Electronic Vendor Database

FINAL PROJECT REPORT

CS425 Fall 2019 Group Project

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SUBMTTED BY:

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Acknowledgement

We would like to express our gratitude to all those who helped us to complete the project work.

We want to thank our instructor Prof. Yuan Hong for his continuous help and generous assistance. He helped in a broad range of issues from giving us direction, helping to find the solutions, outlining the requirements and to have spared his time to help us with the project.

We would like to thank our colleagues who helped us time to time for Preparing report and giving good suggestions.

PROJECT OVERVIEW

This project focuses on the aspect of an electronic vendor database. Customers can buy products by registering and logging in to their accounts. They can see the list of products displayed once the user logs in. It's the customer's decision on what where and how many to purchase. Once the order is placed, the customer is billed monthly to their account number. The project removes the products once purchased from the inventory. Employees can login to use the system from an admin point of view and perform tasks of a store employee like reports on inventory, customer activity, inventory list and quantities, storage capacity from data stored in the tables.

Types of data needed to keep track of in this system will be the information, inventory control, and customer information and registration. Products information are critical to an online electronic store. Data about products which need to be incorporated into the design include: ID, brand, description, price. This fictitious Electronic store has multiple stores. Each store will have a record in the 'store' entity including a unique ID and address. Inventory will have a store ID component and products information. This will allow an admin to see the list of products in the store, the quantity, and the value of each product in the store inventory.

Database Structure

DATABASE TABLE	DESCRIPTION
Customer	Contains all the customer's information.
Cust_card	Contains information about the customer's credit/debit card which was provided by the customer at the time of payment.
Product	Contains the details of the products available in all the store.
Store	Contains the details of the products available in all the physical store.
Warehouse	Contains the details about the warehouse from where the deliveries will be made.
Cust_sequence	
online_order	Contains details about the orders placed online by the customer.
product_categories	Contains the different kinds of products to filter out.
Order_Details	Contains all the details about the order placed by the customer.
In_store_purchase	Contains all the details regarding the purchase made at the physical store
Warehouse_Inventory	Contains all the stock details at the warehouse
Store_Inventory	Contains the stock details of all the store.
Warehouse_Reorders	This table stores the delivery status and the date of delivery of the reorders along with the warehouse id to which it is being delivered to. The table also contains the product id and the number of products being delivered.
Store_Reorders	This table stores the delivery status and the date of delivery of the reorders along with the store id to which it is being delivered to. The table also contains the product id and the number of products being delivered.

Customers/Audience/ END USER: Customer

Our Project Scope:

1. Customer can register himself by clicking on the Register.
2. Customer can login at the welcome page.
3. Customer can view all the products at once when he logs in.
4. He can filter out all the products based on the product category.
5. Customer can place an order.
6. Order quantity gets updated in the inventory.
7. Customer can view all his orders.

