VISVESVARAYA TECHNOLOGICAL UNIVERSITY BELAGAVI-590018



"A MINI PROJECT REPORT" (Subject Code:21CSL55) ON "Online Shopping Management"

Submitted in partial fulfillment for the requirements for the Award of Degree of

BACHELOR OF ENGINEERING IN COMPUTER SCIENCE AND ENGINEERING BY

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CERTIFICATE

This is to certify that the **Project Work** entitled "Online Shopping Management" is a bonafied work carried out by Inderbir Singh bearing USN 1EP21CS032, Ashirbad Sai bearing USN 1EP21CS012, Nitin Kriplani bearing USN 1EP21CS064, Anshuman Kumar Gaurav bearing USN 1EP21CS011 in partial fulfillment for the award of Bachelor of Engineering in Computer Science and Engineering under Visvesvaraya Technological University, Belgaum during the year 2023-2024. It is certified that all the corrections/suggestions indicated in the Internal Assessment have been incorporated in the report and submitted in the department library. This seminar report has been approved as it satisfies the academic requirements in respect of Mini Project Work prescribed for the award of the said degree.

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ONLINE SHOPPING MANAGEMENT

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ABSTRACT

The main aim of the project is the management of the database of *ONLINE SHOPPING MANAGEMENT*.

The Online Shopping Management DBMS mini project aims to develop a streamlined database system for efficient handling of online shopping activities. It includes user registration, product catalog management, order processing, inventory tracking, payment integration, and reporting features. Utilizing SQL for database operations, the system ensures data integrity and reliability. Designed to enhance user experience and facilitate effective management, it provides a scalable solution for online shopping platforms.

The MYSQL database is used as a platform along with PHP and WAMP Server support. Application and the GUI are developed in HTML5, CSS3 using PHP and WAMP Server.

Overall this Art Gallery Management System is used to manage most art-related activities like exhibitions, gallery management, art stocks etc. in the gallery.

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INTRODUCTION

INTRODUCTION TO SQL

SQL which is an abbreviation for **Structured Query Language** is a language to request data from a database, to add, update, or remove data within a database, or to manipulate the metadata of the database.

Sometimes SQL is characterized as *non-procedural* because procedural languages generally require the details of the operations to be specified, such as opening and closing tables, loading and searching indexes, or flushing buffers and writing data to file systems. Therefore, SQL is designed at a higher conceptual level of operation than procedural languages.

Commonly used statements are grouped into the following categories

Data Query Language (DQL)

SELECT-Used to retrieve certain records from one or more tables.

Data Manipulation Language (DML)

INSERT - Used to create a record

UPDATE - Used to change certain records.

DELETE - Used to delete certain records.

Data Definition Language (DDL)

CREATE - Used to create a new table, a view of a table, or other object in database.

ALTER - Used to modify an existing database object, such as a table.

DROP - Used to delete an entire table, a view of a table or other object in the database.

Data Control Language (DCL)

GRANT - Used to give a privilege to someone

REVOKE - Used to take back privileges granted to someone.

1.2 INTRODUCTION TO FRONT END SOFTWARE

The "front end languages" live in the browser. After you type in an address in the address bar at the top and hit Enter, your browser will receive an at least an HTML file from the web server.

Each of these languages performs a separate but very important function but the work harmoniously together to determine how the web page is STRUCTURED(<u>HTML</u>), how it LOOKS(CSS), and how its FUNCTIONS (JavaScript).

Front end web development is NOT design (You won't be playing around in Photoshop or anything), but a *front-end developer* does apply the work of designers to the web page by translating their well-designed layouts into real code. The front-end developer stands between the designer on one end and the back-end developer on the other, translating the design into code and plugging the data from the back-end developer into the right spots.

PHP is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. Originally created by Rasmus Lerdorf in 1994, the PHP reference implementation is now produced by <u>The PHP Development Team</u>.

PHP code may be embedded into HTML or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server software combines the result of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and it can be used to implement stand-alone graphical applications.

The standard PHP interpreter, powered by the Zend Engine, is free to use software released under the PHP License. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as Common Gateway Interface(CGI) executable. PHP has been widely ported on web servers on almost every operating system and platform, free of charge.

