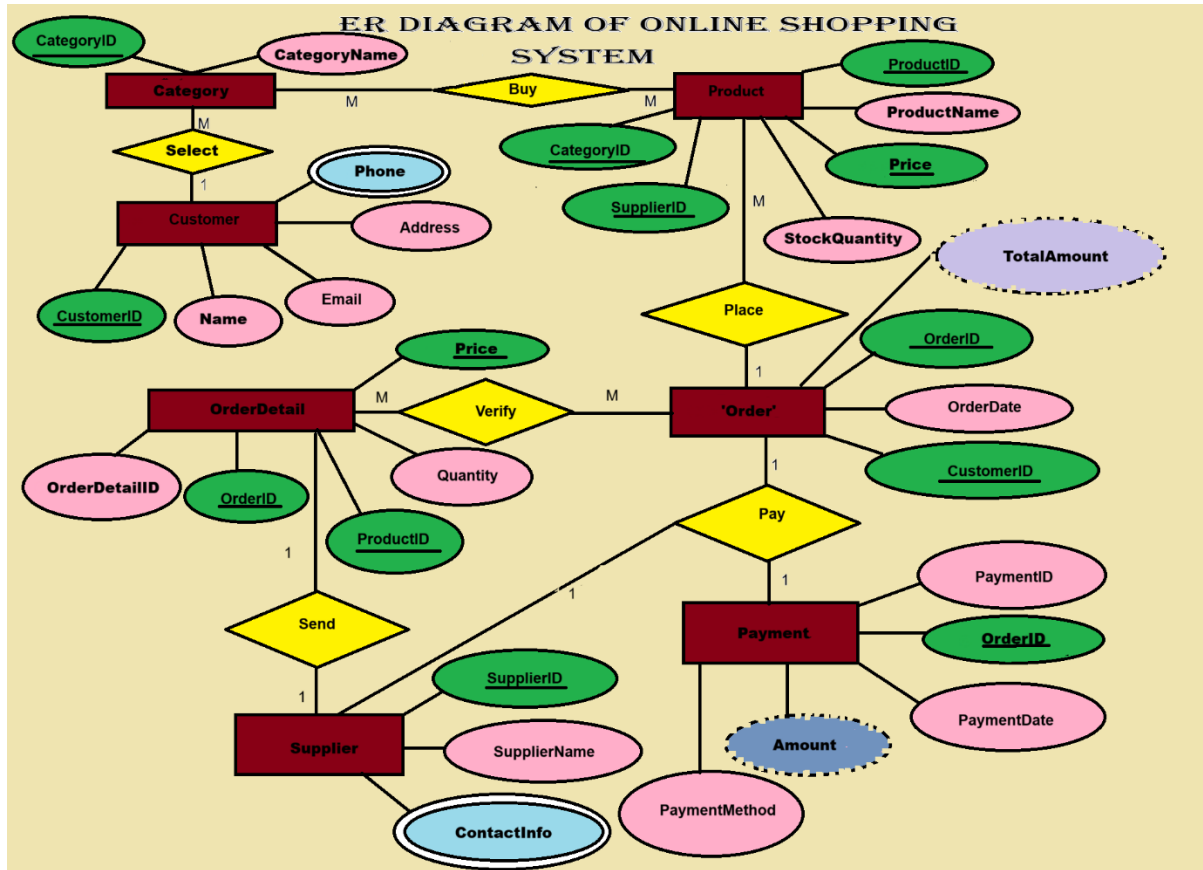
'Order' - OrderDetail: Many-to-Many (Each 'Order' can have multiple OrderDetail).

'Order' - Payment: One-to-One (an 'Order' can have one Payment).

OrderDetail - Supplier: One-to-One (an OrderDetail can have one Supplier). \*/



# ER DIAGRAM OF ONLINE SHOPPING SYSTEM



# SQL QUERY

/\* SQL Queries

Here are 20 SQL queries that I can use for various operations in an Online Shopping System. \*/

453 -- 1. Select all customers.

454 • **SELECT \* FROM Customer;**

455

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

	CustomerID	Name	Email	Address	Phone
▶	1	John Doe	johndoe@example.com	123 Elm Street, Springfield, IL	+1-555-0001
	2	Jane Smith	janesmith@example.com	456 Oak Avenue, Greenfield, WI	+1-555-0002
	3	Michael Johnson	michaelj@example.com	789 Pine Road, Madison, WI	+1-555-0003
	4	Emily Davis	emilyd@example.com	101 Maple Drive, Chicago, IL	+1-555-0004
	5	David Brown	davidb@example.com	202 Birch Lane, Aurora, IL	+1-555-0005
	6	Sarah Miller	sarahm@example.com	303 Cedar Avenue, Rockford, IL	+1-555-0006

456 -- 2. Select all orders placed by a specific customer (e.g., CustomerID = 1).

