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Project Title: Ecommerce_platform

Cloud Deployment URL: https://ecommerce_platform-1-vcfm.onrender.com

Submission Date: 16/05/2025

Design and Development Report

Overview: The Ecommerce_platform is a Django-based web application designed to simulate an e-commerce environment using real-world open data. Users can browse, search, and order products, while administrators can manage the system and view analytics.

Dataset and Content:

The application uses a real open dataset of 2000–7000 products (e.g., shoes), imported into the PostgreSQL database. Each product includes relevant metadata like name, brand, price, category, and image. The dataset ensures realistic content and supports complex queries and user interaction.

Key Features and Requirements Fulfilled:

1. Linked Tables:

The application uses linked models such as Product, Category, Order, and Customer. Orders are associated with products and customers through foreign keys.

2. Ordering System:

Authenticated users can place orders. Orders include multiple items and quantities. Confirmation messages and order history are implemented.

3. Real Open Data:

The product catalog is populated using a real dataset, not Faker. Products are filtered and searchable, and displayed attractively with pagination.

4. Authentication & Access Levels:

Guests can browse products.

Registered users can order.

Admins can manage products, view all orders, and access a dashboard with charts.

5. Error Handling:

404 and 500 error pages are customized. Forms and views use try/except blocks for database and input errors.

6. Modular Codebase:

The app follows Django best practices with separation into views, models, forms, templates, and static files. Reusable templates and DRY principles are observed.

7. Search Functionality:

Users can search products by name or category using a dynamic search bar.

8. Testing:

Unit and integration tests are included for views, models, and forms. Tests ensure core functionality is reliable.

9. Cloud Deployment:

The application is deployed on Render using PostgreSQL for production. Environment variables are used for secure configuration.

10. Documentation:

This report and the in-code docstrings ensure clarity of structure. Installation and usage instructions are in the README.

