B.Sc. Engg. Thesis

A Thesis on Online Shopping Management System

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Declaration

We hereby declare that the Thesis on Online Shopping Management System submitted in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT) is our own work and that it contains no material which has been accepted for the award to the candidate(s) of any other degree or diploma, except where due reference is made in the text of the project. To the best of our knowledge, it contains no materials previously published or written by any other person except where due reference is made in the project.

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Copyright

Dedication

Dedicated to our parents, teachers, friends and who loved us for all their love and inspiration.

Certificate

This is to certify that Tunazzinur Rahman Kabbo (ID-19202103268), Hamim Reza (ID-19202103269), Zobayer Hasan Nayem (ID-19202103274), Rubaiatul Jannat (19202103249) and Md. Abu Essa (ID-19202103265). were belong to the department of Computer Science and Engineering, have completed their Thesis on Online Shopping Management System using SQL satisfactorily in partial fulfillment for the requirement of Bachelor of Science in Computer Science and Engineering of Bangladesh University of Business and Technology in the year 2021.

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Introduction

1.1 Introduction

This “Online-Shopping-Management-System” is a database system where a shop will have the facility to calculate and manage everything. It contains all the necessary details of all products, customers and employees on a daily, monthly and yearly basis. Through this system the manager of a shop can easily manages the functions of his shop.

The Online Shopping System will have the following key features:

- A search engine on the database to allow customers to find specific types of merchandise.
- A secure system that will allow shoppers to purchase goods safely using their credit cards.
- A data security system that will ensure that all data that is transmitted between the various system.
- A database of merchandise with photos, product descriptions and stock information. This database will also contain all relevant merchant and customer information.
- Customer reviews of the product. These ideas will add more of a personal touch to their overall shopping experience.
- A fast guest checks out option

Description

2.1 How an online shopping management system works

An Online Shopping System which will allow formal and informal merchants in developing countries to advertise and sell their goods on the internet. This would permit rural communities to make their wares available to the rest of the world via the World Wide Web. The objective of this project is to create an Online Shopping System web portal with a content management system which would allow product information to be updated securely using a mobile device. The web portal will have an online interface in the form of an Online Shopping System website that will allow users to buy goods from the merchants.

2.2 Our Project Details

So, keeping this facility in mind, we have created this type of project so that an owner can run all the accounts and activities of the shop in a smooth manner. This facility includes how many customers order products in the store, how many employees work in our store. Where the buyer's product will go, the buyer's address, all kinds of information. From which employee did the order come, how did the buyer pay, what product did he order. In addition to product reviews, how the buyer views a product. No product returned. And the product that the buyer buys belong to which tag, also the discount of the product can be known.

Hardware and Software Requirement specifications:

For setting this ecommerce portal, it requires certain technical requirements to be met for the store to operate properly. First, a web server must be created to make the ecommerce store publicly available on the web.

Software Details for running Online Shopping System:

- Web Server (Apache)
- MYSQL
- Google Chrome

2.3 Tables

	Table	Action	Rows	Type	Collation	Size	Overhead
☐	address	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐	bill	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	64.0 KiB	-
☐	customer	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	customer category	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	employees	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	32.0 KiB	-
☐	order product	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐	orders	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	32.0 KiB	-
☐	payment	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	32.0 KiB	-
☐	product	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	64.0 KiB	-
☐	product details	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	product group	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	reviews	Browse Structure Search Insert Empty Drop	3	InnoDB	utf8mb4_general_ci	32.0 KiB	-
☐	supplier	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	voucher	Browse Structure Search Insert Empty Drop	4	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐	zip code	Browse Structure Search Insert Empty Drop	10	InnoDB	utf8mb4_general_ci	32.0 KiB	-

