Beauty Pair – An Online Shopping Tool

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Abstract: *One of the most important sectors in our ultramodern society is fashion. One of the main ways people express their personalities and set themselves piecemeal from others is via their sense of style. In this design, we're developing a fashion suggestion system that uses artificial intelligence to categorise the stoner's wardrobe and elect the stylish outfit for a particular event. The suggested system demonstrates that it can assay the stoner's vesture from the photos, determine the type and colour of the outfit, and also suggest the most applicable apparel for the situation depending on the stoner's current vesture. druggies can store filmland of their own outfits in a closet handed by the system.*

Keywords: *outfits*

I. INTRODUCTION

Wearing a combination of clothes that are seen as proper socially is crucial in today's society because looking professionally is connected with clothing. In daily life, people need to find appropriate apparel. Wearing things that go with your skin tone, hair colour, eyes, and other traits is essential for both fashion and personality. The decision of what to wear is one of the most common everyday struggles. It's a complicated problem with many implicit and abstract visual and social components. The clothing is predetermined in terms of pairings and matching since when individuals purchase, they look for a match for a certain outfit without taking into account the ones they already own.

People in today's fast-paced society wear the same dull clothing every day since they don't have enough time to focus on style and individuality. For lack of time or because they are too bashful to experiment with different outfits, most people wear the same matching set of clothes every day for a week. The majority of gowns are thus never worn and are permanently stored in the wardrobe. As a result, a pair of matching garments is required for every item of clothing. When we thought about this problem in the real world, it motivated us to come up with a solution that would maximise the usage of all the garments. For everyday use, people must find appropriate attire.

In consideration of the relevance of the problem and the requirements of the target audience, we developed a way to offer best combinations (Optimised Pairs) of matching outfits in addition to recommendations.

II. LITERATURESURVEY

Title: Clothing Matching for Visually Impaired Persons
Author: Shuai Yuan , YingLi Tian , and Aries Arditi
Abstract:

Matching clothes is a challenging task for many blind people. In this paper, we present a proof of concept system to solve this problem. The system consists of 1) a camera connected to a computer to perform pattern and color matching process; 2) speech commands for system control and configuration; and 3) audio feedback to provide matching results for both color and patterns of clothes. This system can handle clothes in deficient color without any pattern, as well as clothing with multiple colors and complex patterns to aid both blind and color deficient people. Furthermore, our method is robust to variations of illumination, clothing rotation and wrinkling. To evaluate the proposed prototype, we collect two challenging databases including clothes without any pattern, or with multiple colors and different patterns under different conditions of lighting and rotation. Results reported here demonstrate the robustness and effectiveness of the proposed clothing matching system.

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282

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Methodology Used:

The computer vision-based clothes matching prototype for blind persons integrates different sensors (i.e. a camera, a microphone, and audio output devices which can be an earphone, blue tooth, or speakers). A camera is used to capture images of clothes. A wearable computer (can be a PDA or a smart phone) is used to capture and analyze data. The detection and matching results are described to the blind user by verbal display with minimal distraction of the user's hearing sense. The user can control the system by speech via microphones. The information is processed by the computer.

Disadvantages:

- Camera is mandatory to work.

Title: GP-BPR: Personalized Compatibility Modeling for Clothing Matching

Author: Xuemeng Song, Xianjing Han, Yunkai Li, Jingyuan Chen

Abstract:

Owing to the recent advances in the multimedia processing domain and the publicly available large-scale real-world data provided by online fashion communities, like the IQON and Chictopia, researchers are enabled to investigate the automatic clothing matching solutions. In a sense, existing methods mainly focus on modeling the general item-item compatibility from the aesthetic perspective, but fail to incorporate the user factor. In fact, aesthetics can be highly subjective, as different people may hold different clothing preferences. In light of this, in this work, we attempt to tackle the problem of personalized compatibility modeling from not only the general aesthetics but also the personal preference perspectives. In particular, we present a personalized compatibility modeling scheme GP-BPR, comprising of two essential components: general compatibility modeling and personal preference modeling, which characterize the item-item and user-item interactions, respectively. In particular, due to the concern that both the modalities (e.g., the image and context description) of fashion items can deliver important cues regarding user personal preference, we present a comprehensive personal preference modeling method. Moreover, for evaluation, we create a large-scale dataset, IQON3000, from the online fashion community IQON. Extensive experiment results on IQON3000 verify the effectiveness of the proposed scheme. As a byproduct, we have released the dataset, codes, and involved parameters to benefit other researchers.

