Smart Trail Room Using Webpage

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OBJECTIVE

The main objective of the project is to reduce the time to build design of the dress mode using virtual mode.So, we can provide virtual mode with the files of html and XML files for the data analysis..

ABSTRACT

With the vast majority of the things moving to virtual mode and contenders attempting to advance beyond one, other material ventures endured a shot during these difficult stretches. With a Virtual pre-liminary Room, Every little material shops can help their clients to an internet based preliminary Room without fearing getting the sickness. The upside of utilizing this strategy would be the decrease of time and exertion spent in evaluating the garments genuinely.

PROBLEM STATEMENT

We are worrying with the persons dress material stretching it will take more time to make measurements. So, avoid this incidents with the customers using virtual trails with fitting.

INTRODUCTION

Stores for the most part have huge and different choices for garments. It is genuinely outlandish for a client to evaluate every one of those garments without going through hours on it. Additionally, in a physical store, to take a stab at some chose garments a typical practice is to line up and alternate to utilize the fitting rooms. Because of the predetermined number of in-store fitting rooms, customers normally need to invest the majority of their shopping energy on lining up (which will be significantly more during top

hours). Drawn out holding up time will influence the client's understanding, which prompts lower consumer loyalty.

LITERATURE SURVEY

1. Virtual Dressing Room Application

Aladdin Masri; Muhannad Al-Jabi

Abstract—Trying clothes in clothing stores is usually a time-consuming activity. Besides, it might not even be possible to try-on clothes in such cases as online shopping. Our motivation here is to increase the time efficiency and improve the accessibility of clothes try on by creating a virtual dressing room environment. In this work, we introduce a virtual dressing room application using Microsoft Kinect sensor. Our proposed approach is mainly based on extraction of the user from the video stream, alignment of models and skin color detection. We use the modules for locations of the joints for positioning, scaling and rotation in order to align the 2D cloth models with the user. Then, we apply skin color detection on video to handle the unwanted occlusions of the user and the model. Finally, the model is superimposed on the user in real time. The problem is simply the alignment of the user and the cloth models with accurate position, scale, rotation and ordering. First, detection of the user and the body parts is one of the main steps of the problem. In literature, several approaches are proposed for body part detection, skeletal tracking and posture estimation, and superimposing it onto a virtual environment in the user interface. The project is implemented in C# programming environment for real time, Kinect hacking application. Kinect driver's middleware are used for various fundamental functions and for the tracking process in combination with Microsoft Kinect.

2. A virtual trail room using python

1Vipin Paul, 2 Sanju Abel J., 3 Sudharsan S., 4 Praveen M.

Abstract: This paper presents a Virtual Trial Room software using Augmented Reality which allows the user to wear clothesvirtually bysuper imposing 3d clothes over the user. The user pose and depth is tracked using the Kinect sensor and virtual clothes are imposed over the tracked user. The clothing moves and folds accordingly to the movement of the user. The presented software use 3D object files instead of 2D images.

3. V-ROOM: Virtual meeting system trial

Phil Thompson; Anne James; Antonios Nanos

ABSTRACT

Virtual meeting environments are providing a viable alternative for conventional meetings bringing benefits of reduced costs and better use of time by removing the need for attendees to travel to national, international or

global locations in order to attend meetings. This paper builds on the work of previous papers which discussed the functional and technical requirements for a virtual meeting system, reporting on a user trial and evaluating the prototype system. The trial was performed by students as users deploying the prototype for collaboration in group work focussed on the design of a computer system as part of the final year of their undergraduate study. The users were asked to comment on the features of the prototype as well as offering suggestions on useful features that should be included in a virtual meeting system. A summary of their comments and suggestions and the results of the evaluation are included in the paper. Security aspects of virtual meeting systems are also considered in some detail.