- **Address —** (Address_ID, Apartment_Number, Street, Customer_ID)
- **Bill —** (Billing_ID, Billing_Date, Amount_Paid, Voucher_ID, Payment_ID, Order_ID)
- **Customer —** (Customer_ID, First_Name, Last_Name, Phone_Number, Email_Address, Customer_Type)
- **Customer Category —** (Customer_Catagory, Customer_ID)
- **Employees —** (Employee_ID, Employee_Name, SSN, Designation, Employee_Type, Salary, Payment_ID)
- **Order Product —** (Quantity, Product_ID, Order_ID)
- **Orders —** (Order_ID, Order_Date, Status, Shipment_Duration, Payment_ID)
- **Payment —** (Payment_ID, Payment_Mode, Card_Type, Card_Number, CVV, Name_On_Card, Customer_ID)
- **Product —** (Product_ID, Product_Name, Available_Number, Group_ID, Supplier_ID, Review_ID)
- **Product Details —** (Product_ID, Weight, Width, Height, Colour)
- **Product Group —** (Group_ID, Group_Name)
- **Reviews —** (Quality_Rating, Defect%, Review_ID, Review_Date, Product_ID)
- **Supplier —** (Supplier_ID, Supplier_Name, Supply_Quantity)
- **Voucher —** (Voucher_ID, Discount%)
- **Zip code —** (State, Zipcode_ID, City, Address_ID)

2.4 Queries & Results

❖ **Find how many customers are there group by category**

```
SELECT Customer_Type, COUNT(Customer_Type) AS Total
FROM customer
GROUP BY Customer_Type;
```

+ Options

Customer_Type	Total
Babysitter	1
Doctor	1
Employee	1
Farmer	1
Housewife	1
Plumber	1
Student	3
Teacher	1

❖ **Find apartment whose name is 'Bilash Vobon' or zip code id is 1210**

```
SELECT Address_ID, Apartment_Name, Zipcode_ID
FROM address
WHERE (Apartment_Name= 'Bilash Vobon' OR Zipcode_ID = '1210')
ORDER BY Zipcode_ID DESC;
```

+ Options

←T→	Address_ID	Apartment_Name	Zipcode_ID
☐ Edit Copy Delete	AID02	Bilash Vobon	1210

❖ Find the supplied product count and their group for each product

```
SELECT supplier.Supplier_ID, supplier.Supplier_Name,
Count(product.Group_ID)
AS `Product Count`, `product group`.Group_Name
FROM supplier
INNER JOIN product
ON supplier.Supplier_ID = product.Supplier_ID
INNER JOIN `product group`
ON product.Group_ID = `product group`.Group_ID
GROUP BY Supplier_ID ASC;
```

+ Options

Supplier_ID	Supplier_Name	Product Count	Group_Name
SP01	Abu Bakkar	4	Electronics
SP01L	Abu Essa	1	Electronics
SP02	Cartel	3	Clothing
SP03	Nike	2	Shoes

❖ List of products by department which has high defect%

```
SELECT reviews.Product_ID, product.Product_Name, MAX(reviews.`Defect%`)
AS `Defect%`, `product group`.Group_Name
FROM reviews
INNER JOIN product ON reviews.Product_ID = product.Product_ID
INNER JOIN `product group` ON product.Group_ID = `product
group`.Group_ID
GROUP BY `product group`.Group_ID;
```

+ Options

Product_ID	Product_Name	Defect%	Group_Name
P01	Rice-Cooker	15	Electronics

❖ Total amount of revenue earned with respect to their purchasing modes

```
SELECT COUNT(Payment_Mode) AS Total_Cutomers,
payment.Payment_Mode, SUM(bill.Amount_Paid)
AS Total_Amount
FROM payment
INNER JOIN bill
ON payment.Payment_ID = bill.Payment_ID
GROUP BY Payment_Mode;
```

+ Options

Total_Cutomers	Payment_Mode	Total_Amount
10	Card	319750

❖ Find the quantity of products available whose status is in progress and shipment duration is immediate

```
SELECT product.Product_Name, product.Available_Number, `order
product`.Quantity, orders.Order_Date, orders.`Status`,
orders.Shipment_Duration
FROM orders
INNER JOIN `order product`
ON orders.Order_ID = `order product`.Order_ID
INNER JOIN product
ON `order product`.Product_ID = product.Product_ID
WHERE orders.`Status` = 'In Progress' AND orders.Shipment_Duration =
'Immediate';
```

+ Options

Product_Name	Available_Number	Quantity	Order_Date	Status	Shipment_Duration
Rice-Cooker	10	1	23/10/2020	In Progress	Immediate
AC	8	2	25/01/2021	In Progress	Immediate
AC	8	1	12/05/2021	In Progress	Immediate
Boot	40	3	30/12/2020	In Progress	Immediate

❖ Find the names and defect% order by defect%

```
SELECT Product_Name,`Defect%`
FROM product
INNER JOIN reviews
ON reviews.Product_ID = product.Product_ID
ORDER BY `Defect%` Desc;
```