REQUIREMENTS SPECIFICATION

2.1 SOFTWARE REQUIREMENTS

Operating System : 64bit WINDOWS Operating System,

X64-based processor

Database : MYSQL

Scripting Language : HTML5, CSS3, PHP

Server : WAMP

2.2 HARDWARE REQUIREMENTS

Processor : Intel Celeron CPU N3060 @ 1.60GHz or Above

RAM : 4.00 GB or Above

Hard Disk : 1 TB

Compact Disk : CD-ROM, CD-R, CD-RW

Input device : Keyboard

OBJECTIVE OF THE PROJECT

The main objective of creating an Online shopping database project is

- To manage the details of gallery, exhibition, artwork and artist. It manages all the sales and
 inventory in the gallery. The purpose of the project is to build and application program to reduce
 the manual work.
- To tracks all the details about the sales of the artwork, the customer that bought it, etc. It manages the information about the artwork. Provides an information and description of the artworks left, thereby increasing the efficiency of managing the gallery. The organisation can maintain a computerized record of the artwork present in the gallery.
- To helps in the utilization of the resources in an effective manner. It maintains a list of all the customers and the various artwork that they have bought and the money that have invested in each.
- To maintains the record of exhibitions and various sales made during it. The objective of
 developing such computerized system is to reduce the paper work and safe of time in art gallery
 database management, thereby increasing the efficiency and decreasing the work load.
- To develop such computerized system is to reduce the paper work and safe of time in art gallery database management, thereby increasing the efficiency and decreasing the work load.

IMPLEMENTATION

4.1 ER DIAGRAM

- An **entity-relationship model** (**ER Model**) describes inter-related things of interest in a specific domain of knowledge. An ER model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between instances of those entity types.
- An entity may be defined as a thing capable of an independent existence that can be uniquely identified. An entity is an abstraction from the complexities of a domain.
- Attributes are drawn as ovals and are connected with a line to exactly one entity or relationship set.
- An entity relationship model, also called an entity-relationship (ER) diagram, is a graphical representation of entities and their relationships to each other, typically used in computing in regard to the organization of data within databases or information systems.
- Cardinality constraints are expressed as follows:
 - A double line indicates a participation constraint, totality or subjectivity: all entities in the entity set must participate in at least one relationship in the relationship set.
 - An arrow from entity set to relationship set indicates a key constraint, i.e. injectivity: each
 entity of the entity set can participate in at most one relationship in the relationship set.
 - A thick line indicates both, i.e. bijectivity: each entity in the entity set is involved in exactly one relationship.
 - An underlined name of an attribute indicates that it is a key: two different entities or relationships with this attribute always have different values for this attribute.

E-R Diagram:

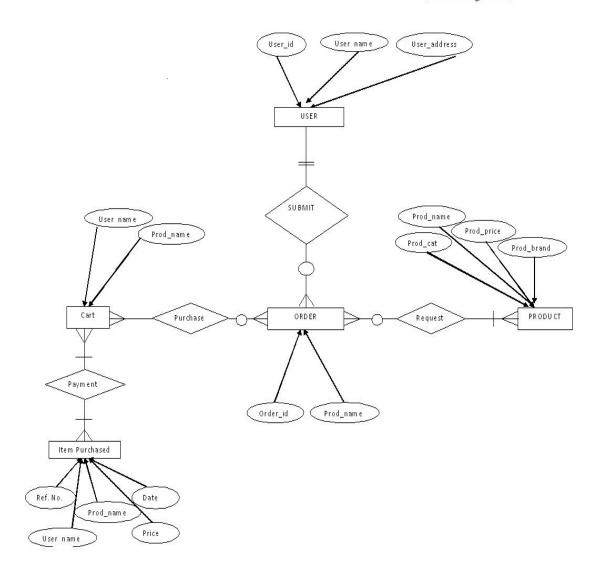


FIGURE 4.1: ER DIAGRAM of ART GALLERY DATABASE

4.2 MAPPING OF ER DIAGRAM TO RELATIONS

STEP 1: Mapping of Regular Entities

For each regular entity type E in the ER schema, create relation R that includes all simple attributes of E.