Methodology Used:

Personal Preference Modeling is to resort to the matrix factorization framework, which has shown great success in personalized recommendation.

Disadvantages:

- Issues with time complexity.
- Difficult in processing.

Title: Machine learning approach for matching colours on outfits

Author: DiJin; Kunzeng Wang; GeZhang; PengfeiJiao; Dongxiao He

Abstract:

Nowadays, modern fashion has many tools to organise the style for their project. The global fashion industry tries to solve all the related problems by finding the perfect way of expressing ideas by using modern technology such as graphical design tools, sketching. However, some of these tools are not satisfied to deliver some unique ideas. This document will present the image segmentation techniques using convolutional neural network solutions, also will describe how this model will be trained on the particular datasets which are outfit collection. Computer vision algorithm to apply all the changes to original image using modern standards

Methodology Used:

Collection of the data from the social media sources

Computer vision algorithm for recolouring outfits of the social media resources

Neural network for outfit extraction

Web application with all the feature

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283

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Disadvantages:

- Algorithms are having time complexity.
- Multi layered network is complex.

Title: Cloth Matching and Color Selection using Intelligent Robotic System

Author: Sreema E.R, Jisna Davis, Jimna Rose, Dr. Vince Paul

Abstract:

This will help the people to select the apparel based on color. The robot automatically recognizes cloths color proposed. The image captured by the camera and gets processed to identify the color of the cloth. Recognized color is matched by intelligent system based on the decision. The system will pick the specific cloth based on recognized color by using robotic technology. The recognized colored cloth will be placed by the robot to the customer. The aim of this system is to build a robot, which is capable of detecting colored cloths. It has a robotic arm, which, after detection of color, picks up the cloth and then place it at a predetermined place as required by the customer. In this system contains a camera along with the image processing software does the job of color detection. We have used several servomotors for rotating the arms of the robot. The arms can move horizontally from its base and vertically up and down. The gripper is capable of moving quite far for proper gripping of objects. The overall improvement in the efficiency of the production process can be significant by using this machine. We matured a camera-based model to notice the clothing colors. The system integrates a camera &computer. The camera captures the image of cloth given by the customer. The image will send to computer .The computer identify the color of cloth by analyzing image captured. The camera captures the image of clothes from rack, having different colors and matches the clothes as per needed color and then robotic arm pick up that colored cloth from the rack. Although many methods have been developed for texture matching and color detection in the computer vision and image processing research, currently there is no device that can effectively supply matching choices for people. In this system, the clothes color is detected by color detection algorithm using openCV library and matching the clothes by contrast color given by the designer. Based on color recognition detecting color of cloths, then Arduino Uno controls the servo motor of robotic arm to pick up the cloth and then place it

Methodology Used:

In this system, the clothes color is detected by color detection algorithm using open CV library and matching the clothes by contrast color given by the designer. The camera captures the image of cloth and matches the cloth as per information given in the C++ code. Computer track the location of the cloth and the pick and place arm picks the cloth as per the instruction given by Arduino Uno.

Disadvantages:

- Arduino board needed.

III. PROPOSED SYSTEM

- To minimize the time consumption.
- To has 24*7 access to the online shopping.
- Has eliminated most of the flaws in the existing cloth recommendation system applications
- Developing a user-friendly web-based system for users.
- Recognizing outfit suggestions accurately from input images
- Providing good suggestions and online shopping in one platform for the detected suggestions.
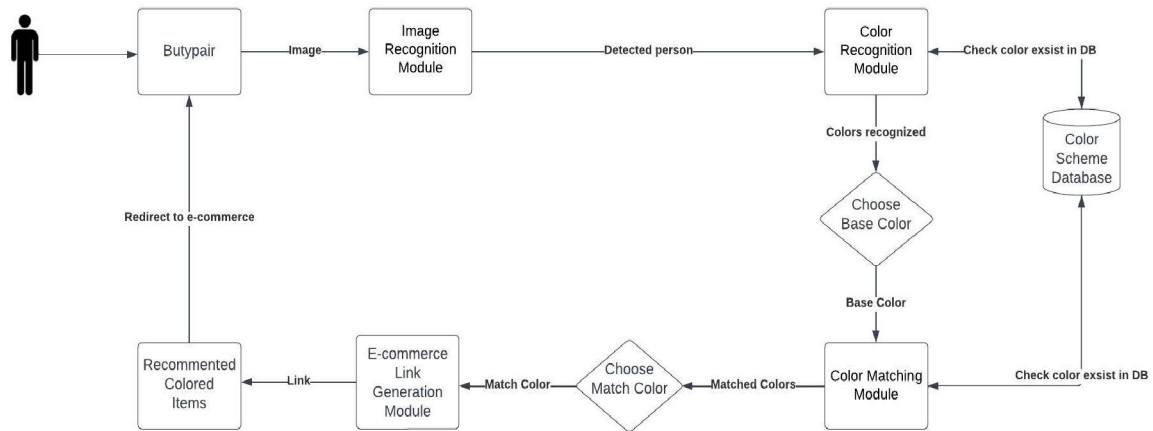
IV. DESIGN