+ Options

Product_Name	Defect% ▼ 1
Laptop	15
AC	10
Rice-Cooker	0

❖ Find customers payment id, mode, voucher applied and their visit number

```
SELECT bill.Voucher_id, payment.Payment_ID, payment.Payment_Mode,
payment.Visit_Number
FROM bill, payment
WHERE payment.Payment_ID = bill.Payment_ID
AND bill.Amount_Paid > 1000;
```

+ Options

Voucher_id	Payment_ID	Payment_Mode	Visit_Number
New10	PM01	Card	#FGWS67
New10	PM02	Card	#KLJDS89
Free50	PM03	Card	#JTRF87
BTGO	PM04	Card	#JHFRE89
BTGO	PM07	Card	#UHJFD897
CLR30	PM08	Card	#YTGSD6
BTGO	PM09	Card	#425
Free50	PM10	Card	#FTSD7

❖ Find product and their respective color

```
SELECT Product_Name, Colour
FROM `product details`
INNER JOIN product
ON `product details`.Product_ID = product.Product_ID
ORDER BY Colour;
```

+ Options

Product_Name	Colour ▲ 1
T-shirt	Baby Pink
Laptop	Black
Memory Card	Black
Boot	Brown
Denim	Denim
Shirt	Navy Blue
Fridge	Red
Rice-Cooker	White
AC	White
Sneaker	White

❖ Find the product names and their respective groups

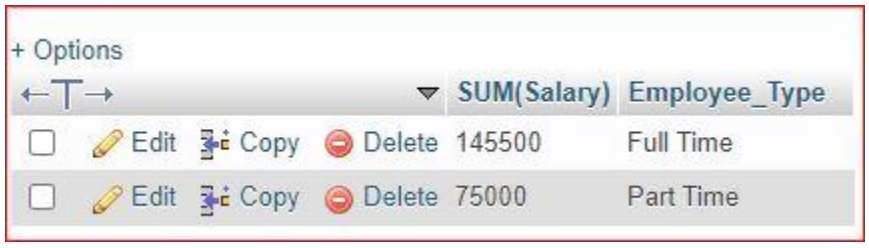
```
SELECT Group_Name, Product_Name
FROM `product group`
INNER JOIN product
ON `product group`.Group_ID = product.Group_ID
ORDER BY Group_Name;
```

+ Options

Group_Name ▲ 1	Product_Name
Clothing	T-shirt
Clothing	Shirt
Clothing	Denim
Electronics	Rice-Cooker
Electronics	AC
Electronics	Laptop
Electronics	Fridge
Electronics	Memory Card
Shoes	Boot
Shoes	Sneaker

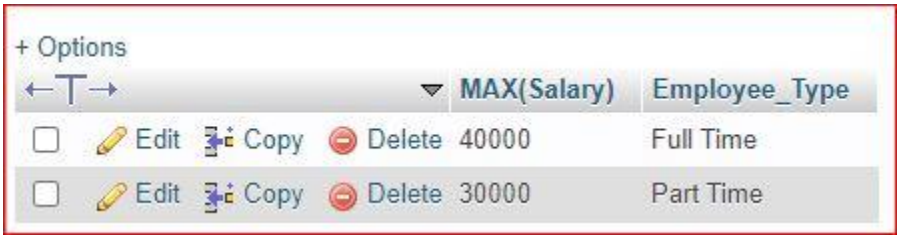
❖ Find total salaries paid to each employee type

```
SELECT SUM(Salary), Employee_Type
FROM employees
GROUP BY Employee_Type;
```



❖ Find maximum salaries paid to each employee type

```
SELECT MAX(Salary), Employee_Type
FROM employees
GROUP BY Employee_Type;
```



➢ INSERT Queries

- INSERT INTO `address` (`Address_ID`, `Apartment_Number`, `Street`, `Apartment_Name`, `Customer_ID`, `Zipcode_ID`) VALUES ('AID11', '007', 'Malibu, California', 'Stark tower', 'CS15', '8507');

- INSERT INTO `bill` (`Billing_ID`, `Billing_Date`, `Amount_Paid`, `Voucher_ID`, `Payment_ID`, `Order_ID`) VALUES ('BID11', '20/10/2021', '2780', 'BTGO', 'PM11', 'OR11');