USER

UID	UNAME	ADDRESS

CART

ONLINE SHOPPING MANAGEMENT

UID	UNAME	PRODUCTNAME	
-----	-------	-------------	--

PRODUCT

PID	PNAME	PRICE	PBRAND	PCAT

CUSTOMER

CUSTID	PID	FNAME1	LNAME1	ADDRESS	PHONE	DOB
	FK					

STEP 2 : Mapping of Weak Entity Types

ITEM_PURCHASED

<u>ITEMNO</u>	CUSTID	PNAME	DATE	REF_NO	PRICE
	FK				

STEP 3: Mapping of 1:1 Relationship

Identify the relation S that represents the participating entity type at the 1-side of the relationship type.

Include as foreign key in S the primary key of the relations T that represents the other entity type participating in R.

For each binary 1:1 relationship type R in ER schema, identify the relations S and T that correspond to the entity types participating in R if any.

There are **no** 1:1 relationship.

STEP 4: Mapping of 1:N Relationship

CART

<u>UID</u>	STARTDATE	ENDDATE	PID
		F	K

CUSTOMER

CUSTID	FNAME	LNAME	BIRTHPLACE	STYLE	PID	REf_ID	CUSTID
•					FK	FK	FK

ITEM_PURCHASED

CUSTID	PID	DATE	PRICE	ADDRESS	CART_NO	REF_ID
_	FK					FK

STEP 5: Mapping of M:N Relationship

Create a new relation S to represent R.

Include as foreign key attributes in S the primary key of the relations that represents the participating entity types their combination will form the primary key of S.

Also, include any simple attributes of the M:N relationship type as attributes of S.

STEP 6: Mapping of Multi-Valued Attributes

For each multivalued attributes A, create a new relation R. This relation R will include an attribute corresponding to A, plus the primary key attribute K-as a foreign key in R-of the relation that represents the entity type of relationship type that has A as an attribute.

The Primary Key of R is the combination of A and K. If the multivalued attribute is composite, we include its simple components.

CONTACTS

|--|

STEP 7: Mapping of N-Ary Relationship Types

For each n-ary relationship type R, where n>2 create a new relationship S to represent R. λ include as foreign key attributes in S the primary keys of the relations that represent the participating entity types.

 λ also includes any simple attributes of the n-ary relationship type (or simple components of composite attributes) as attributes of S.

There are **no** n-ary relationship types.

4.3 SCHEMA DIAGRAM

USER

<u>USERID</u>	USER_NAME	ADDRESS

PRODUCT

PID	PROD_NAME	PRICE	BRAND

CUSTOMER

	CUSTID	PID	FNAME1	LNAME1	ADDRESS	DOB	CARTID	
--	---------------	-----	--------	--------	---------	-----	--------	--

ORDER

PID DATE AMOUN	CUST_ID F	REF_NO	ORD_ID
----------------	-----------	--------	--------

ITEM_PURCHASED

PID CUSTID NAME USERNAME DATE PRICE REFNO C	GID
---	-----

CART

USERNAME	PRODUCTNAME
----------	-------------

FIGURE 4.3: SCHEMA DIAGRAM

4.3 NORMALIZE THE RELATIONS

Database normalization, or simply normalization, is the process of organizing the columns(attributes) and tables(relations) of a relational database to reduce data redundancy and improve data integrity. Normalization involves arranging attributes in relations based on dependencies between attributes.

First Normal Form

As per First normal form, no two rows of data must contain repeating group of information. Each set of columns must have a unique value, such that multiple columns cannot be used to fetch the same row. Each table should be organized into rows, and each row should have a primary key that will distinguishes it as unique.

Example:

USER

USERID	UNAME	ADDRESS

All the tables in the database are normalized to 1NF as all the attributes are atomic.

Second Normal Form (2NF)

A table is in 2NF if it is in 1NF and if all non-key attributes are fully functionally dependent on all of the key.