457 • **SELECT \* FROM `Order` WHERE CustomerID = 1;**

458

Result Grid			
Filter Rows:		Edit:	
Export/Import:		Wrap Cell Content:	
	OrderID	CustomerID	TotalAmount
▶	1	1	799.98
*	NULL	NULL	NULL

459 -- 3. Select all orders with a total amount greater than 500.

460 • **SELECT \* FROM `Order` WHERE TotalAmount > 500;**

461

Result Grid			
Filter Rows:		Edit:	
Export/Import:		Wrap Cell Content:	
	OrderID	CustomerID	TotalAmount
▶	1	1	799.98
	2	2	1299.99
	8	8	699.99
	9	9	899.99
	19	19	1199.99
	23	23	599.99

```

462 -- 4. Select all products ordered by a specific customer (e.g., CustomerID = 2).
463 • SELECT p.ProductName, od.Quantity, od.Price
464 FROM OrderDetail od

```

Result Grid			
	Filter Rows:	Export:	Wrap Cell Content:
Product Name	Quantity	Price	
Laptop	1	999.99	
LED TV	1	499.99	

```

468 -- 5. Select the total amount spent by each customer.
469 • SELECT CustomerID, SUM(TotalAmount) AS TotalSpent FROM `Order` GROUP BY CustomerID;
470

```

Result Grid			
	Filter Rows:	Export:	Wrap Cell Content:
CustomerID	TotalSpent		
1	799.98		
2	1299.99		
3	89.99		
4	49.99		
5	399.99		
6	179.98		

Export recordset to an external file

```

471 -- 6. Select all orders placed in a specific date range from '2024-11-01' to '2024-11-10'.
472 • SELECT * FROM `Order` WHERE OrderDate BETWEEN '2024-11-01' AND '2024-11-10';
473

```

Result Grid				
	Filter Rows:	Edit:	Export/Import:	Wrap Cell Content:
OrderID	CustomerID	OrderDate	TotalAmount	
1	1	2024-11-01 00:00:00	799.98	
2	2	2024-11-02 00:00:00	1299.99	
3	3	2024-11-03 00:00:00	89.99	
4	4	2024-11-04 00:00:00	49.99	
5	5	2024-11-05 00:00:00	399.99	
6	6	2024-11-06 00:00:00	179.98	

```

474 -- 7. Select the names of all customers who placed an order with a total greater than 1000.
475 • SELECT c.Name
476 FROM Customer c

```

Result Grid			
	Filter Rows:	Export:	Wrap Cell Content:
Name			
Jane Smith			
Sophia Young			
Sienna Clark			

```

480 -- 8. Find the total number of products ordered.
481 • SELECT SUM(Quantity) AS TotalProductsOrdered FROM OrderDetail;
482

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	TotalProductsOrdered			
▶	61			

```

483 -- 9. Find the average order total.
484 • SELECT AVG(TotalAmount) AS AvgOrderTotal FROM `Order`;
485

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	AvgOrderTotal			
▶	337.789400			

```

486 -- 10. Find the highest priced product in the store.
487 • SELECT ProductName, MAX(Price) AS HighestPrice FROM Product group by ProductName;
488

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	ProductName	HighestPrice		
▶	Smartphone	699.99		
	Laptop	999.99		
	Headphones	199.99		
	LED TV	499.99		
	Bluetooth Speaker	89.99		
	Jacket	49.99		

```

489 -- 11. Find the total number of orders placed by each customer.
490 • SELECT CustomerID, COUNT(OrderID) AS OrderCount FROM `Order` GROUP BY CustomerID;
491

```

Result Grid		Filter Rows:	Export:	Wrap Cell Content:
	CustomerID	OrderCount		
▶	1	1		
	2	1		
	3	1		
	4	1		
	5	1		
	6	1		

```

492 -- 12. Find the most popular product based on quantity ordered.
493 • SELECT ProductID, SUM(Quantity) AS TotalQuantity
494 FROM OrderDetail
495 GROUP BY ProductID