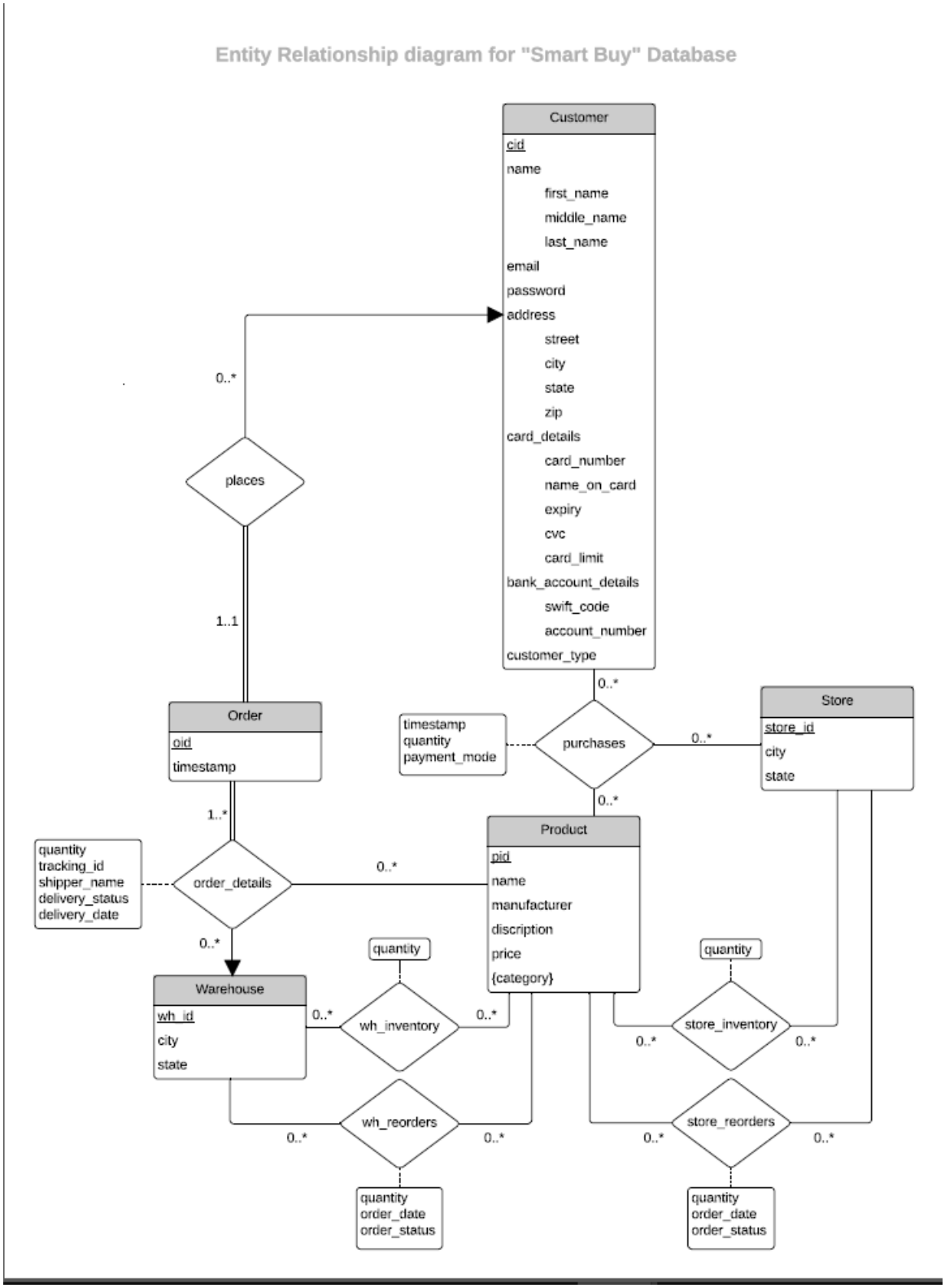
Future Scope of this project:

Customer can track his order's live status.
Customer can order the products and all the items will be added to the cart.
Even when he logs out, the cart items won't be deleted.