Example:

CUSTOMER

CUSTID	CARTID	FNAME1	LNAME1	ADDRESS	DOB	PID
FD1						

FD1

CUSTID FNAME1 LNAME1 DOB

Third Normal Form(3NF):

A table is in 3NF if it is in 2NF and if it has no transitive dependency. X->Y, Y->Z, X>Z

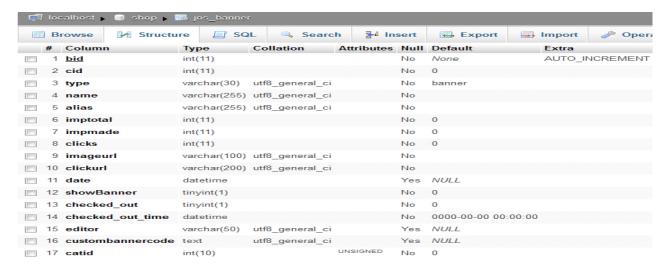
According to CODD's definition a relation schema R is in 3NF. It satisfies 2NF and no non-prime attribute of R is transitively dependent on the primary key. All tables of database satisfies upto 3NF.

4.5 CREATION OF TABLES

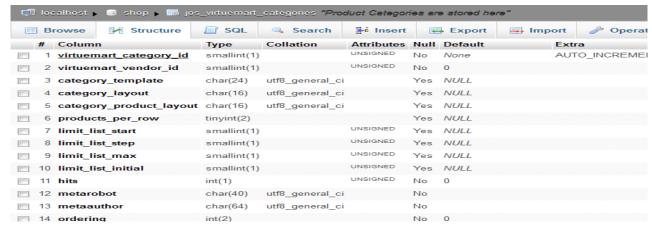
1. CREATING VENDORS TABLE

#	Column	Туре	Collation	Attributes	Null	Default	Extra
1	virtuemart_vendor_id	smallint(1)		UNSIGNED	No	None	AUTO_INCREMENT
2	vendor_name	char(64)	utf8_general_ci		Yes	NULL	
3	vendor_currency	int(11)			Yes	NULL	
4	vendor_accepted_currencies	varchar(1024)	utf8_general_ci		No		
5	vendor_params	text	utf8_general_ci		Yes	NULL	
6	created_on	datetime			No	0000-00-00 00:00:00	
7	created_by	int(11)			No	0	
8	modified_on	datetime			No	0000-00-00 00:00:00	
9	modified_by	int(11)			No	0	
10	locked_on	datetime			No	0000-00-00 00:00:00	
11	locked_by	int(11)			No	0	

