Vogue Venture Web Application for Online Shoe Shopping

PROJECT REPORT

SE102.3
Web Application Development

Submitted to : Mr. Naji Saravanabavan
Group AT - Batch No. 23.2

Vogue Venture
STRIDE WITH CONFIDENCE

Module Code: SE102.3	**Module Name:** Web Application Development
Coursework Title: Develop a Website for Online Business or News Website	
Deadline Date: 04.09.2024	**Instructor's Name:** Mr. Naji Saravanabavan

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Abstract

This report delves into the development and analysis of [Online Shoe Selling Site Name], an e-commerce platform created as part of an IT assignment, specializing in the sale of branded footwear. The platform is designed with a focus on providing a seamless and secure shopping experience, featuring an intuitive user interface, robust back-end systems, and advanced features such as personalized recommendations and secure payment processing.

The analysis highlights the successful implementation of key IT principles, including responsive design, efficient database management, and user authentication mechanisms. The platform effectively caters to the needs of consumers seeking high-quality branded shoes by offering detailed product listings, high-resolution images, and streamlined navigation.

Additionally, the report identifies areas for technical enhancement, such as improving site load times, optimizing mobile performance, and integrating advanced analytics to track user behavior and enhance decision-making. These improvements are essential for boosting the site's performance and ensuring it remains competitive in the fast-paced e-commerce environment.

In conclusion, Vogue Venture demonstrates a strong application of IT concepts in creating a functional and user-friendly platform. With targeted optimizations, the site is well-positioned to deliver even greater value to its users and achieve long-term success in the online retail space.

Acknowledgement

We would like to express our sincere gratitude to Mr.Naji Saravanapavan for their guidance and support throughout this project. Your insights were invaluable to our research and analysis.

We also extend our thanks to NSBM Green University for providing the resources and tools that made this report possible.

We appreciate the collaboration and dedication of all group members, whose collective effort and teamwork were crucial to the successful completion of this assignment.

Lastly, we are grateful to offer our heartfelt appreciation to everyone who helped and guided us in making our endeavor a success.

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Introduction

In the ever-evolving digital landscape, e-commerce has become a dominant force, reshaping how consumers shop for products. Among the various sectors that have flourished online, the branded footwear market stands out, catering to a discerning audience that values quality, design, and brand reputation. **Vogue Venture** is an online platform specifically designed to meet the needs of these consumers, offering a carefully curated selection of branded shoes. The platform emphasizes authenticity and premium quality, ensuring that customers have access to the latest trends and timeless classics from renowned brands, all from the convenience of their devices.

The creation of **Vogue Venture** involved a strategic application of IT principles to develop a user-friendly, secure, and efficient shopping experience. The website's design prioritizes ease of navigation, with detailed product descriptions and high-resolution images to help customers make informed decisions. Additionally, robust backend systems support secure transactions and efficient inventory management, while advanced features like personalized recommendations enhance the user experience. This report will delve into the technical aspects and user interface design of the site, evaluating how well it serves its target market and identifying areas for potential improvement.

Purpose and Scope of the Branded Shoe Selling E-Commerce Project

Purpose

The primary purpose of this e-commerce project is to develop an online platform dedicated to selling branded footwear, providing consumers in Sri Lanka with easy access to a wide range of high-quality, stylish shoes from both global and local brands. The platform aims to meet the growing demand for branded shoes by offering a seamless, convenient, and secure shopping experience. It will cater to the evolving preferences of Sri Lankan consumers, who increasingly prioritize brand reputation, product quality, and fashion trends in their purchasing decisions

Scope

The scope of this project includes the design, development, and deployment of a comprehensive e-commerce website that serves as a one-stop shop for branded footwear. Key aspects of the project include:

- **Product Catalog and Inventory Management**: The platform will feature a diverse selection of branded shoes, categorized by type, brand, style, and size. An integrated inventory management system will ensure real-time stock updates and prevent overselling.

- **User Experience and Interface Design**: The website will be designed with a user-friendly interface, featuring intuitive navigation, advanced search functionalities, and personalized product recommendations to enhance the shopping experience.

- **Secure Payment and Transaction Processing**: Multiple secure payment gateways will be integrated to support various payment methods, ensuring safe and efficient transactions for customers.

- **Mobile Responsiveness**: The platform will be fully optimized for mobile devices, enabling customers to shop seamlessly across desktops, tablets, and smartphones.

- **Marketing and Customer Engagement**: The project will include the implementation of digital marketing strategies, social media integration, and email campaigns, to attract and retain customers. Features like user accounts, wish lists, will be incorporated to boost customer engagement and repeat purchases.

- **Logistics and Order Fulfillment**: The platform will provide a streamlined order fulfillment process, easy returns, to ensure customer satisfaction

Project Objectives

- **Provide an Accessible Online Platform:** To create a user-friendly website that offers a seamless shopping experience for customers interested in purchasing shoes, ensuring easy navigation, product browsing, and secure payment options.

- **Offer a Wide Range of Products:** To provide a diverse collection of shoes catering to various styles, preferences, and budgets, including casual, formal, sports, and designer footwear.

- **Ensure Quality and Customer Satisfaction:** To focus on selling high-quality shoes, ensuring customer satisfaction through careful selection of suppliers, quality checks, and responsive customer service.

- **Achieve Competitive Pricing:** To offer competitive pricing that balances affordability for customers while maintaining a sustainable profit margin for the business.

- **Build Brand Recognition:** To establish Vogue Venture as a recognized and trusted brand in the online shoe retail market, known for style, quality, and reliability.

- **Expand Customer Base:** To grow the customer base by targeting different demographics, including men, women, and children, and exploring potential partnerships with influencers or fashion bloggers.

- **Leverage Data for Business Insights:** To utilize data analytics tools to understand customer behavior, optimize inventory management, and make informed decisions for future growth and expansion.

- **Achieve Financial Viability:** To ensure the financial success of Vogue Venture by achieving key financial milestones, such as break-even points, profit margins, and return on investment within the projected timeframe.

Website Design & GUI

User Interface (UI) Design

Home Page Layout

The home page of the website is designed to provide a clear and intuitive user experience. It features a clean and modern layout with a focus on visual appeal and functionality. The page is structured into several key sections:

1. Header:

- Logo: Positioned at the top left, the logo represents the brand identity.

- Navigation Menu: To the right of the logo, the navigation menu includes links to the main sections of the site, such as Home, Men's Shoes, Women's shoes, Kids' shoes and Sale.

