GROUP 9- NOUVELOEUF

VINCENT EL-GHOUBAIRA
JIAXUAN WANG
TOMY PELLETIER
MICHELLE BARABASZ

OVERVIEW OF THE BUSINESS SCENARIO

- The project revolves around creating a comprehensive database for a laptop-selling website, similar to newegg.ca. The website targets a diverse range of customers, from individuals to small businesses, seeking customizable laptop solutions. Laptops are known for their extensive customization options, making it essential for customers to have a platform that facilitates easy comparison based on their unique requirements.

MISSION STATEMENT

NouvelOeuf wants to constantly be studying its processes and its customers to keep on improving to deliver products that fits all customers' needs in the most efficient way possible.

MISSION OBJECTIVES

1. Continuous Process Analysis: Regularly analyze and evaluate internal processes, workflows, and operational procedures to identify areas for improvement and efficiency enhancement.

2. Customer Research and Understanding: Conduct comprehensive research to understand customer preferences, behavior, and evolving needs to tailor products that align with their requirements.

3. Product Customization: Develop a flexible product development framework that allows for customization and personalization to cater to diverse customer segments and their unique preferences.

4. Efficiency Maximization: Identify bottlenecks and inefficiencies within the production and delivery processes and work towards streamlining operations to reduce costs and minimize waste.

5. Data-Driven Decision Making: Utilize data analytics and metrics to make informed decisions regarding product enhancements, customer satisfaction initiatives, and operational improvements.

ERD
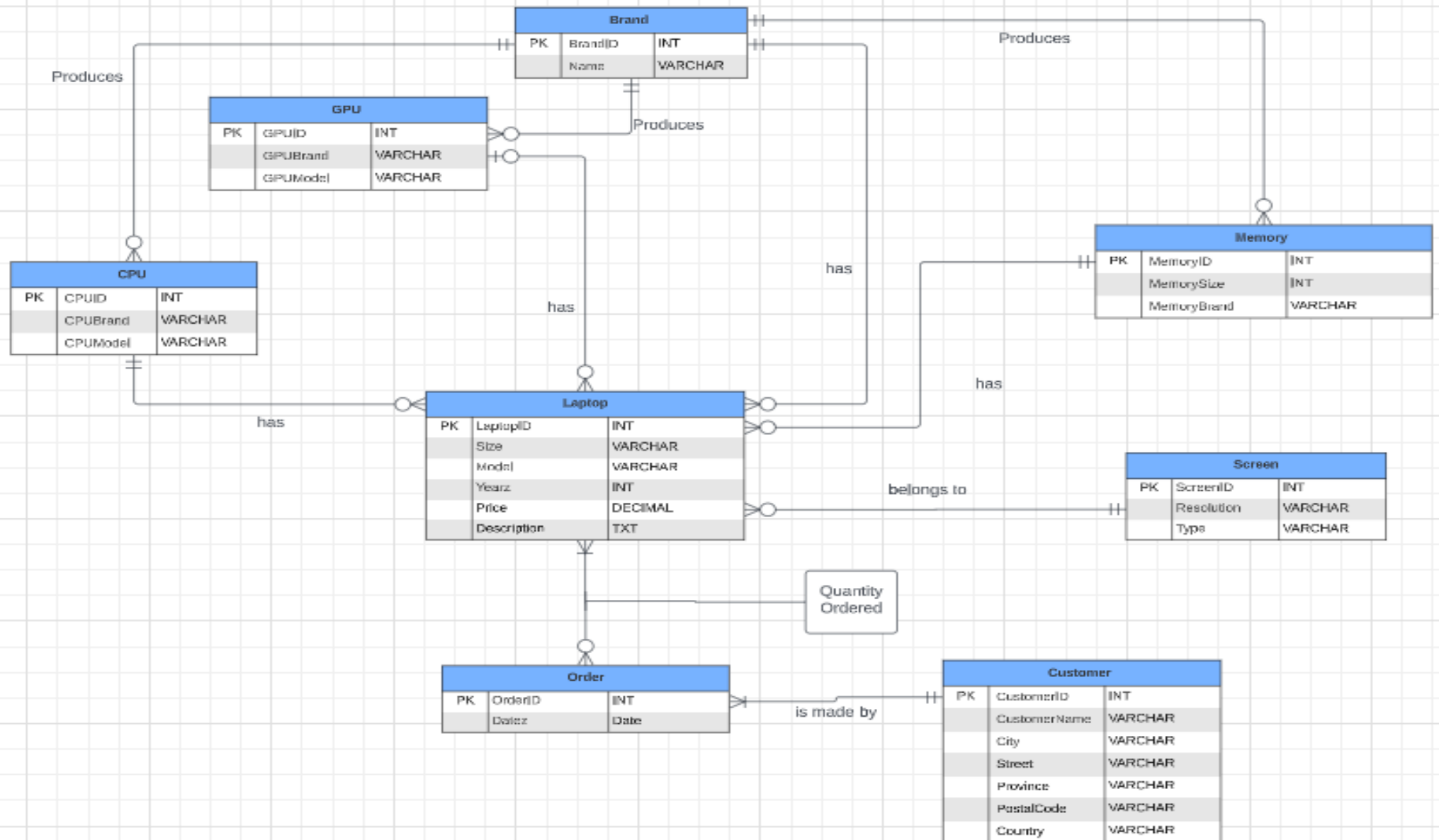
QUICK OVERVIEW OF RELATIONAL SCHEMA

RELATIONAL SCHEMA

Laptop (LaptopID, Size, Model, Year, Price, Description, BrandID, GPUID, CPUID, MemoryID, ScreenID)