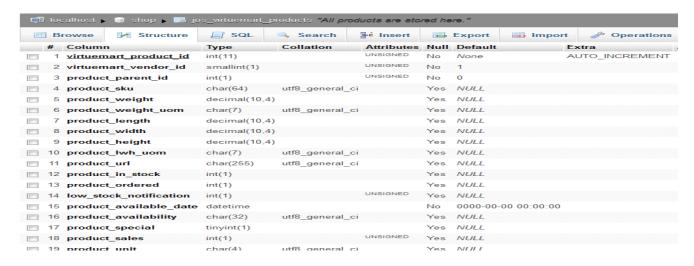
2. CREATE BANNER TABLE



3. CREATE CATAGORY TABLE



4. CREATE CUSTOMER TABLE



5. CREATE SHIPMENT TABLE



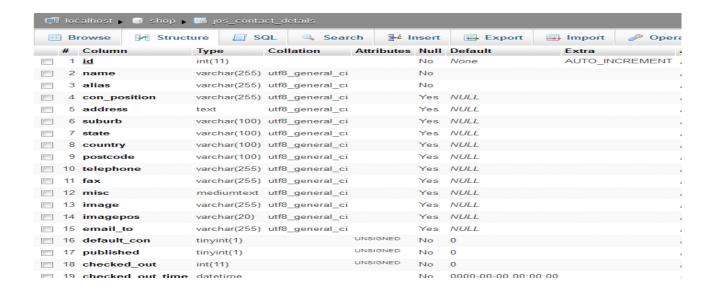
6. CREATE USER INFORMATION TABLE

	#	Column	Туре	Collation	Attributes	Null	Default	Extra	A
	1	virtuemart_userinfo_id	int(1)		UNSIGNED	No	None	AUTO_INCREMENT	
	2	virtuemart_user_id	int(1)		UNSIGNED	No	0		6
	3	address_type	char(2)	utf8_general_ci		No			
	4	address_type_name	char(32)	utf8_general_ci		No			
	5	name	char(64)	utf8_general_ci		Yes	NULL		
	6	company	char(64)	utf8_general_ci		Yes	NULL		6
	7	title	char(32)	utf8_general_ci		Yes	NULL		
	8	last_name	char(32)	utf8_general_ci		Yes	NULL		4
	9	first_name	char(32)	utf8_general_ci		Yes	NULL		
	10	middle_name	char(32)	utf8_general_ci		Yes	NULL		6
	11	phone_1	char(24)	utf8_general_ci		Yes	NULL		
	12	phone_2	char(24)	utf8_general_ci		Yes	NULL		4
	13	fax	char(24)	utf8_general_ci		Yes	NULL		6
	14	address_1	char(64)	utf8_general_ci		No			6
	15	address_2	char(64)	utf8_general_ci		Yes	NULL		
	16	city	char(32)	utf8_general_ci		No			6
	17	virtuemart_state_id	smallint(1)		UNSIGNED	No	0		6
	18	virtuemart_country_id	smallint(1)		UNSIGNED	No	0		6
	19	zip	char(32)	utf8_general_ci		No			
	20	agreed	tinyint(1)			No	0		4
	21	created_on	datetime			No	0000-00-00 00:00:00		
remo	22		:			K1-	^		- 4

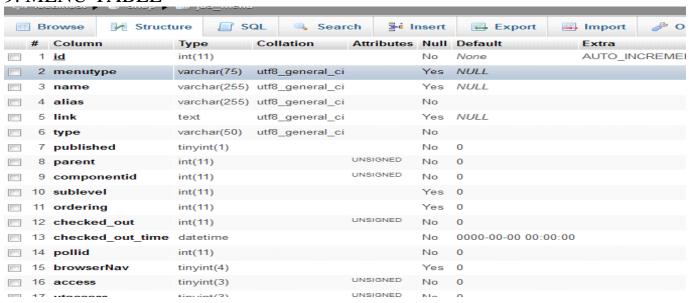
7. ORDER TABLE



8. CONTACT DETAILS TABLE



9. MENU TABLE



4.7 CREATION OF TRIGGERS

The trigger is made such that when a new record is inserted into a Gallery table, it automatically changes the lowercase name into uppercase in the backend.

TRIGGER ON GALLERY TABLE TO CHANGING NAME TO UPPERCASE

DELIMITER \$\$

CREATE TRIGGER UPPERCASE

BEFORE INSERT on Gallery

FOR EACH ROW

BEGIN

SET NEW.gname=UPPER(NEW.gname);

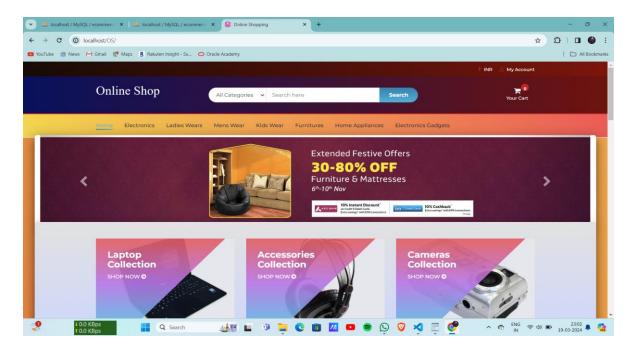
END\$\$

```
mysql> DELIMITER $$
mysql> CREATE TRIGGER UPPERCASE
-> BEFORE INSERT on Gallery
-> FOR EACH ROW
-> BEGIN
-> SET NEW.gname=UPPER(NEW.gname);
-> END$$
Query OK, 0 rows affected (0.09 sec)
```

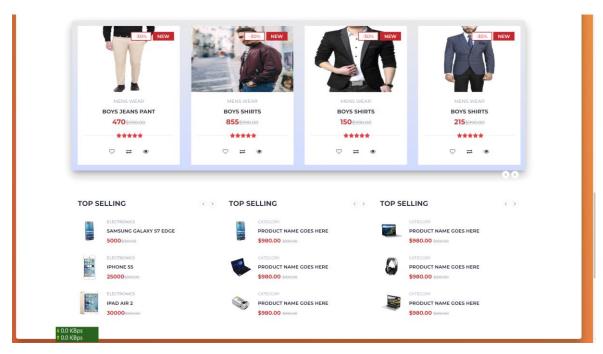
RESULTS

This section describes the screens of "ONLINE SHOP DATABASE". The snapshots are shown below for each module.