- INSERT INTO `customer` (`Customer_ID`, `First_Name`, `Last_Name`, `Phone_Number`, `Email_Address`, `Customer_Type`) VALUES ('CS11', 'Tony', 'Stark', '01044545975', 'stark@gmail.com', 'Scientist');

- INSERT INTO `customer category` (`Customer_Category`, `Customer_ID`) VALUES ('Scientist', 'CS11');

- INSERT INTO `employees` (`Employee_ID`, `Employee_Name`, `ssn`, `Designation`, `Employee_Type`, `Salary`, `Payment_ID`) VALUES ('EID11', 'Brus Banner', '999', 'Event Planer', 'Full Time', '40000', 'PM11');

- INSERT INTO `order product` (`Quantity`, `Product_ID`, `Order_ID`) VALUES ('99', 'P10', 'OR11');

- INSERT INTO `orders` (`Order_ID`, `Order_Date`, `Status`, `Shipment_Duration`, `Payment_ID`) VALUES ('OR11', '23/10/2021', 'In Progress', 'Immediate', 'PM11');

- INSERT INTO `payment` (`Payment_ID`, `Payment_Mode`, `Card_Type`, `Card_Number`, `CVV`, `Name_On_Card`, `Customer_ID`, `Visit_Number`) VALUES ('PM11', 'Card', 'Visa', '5527076302470007', '995', 'Brus Banner', 'CS11', '#F99S67');

- INSERT INTO `product` (`Product_ID`, `Product_Name`, `Available_Number`, `Group_ID`, `Supplier_ID`, `Review_ID`) VALUES ('P11', 'Grafix-Card', '19', '900', 'SP11', 'PR11');

- INSERT INTO `product details` (`Product_ID`, `Weight`, `Width`, `Height`, `Colour`) VALUES ('P11', '4.5kg', '19 inch', '11 inch', 'White');

- INSERT INTO `product group` (`Group_ID`, `Group_Name`) VALUES ('100', 'Electronics');

- INSERT INTO `reviews` (`Quality_Rating`, `Defect%`, `Review_ID`, `Review_Date`, `Product_ID`) VALUES ('100', '0', 'PR11', '23-01-2021', 'P11');

- INSERT INTO `supplier` (`Supplier_ID`, `Supplier_Name`, `Supply_Quantity`) VALUES ('SP11', 'Meer Jafor', '99');

- INSERT INTO `voucher` (`Voucher_ID`, `Discount%`) VALUES ('HR5%', '5');

- INSERT INTO `zip code` (`State`, `Zipcode_ID`, `City`, `Address_ID`) VALUES ('Malibu, California', '8507', 'California', 'AID11');

➢ **DELETE Query**

- DELETE FROM `address` WHERE `Address_ID`='AID11';

