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E – COMMERCE WEBSITE

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Abstract—
This project presents the design and development of an eCommerce website aimed at providing a user-friendly platform for online shopping. The website enables users to browse products, add items to a shopping cart, and complete purchases securely using various payment methods. Developed using modern web technologies such as HTML, CSS, Bootstrap and a backend framework like PHP the platform also includes a responsive interface to ensure compatibility across devices.
Key features include user registration and login, product search and filtering, order tracking, admin panel for inventory and order management, and secure checkout processes. The website emphasizes performance, usability, and scalability to cater to growing business needs. This eCommerce solution demonstrates the integration of front-end and back-end systems to facilitate efficient and seamless digital transactions for both customers and administrators.

Keywords:
HTML, CSS, PHP

I. INTRODUCTION

The evolution of the internet and digital technologies has significantly influenced the way businesses operate and interact with customers. One of the most prominent outcomes of this digital revolution is the rise of electronic commerce (eCommerce), which refers to the buying and selling of goods and services through electronic platforms, primarily the internet. Over the past two decades, eCommerce has transformed from a niche sector into a global industry worth trillions of dollars. As consumers increasingly rely on online platforms for their shopping needs due to factors like convenience, variety, competitive pricing, and doorstep delivery, the demand for well-designed, efficient, and user-friendly eCommerce websites has never been higher.This project aims to develop a comprehensive, feature-rich eCommerce website that caters to the needs of both users and business administrators. The platform is envisioned as a fully functional online marketplace that supports a wide range of operations, including user registration and login, product browsing, filtering and search functionality, shopping cart management, secure online payments, order tracking, and real-time notifications.

II. LITERATURE REVIEW

The Literature Survey/Review is an essential part of any research-based project, offering a comprehensive examination of existing knowledge, research findings, technologies, and methodologies that have been applied in the field. In the context of an eCommerce website project, the literature survey serves to evaluate and synthesize previous works that are directly relevant to the development, management, and optimization of online shopping platforms.The purpose of this section is to provide insights into established practices, challenges, and solutions in the eCommerce domain, helping to guide the development of the new platform. Here, we will cover key topics, including methodologies, technologies, design practices, database management, and the integration of new and emerging technologies

III. SYSTEM DESIGN

System design for an eCommerce website involves planning the overall structure, components, data flow, and technologies needed to build a scalable, secure, and reliable online shopping platform. The goal is to define how the system will work, what parts it **i**ncludes, and how they interact.
The system includes two main user roles:

Admin: The admin is responsible for managing the overall operations of the platform. Admins use a secured backend system (admin panel) to monitor, update, and maintain data across the system.

Customer: The customer is the end-user who interacts with the eCommerce platform to browse, purchase, and manage products. The system is designed to provide a smooth, secure, and efficient shopping experience for the customer.

IV. IMPLEMENTATION

The E- commerce website was implemented using PHP for the server-side scripting and MySQL for backend database. HTML, CSS, and were used to build the front-end interface for user interaction.

Key Steps in Implementation:

1. Database Setup:

A MySQL database named ecommerce was created.
products Stores product details (name, price, image, stock, etc.) users Stores customer accounts and admin usersorders Stores customer ordersorder_items Stores items per order

2. Admin Panel:

Admins log in securely using a login page (PHP + MySQL auth).Manage products(Add/Edit/Delete).View and manage orders.Respond to customer inquiries.Generate sales reports.

3.Customer Interface:

Browse and search products by name, category, or price.Register and log in securely**.**Add products to cart**.**Place orders with checkout**.**View order history

2. From Handling and Validation:

Ensures safe data processing. Uses prepared statements to prevent SQL injection.Validates login credentials, order quantities, form inputs

3. Testing and Debugging:

The system was tested for functionality, data accuracy, and user experience. Errors were debugged and performance was optimized for better speed and responsiveness.
The implementation ensures that both admins and customers have smooth, secure, and efficient experience while using the system.

V.RESULTS

User Registration and Login:

- Users can successfully register and log in using a secure authentication system.
- Passwords are **hashed** using PHP's built-in functions for better security.
- **Session management** ensures users stay logged in during their browsing session.

Product Display:

- All products are dynamically fetched from the MySQL database and displayed on the website.
- Each product page provides details such as name, price, description, and availability.

Shopping Cart:

- Users can add products to their cart, adjust quantities, and remove items.
- The cart is session-based, so users can continue shopping without losing the cart contents.

VI.CONCLUSION

The eCommerce website project successfully achieved its primary objectives by creating a dynamic, responsive, and user-friendly platform for online shopping. Developed using HTML, CSS, and

Bootstrap for the frontend, PHP for backend logic, and MySQL for database management, the website allows users to register, log in, browse products, add items to their cart, and place orders.
Additionally, an admin panel was developed to manage product listings and customer orders, which ensures that the platform can be controlled and updated by authorized personnel.
The website demonstrates good integration between frontend and backend technologies, providing seamless user experiences and efficient data handling. Key features such as session management, product display, secure user authentication, and form validation were implemented successfully.

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