Primary Key: LaptopID

Foreign Key: BrandID References Brand(BrandID)

Foreign Key: GPUID References GPU(GPUID)

Foreign Key: CPUID References CPU(CPUID)

Foreign Key: MemoryID References Memory(MemoryID)

Foreign Key: ScreenID References Screen(ScreenID)

OrderQuantity (LaptopID, OrderID, Quantity)

Primary Key: LaptopID, OrderID

Foreign Key: LaptopID References Laptop(LaptopID)

Foreign Key: OrderID References Order(OrderID)

Order (OrderID, Date, CustomerID)

Primary Key: OrderID

Foreign Key: CustomerID References Customer(CustomerID)

Customer (CustomerID, Name, City, Street, Province, PostalCode, Country)

Primary Key: CustomerID

Brand (BrandID, Name)

Primary Key: BrandID

Screen (ScreenID, Resolution, Type)

Primary Key: ScreenID

GPU (GPUID, GPUBrand, GPUModel)

Primary Key: GPUID

Foreign Key: GPUBrand References Brand(BrandID)

CPU (CPUID, CPUBrand, CPUModel)

Primary Key: CPUID

Foreign Key: CPUBrand References Brand(BrandID)

Memory (MemoryID, MemorySize, MemoryBrand)

Primary Key: MemoryID

Foreign Key: MemoryBrand References Brand(BrandID)

AN INTERESTING AND CHALLENGING QUERY- QUERY 8

Description of query: Find the top customer who has made the most purchases and also provide information about their most purchased laptop.

Objective of query: This query can help the company in recognizing high-value customers, understanding their preferences, and establishing a personalized customer experience. It could also be used for loyalty programs, targeted marketing, and improving customer retention strategies by offering products that align with the customer's preferences and purchasing behavior.

Your SQL query has been executed successfully.

```sql
SELECT Customer.Name AS CustomerName, COUNT(OrderQuantity.OrderID) AS TotalPurchases, Laptop.Model AS MostPurchasedLaptop FROM Customer INNER
JOIN OrderTable ON Customer.CustomerID = OrderTable.CustomerID INNER JOIN OrderQuantity ON OrderTable.OrderID = OrderQuantity.OrderID INNER JOIN
Laptop ON OrderQuantity.LaptopID = Laptop.LaptopID GROUP BY Customer.CustomerID, Customer.Name, Laptop.Model ORDER BY TotalPurchases DESC LIMIT
1;
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

Extra options

CustomerName	TotalPurchases	MostPurchasedLaptop
Karen Scott	5	Acer Aspire 5

AN INTERESTING AND CHALLENGING QUERY- QUERY 14

Description of query: Laptops with the highest total sales in each brand.

Objective of query: This query helps optimize product strategies and focus on popular brands and models. The company can allocate resources, marketing efforts, and inventory management to capitalize on successful models.

Showing rows 0 - 9 (10 total, Query took 0.0086 seconds.) [BrandID: **1... - 10...**]

```
SELECT b.BrandID, b.Name AS BrandName, l.LaptopID, l.Model AS LaptopModel, COALESCE(oq.TotalQuantity, 0) AS TotalSales FROM Brand b JOIN Laptop l ON b.BrandID =
l.BrandID LEFT JOIN ( SELECT LaptopID, SUM(Quantity) AS TotalQuantity FROM OrderQuantity GROUP BY LaptopID ) oq ON l.LaptopID = oq.LaptopID WHERE l.LaptopID = ( SELECT
l2.LaptopID FROM Laptop l2 LEFT JOIN ( SELECT LaptopID, SUM(Quantity) AS TotalQuantity FROM OrderQuantity GROUP BY LaptopID ) oq2 ON l2.LaptopID = oq2.LaptopID WHERE
l2.BrandID = b.BrandID ORDER BY COALESCE(oq2.TotalQuantity, 0) DESC LIMIT 1 ) ORDER BY b.BrandID
```

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh

☐ Show all | Number of rows: 25 ⌄   Filter rows: Search this table

⊦ Options

BrandID ▲ 1	BrandName	LaptopID	LaptopModel	TotalSales
1	Dell	1	Dell XPS 15	16
2	HP	4	HP Spectre x360	0
3	Lenovo	3	Lenovo Legion 7	0
4	Asus	5	Asus ROG Zephyrus	41
5	Acer	35	Acer Nitro 5	39
6	Apple	2	MacBook Pro	0
7	MSI	7	MSI GP77 Leopard	0
8	Samsung	8	Samsung Galaxy Book2 Pro	0
9	LG	9	LG Gram 16	0
10	Sony	40	Sony Vaio FE	117

OUR LEARNING EXPERIENCE

- **Issues and challenges faced:** Learning HTML was a challenge as it was the first time we were learning and implementing this feature. We also struggled to come to a common agreement for what the ERD diagram should look like as everyone had different ideas for what their ideal ERD looked like.

- **How we resolved the challenges:** Communicating with each other, leveraging the internet and our teammates.

- **Lessons learnt:** We learned how to apply concepts learned in class to real-life business scenarios and how to use HTML.

- **Ideas to extend the project:** Expand the services (not just laptops) add ratings/customer feedback, create a chatbot to enhance user experience.

LINK TO NOUVELOEUF'S WEBSITE

PHP File Opener (infinityfreeapp.com)
http://insy661laptop.infinityfreeapp.com/