Useful Classes and Their Contribution to Our E-Commerce Project

Real-Life Assessment (RLA)

E-Commerce & Dashboard Web Application

EPITA
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During the development of our Indian Cosmetic E-Commerce Web App, several classes provided essential knowledge and practical skills that were directly applied to building the website. The main technologies we used included JavaScript, Python, HTML, CSS, and SQL, and the related courses helped us in the following ways:

1. Web Development Class

The web development class was instrumental in providing a solid foundation in HTML, CSS, and JavaScript. From this course, we learned how to structure web pages using HTML, design and style them effectively with CSS, and implement dynamic, interactive features using JavaScript. This knowledge allowed us to create a responsive and user-friendly website interface, including product listings, search functionality, filters, and interactive elements such as wishlists and shopping carts.

Resources from Class:

HTML Example:

```html
<div class="product-card">

    <img src="product.jpg" alt="Product Image">
    <h2>Product Name</h2>
    <p>Price: ₹500</p>
    <button id="addToCart">Add to Cart</button>
</div>
```

CSS Example:

```css
body {

    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
}
.product-card {
    border: 1px solid #ccc;
    border-radius: 10px;
    padding: 10px;
    margin: 10px;
    text-align: center;
}
@media (max-width: 768px) {
    .product-card {
        width: 90%;
    }
```

JavaScript Example:

```javascript
document.getElementById("addToCart").addEventListener("click", function() {

    alert("Product added to cart!");
});
```

2. Python Programming Class

The Python programming class enabled us to develop the backend logic for our website. Using Python, we created the main.py file, which handles essential server-side operations, including processing user requests, managing product data, and handling transactions. This class helped us understand how to structure the backend, write efficient and maintainable code, and integrate it seamlessly with the frontend of the website.

Resources from Class/Online:

```python
from flask import Flask, request, jsonify

app = Flask(__name__)

@app.route('/add_product', methods=['POST'])
def add_product():
    data = request.json
    return jsonify({"message": "Product added successfully", "data": data})

if __name__ == "__main__":
    app.run(debug=True)
```

3. Relational Database (SQL) Class

The relational database class provided us with the skills to design and implement a database for our project. We created a structured database as provided by the university, activated it, and connected it with our website. This allowed us to store and manage customer accounts, product information, and sales data securely. The class also taught us how to perform queries, retrieve information efficiently, and ensure data consistency and integrity, which are critical for an e-commerce application.

Resources from Class:

Table Creation:

```
CREATE TABLE Customers (
    id INT PRIMARY KEY,
    name VARCHAR(100),
    email VARCHAR(100),
    password VARCHAR(50)
);


CREATE TABLE Products (

    id INT PRIMARY KEY,
    name VARCHAR(100),
    price DECIMAL(10,2),
    category VARCHAR(50),
    stock INT
);
```

Insert Data:

```
INSERT INTO Customers (id, name, email, password) VALUES (1, 'Saim ',
'saim@gmail.com', 'password123');

INSERT INTO Products (id, name, price, category, stock) VALUES (1, 'Face
Cream', 500, 'Skincare', 50);
```

Fetch Data:

```
SELECT * FROM Products;

SELECT * FROM Products WHERE price < 1000;
SELECT * FROM Customers WHERE email = 'alice@example.com';
```

Update/Delete Data:

```
UPDATE Products SET stock = stock - 1 WHERE id = 1;

DELETE FROM Customers WHERE id = 1;
```

4. Additional Resources

- Class slides and lecture notes on e-commerce workflows.
- University-provided database schema and practice exercises.
- Online documentation for Flask, HTML5, CSS3, JavaScript, and SQL queries.

Overall, these classes collectively equipped us with the theoretical knowledge and practical skills required to develop a functional, secure, and user-friendly e-commerce website. Each course contributed directly to different components of the project, allowing us to successfully integrate the frontend, backend, and database systems into a cohesive platform.