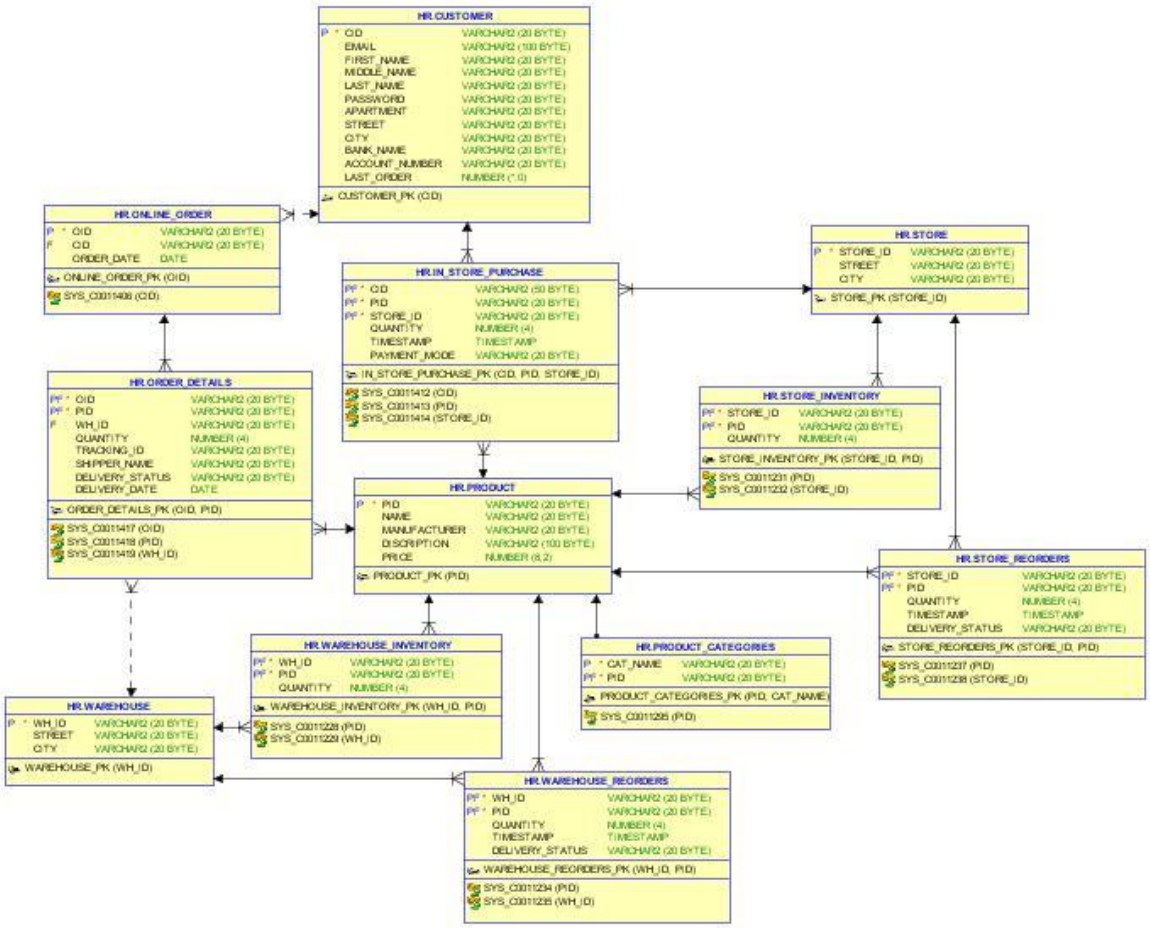
An encryption can be added for the safe login and saving the card details using SSH encryption key.

Database can be made password protected.

Diagram


Entity Relationship diagram for "Smart Buy" Database
Customer
cid
name
first_name
middle_name
last_name
email
password
address
street
city
state
zip
card_details
card_number
name_on_card
expiry
cvc
card_limit
bank_account_details
swift_code
account_number
customer_type
0..*
places
1..1
Order
oid
timestamp
1..*
timestamp
quantity
payment_mode
purchases
0..*
0..*
Store
store_id
city
state
quantity
tracking_id
shipper_name
delivery_status
delivery_date
order_details
0..*
0..*
Product
pid
name
manufacturer
discription
price
{category}
quantity
quantity
Warehouse
wh_id
city
state
0..*
wh_inventory
0..*
store_inventory
0..*
0..*
wh_reorders
store_reorders
0..*
0..*
0..*
0..*
quantity
order_date
order_status
quantity
order_date
order_status

Relational Schema



Each student's contributions:

Contribution by Soham Suresh Satam:

Research work regarding the project – 40%

Hit and trials done with different technologies: 30%

ERD- 40%

Designing of Schema- 50%

Application code- 60%

SQL queries – 45%

Report preparation: 25%

Contribution by Divyani Audichya:

Research work regarding the project – 30%

Hit and trials done with different technologies: 40%

ERD - 30%

Designing of Schema- 25%

Application code- 20%

SQL queries – 35%

Report preparation: 50%

Contribution by Arjuna Anilkumar:

Research work regarding the project – 30%

Hit and trials done with different technologies: 30%

ERD 30%

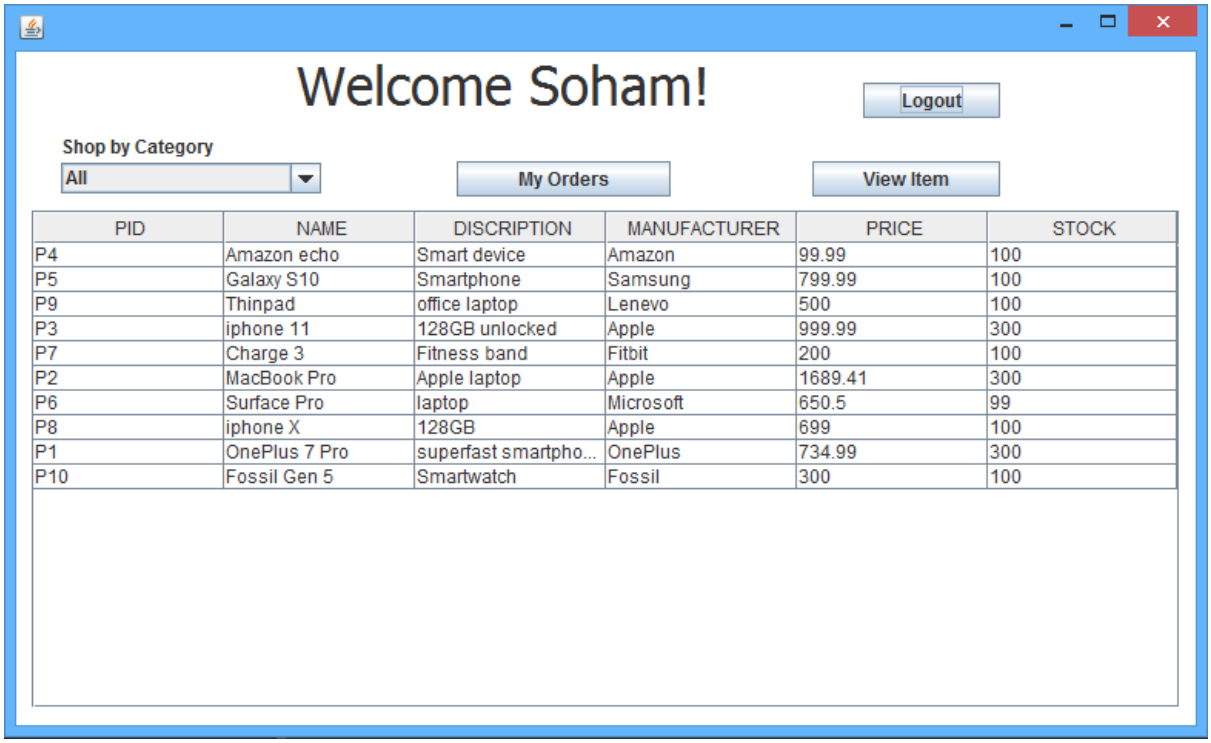
