PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

Title: E-Commerce Website with Sentiment Analysis

Group No. 4

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Description:

We aspire to create a data-driven e-commerce solution that not only facilitates transactions but also delves into the realm of insights hidden within customer sentiments and preferences.

This Ecommerce Website is a modern, fully functional web application built using a combination of technologies, including React, HTML, CSS, JavaScript, and MongoDB. This project aims to emulate the core functionality and user experience of an e-commerce platform allowing users to browse, search, view, and purchase products online. It uses Sentiment Analysis program which uses Machine Learning and Natural Language Processing to analyze the sentiments of the customers. This project aims to create an engaging and data-driven e-commerce solution that provides valuable insights into customer sentiments and preferences.

Target Users:

Online Shoppers: These are the primary users of the e-commerce platform who browse and purchase products.
Product Vendors: Individuals or businesses that want to sell their products through the platform.
Platform Administrators: Responsible for managing and maintaining the e-commerce website, including product listings and user accounts.

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Key Features:

1. User Authentication:
- Users can sign up and log in securely to access personalized features.
- Authentication is implemented using Firebase or a custom authentication system.

2. Product Catalog:
- The website displays a wide range of products categorized into various departments.
- Users can search for products, filter by category, and view product details.

3. Product Listings:
- Product listings feature high-quality images, detailed descriptions, prices, and customer reviews.
- Users can add items to their shopping cart or wish list.

4. Shopping Cart:
- Users can add products to their shopping cart and view a summary of selected items.
- They can adjust quantities, remove items, and proceed to checkout.

5. Checkout Process:
- A multi-step checkout process includes shipping information, payment methods, and order confirmation.
- Users can enter shipping addresses, select payment options, and review their orders.

6. Payment Integration:
- Integration with a payment gateway for secure and convenient transactions.
- Users can make payments using credit/debit cards.

7. Order History:
- Users can view their order history and track the status of their recent orders.
- Order details include shipping information, payment receipts, and delivery status.

8. User Reviews and Ratings:
- Registered users can leave reviews and ratings for products.
- Reviews are displayed on product pages to help other customers make informed decisions.
- These reviews are used for sentiment analysis to enhance user experience.

9. Sentiment Analysis:
- Extracting Json file from the database and giving as input to the analyzer to analyze the sentiments of our customers using StreamLit and Python libraries.

10. Admin Panel:
- An admin panel for managing products, categories, and user accounts.
- Admins can add, edit, or delete products and categories.

11. Responsive Design:
- The website is responsive, ensuring a seamless user experience on various devices.

12. Database:
- MongoDB is used as the database to store product information, user data, and order details.

13. Security:
- Security measures are implemented to protect user data, transactions, and authentication.

14. Deployment:
- The application can be hosted on platforms like Heroku.

Project Work Distribution:

Kusum Manisha: Frontend Development, Sentiment Analysis Model Training

Maryam Khan: Frontend Development, Data extraction and preprocessing, Sentiment Analysis Model Training

Mohammed Hashim Maniyar: Backend Development, Sentiment Analysis Model Test, Fine Tuning

Manasvi Varma: Backend Development, Sentiment Analysis Model Deployment and Maintenance