**VAAL UNIVERSITY OF TECHNOLOGY**



**FACULTY:** Applied and Computer Sciences

**DEPARTMENT:** Computer Sciences

**SUBJECT:** Web Development 3.2

**SUBJECT CODE:** AIWEY3A

**LECTURER:** MR N Leduma

**MODERATOR:**  Mr X.Piyose

**YEAR:** 2024

**ASSIGNMENT NAME:** PART 2

**ASSIGNMENT DATE:** November 20, 2024

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**Important Documents**

1. HTML Pages: about\_us.html: A page outlining the story, contact, and address of the business.  
•account.html, cart.html, checkout.php: Associated with the shopping cart and user account administration.  
2. PHP Scripts: db.php, checkout.php, add\_to\_cart.php, etc. These oversee backend functions including payment, cart management, and database interactions.  
3. Images: Several image files (such as Male.jpg and Ubutle.jpg) seem to depict branding or products.  
4. User Management: Files like edit\_profile.php, login.php, and register.php point to a system for managing accounts and authenticating users.

5. Database Integration: The application is connected to a database(MySQL) for product, user, and transaction management through the db.php file.  
  
**Project Report: Creation of the Online Store for Ubuhle Fragrances**

**Introduction**  
By developing a full e-commerce platform, Ubuhle Scents aimed to increase its market presence and simplify client interactions. The design and development process, difficulties encountered, and solutions put in place during the creation of the Ubuhle Scents website are described in this paper.  
  
**The Process of Design and Development**  
  
1. Requirements analysis and planning: Clearly defined goals, such as increasing market penetration, improving client interaction, and enabling online transactions.  
•Key elements like a shopping cart, user account management, secure payment processing, and a product catalog were identified.

2. Front-end development: Using HTML and CSS, aesthetically pleasing, responsive designs that work on all devices were created.  
•JavaScript improved interaction by enabling features like search and dynamic cart updates.  
  
3. Back-End Development: - PHP scripts (such as add\_to\_cart.php and checkout.php) were used to implement the e-commerce logic.  
•Product information, user accounts, and transaction data were safely saved using database integration (using db.php).  
  
4. User Features: User authentication was made possible via account management (login.php, register.php, edit\_profile.php).  
•A smooth shopping experience was guaranteed by the shopping functionalities (cart.html, checkout.php).  
•Engagement was enhanced with a feedback system that included product reviews and questions.  
  
5. Testing: Performed functional tests for features such as user authentication, payment processing, and cart updates.  
•Guaranteed responsiveness and cross-browser compatibility.

**Difficulties Met**  
  
1.Responsive Design: It took a lot of testing and tweaking to make sure the website worked as best it could on desktop and mobile devices.  
  
2. Secure Payment Integration: Ensuring functionality and data safety presented difficulties while implementing secure payment processing.  
  
3. Database Administration: One crucial step was creating a strong database structure to effectively manage user, product, and transaction data.  
  
4. User Experience: Iterative improvement was necessary to provide an intuitive interface while integrating extensive functionality like reviews and account dashboards.  
  
**Implemented Solutions**  
1. Responsive Frameworks: To create a responsive design that adjusts to various screen sizes, media queries and flexible CSS grids were used.  
  
2. Payment Security: To ensure secure transactions, encryption protocols were adopted and dependable payment gateway integration was guaranteed.

3. Database Optimization: Optimised queries for quick data retrieval and normalised tables for scalability.  
  
4. Improved Interaction with Users: In order to improve user engagement, an intuitive navigation structure was designed and visual components like product thumbnails and categories were added.  
  
**Conclusion**  
  
A key instrument for growing the brand's audience and improving consumer interactions is the Ubuhle Scents e-commerce website. Ubuhle Scents will be able to compete in the fragrance market thanks to the platform's ability to overcome obstacles and make use of contemporary web development approaches.