Designing of Schema- 25%

Application code- 20%

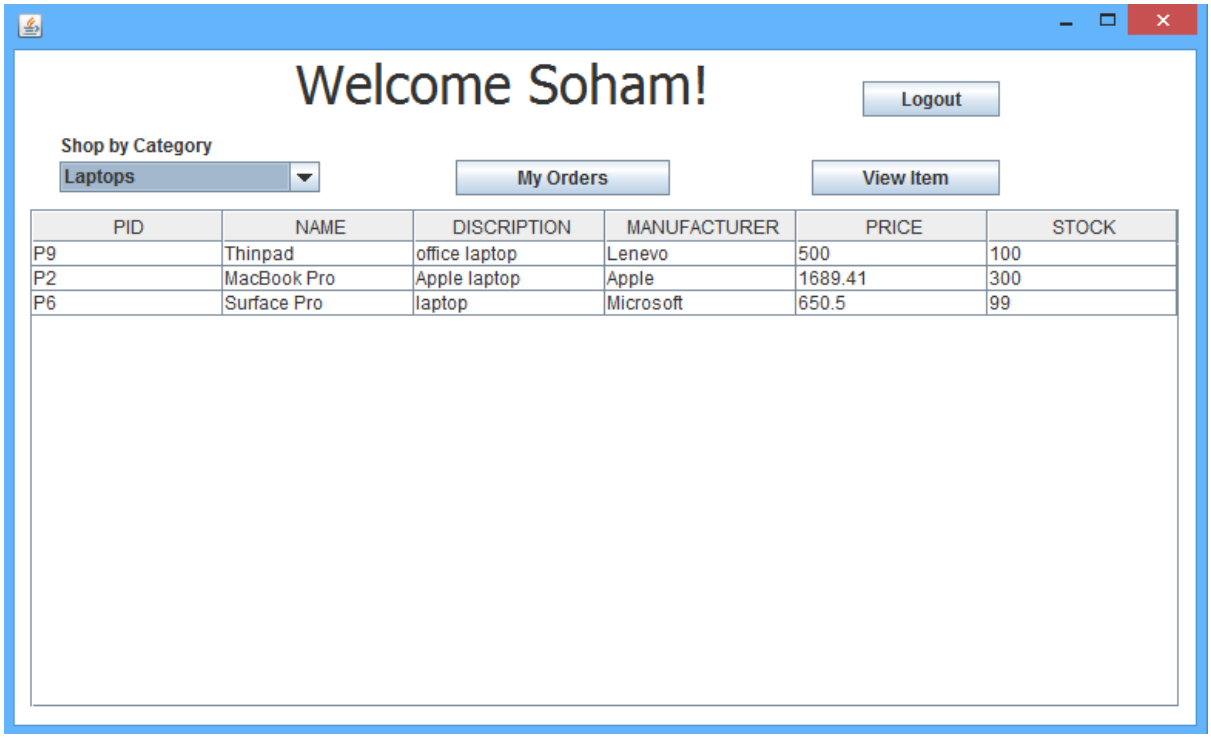
SQL queries – 20%

Report preparation: 2

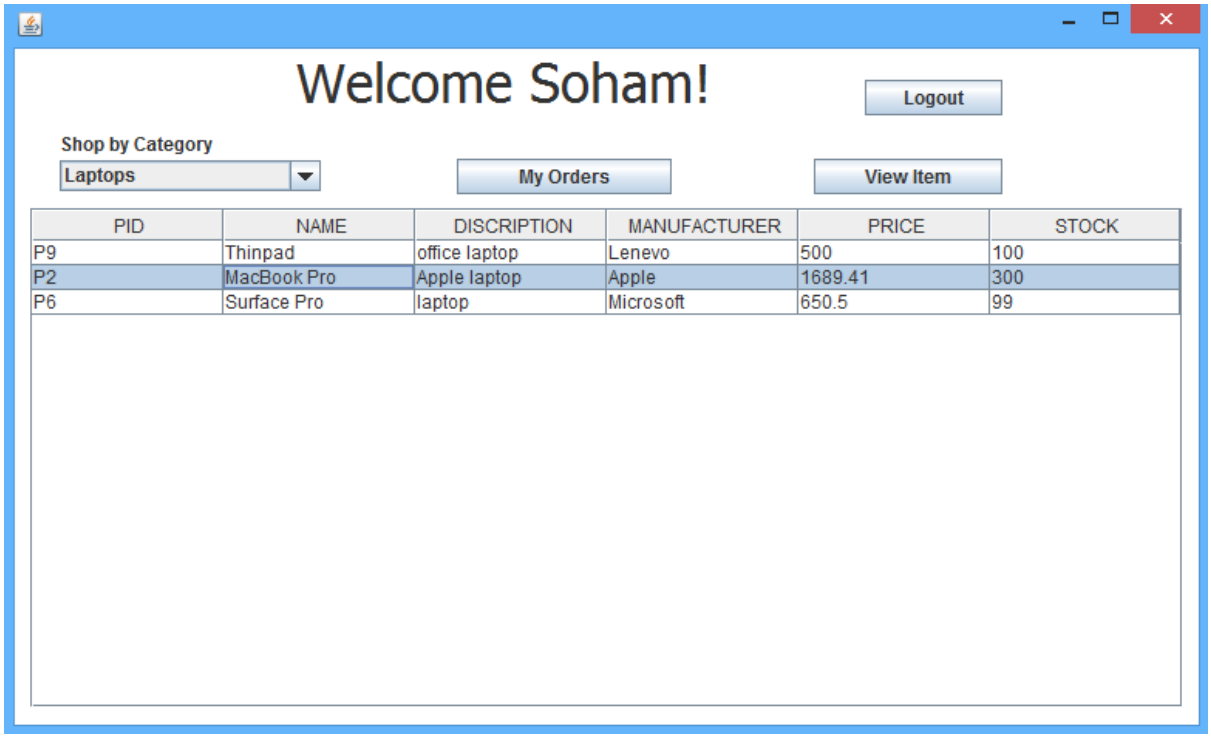
Screenshots:



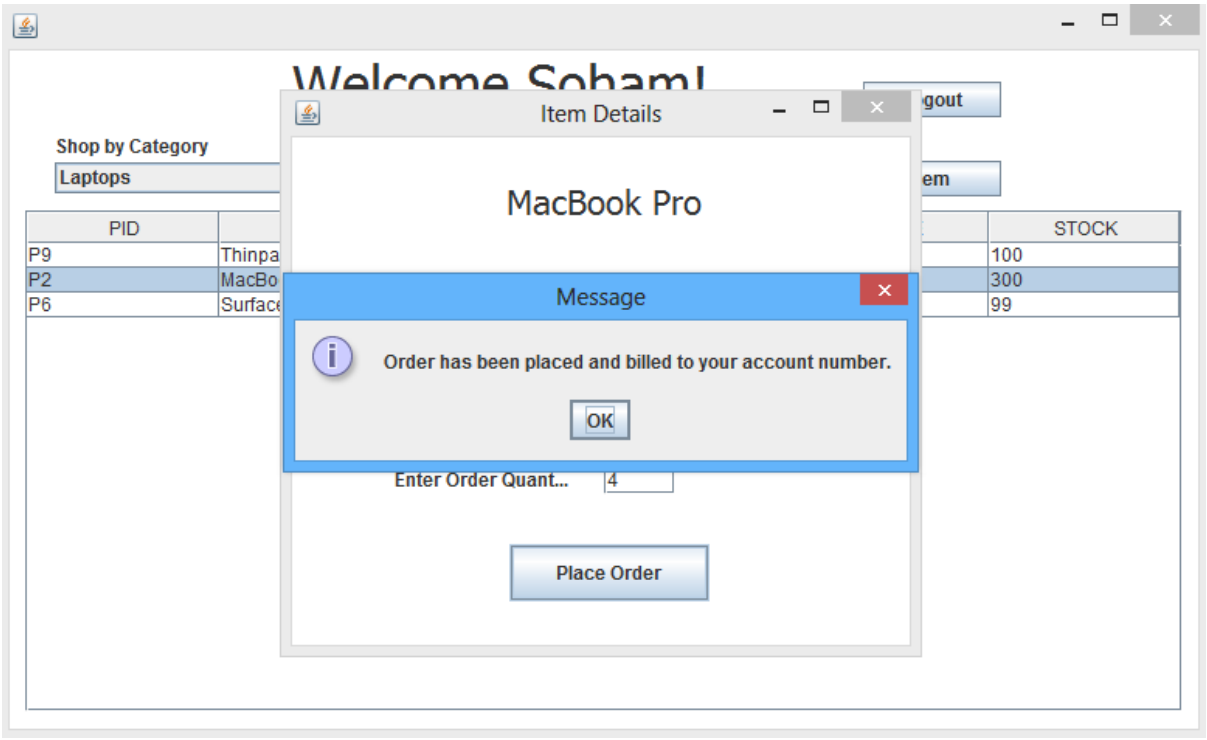
PID	NAME	DISCRIPTION	MANUFACTURER	PRICE	STOCK
P4	Amazon echo	Smart device	Amazon	99.99	100
P5	Galaxy S10	Smartphone	Samsung	799.99	100
P9	Thinpad	office laptop	Lenevo	500	100
P3	iphone 11	128GB unlocked	Apple	999.99	300
P7	Charge 3	Fitness band	Fitbit	200	100
P2	MacBook Pro	Apple laptop	Apple	1689.41	300
P6	Surface Pro	laptop	Microsoft	650.5	99
P8	iphone X	128GB	Apple	699	100
P1	OnePlus 7 Pro	superfast smartpho...	OnePlus	734.99	300
P10	Fossil Gen 5	Smartwatch	Fossil	300	100



