AANT Retail Store

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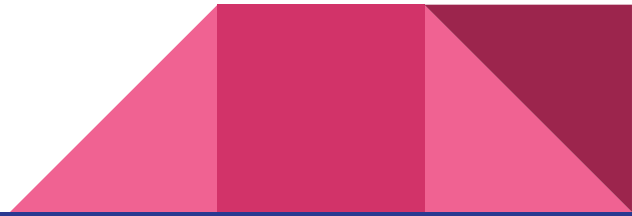
Problem Statement

In the fast-paced lifestyles that we see in most of the metro and urban cities today, most people find it difficult to take out time to go out shopping.

On the other hand, people in rural areas do not get access to a large number of brands in their neighborhoods.

Online retails stores provide a one - stop solution for both these issues by allowing consumers to buy their favourite products online without the hassle to commute.



Scope of Project

We aim to provide a rich consumer experience for the online audience by providing a database to online retail stores which they can use to increase their efficiency.

We help Online Retail Stores to manage their operations by providing them with an efficient Database which keeps record of the employees working for the organisation, the suppliers they get their products from and the type of products that they receive.

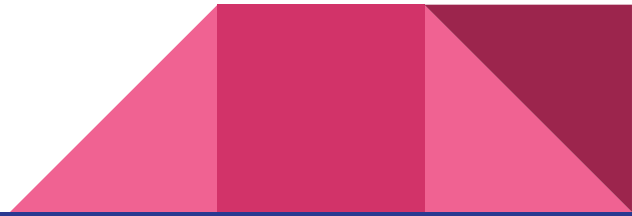
The database also stores all necessary information about registered customers, available Products with finest details like Cost, Quantity,etc.

We help them manage their supply chain keeping record of the products that have been supplied and the products that are ordered by the end consumer When a consumer orders a product, a delivery person is assigned to the order who can update the status of delivery.

We aim to help Online Retail Stores to manage their operations comfortably by providing them with an efficient Database.

Our Database keeps records of all the necessary information required to run a retail store in an efficient manner such as :

1. Organizational Details(Employees, Departments, Delivery Locations).
2. Customer Details
3. Product Supplier Detail
4. Product Details ,etc.

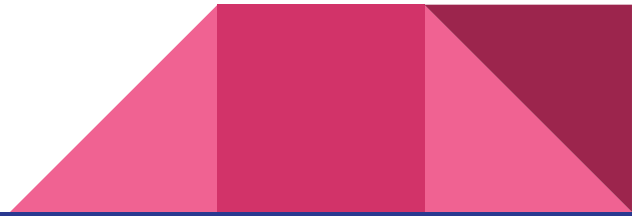


Stakeholders

Consumers:

Role - They are the people who will be ordering products from the retail store, adding payment information and registering themselves and providing their information such as address, phone number etc.

- Registering themselves/ log in
- Adding items to cart
- Placing an order
- Providing feedback
- Can raise a complaint against a product
- Can register for Star Customer subscription.
- Can utilize coupons to afford discounts.



Inventory Managers:

Role - They are responsible for keeping track of the available products within the store.

- Adding items after buying from supplier
- Reduction of quantity of the products upon purchases
- Can update the cost and details of products supplied by supplier and add new suppliers.

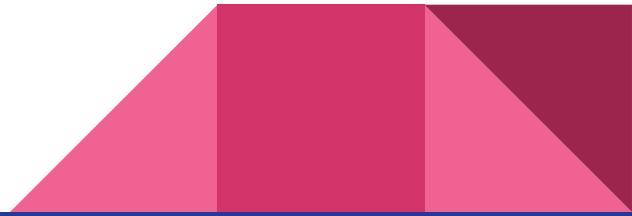
Delivery Supervisor:

They are responsible for the timely delivery of goods to the consumers' door

- Can update the status of delivery
- Can check the delivery address and contact information of the consumers.

HR:

- Can hire a new employee into the Institution and update the Employee Table.



Advertisement:

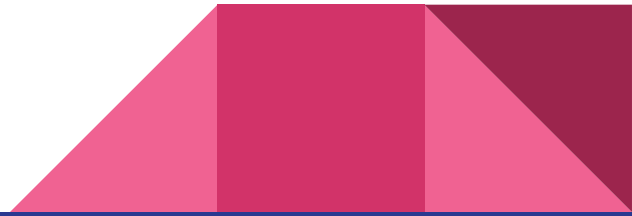
- They can view all the data related to customer except their password for Advertisement purposes.

Customer Care:

- Can view, update the complaints table.

General Employee:

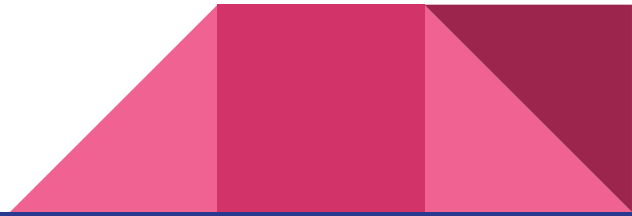
- Can view , update tables like StarCustomer and Coupons.