- Search Bar: A search bar is placed prominently within the header, allowing users to easily search for products.

2. Icons:

- The cart icon used to see the items that we have added to our cart.

- Login / Sign in icon is used to create a new account in the website and login to the account, if someone already has created an account.

3. Promotional Banners:

- The home page may include promotional banners highlighting the features of items. These banners are strategically placed to grab user attention without overwhelming the page.

4. Footer:

- The footer contains links to important pages such as Privacy Policy, Terms of Service, and social media icons.

User Experience (UX)

Navigation

The website's navigation is designed to be user-friendly and efficient:

1. Primary Navigation Menu:

- Located at the top of every page, the primary navigation menu provides quick access to key sections of the site. The menu is responsive, transforming into a hamburger menu on smaller screens to maintain usability.

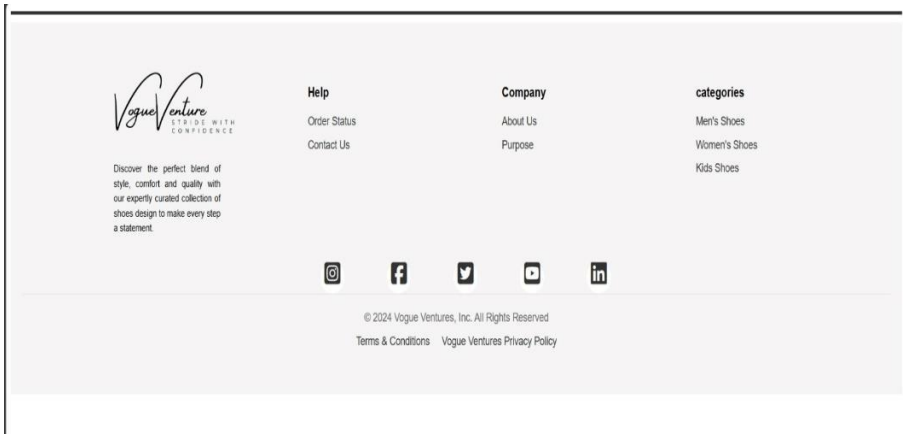
2. Search Functionality:

- The search bar is equipped with autocomplete and filtering options, allowing users to quickly find specific products or categories.

3. Footer Navigation:

- The footer includes secondary navigation links to legal information, customer service, and social media channels, ensuring users have access to important information from any part of the site.

Primary Navigation Menu of Vogue Venture



Footer Navigation Menu of Vogue Venture

Design Elements

The design elements of the website are crafted to enhance both aesthetics and usability:

1. Color Scheme:

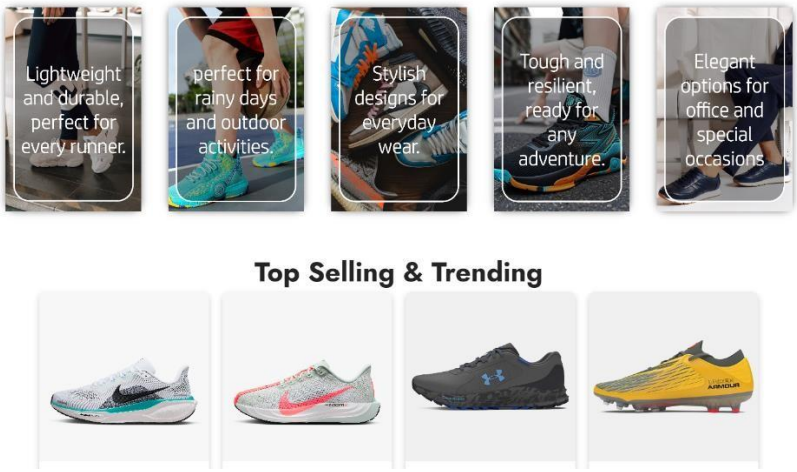
- The website features a cohesive color scheme that aligns with the brand identity. Neutral backgrounds with accent colors for buttons and key elements ensure visual hierarchy and draw attention to CTAs.

2. Typography:

- The typography is chosen for readability and style, with a combination of serif and sans-serif fonts to create contrast and maintain a modern look. The headings are bold and prominent, while body text is clean and easy to read.

3. Imagery:

- High-quality images are used throughout the site, particularly in the hero section and product listings. Images are optimized for fast loading without compromising quality.



Database Design

Database Structure

The database structure is the backbone of the web project, defining how data is stored, accessed, and managed. For the Vogue Venture online shoe store, the database is designed using a relational model that includes several key tables such as Users, Products, Orders, Categories, and Reviews. Each table is interconnected using foreign keys to maintain referential integrity and ensure data consistency.

- **Brands**: Stores user information like brand_id and brand_name.
- **Categories**: Contains product details such as category_id and category_name.
- **Customers**: Records transaction details with fields like customer_id, first_name, last_name, email, phone_number, address.
- **C_details**: Categorizes products with customerid, c_name, c_email and c_pass.
- **Orders**: Captures user feedback with order_id, customer_id, order_date, total_amount and status.
- **Ordertest:** Captures user feedback with id, email, newsletter, first_name, last_name, s_address, city, country, province, zip, phone, subtotal, total, terms and created_at.
- **Oredr_items:** Captures user feedback with order_item_id, order_id, product_id, quantity and price.
- **Products:** Captures user feedback with product_id, name, description, price, size, color, brand_id, category_id, stock_quantity and image_url
- **Product_sizes:** Captures user feedback with size_id, product_id and size.
- **Sale:** Captures user feedback with sale_id and status.
- **Top_selling:** Captures user feedback with topselling_id nd status

The database is normalized to reduce data redundancy and ensure efficient data retrieval.

Data Security

Data security is a critical aspect of the web project, ensuring that sensitive information is protected from unauthorized access, breaches, and other threats.

- **User Authentication**: Implementing secure user authentication protocols, such as password hashing and multi-factor authentication, to protect user accounts.
- **Encryption**: Data transmitted between the client and server is encrypted using SSL/TLS protocols to prevent interception by malicious actors.
- **Access Control**: Role-based access control (RBAC) ensures that users have access only to the data and functionalities they need, reducing the risk of unauthorized access.
- **Data Integrity**: Ensuring data integrity through validation checks, constraints, and database triggers, preventing the insertion of invalid or corrupt data.
- **Regular Audits**: Conducting regular security audits and vulnerability assessments to identify and mitigate potential security risks.
- **Compliance**: Ensuring that the application complies with relevant data protection regulations, such as GDPR, to protect user privacy and data.