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
ProductID	TotalQuantity			
7	4			

```

499 -- 13. Find the total revenue for each category.
500 • SELECT c.CategoryName, SUM(od.Quantity * p.Price) AS TotalRevenue
501 FROM OrderDetail od
502 JOIN Product p ON od.ProductID = p.ProductID

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
CategoryName	TotalRevenue		
Electronics	4369.90		
Clothing	479.85		
Home Appliances	1319.94		
Books	169.94		
Beauty & Personal Care	74.95		
Sports Equipment	209.96		

```

506 -- 14. Find the most ordered product in a specific date range from '2024-11-01' to '2024-11-30'.
507 • SELECT ProductID, SUM(Quantity) AS TotalQuantity
508 FROM OrderDetail

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
ProductID	TotalQuantity			
7	4			



```

515 -- 15. Get all products with their category names.
516 • SELECT p.ProductName, c.CategoryName
517 FROM Product p
518 JOIN Category c ON p.CategoryID = c.CategoryID;
519

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
ProductName	CategoryName		
Smartphone	Electronics		
Laptop	Electronics		
Headphones	Electronics		
LED TV	Electronics		
Bluetooth Speaker	Electronics		
Jacket	Clothing		

```

520 -- 16. Get all customers who have made a payment using PayPal.
521 • SELECT c.Name
522 FROM Customer c
523 JOIN `Order` o ON c.CustomerID = o.CustomerID

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
Name			
Jane Smith			
James Wilson			
Mary Anderson			
Jessica Clark			
Elizabeth Walker			
Isabella Scott			

```

527 -- 17. Get all orders with product details (name and quantity).
528 • SELECT o.OrderID, p.ProductName, od.Quantity
529 FROM OrderDetail od

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
OrderID	ProductName	Quantity	
1	Smartphone	1	
1	Headphones	1	
2	Laptop	1	
2	LED TV	1	
3	Bluetooth Speaker	2	
3	T-shirt	1	



```

533 -- 18. Find the lowest priced product in the store.
534 • SELECT ProductName, Min(Price) AS Minimum_Price FROM Product group by ProductName;
535

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
ProductName	Minimum_Price		
Smartphone	699.99		
Laptop	999.99		
Headphones	199.99		
LED TV	499.99		
Bluetooth Speaker	89.99		
Jacket	49.99		

```

536 -- 19. Find products that were never ordered.
537 • SELECT p.ProductName
538 FROM Product p

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
ProductName			
Shampoo			
Football			
Building Blocks			
Doll			
Banana			
Lettuce			

```

542 -- 20. Find the top 5 customers who spent the most.
543 • SELECT c.Name, SUM(o.TotalAmount) AS TotalSpent
544 FROM Customer c
545 JOIN `Order` o ON c.CustomerID = o.CustomerID
546 GROUP BY c.Name

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:	Fetch rows:
Name	TotalSpent			
Jane Smith	1299.99			
Sophia Young	1199.99			
Sienna Clark	1099.99			
Jack Morris	999.99			
Ryan King	899.99			

# INSIGHTS INTO THE ONLINE SHOPPING SYSTEM PROJECT

When developing or analysing an Online Shopping System project, there are several key insights that can guide the planning, design, and evaluation of the system. These insights address various components, user needs, technology trends, and operational aspects.

## 1. User-Centric Design

- **Ease of Use:** A user-friendly interface is crucial. Customers should be able to navigate the system intuitively, from browsing products to completing checkout without frustration.
- **Personalization:** Implementing recommendation engines can significantly enhance the user experience by showing products tailored to individual preferences, based on browsing history and past purchases.
- **Mobile Responsiveness:** A growing number of users shop via smartphones and tablets. An online shopping system should be responsive, ensuring that the design works well across all devices.

## 2. Product Catalogue Management

- **Dynamic Content:** The product catalogue should be easy to update, allowing administrators to add, remove, or modify products with minimal effort.
- **Detailed Product Information:** Effective product descriptions, high-quality images, and customer reviews can help users make informed decisions. Including product videos or 360-degree views can further enhance engagement.
- **Categorization and Filters:** Products should be well-organized into categories, with filtering options (e.g., by price, brand, rating) to improve the search experience and help users find what they are looking for faster.

