Product Review and Recommendation System

Team Name: ADT_Team_AAP

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Objective:

The project aims to develop an application which allows users to get an overview of different kinds of products, check the reviews and ratings and compare the prices before making any purchase. We intend to solve the hassle of searching the best available discount and top-rated products by providing a user-friendly interface and providing personalized recommendations to the users.

Project Description:

Background:

E-commerce applications can often be overwhelming for customers, especially when there are a large number of products to choose from. Customers may find it difficult to navigate through the website, search for the products they need, and compare different options. A product recommendation system can help customers discover new products that they may not have otherwise found. This can be especially helpful for customers who are unsure of what they are looking for, or who are looking for products in a new category. Additionally, a Product Recommendation System can help reduce the hassle of e-commerce applications by providing personalized product recommendations that are relevant to the customer's needs and interests. This can improve the customer experience, increase customer engagement and retention, and ultimately lead to increased sales and revenue for businesses.

Usefulness:

A Product Recommendation System can provide several benefits to both businesses and customers. Here are some of the key reasons why our application is beneficial:

1. Personalizes the shopping experience: This application uses data such as customer reviews and ratings, discounts offered, and other preferences to provide personalized product recommendations to customers. This helps customers find products that are relevant to their needs and interests, and can lead to increased customer satisfaction and loyalty.
2. Increases customer engagement: By providing personalized product recommendations, businesses can increase customer engagement and keep customers coming back to their website. This can lead to increased sales and revenue.
3. Boosts sales: Product recommendations can help increase sales by showing customers products that they may not have otherwise discovered.
4. Improves customer retention: By providing personalized product recommendations, businesses can improve customer retention by keeping customers engaged and satisfied. This can lead to repeat purchases and a higher customer lifetime value.
5. Provides valuable insights for businesses: Product recommendation systems can provide valuable insights for businesses by analyzing customer data and identifying trends and

patterns. This can help businesses make more informed decisions about product development, marketing, and sales strategies.

There are several other e-commerce databases that are similar or equivalent to the Amazon Sales Dataset such as Walmart Sales Dataset, Instacart Market Basket Analysis and many more.
Our particular database is better than the others because of the following reasons:

1. Large and comprehensive: The Amazon Sales Dataset contains a large number of rows, making it one of the largest e-commerce datasets available. It includes information on customer orders, products, ratings, and reviews, providing a comprehensive view of customer behavior on the Amazon platform.
2. Variety of product categories: The Amazon Sales Dataset includes sales data for a wide variety of product categories, ranging from books and electronics to clothing and home goods. This makes it useful for analyzing customer behavior across different types of products.
3. Long time period: The Amazon Sales Dataset covers a time period of 20 years, from 1995 to 2015. This provides a long-term view of customer behavior and trends over time.
4. Includes review data: The Amazon Sales Dataset includes information on customer reviews and ratings for products, which can be useful in giving recommendations as per previous customer feedback.

Our application targets a wide range of users who are interested in buying products online, as well as those who are interested in analyzing product reviews and behavior. The application offers functionalities to users to search and filter out products based on certain criteria and perform comparisons and visualize certain attributes. Further, admins can add, delete and update the database in addition to filtering and visualizing the data.

Dataset:

Origin and Description:

The Amazon Sales dataset is a collection of data related to various products sold on Amazon. It includes information about the products such as product ID, name, category, actual price, discounted price, discount percentage, rating, rating count, description, image link, and product link. In addition, it also contains data about user reviews, including user ID, user name, review ID, review title, review content, and the product ID to which the review is associated. This dataset was compiled by an individual or organization with access to Amazon's sales data and it contains data from 1995 to 2015. The purpose of collecting this data is to analyze customer behavior on the Amazon platform, to develop machine learning algorithms for predicting sales or customer behavior, or for other research purposes.

Dataset URL: https://www.kaggle.com/datasets/karkavelrajaj/amazon-sales-dataset

GitHub URL: https://github.iu.edu/kumarip/ADT_amulla_kumarip_aazshaik