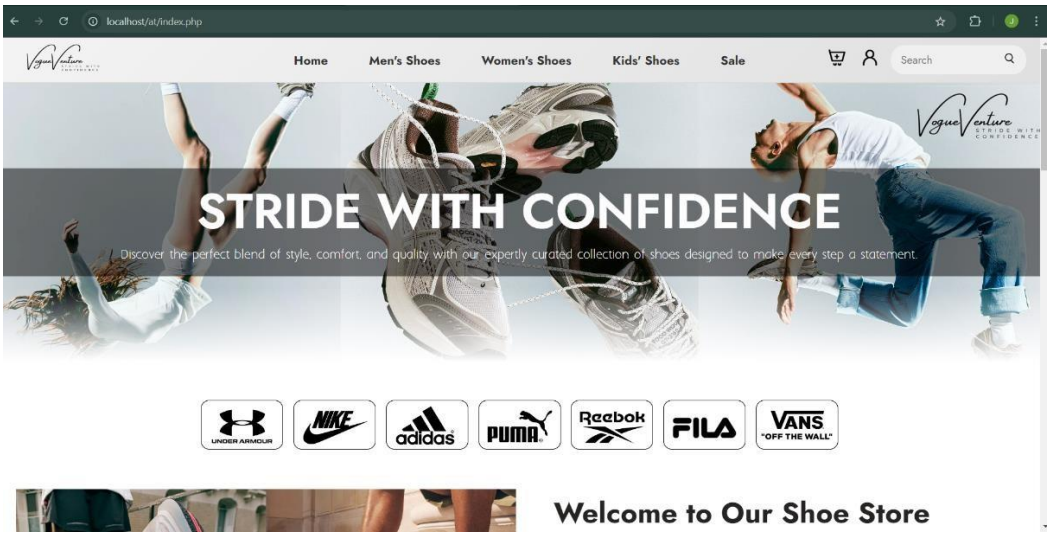
Technology Stack

This section contains details about the components, architecture, and technologies that have been used to develop Vogue Venture.

Front-End

- The frontend is a crucial component in developing Vogue Venture, as it directly impacts user experience, performance, customer engagement, and SEO effectiveness. Ensuring mobile responsiveness was a key focus in our frontend development, as we needed to guarantee that the site performs well on various screen sizes and devices. This approach ensures that users can easily browse, select, and purchase branded footwear from their smartphones or tablets, meeting their needs and enhancing their overall shopping experience. By prioritizing mobile compatibility, we aim to provide a seamless and engaging experience for all users, regardless of their device.

- **Technologies -** HTML, CSS, Bootstrap 5, Java Script



The Homepage of Vogue Venture

Back-End

- Crafting the backend of Vogue Venture was also very important as it handles server-side logic, database operations and many more.

- **Technologies** – PHP

- Using PHP for the backend of Vogue Venture, a platform for browsing and purchasing branded footwear, offers significant advantages. PHP's simplicity and widespread availability facilitate rapid development and deployment, making it an ideal choice for dynamic e-commerce sites. Its integration with MySQL databases enhances the management of product listings, customer information, and order processing, ensuring efficient handling of transactions and a smooth shopping experience for users. This combination of PHP and MySQL supports robust functionality and scalability, contributing to the overall effectiveness and reliability of the online store.

```php
<?php
// Database connection settings
$servername = "localhost";
$username = "root"; // Default XAMPP username
$password = ""; // Default XAMPP password is empty
$dbname = "vogue_ventures2"; // Replace with your actual database name

// Create a connection
$conn = new mysqli($servername, $username, $password, $dbname);

// Check the connection
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

// Fetch data for select options
$brands = $conn->query("SELECT brand_id, brand_name FROM brands");
$categories = $conn->query("SELECT category_id, category_name FROM categories");
$topSellings = $conn->query("SELECT topselling_id, status FROM top_selling");
$sales = $conn->query("SELECT sale_id, status FROM sale");

// Handling form submission
if ($_SERVER['REQUEST_METHOD'] == 'POST') {
    $productName = $_POST['product_name'];
    $description = $_POST['description'];
    $price = $_POST['price'];
    $color = $_POST['color'];
    $brandId = $_POST['brand_id'];
    $categoryId = $_POST['category_id'];
    $topsellingId = $_POST['topselling_id'];
    $saleId = $_POST['sale_id'];
    $stockQuantity = $_POST['stock_quantity'];
    $sizes = $_POST['sizes'];
```

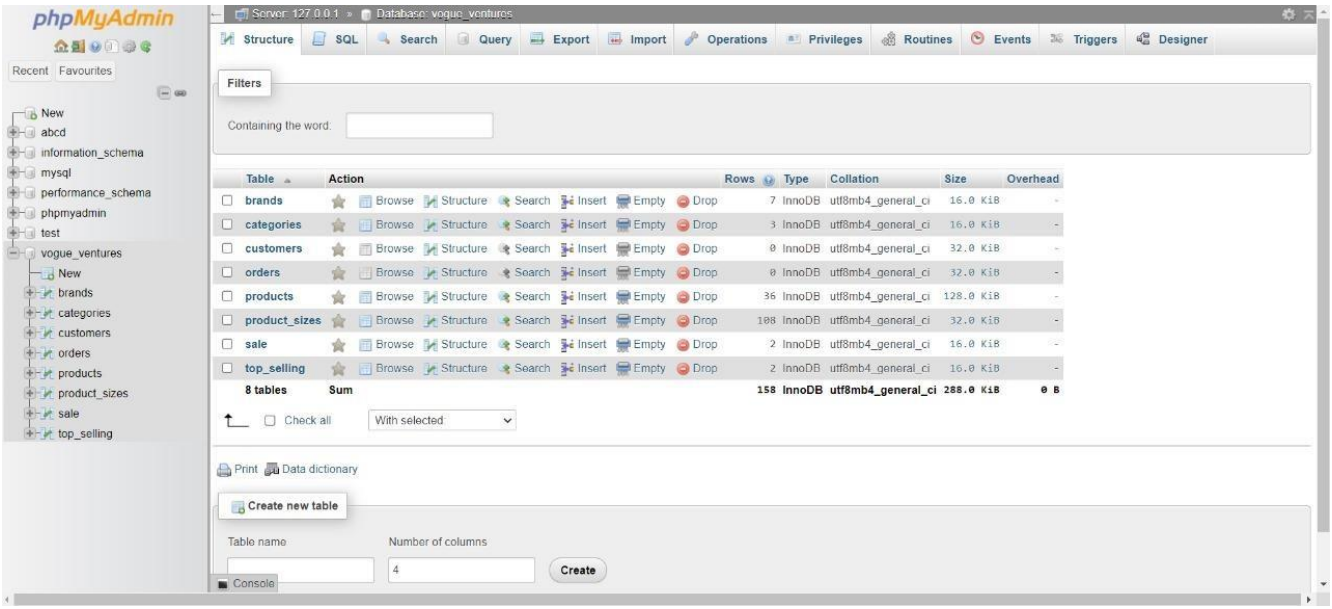
A Code snippet - PHP Codes related to Database Connections

