Team: Amazon

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Title
Clothing & Accessories E-Commerce Backend

Change History

Version 1.0: Initial draft - March 21, 2024

Introduction :

In an increasingly digitized world, the demand for seamless online shopping experiences has grown tremendously, with consumers seeking convenience and variety at their fingertips. Team Amazon recognises this trend and envisions providing a cutting edge e-commerce platform for clothing and accessory enthusiasts. By developing a robust backend API, Team Amazon aims to streamline the entire shopping process, from user authentication to order processing. Leveraging AWS services for scalability, reliability, and security, this backend infrastructure will facilitate smooth navigation, efficient product management and it will empower users with personalized shopping experiences, ensuring satisfaction and loyalty in the competitive retail landscape.

Dataset Source:

https://datarepo.eng.ucsd.edu/mcauley_group/data/amazon_2023/raw/meta_categories/meta_Clothing_Shoes_and_Jewelry.jsonl.gz

Features

- User Authentication (login/signup)
- Error handling
- Input validation
- Product management (CRUD operations)
- Order processing
- Product sorting and filtering
- User Reviews and ratings

Deliverables

- Backend API with endpoints
- Database of clothing and Accessory products

- Unit tests for API endpoints
- Documentation
- AWS services:
    - RDS for hosting production database
    - EC2 for hosting the backend API server
    - S3 for storing data files

Technical Requirements

- Programming Language: Python
- Framework: Flask
- Database: SQLite /SQLAlchemy
- Testing Framework: unittest
- API documentation:

Personas

- Developers: Responsible for back end development and testing
- Users: End users for the e-commerce website

Success Metrics

- Completion of all MVP's within the timeframe.
- Successful implementation of user Authentication and order processing
- Minimal bugs and errors

Timeline & Release Planning

- Week 1:
    - Find Datasource
    - Set up project environment (version control)
    - Design Database Schema and initialize the database
    - Implement user authentication endpoints
    - Begin developing product management endpoints

- Week 2:
    - Complete development of product management and order processing endpoints
    - Implement product sorting and filtering functionality
    - Write Unit tests for API Endpoints
    - Generate database of clothing and accessory products
    - Finalize documentation for API usage and deployment

- Week 3:

- Deploy backend API to Amazon EC2 instance
- Set up Amazon RDS instances for hosting the database
- Upload static assets to Amazon S3
- Test backend API
- Address all bugs and issues