4. Virtual Fashion Mirror

Apoorva Raghunandan, Mohana, Pakala Raghav and H. V. Ravish Aradhya

Abstract— Everyone loves to go shopping for clothes, except for the hassle that is the trial room experience. The Augmented Reality Fashion Display attempts to streamline the shopping process by removing all the troubles of trying on multiple clothes at a small cramped trail room. The product is capable of identifying a person, displaying clothes and accessories like watches on them in real time. This reduces the time spent waiting in queues and the cumbersomeness of trying on clothes that may have been worn by someone before you in the very same trial room. The applications for this technology can expand well beyond the scope of fashion stores and into the realm of fashion design itself enabling fashion designers to create models of their prototype designs and early concept art and testit out virtually before spending materials and resources to physically manifest these designs.

EXISTING METHODS

Recognition of the clothing image helps major in fashion for every day that online buyers who can take pictures to search for anything, returning search results without typing is the main task of recognizing the image which functions as a search engine. The problem of defining the picture of clothing can potentially be formulated as a question of classification. Fundamental approaches to recognizing the image of clothing can be grouped into different algorithms for machine learning. Earlier work mostly relied on decision tree classification, logistic regression, random forest and linear SVM that does not achieve higher performance, still, there is room for improvement.

- conversions

- feature analysis

DISADVANTAGES

1. More classification loss.

2. Unable to predict correct label in most cases.

3. Less accuracy and performance factors.

PROPOSED METHOD

The application is developed with Python Flask Web Application Interface. The user can view clothes and other wearables on the website and choose to buy or try on the attire. If the user wants to try on the wearables online then they must click on the 'Quick View' button. This will run the Tryon script. Through OpenCV the video is captured via the device camera and the attire image is super imposed on the user's body in real time. If the user likes the attire then they can choose to buy it or keep looking at more wearables on the website just like an offline store.

- ► Pre-process
- ► Cascade
- ► html

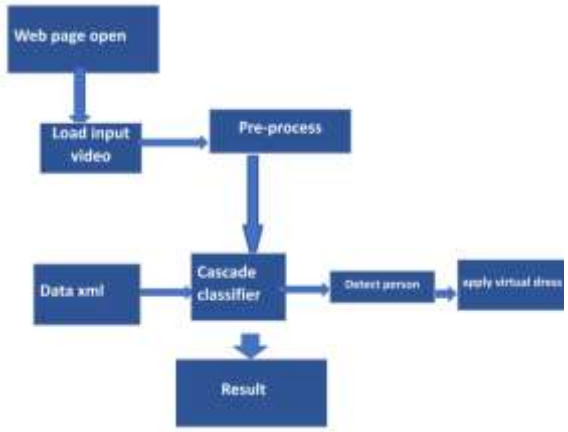
ADVANTAGES

- ► High speed
- ► Stronger
- ► More accuracy
- ► Less time taken

APPLICATIONS

- ► web design.
- ► Product sale

BLOCK DIAGRAM



IMPLEMENTATION

Video streaming:

Video streaming technology is one way to deliver video over the Internet. Using

streaming technologies, the delivery of audio and video over the Internet can reach many millions of customer using their personal computers, PDAs, mobile smartphones or other streaming devices. The reasons for video streaming technology growth are:

- broadband networks are being deployed
- video and audio compression techniques are more efficient
- quality and variety of audio and video services over internet are increasing

There are two major ways for the transmission of video/audio information over the Internet:

Download mode. The content file is completely downloaded and then played. This mode requires long downloading time for the whole content file and requires hard disk space.

Streaming mode. The content file is not required to be downloaded completely and it is playing while parts of the content are being received and decoded.

Pre-processing:

Pre-processing is a common name for operations with images at the lowest level of abstraction -- both input and output are intensity images.o The aim of pre-processing is an improvement of the image data that suppresses unwanted distortions or enhances some image features important for further processing

HAARCASCADE FEATURES

Object Detection using Haar feature-based cascade classifiers is an effective object detection method proposed by Paul Viola and Michael Jones in their paper, "Rapid Object Detection using a Boosted Cascade of Simple Features" in 2001. It is a machine learning based approach where a cascade function is trained from a lot of positive and negative images. It is then used to detect objects in other images.

