Database Management System

CSE-314

Submitted For

Bachelor in Science (Engg.)

In Computer Science and Engineering

At

North East University Bangladesh

Submitted By:

Team Member-01:
Mst. Sumaiya Akther Mahbuba
ID:0562220005101050
Session: Summer-22

Team Member-02:
Mashiat Islam
ID:0562220005101002
Session: Summer-22

Submitted To:

Razorshi Prozzwal Talukder
Lecturer of NEUB,
Department of CSE

Project Name:
Bike Accessories E-Commerce Website

Project Proposal: Bike Accessories E-Commerce Website with Database Management System Integration

1. Introduction:

The project aims to develop a comprehensive e-commerce website specializing in bike accessories. The website will provide a platform for users to browse, search, and purchase various bike accessories such as helmets, gloves, lights, locks, and more. The core focus will be on implementing a robust database management system (DBMS) to efficiently handle product listings, user accounts, orders, and inventory management.

2. Features and Functionalities:

- *User Authentication:* Implement user authentication and authorization features to allow users to register, login, and manage their accounts securely.
- *Product Catalog:* Create a dynamic product catalog with categories and subcategories for easy navigation and browsing of bike accessories.
- *Product Details:* Display detailed product information, including descriptions, specifications, pricing, and availability status.
- *Search and Filters:* Implement search functionality and filters to enable users to find specific products based on keywords, categories, brands, prices, etc.
- *Shopping Cart:* Enable users to add products to their shopping carts, view cart contents, and proceed to checkout for payment.
- *Order Management:* Develop an order management system to process and track orders, including order status updates, order history, and order tracking.
- *User Reviews and Ratings:* Allow users to leave reviews and ratings for products, enhancing transparency and facilitating informed purchase decisions.
- *Admin Panel:* Create an admin panel with functionalities for managing products, categories, users, orders, and inventory.
- *Inventory Management:* Implement inventory management features to track stock levels, manage product quantities, and receive notifications for low stock items.
- *Responsive Design:* Ensure the website is responsive and optimized for various devices and screen sizes, providing a seamless user experience across desktops, tablets, and smartphones.

3. Database Management System (DBMS) Integration:

- *Database Design:* Design a relational database schema to efficiently store and organize data related to products, categories, users, orders, and inventory.

- *Normalization:* Normalize the database schema to eliminate redundancy and improve data integrity, following best practices of database design.
- *Data Migration:* Develop scripts or tools for data migration to populate the database with initial product listings, user accounts, and other relevant data.
- *SQL Queries and Stored Procedures:* Write SQL queries and stored procedures to perform CRUD operations (Create, Read, Update, Delete) and retrieve data efficiently from the database.
- *Indexes and Optimization:* Implement indexes and database optimizations to enhance query performance and ensure smooth scalability as the website grows.
- *Backup and Recovery:* Set up regular backups and implement disaster recovery measures to safeguard critical data and ensure business continuity in case of emergencies.

4. Technologies Used:

- Frontend: HTML, CSS, JavaScript, React.js (or other frontend frameworks)
- Backend: Node.js, Express.js (or other backend frameworks)
- Database: PHP

5. Conclusion:

The proposed project aims to deliver a user-friendly and feature-rich e-commerce website for bike accessories, leveraging the power of a robust database management system. By implementing advanced DBMS features and functionalities, the website will provide a seamless shopping experience for users while ensuring efficient management of products, orders, and inventory.

Best regards,

Mst. Sumaiya Akther Mahbuba
ID:0562220005101050

Mashiat Islam
ID:0562220005101002