Database Management System

- Vogue Venture is responsible for managing customer requests and fulfilling their orders for branded footwear. To function effectively, Vogue Venture must be capable of efficiently handling and managing data. This includes processing customer orders, managing inventory levels, and maintaining accurate records of transactions. By ensuring smooth data management, Vogue Venture can provide a seamless shopping experience, from order placement to delivery, thereby enhancing customer satisfaction and operational efficiency.

- **Technologies** – MySQL, phpMyAdmin.

- There are many databases related technologies that can fulfil this requirement. But we have chosen MySQL considering its robust security features, efficient performance and Integration with PHP.



Tables in the database of Vogue Venture

Results & Discussions

Functionality Overview

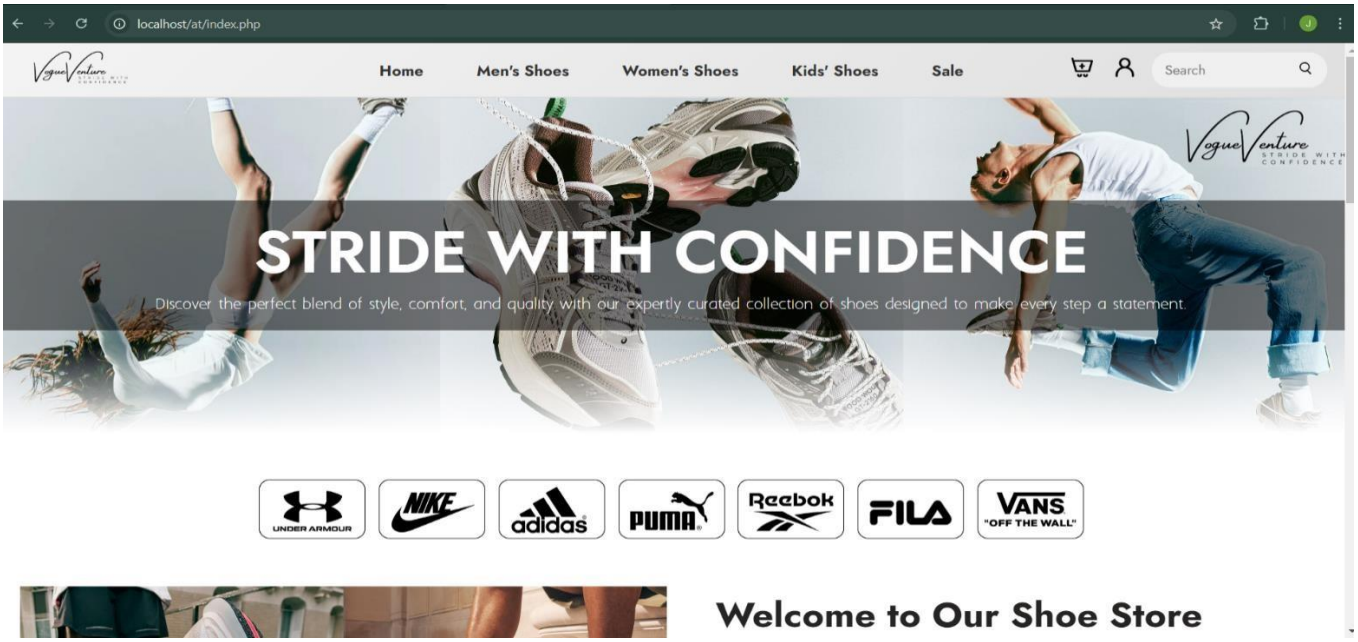
Our proposed solution addresses the key challenges customers face when shopping for branded shoes online. While there are established platforms that cater to general fashion and footwear, our focus is on providing a specialized, user-friendly platform dedicated exclusively to branded shoes. We aim to enhance the shopping experience by offering tailored features that meet the unique needs of shoe enthusiasts. Below, we outline the key features that will be included in our web application:

1. **Product Search and Filter** This is the core feature of our online branded shoe store, allowing users to easily find and browse through a wide selection of branded shoes. Customers can search for specific brands, styles, sizes, and colors, or use advanced filters to narrow down their options based on criteria such as price range, material, and customer ratings.

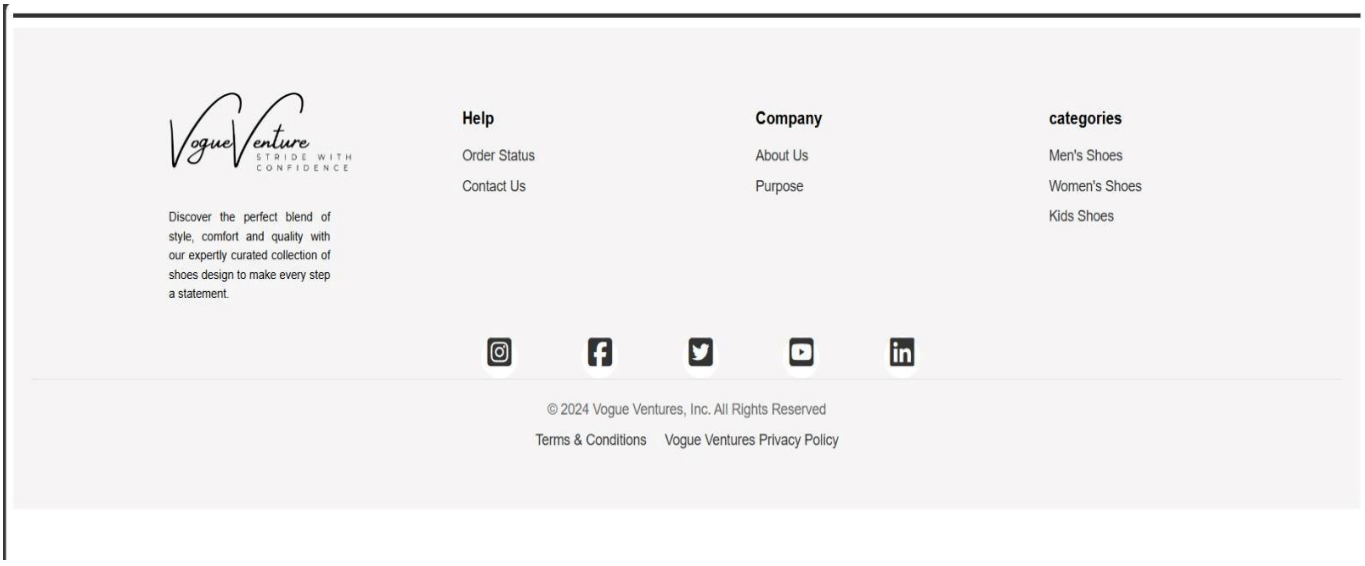
2. **Customer Dashboard** Customers can log into their personal dashboard to manage their shopping activities. This includes tracking orders, saving favorite items, and managing wishlist. Customers can also view their purchase history and access personalized recommendations based on their browsing and purchase behavior. If any issues arise, customers can contact our support team through the dashboard for assistance.