## 3. Shopping Cart and Checkout Process

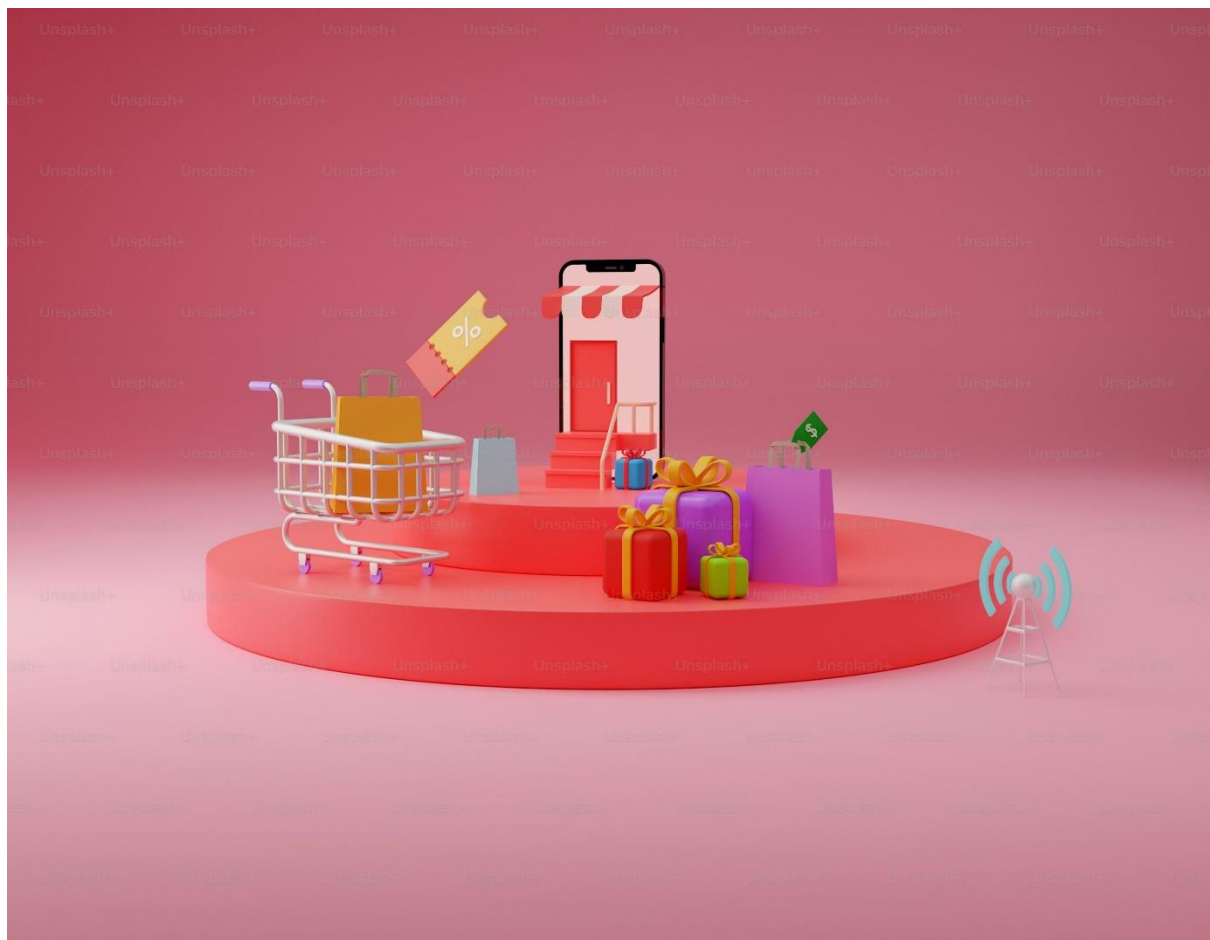
- **Cart Persistence:** Users expect their shopping cart to remain intact across sessions. This means implementing persistent sessions that save cart items for logged-in and sometimes even guest users.
- **Guest Checkout:** Offering the option to check out without creating an account can increase conversion rates, especially for first-time users.



# CONCLUSION OF THE ONLINE SHOPPING SYSTEM PROJECT

The Online Shopping System project has demonstrated the significant impact and potential of e-commerce platforms in the modern retail landscape. By integrating key features such as a user-friendly interface, secure payment gateways, real-time inventory management, and personalized product recommendations, the system facilitates a seamless shopping experience for customers. The project also highlights the importance of security, scalability, and effective customer support to ensure customer trust and satisfaction.

In conclusion, the Online Shopping System is a powerful tool for modern businesses, providing a convenient and efficient shopping experience that meets the demands of today's consumers. As e-commerce continues to grow, the insights gained from this project can serve as a foundation for improving and evolving the system to meet future market needs, ensuring the platform remains competitive and capable of delivering a high-quality shopping experience.





**THANK  
YOU**