Fig 4.1: System architecture

It makes use of the Python package Image AI's robust picture recognition capabilities to correctly identify the objects in the uploaded image. It enables users to easily obtain findings in a by processing photos rapidly and effectively. It possesses a broad range of object identification capabilities, guaranteeing that customers receive accurate and thorough object recognition results. It recognizes the most prevalent colors in the uploaded image using the color API. It can identify a wide variety of colors, guaranteeing users obtain precise and thorough color identification results. It efficiently processes photos, enabling users to easily get results instantly. Matches the base color of the selected item with the colors present in popular color schemes such as complementary, analogous, and triadic. Can suggest color schemes that work well with the base color, making it easy for users to select complementary colors. Accurately matches colors and provides comprehensive results, making it easy for users to make informed decisions. Uses the selected item type and the color information to generate direct links to e-commerce websites where users can purchase the recommended items. Provides users with a range of options from different e-commerce websites, making it easy for them to find the items they need. Makes the online shopping process easier and more convenient, as users can find and purchase items quickly and easily.
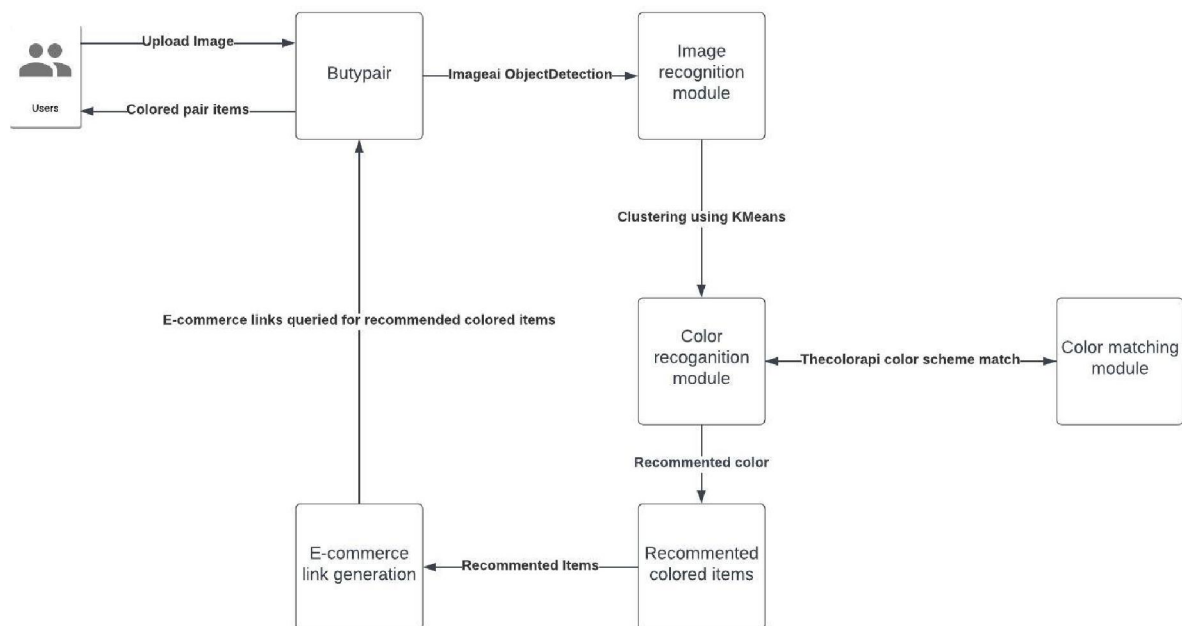

Fig 4.2 Data Flow Diagram

V. CONCLUSION

It offers an analysis of numerous systems, their methods, algorithms, and formerly used technology, as well as their results. It provides a contrast between them, describing the effectiveness and accuracy of the techniques being used as well as the advantages and disadvantages of each. The research also makes a recommendation for a system that integrates the various approaches and includes features for apparel matching and online purchase guidance after a comprehensive analysis. It enables us to better understand the essential elements of the system we will be developing in the future using both our own algorithm and some of the available solutions.

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