3. **Admin Dashboard** The admin dashboard is designed for the platform's management team to monitor and manage the overall operations of the online store. Admins can oversee product listings, track orders, and handle customer and seller inquiries. The dashboard also includes tools for managing promotions, reviewing customer feedback, and resolving any disputes or complaints. This feature ensures smooth operation and high levels of customer satisfaction across the platform.

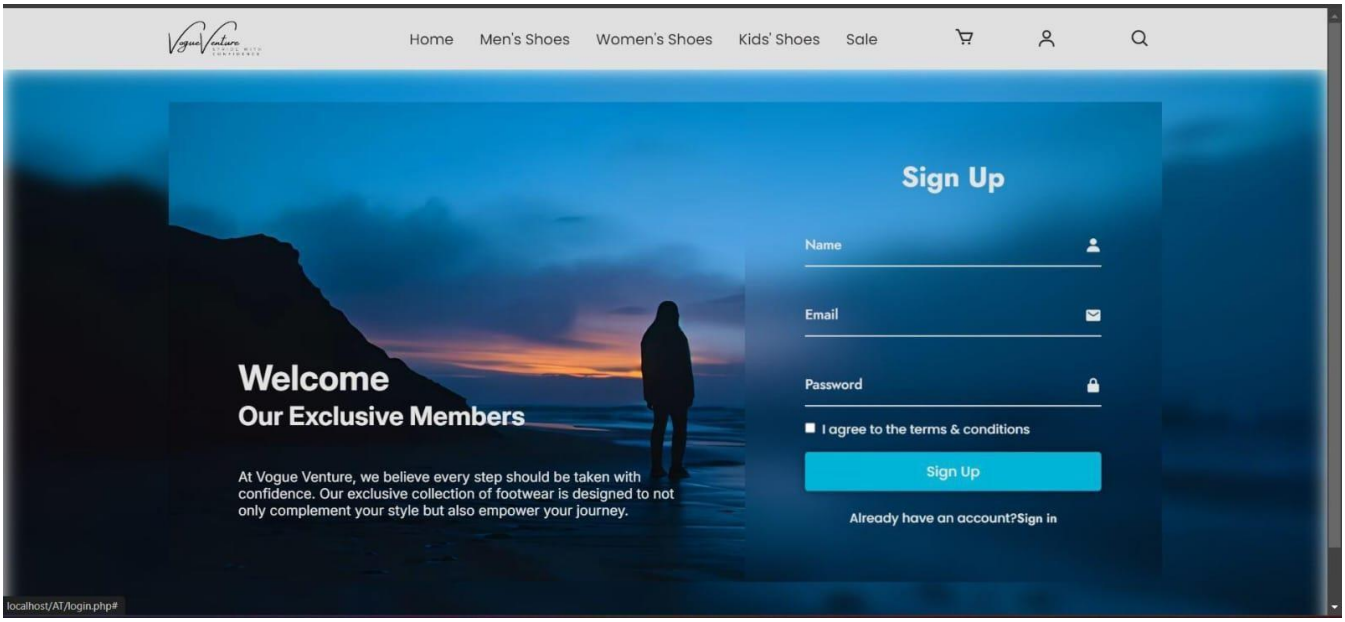
