

SHOP

A smarter way to shop

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ABSTRACT

Nowadays there are a lot of trends to keep up with and brands to keep an eye out for. Many people have their differences when it comes to style and clothing. However, one thing for certain that all people seek is a good deal. Consumers may justify a great price at the sacrifice of quality or they may justify clothing quality at a great expense. Even worse, consumers may be led astray by dupes and knock-offs. Our application addresses these problems head-on by leveraging Artificial Intelligence and Machine Learning to provide clothing suggestions at a bargain. Furthermore, our application condenses all the online browsing in one place. Instead of having various tabs open shopping for the right fit, the correct material, or the preferred brand, our application gathers information from the Internet, and based on the user's previous purchases or the user's feedback, will use AI/ML algorithms to offer what the user wants. The user can use customizable features in our application such as setting review-based or price-based suggestions. That way the application can cater to the user's wants and needs and perform how the user intends it to perform.

Introduction

Many times individuals either struggle or spend an unnecessary amount of time deciding what to buy in

terms of clothing. A lot of the time is spent figuring out sizes, colors, brands, fit, material, and other preferences within clothing. With our application, a lot of these problems would be resolved along with producing higher quality results and satisfaction in our users' clothes. When a user logs into the Shop application, they will be presented with a home page asking for personal information from the user. Name, height, weight, age, phone number, email, and address are all things included in the home page. After the user will be prompted to log in using their email address and new password. Afterward, the user will be prompted to set preferences in order to recommend specific clothing products using AI/ML-based techniques. Preferences that are able to be set include Color, type of clothing, brand, fit, and price range. When the user selects their preferences, our application will provide a few suggestions of potential products the user would like to purchase. From that point on, is up to the user whether or not they would like to purchase the product or not. Therefore, our application is able to quickly recommend products based on user preferences and simultaneously eliminate the time wasted and frustration that comes with online shopping.

Related Work

This concept of integrating machine learning and AI into shopping is pretty unique. However, many researchers have dove into the mathematical formula to find users' interests and the best algorithm to display for marketing purposes. In an article by Pawan Kumar Sharma, he talked about the role of AI in enhancing the efficiency and effectiveness of shop and delivery propositions [1]. He discusses how an industry can benefit from ML. The benefits are Inventory management enhancement, Optimizing stock levels, reducing stock and space wastage, Route optimization, and cost-effectiveness in delivery systems. In our shop app, we plan on doing the same so businesses that partner with us can help their business grow while also promoting more of their products effectively.

AI Model

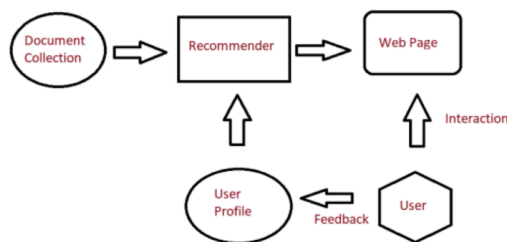


Fig: Recommender System

The application is set up so that the user can directly interact with the app itself, allowing the user to provide feedback while also interacting with the app to put in their preferences. The model above is a great example of how our application is planned. Where the user is able to input their preferences and then the application is able to recommend a certain product or list of products.

Engineering Processes

For the proposed application, iterations, and upgrades are key to its success. Hence why our team is committed to using Agile methodologies to create and maintain the application. More specifically our team will use an ASD (Adaptive Software Development)

approach to ensure that we continuously adapt to evolving requirements and market dynamics. By using ASD, our team will develop a culture of open communication and collaboration, where every member's insights and perspectives are valued. Through speculation, we will strategize and plan our project's goals, mission, and initial requirements. Collaboration will be facilitated through interactive workshops like Joint Application Development (JAD) sessions and the creation of concise mini-specs. Furthermore, learning will be ingrained in our process through regular feedback loops from focus groups and formal technical reviews, allowing us to refine our approach and deliver a product that truly meets the needs of our users.

REFERENCES

1. Dash, Bibhu, and Pawankumar Sharma. "Role of Artificial Intelligence in Smart Cities for Information Gathering and Dissemination (a Review)." *SSRN*, 25 Jan. 2023, papers.ssrn.com/sol3/papers.cfm?abstract_id=4335352.