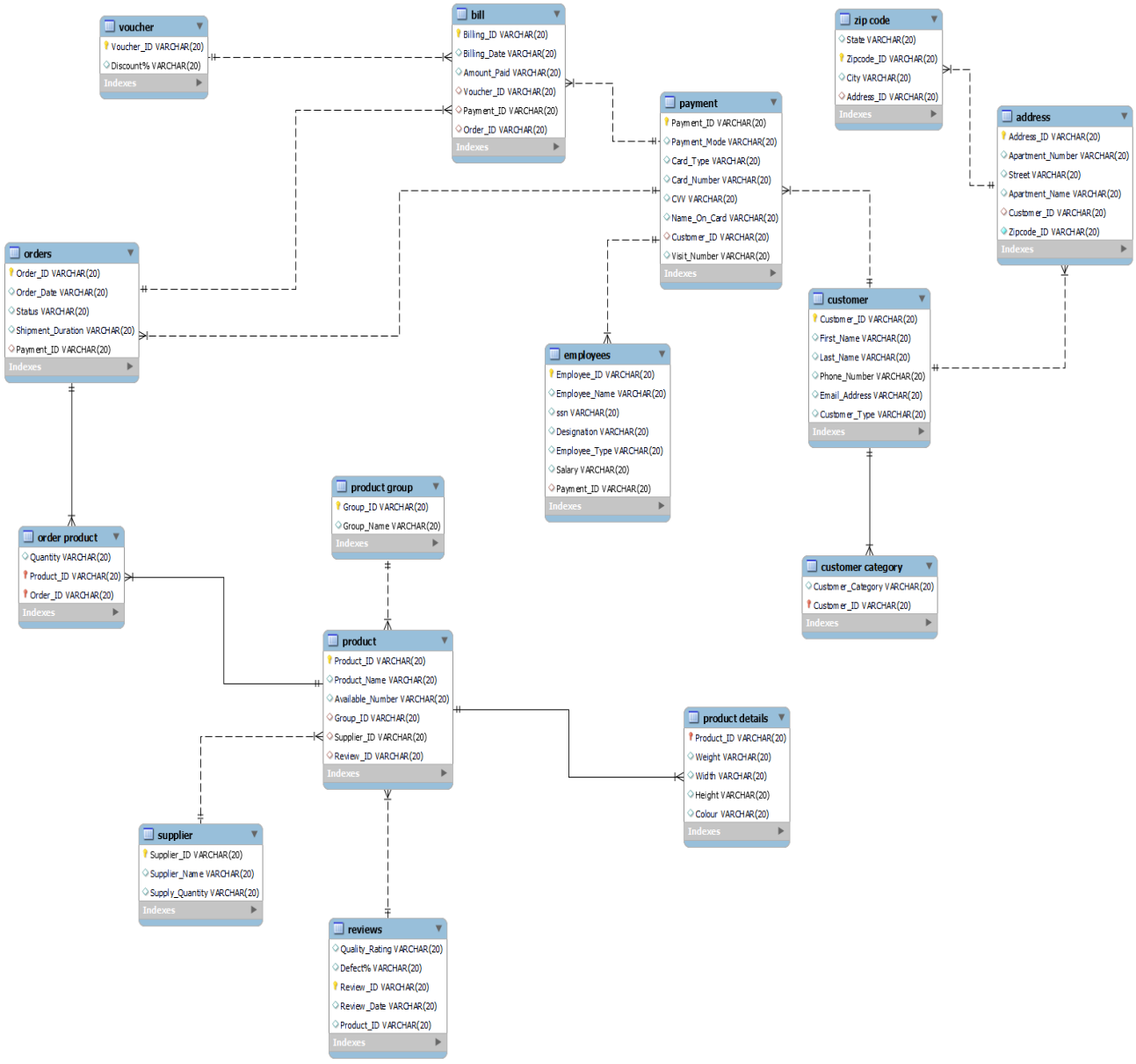
➢ **Update Query**

- UPDATE `address`
  SET Apartment_Number = 009, Street=Malibu,
  WHERE Address_ID = AID007;

➢ **Search**

- SELECT * FROM `address`
  WHERE Apartment_Name = 'Stark tower';

2.5 ER Diagram



Extensions

- **Future scope and further enhancement of the project:**

Today, the market place is flooded with several Online Shopping System options for shoppers to choose from. A variety of innovative products and services are being offered spoiling customers for choice. Online shopping is no more a privilege enjoyed by your friends and family living in the Bangladesh. Today, it is a reality in India. In the last couple of years, the growth of Online Shopping System industry in Bangladesh has been phenomenal as more shoppers have started discovering the benefits of using this platform. There is enough scope for online businesses in the future if they understand the Indian shopper's psyche and cater to their needs.

Bibliography:

- ✓ Articles on Ecommerce - www.epaynews.com/statistics/
- ✓ Articles on Ecommerce - www.merchantpicks.com
- ✓ Articles on Ecommerce - www.google.com
- ✓ Articles on Ecommerce - www.emarketer.com
- ✓ Articles on Ecommerce - www.internet-story.com/
- ✓ Articles on Ecommerce - www.networld.com/hosting/online-shopping-system.com
- ✓ Articles on Ecommerce - www.exploitlib.org/issue3/online-shopping-system/
- ✓ Articles on Ecommerce - www.onlineshoppingsystemtimes.com/perl/story/18403.html
- ✓ Articles on Ecommerce - www.eglobal.es/cisco_view.pdf
- ✓ Articles on Ecommerce - www.cnn.co

Conclusions:

Finally, successfully develop and implement the site 'Online Shopping Management System'. With the help of various kinds of links and tools, includes all the features which was basic requirement for an ecommerce web site. Provide an ecommerce site which is live and running on the web. Finally got success in our attempt to take care of the needs of both the customers as well as the administrator which was our main objectives.

THANK YOU