Screenshots & Wireframes



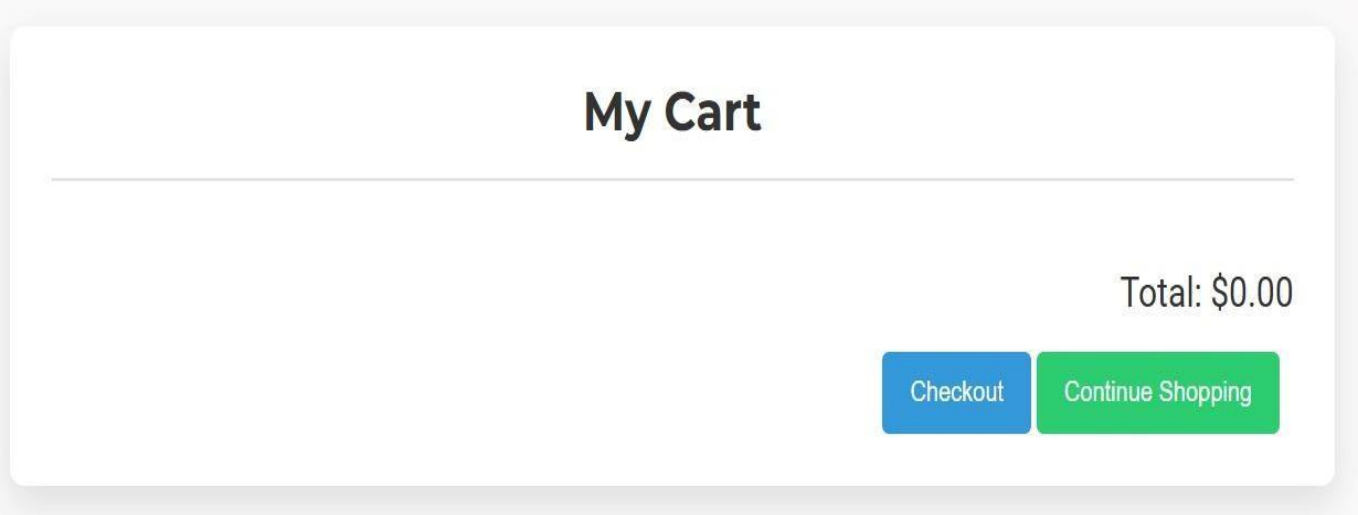
Home Page of Vogue Venture



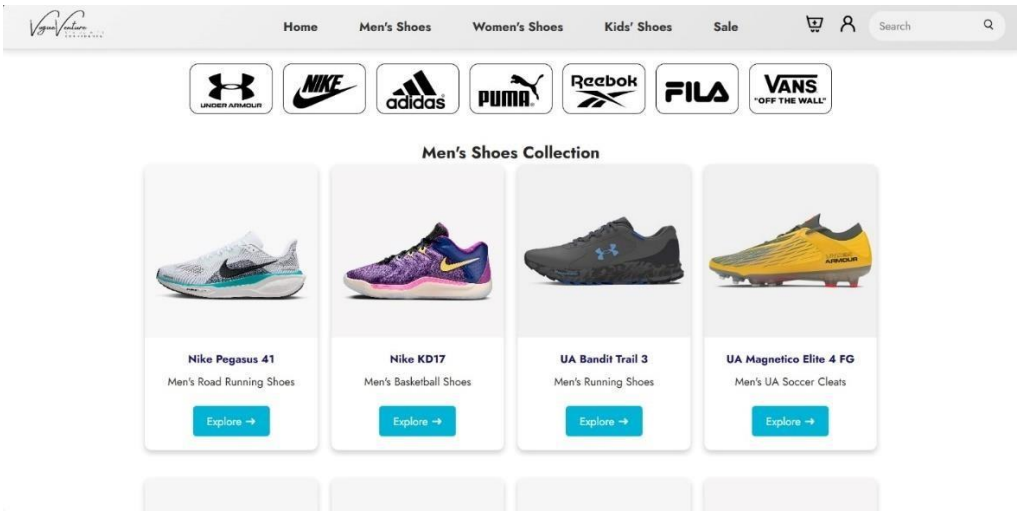
Footer of Vogue Venture



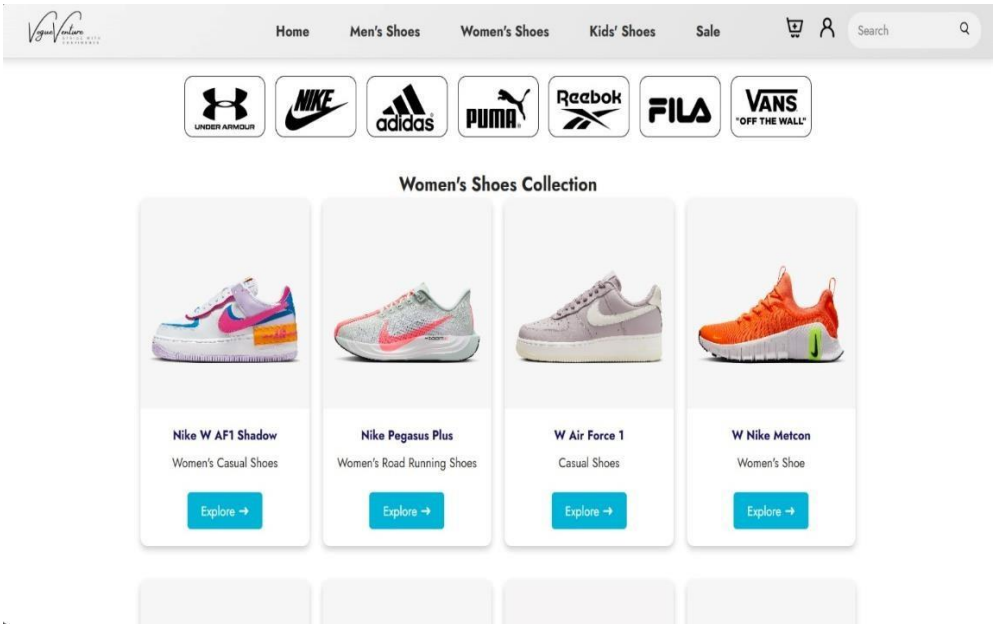
Customer Sign Up Page



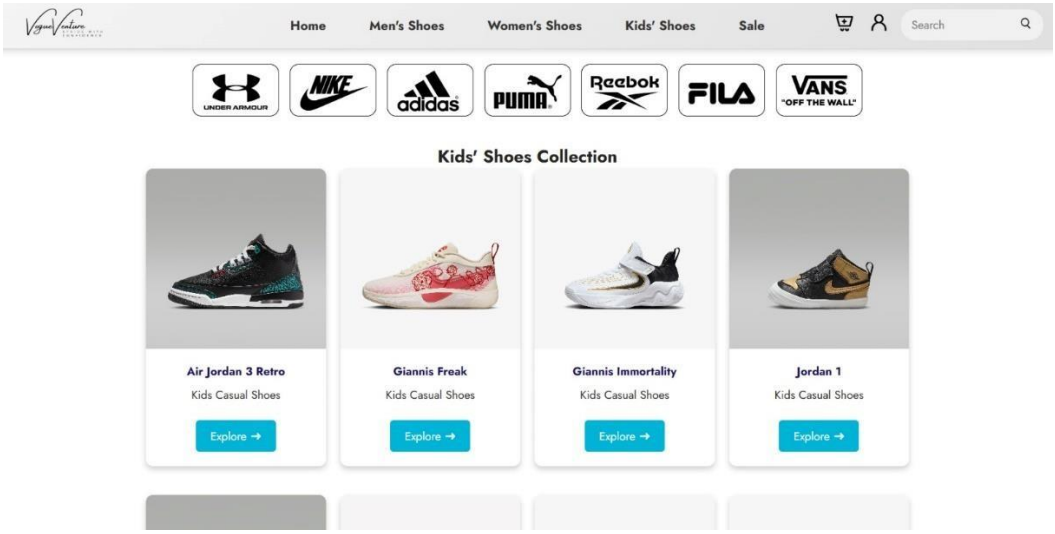
Cart of Vogue Venture



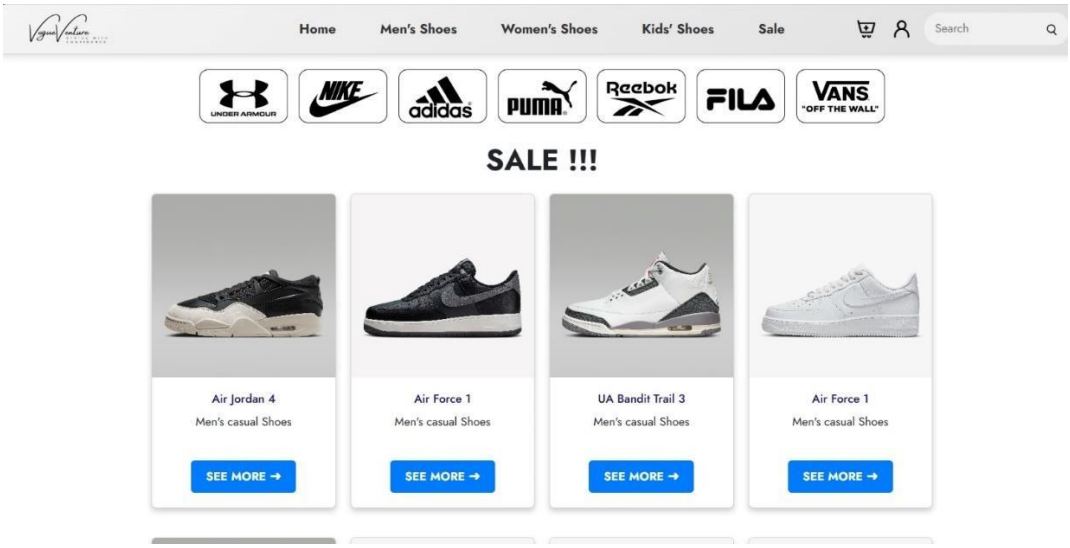
Men's Shoes Page of Vogue Venture



Women's Shoes Page of Vogue Venture

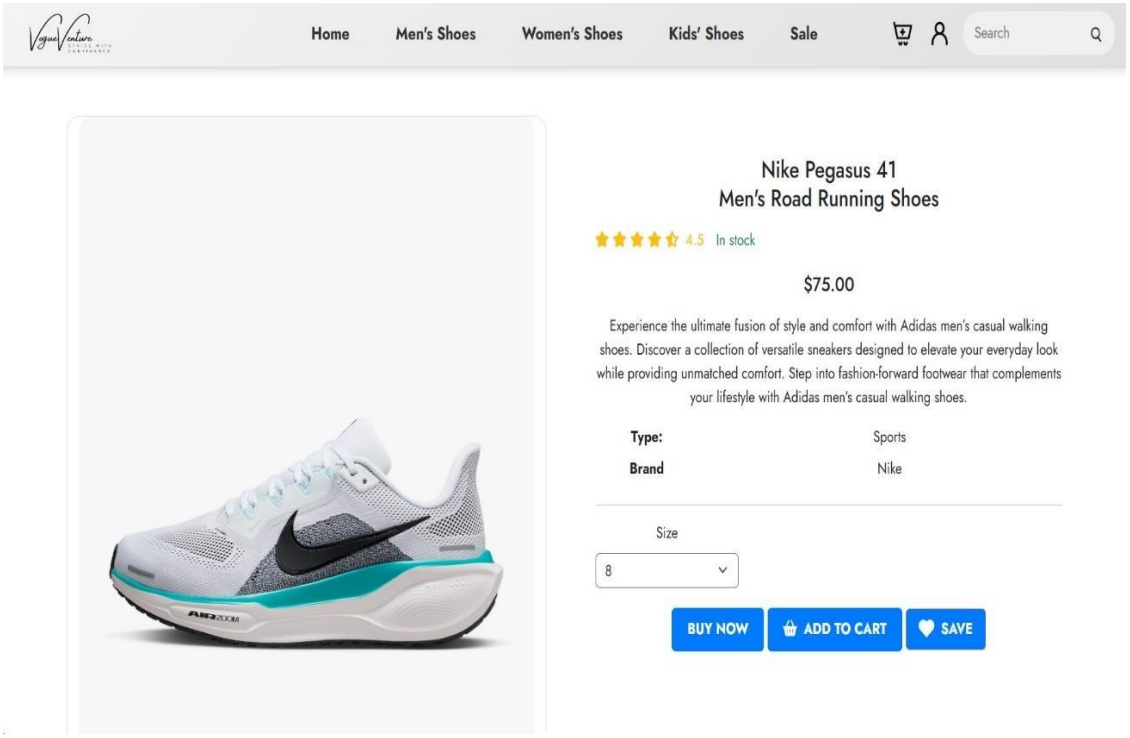


Kid's Shoes Page of Vogue Venture

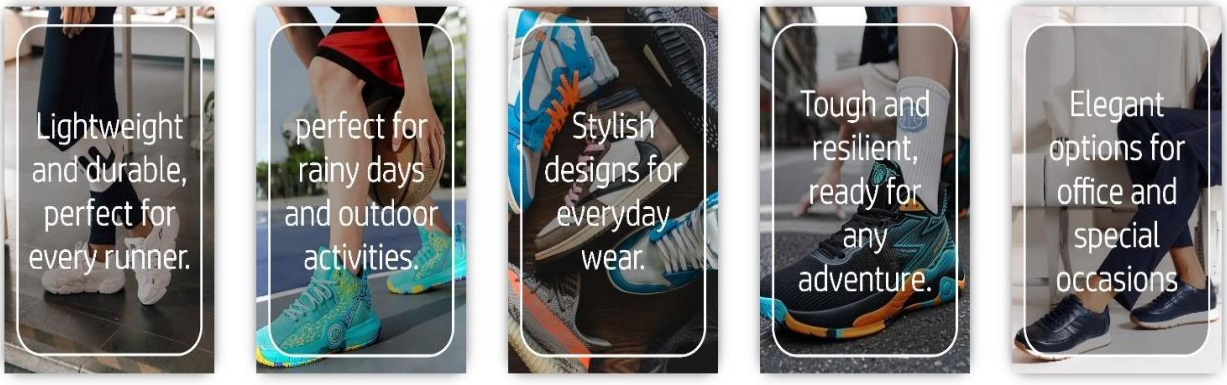


SALE Page of Vogue Venture

[Group AT]



Shoe Selecting Page



Banners

Meetings

Meeting 01

Date: - June.05.2024

Time: - 10.00AM

Discussed topic: - Project research and planning

Meeting leader:- WMKC Wijesundara

Attendees: - DSTN Kaushal, WMKC Wijesundara, AMT Perera, SMDD Deshappriya, KGPA Jayanath, HTL Punsekara, EMLC Weerasinghe, DHHT Jayakody, WRATD Apsara,HMTJ Herath

Decisions: -

- Discuss about the project scope.
- Discuss about the stake holders.
- Finalize the project timeline.

