

# CS425 PROJECT

## Ecommerce Website

### Deliverable #5

### Group Number: 36

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This project is a full-stack web application tailored for a retailer specializing in E-commerce technology products. It offers users an engaging platform to browse a wide range of tech products and place orders. The backend is powered by Python using Flask, Flask-SQLAlchemy, and Flask-CORS, with MySQL managing user and order data. The frontend, built with React, provides features such as detailed product listings, review submission and management, and interactive data visualizations showcasing trending tech products.

#### Features

#### User Roles:

Customer: Can browse products, write reviews, and place orders.

Store Manager: Oversees store-related tasks.

Customers can opt for home delivery or in-store pickup.

Each order includes user details, shipping address, product information, and total price.

#### Product Reviews:

Customers can leave reviews for purchased products, including ratings, and product details.

Trending Products Page:

The application features rich data visualization and reporting capabilities across various pages:

Inventory Page:

- Displays product reviews alongside available stock information.
- Includes a bar chart visualization representing the stock levels of each product, providing a quick overview of inventory status.

Sales Report Page:

- Offers comprehensive sales insights through multiple data views:
- Product Sold: Displays total sales figures.
- Sales Chart: Visualizes sales trends over time.
- Daily Sales: Breaks down sales data by day.
- Top 5 Customers: Highlights the top buyers by purchase value.
- Inactive Customers: Lists customers who haven't made a purchase in the last 30 days.
- Customer Retention Rate: Tracks retention performance every two days.
- Customer Segmentation: Groups customers based on behavior and demographics.
- Customer Lifetime Value: Projects the total revenue a customer generates over their relationship with the business.
- Seasonal Sale Analysis: Examines sales patterns during different seasons.
- Purchase Frequency Distribution: Analyzes how frequently customers make purchases.

Trending Page:

- Highlights popular trends and locations:
- Top Locations: Displays areas with the highest number of orders.
- Most Sold Items: Lists the top-selling products.
- Popular Items by Category: Showcases the most favored products within each category.

These features empower the retailer with actionable insights to optimize inventory, enhance customer engagement, and drive sales performance.