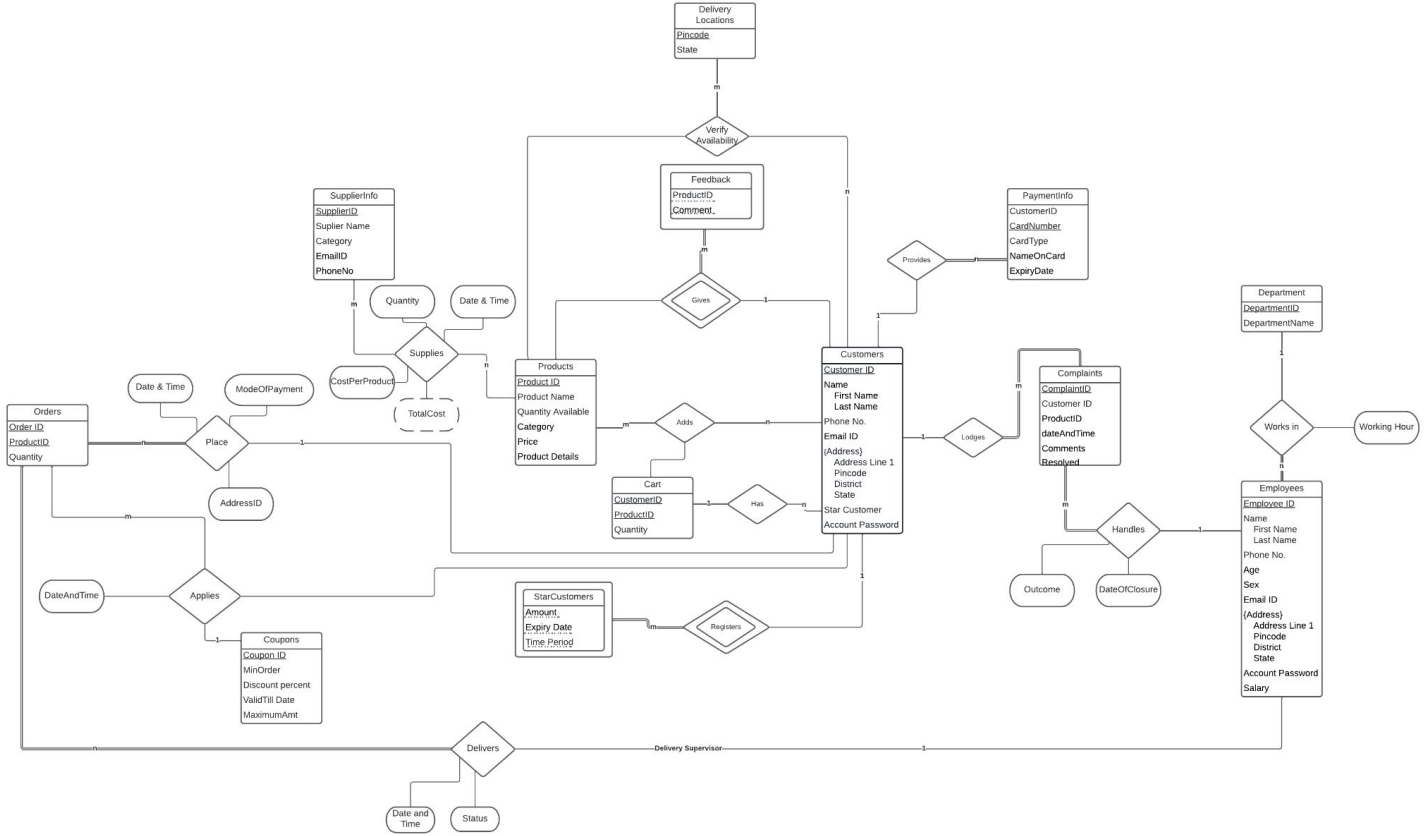
Employees:

They are responsible for maintaining the records and handling the consumer's complaints and feedbacks.

- Can handle complaints registered by consumers and resolve them in a timely manner.
- Can add and update the employee details.
- Can disable the coupons after a stipulated period of time.



ER Diagram



(link provided in later slide for clearer picture)

Relational Schema

Customers(customerID, firstName, lastName, phoneNo, emailID, starCustomer, accountPassword)

Products(productID, productName, quantityAvailable, category, price, productDetails)

Cart(customerID, productID, quantity)

Orders(orderId, prodID, quantity)

Coupons(couponID, minOrder, discountPercentage, validTillDate, maxAmount)

deliveryLocation(pincode, state)

Employees(employeeID, firstName, lastName,phoneNo, age, gender, emailID, accountPassword, Salary)

address(addressID, customerID, addressLine1, pincode, district, state)

employeeAddress(addressID, employeeID, addressLine1,pincode, district, state)

Constraints:

Primary Key

Foriegn Key

Not NULL

Unique

paymentInfo(cardNo, customerID, cardType, nameOnCard, expiryDate)
place(orderID, productID, customerID, modeOfPayment, dateAndTime, addressID)
Complaints(complaintID, customerID, productID, comments, resolved, dateAndTime)
complaintHandles(complaintID, employeeID, outcome, dateOfClosure)
deliveries(orderID, productID, employeeID, statusOfDelivery, timeOfDelivery)
worksin(employeeID, departmentID, posts, workingHours)
applies(orderID, productID, couponID, dateAndTime)
departments(departmentID, departmentName)
supplierInfo(supplierID, supplierName, category, emailID, phoneNo)
supplies(supplierID, productID, costPerProduct, totalCost, quantity, dateAndTime)
feedback(productID, customerID, comments)
starCustomer(customerID, amount, expiryDate, timePeriod)

Constraints:
Primary Key
Foriegn Key
Not NULL
Unique

Links

1.) ER-Diagram
2.) Relational Schema
3.) Database_Schema
4.) Online Retail Store_DataBase

Identified Weak entity -

1. Feedback - this is because an entity of feedback cannot exist unless there is a product and cannot even exist until a customer provides it.
2. StarCustomer - This is because, to become a starCustomer, there is be a customer first.

Identified Roles - Delivery Supervisor

Identified Ternary Relationship - “Adds” - The **customer** “adds” **products** to the **cart.**

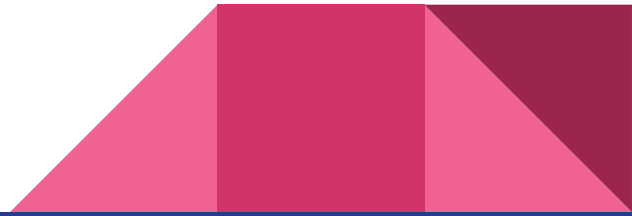
“Applies” - The **customer** “applies” **coupons** to an **order**.

“Gives” - The **customer** gives **Feedback** about a **Product**.

How to populate date

There are two ways provided as of now for the mid-project deadline:

1. We can use the “Insert” SQL query to add data in a particular table
2. We can write the data as a CSV file and then import it to the database



SQL Queries

1. For creating a table:

```
create table Products(
productID int primary key,
productName varchar(50),
quantityAvailable int,
category varchar(20),
price float,
productDetails varchar(50));
```

2. For showing all the complaints received for a particular product.

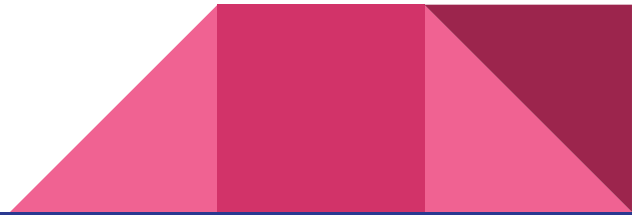
```
select * from Complaints where productID = 1
```

SQL Queries

3. To alter a table incase we wish to add a constraint.
   alter table Products add constraint pk primary key (productID);

4. To register a new User into our Database.
   insert into customers (customerID, firstName, lastName, phoneNo, emailID, starCustomer, accountPassword) values (12, 'Micheal', 'Jackson', 998799999, 'Micheal@gmail.com', 1, 'Micheal12');

5. To update the cost price of a product.
   update products set price = 10000 where productID = 2.



SQL Queries

6. To delete userinfo if a user wishes to deactivate his/her account.

```
delete from Customers where emailID = 'Apoorva@gmail.com';
```

7. Sort according to price for a particular category.

```
select * from Products where productID in (select productID from Products where category = 'Eatables') order by price ASC ;
```

8. To get the total cost of a user's order.

```
select SUM(A.price *B.quantity) from Products as A, Orders as B where A.productID = B.prodID AND orderID = 2;
```

9. To get the number of items in each category

```
select category, count(*) from products group by category;
```

10. To create a view for the employees in the advertising department to contact customers about various promotions:

```
CREATE VIEW customerView AS SELECT customerID, firstName, lastName, phoneNo,

emailID, starCustomer FROM customers;
```

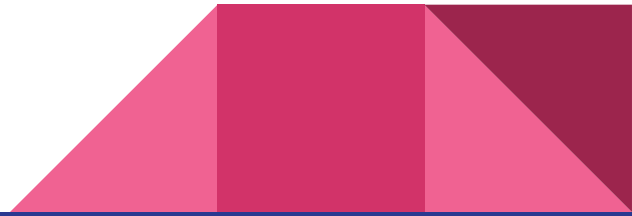
Individual Contributions

Apoorva Arya:

- Creating the ER diagram.
- Creating the Database Schema
- Creating the Relational Schema
- Identifying various stakeholders
- Population of Database
- Formulation of SQL queries

Ayush Kumar Satish:

- Creating the ER diagram.
- Relational Schema
- Testing of SQL Queries with actual result.
- Identifying total participation, weak entities
- Identifying various stakeholders
- Population of Database



Individual Contributions

Naman Kaushik:

- Creating the ER diagram.
- Creating tables in Workbench
- Formulating the SQL Queries
- Testing of SQL queries
- Population of Database

Tarushi Gandhi:

- Creating the ER diagram.
- Creating Database Schema
- Formulation of SQL Queries
- Identifying various stakeholders
- Population of Database