Meeting 02

Date: - July.10.2024

Time: - 08.30 PM

Discussed topic: - Project kickstart and make project proposal

Meeting leader:- WMKC Wijesundara

Attendees: DSTN Kaushal, WMKC Wijesundara, AMT Perera, SMDD Deshappriya, KGPA Jayanath, HTL Punsekara, EMLC Weerasinghe, DHHT Jayakody, WRATD Apsara,HMTJ Herath

Decisions: -

- Finalize the project scope and objectives.
- Assign the roles and responsibilities to each team members.
- Establish the detailed project timeline with milestones.
- Finalize the project proposal.
- Start project UI design

Meeting 03

Date: - Aug.20.2024

Time: - 09.30 AM

Discussed topic: Finalize the UI UX design and start development

Meeting leader:- DSTN Kaushal

Attendees: - DSTN Kaushal, WMKC Wijesundara, AMT Perera, SMDD Deshappriya, KGPA Jayanath, HTL Punsekara, EMLC Weerasinghe, DHHT Jayakody, WRATD Apsara,HMTJ Herath

Decisions: -

- Finalize UI UX design after the feedback.
- Discuss plans for frontend and backend development.
- Set timelines for the development phase.
- Assign the roles and responsibilities to each team members for development.

Meeting 04

Date: - Aug.28.2024

Time: - 10.30 AM

Discussed topic: - Website installation

Meeting leader:- :- DSTN Kaushal

Attendees: - DSTN Kaushal, WMKC Wijesundara, AMT Perera, SMDD Deshappriya, KGPA Jayanath, HTL Punsekara, EMLC Weerasinghe, DHHT Jayakody, WRATD Apsara,HMTJ Herath

Decisions: -

- Review final development checklist.
- Make all verifications.

Implementation Plan

Overview

The project plan is a vital component of any application development. Our project plan for Vogue Venture briefly explains how we developed the system through different stages and how we are going to manage problems that may arise.

Project stages and deliverables

1. **Research and Planning stage**
   - Goals: Properly understand the project's technical and functional requirements, identify correct stakeholders, and plan the project.
   - Deliverables: Requirement specification document, Functional and technical specifications document, a detailed project plan with timelines, and resource allocation.

2. **Designing stage**
   - Goals: The user-friendly, eye-catching, and responsive design for the web application.
   - Deliverables: Wireframes, mockups, and finalized UI/UX design documents.

3. **Development stage**
   - Goals: Develop Frontend and backend fully functional aspects of the web application.
   - Deliverables: Prototypes Completed frontend code in HTML, CSS, JavaScript, and Bootstrap, and backend code in PHP along with a MySQL database schema, APIs respectively, and an integrated functional application.

4. **Testing and Quality Assurance stage**
   - Goals: The application should have quality parameters by passing relevant tests.
   - Deliverables: Relevant critical test cases.

5. **Security Implementation stage**
   - Goals: Development of solid security measures to protect the application and user data.
   - Deliverables: Describe the important security features in the project report, SSL installation

6. **Web site installation stage**
   - Goals: Launch the application.
   - Deliverables: Installation on the live website.

Risk Management

- **Risk 1: Development Delays**
  - **Mitigation:** Set clear milestones, conduct regular reviews.

- **Risk 2: Technical Issues**
  - **Mitigation:** Plan thoroughly, adopt agile practices, and maintain technical support.

- **Risk 3: Low User Engagement**
  - **Mitigation:** Conduct user testing, gather feedback, and provide user training.

- **Risk 4: Difficulty to Connect Database**
  - **Mitigation:** Watched Youtube Tutorials.

Team member contributions for the project

- **Research and planning**
  DSTN Kaushal,
  WMKC Wijesundara,
  AMT Perera,
  SMDD Deshappriya,
  KGPA Jayanath,
  HTL Punsekara,
  EMLC Weerasinghe,
  DHHT Jayakody,
  WRATD Apsara
  HMTJ Herath

- **Designing**
  EMLC Weerasinghe,
  DHHT Jayakody,
  WRATD Apsara
  HMTJ Herath

- **Development**

  - **Frontend**
    WMKC Wijesundara,
    AMT Perera
    EMLC Weerasinghe,
    DHHT Jayakody,
    WRATD Apsara
    HMTJ Herath
    DSTN Kaushal,
    SMDD Deshappriya,

  - **Backend**
    DSTN Kaushal,
    WMKC Wijesundara,
    AMT Perera,
    SMDD Deshappriya,
    KGPA Jayanath,
    HTL Punsekara

[Group AT]

- **Report**

  EMLC Weerasinghe,
  DHHT Jayakody,
  WRATD Apsara
  HMTJ Herath
  SMDD Deshappriya,

Conclusion

Vogue Venture successfully creates a user-friendly platform for branded footwear, excelling in design, product presentation, and secure transactions. The site effectively meets customer needs with features like personalized recommendations and a responsive interface. However, there are opportunities for improvement, such as enhancing site performance, mobile compatibility, and utilizing advanced analytics. Overall, the site is well-positioned for success, with potential for further optimization to enhance user experience and market competitiveness.

References

1. **Followed**

NIKE Official Website - https://www.nike.com

ADIDAS Official Website - https://www.adidas.com/lk

2. **W3Schools**

Description: An online resource for learning web development technologies including HTML, CSS, JavaScript, and SQL.

URL: W3Schools Online Web Tutorials

3. **YouTube Tutorials**

Description: Various YouTube channels offered video tutorials on web development, including PHP, MySQL, and responsive design.

URLS: https://youtu.be/pM9tQ1u6oF0?si=D94HHknyoW0MywKC

https://youtu.be/shLz_kmA68Q?si=XU-sYtbRTQK4SflT

https://youtu.be/H0ZM83UnP-o?si=lM2F8CAx0hqC31VA

4. **Google Search**

Description: Used to find solutions to specific coding issues, best practices, and additional resources.

5. **Senior Students at University**

Description: Guidance and advice from senior students who had prior experience with similar projects were invaluable in troubleshooting issues and refining our approach.

6. **Bootstrap Documentation**

Description: Documentation for the Bootstrap framework, which was used to create a responsive design for the website.

7. **MySQL Documentation**

Description: The official MySQL documentation helped with database setup, queries, and management.

8. **MDN Web Docs (Mozilla Developer Network)**

Description: Provides comprehensive documentation on web standards and technologies, including HTML, CSS, and JavaScript.

URL: https://developer.mozilla.org/en-US/