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Sustainable Fashion Recommender

Munajja Dalimbkar[1], Rajnandini Pawar[2] , Shivkanya Nangare[3], Kajal.G.Raut[4]

[1] Department of Computer Technology Sou. Venutai Chavan Polytechnic, Pune Email: dalimbkarmunajja@gmail.com
[2] Department of Computer Technology Sou. Venutai Chavan Polytechnic, Pune Email: pawarrajnandini912@gmail.com
[3] Department of Computer Technology Sou. Venutai Chavan Polytechnic, Pune Email: shivkanyanangare363@gmail.com
[4] Lecturer and project guide Department of Computer Technology Sou. Venutai Chavan Polytechnic, Pune Email: Nande.kajal16@gmail.com

ABSTRACT :

The project, "Sustainable Fashion Recommender, "is an innovative mobile application designed to promote eco-conscious clothing choices while catering to individual style preferences and body types. This app combines AI-powered recommendation algorithms with environmental impact data to help users make informed decisions when shopping for clothing. The app analyzes the user's body type and style preferences to recommend clothing options that suit their needs, ensuring a personalized shopping experience. Users can browse and purchase clothing items directly from the app, with a focus on sustainable and ethically-produced brands.

The app analyzes users' body measurements to recommend clothing that fits well and enhances their personal style, making it a practical and stylish tool. The app offers seamless home delivery options, including carbon-neutral shipping or eco-friendly packaging alternatives, ensuring that sustainability extends beyond just product selection to the delivery process as well.The app leverages machine learning algorithms to refine recommendations over time by learning from user feedback, purchase history, and ongoing preferences This app serves as a solution to the growing demand for sustainable fashion, offering a unique shopping experience where ethical consumption meets personalized style.

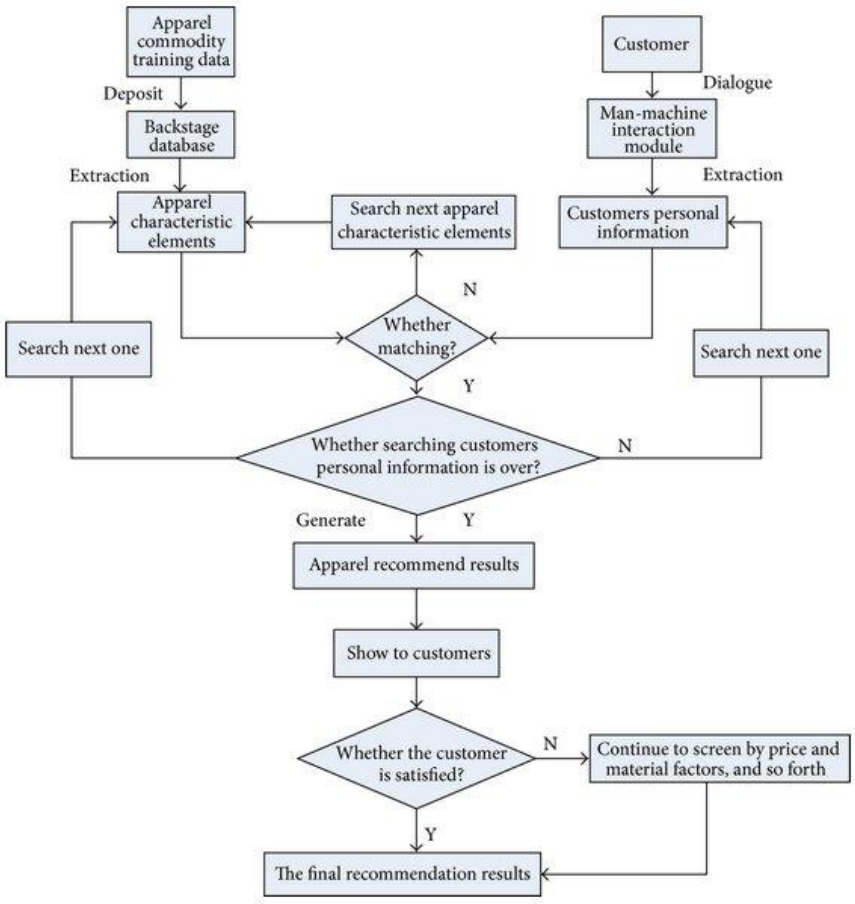
1.INTRODUCTION :

The fashion industry today has an urgent demand for a shift towards sustainability. Our platform, Sustainable Fashion Recommender, operates online wherein AI provides suggestions aimed at better wardrobe decision-making. With seamless installation of the current technology alongside strong ethical values, it provides personalized clothing suggestions based on individual style preference, pattern-based shape/fit, and care for the environmental aspect. Purchasing thereby becomes informed and in line with user's sustainable goals. For smooth shopping experiences, the app enables users to review and buy things straight off the lists of features they suggested, geared toward conscious consumption.

The purchasing process becomes easy when you go through with recommended clothing. The app enhances the shopping experience by personalizing its recommendation system depending on an individual's preferences and body type while also promoting thoughtful consumerism. The app enables eco-friendly fashion options by having a curated database of clothing that is sustainable and ethically produced. Merging the latest algorithms along with a passion for sustainability is to support consumers in making selections where clothing expresses one's style and can also assist in supporting a more sustainable planet. Suggesting suitable clothes for an individual is based on analytical observations of a database and able to recommend clothing styles that keep in line with the user's fashion sense.