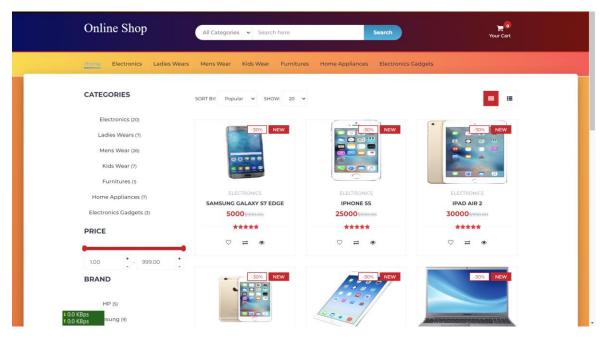
5.1 SNAPSHOTS



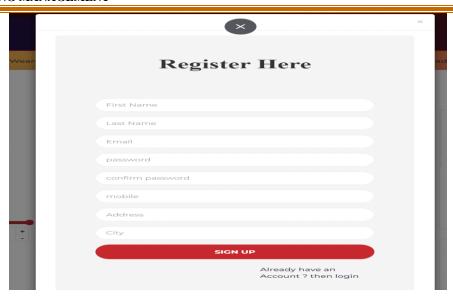
PIC 1: HOME PAGE



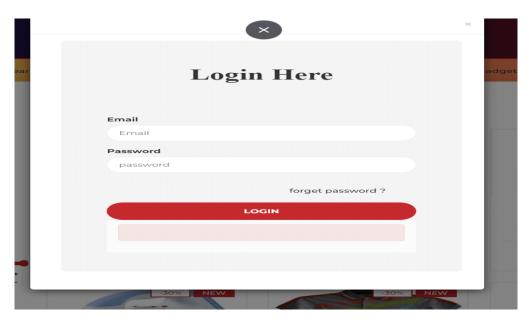
PIC 2: MEN'S SECTION



PTC 3: ELECTRONICS SECTION

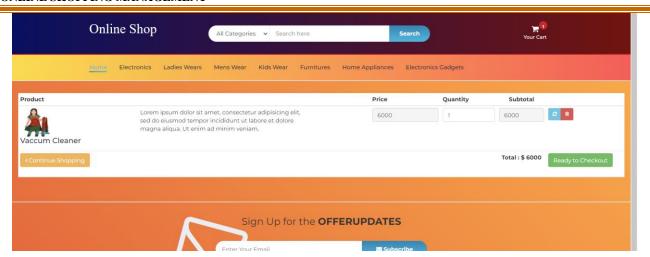


PIC 4: REGISTER FORM

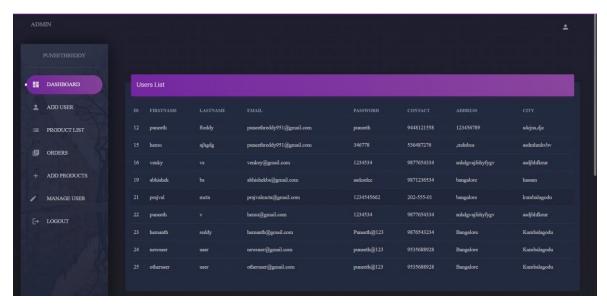


PIC 5: LOGIN FORM

ONLINE SHOPPING MANAGEMENT



PIC 6: CART PAGE



PIC 7: ADMIN CONTROL PAGE

CONCLUSION

In conclusion, the development of the online shopping management system was a significant undertaking that aimed to streamline the e-commerce experience. Despite encountering challenges in database design and integration, the project successfully achieved its objectives. Valuable lessons were learned, particularly in terms of system scalability and user interface optimization. Looking ahead, potential enhancements include advanced search functionalities and support for multiple payment gateways. Overall, the project underscores the importance of robust database management systems in facilitating efficient online transactions and contributes to understanding the complexities of e-commerce application development in today's digital

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 - <u>https://www.udemy.com</u>