PID	NAME	DISCRIPTION	MANUFACTURER	PRICE	STOCK
P9	Thinpad	office laptop	Lenevo	500	100
P2	MacBook Pro	Apple laptop	Apple	1689.41	300
P6	Surface Pro	laptop	Microsoft	650.5	99


Welcome Soham!
Logout
Shop by Category
Laptops
My Orders
View Item
PID
NAME
DISCRIPTION
MANUFACTURER
PRICE
STOCK
P9
Thinpad
office laptop
Lenevo
500
100
P2
MacBook Pro
Apple laptop
Apple
1689.41
300
P6
Surface Pro
laptop
Microsoft
650.5
99


Item Details
MacBook Pro
Manufacturer:
Apple
Description:
Apple laptop
Available Quantity:
300
Enter Order Quant...
Place Order


Welcome Soham!
gout
Shop by Category
Laptops
em
PID
STOCK
P9
Thinpa
100
P2
MacBo
300
P6
Surface
99
Item Details
MacBook Pro
Message
Order has been placed and billed to your account number.
OK
Enter Order Quant...
4
Place Order


My Orders
OID
NAME
QUANTITY
TRACKING_ID
SHIPPER_NA...
UNIT_PRICE
AMOUNT
C1O1
MacBook Pro
2
FDX29
FEDEX
1689.41
3378.82
C1O3
MacBook Pro
4
FDX34
FEDEX
1689.41
6757.64
C1O2
Galaxy S10
4
FDX30
FEDEX
799.99
3199.96

FACT FINDING TECHNIQUES AND INFORMATION GATHERING

LEARNING AND PERSONAL EXPERIENCE:

TECHNOLOGIES USED: Java swing Applet, SQL queries for the database creation using Oracle and JDBC library

Softwares used: Eclipse, Oracle 11g, JDK version8 and sql developer

We have used electronics vendor applications and websites to get an idea about the flow of how the flow of our application would be.

As the project instructions contain the examples such Best Buy, we have gone through the features very carefully of the websites like Best Buy, Walmart, Amazon, eBay.com so add to get an overview of what all tabs the application would contain.

After doing so, we have got to understand about how a user's experience should be an what kind of requirements are to be satisfied.

This includes inventory, warehouse, physical store and online store, its stock, products, their prices, orders and their individual IDs, and various tables.

We went through the plausible technologies which can be used, such as Apache Tomcat to establish the connection, JSP.