The launch of Sustainable Fashion Recommender is a definite step toward a sustainable and long-lasting future in the fashion design. In a unique blend of innovation and ethical valuation, the platform allows the consumer to be trendy while positively impacting the environment. The platform aims at empowering such users to access tools and information that speak of sustainable fashion. In the context of empowerment through recommendations toward the fashion shopper lifestyle, it attempts to start a cultural change toward stile sustainability.

2. SYSTEM ARCHITECTURE :



The proposed system architecture contains the subsequent components, a summary of its components and procedure is provided below:

1. User Login

The user must login prior to accessing the application.

2. Home Screen

The home screen from which users explore various features.

3. Collection (Category-Based Navigation)

Users can explore clothing collections based on gender:

Men

Women

4. Lookbook

A styled section with fashion trends, inspirations, and outfit ideas.

5. Clothes Try-On (AI-Powered Feature)

Users can try out clothes virtually based on body type and measurements.

6. AI Filter (Smart Recommendations)

AI-based recommendations based on:

Collection (Men/Women)

Price Range

Below ₹500

Below ₹1000

Below ₹5000

7. Customer Care

Occasional Wear Choices ,Traditional,Casual,Night Suits

Customer support for inquiry and help.

8. Sustainability Emphasis

AI provides environmentally friendly and responsible clothing suggestions.

Choices for carbon-free delivery and sustainable packaging.

3.PROPOSED METHODOLOGY :

The original phase of analysis investigates, in considerable depth, the current status of sustainable fashion. This research will formulate a well-maintained database, equipped with an array of crucial details like product descriptions, materials, and sourcing practices. That model takes data from several users in order to identify patterns and give suggestions for products that fit similar users' previous choices. This technique recommends items that resemble those the user liked previously in an effort to match certain characteristics such as style or fabric. Recommendation accuracies will be improved by reasoning from a combination of collaborative filtering and content-based approaches, particularly in the case that user data is highly limited.

The research will focus on evaluating different materials and production methods for their environmental impacts in order to establish a clear basis for sustainability assessments. A questionnaire would be prepared to gather information from users in a variety of areas, including personal selection, style, size, budget, body type, and sustainability values (for example, ethical sourcing and eco-friendly materials). Users should constantly be able to modify their profiles in the sense that the recommendations would also always remain current. A repository of data about the environmental impact of several materials and production processes will be continued to build a foundation for sustainability combined with its later assessment.

Data gathering: The recommendation system will gather data from rich datasets containing clothing articles from sustainable brands, user preferences, and sustainability ratings.User profiling: The system will formulate user profiles through collaborative filtering and content-based filtering techniques that contain personalized preferences, body styles, and sustainability values.

Algorithm development: The recommendation engine will embrace hybrid approaches by integrating machine learning techniques with sustainability metrics to present more accurate recommendations for users.

Interface design: A user-friendly interface will allow individuals to browse sustainable options, filter based on criteria such as material, price, and brand, and be recommended suitable options.

4. IMPLEMENTATION :

4.1 Technologies Used

- -Frontend:JAVA,PHP,HTML,CSS
- Backend: MYSQL

4.2 User Roles

- -User: Login Application , select clothes according to their need, figure out and add to cart.

5. SCOPE FOR FUTURE WORK :

The future possibilities for an AI-based Sustainable Fashion Recommender are almost endless. This allows the users to see how clothing will look on them through augmented reality try-on thus enhancing the shopping experience and cutting down on returns. Further, one can have a social aspect imbibed within the application that allows users to share their sustainable fashion choices, swap attire, or even plan local eco-friendly fashion events. Furthermore, the platform could also furnish information on sustainable fashion practices: garment maintenance advice, upcycling manuals, and the ecological effect of various materials.

Apart from this, users can also gain insight into purchasing choices and their environmental implications, thereby allowing them to make a more conscious choice over a period. Powered by AI, this application could trace fashion trends and recommend sustainable options against fast fashion articles and thereby fill the gap between modern trends and environmentally friendly options. The further extension of this app database through the incorporation of numerous global websites and sustainable practices will establish it as a resource for users all around the world.

6. CONCLUSION :

In conclusion The Sustainable Fashion Recommender represents a significant step forward in promoting responsible consumerism within the fashion industry. By leveraging advanced AI technologies and a robust database of sustainable products, this web application aims to empower users to make informed choices that align with their personal values and the urgent need for environmental stewardship. Recap the main points of the project. Highlight the potential impact on sustainable fashion and personalized shopping experiences. Encourage the audience to consider how such technologies can influence the future of fashion. By offering users personalized recommendations based on their preferences, body types, and the environmental impact of clothing choices, the application encourages a shift towards more eco-friendly consumption patterns. This not only helps reduce waste but also supports website that prioritize ethical practices and sustainable materials. The application’s user-centric design enhances the overall shopping experience, making it easier for individuals to find clothing that suits their style while being mindful of its ecological footprint. By incorporating user profiles that capture preferences and body types, the recommender ensures that each suggestion is tailored to individual needs. This personalized approach fosters a deeper connection between users and sustainable fashion, encouraging them to explore and embrace eco-friendly options. The integration of a feedback mechanism allows the application to evolve over time. By analysing user interactions and feedback, the recommendation algorithms can be refined to better meet user expectations and preferences. This iterative process not only enhances the accuracy of recommendations but also helps the system adapt to emerging trends in sustainable fashion, ensuring that users receive the most relevant and timely suggestions. the application serves as an educational resource, providing users with valuable insights into sustainable practices, the significance of ethical fashion, and tips on making informed choices.

7.ACKNOWLEDGMENT

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