Here we will work with face detection. Initially, the algorithm needs a lot of positive images (images of faces) and negative images (images without faces) to train the classifier. Then we need to extract features from it. For this, Haar features shown in the below image are used. They are just like our convolutional kernel. Each feature is a single value obtained by subtracting sum of pixels under the white rectangle from sum of pixels under the black

rectangle.

image

Now, all possible sizes and locations of each kernel are used to calculate lots of features. (Just imagine how much computation it needs? Even a 24x24 window results over 160000 features). For each feature calculation, we need to find the sum of the pixels under white and black rectangles. To solve this, they introduced the integral image. However large your image, it reduces the calculations for a given pixel to an operation involving just four pixels. Nice, isn't it? It makes things super-fast.

But among all these features we calculated, most of them are irrelevant. For example, consider the image below. The top row shows two good features. The first feature selected seems to focus on the property that the region of the eyes is often darker than the region of the nose and cheeks. The second feature selected relies on the property that the eyes are darker than the bridge of the nose. But the same windows applied to cheeks or any other place is irrelevant. So how do we select the best features out of 160000+ features? It is achieved by Adaboost. Image For this, we apply each and every feature on all the training images. For each feature, it finds the best threshold which will classify the faces to positive and negative. Obviously, there will be errors or misclassifications. We select the features with minimum error rate, which means they are the features that most accurately classify the face and non-face images. (The process is not as simple as this. Each image is given an equal weight in the beginning. After each classification, weights of misclassified images are increased. Then the same process is done. New error rates are calculated. Also new weights. The process is Where Ci is the number of feature vectors of ith reference face that have maximusimilarity to a feature vector of test face, Ni is the number of feature vectors of it reference image. If ith gallery image used also as the test image FSFi will be equal to unity Although for the corresponding database %100 recognition result is achieved (Figu), it is seen that for larger databases counting only the maximum similar feature vectors of gallery faces as in becomes useless. Instead, Equation can be generalized for large databases by counting the number of feature vectors of each gallery face which is in the first %10 of similarity rank,

l=1,…, number of reference faces

Figure Test faces vs. matching face from gallery by comparing, a) only similarities, b)

only number of maximum similar feature vectors, c) both similarities and number of maximum similar feature vectors.

Applications of neural networks:

Neural Networks in Practice:

Given this description of neural networks and how they work, what real world applications are they suited for? Neural networks have broad applicability to real world business problems. In fact, they have already been successfully applied in many industries.

Since neural networks are best at identifying patterns or trends in data, they are well suited for prediction or forecasting needs including:

Sales forecasting

Industrial process control

Customer research

Data validation

Risk management

Target marketing

But to give you some more specific examples; ANN are also used in the following specific paradigms: recognition of speakers in communications; diagnosis of hepatitis; recovery of telecommunications from faulty software; interpretation of multimeaning Chinese words; undersea mine detection; texture analysis; three-dimensional object recognition; hand-written word recognition; and facial recognition.

Neural networks in medicine:

Artificial Neural Networks (ANN) are currently a 'hot' research area in medicine and it is believed that they will receive extensive application to biomedical systems in the next few years. At the moment, the research is mostly on modeling parts of the human body and recognizing diseases from various scans (e.g. cardiograms, CAT scans, ultrasonic scans, etc.).Neural networks are ideal in recognizing diseases using scans since there is no need to provide a specific algorithm on how to identify the disease. Neural networks learn by example so the details of how to recognize the disease are not needed. What is needed is a set of examples that are representative of all the variations of the disease. The quantity of examples is not as important as the 'quantity'. The examples need to be selected very carefully if the system is to perform reliably and efficiently. Modeling and Diagnosing the Cardiovascular System:

Neural Networks are used experimentally to model the human cardiovascular system.

Diagnosis can be achieved by building a model of the cardiovascular system of an individual and comparing it with the real time physiological measurements taken from the patient. If this routine is carried out regularly, potential harmful medical conditions can be detected at an early stage and thus make the process of combating the disease much easier.A model of an individual's cardiovascular system must mimic the relationship among physiological variables (i.e., heart rate, systolic and diastolic blood pressures, and breathing rate) at different physical activity levels. If a model is adapted to an individual, then it becomes a model of the physical condition of that individual. The simulator will have to be able to adapt to the features of any individual without the supervision of an expert.

CONCLUSION

In conclusion, a Virtual Trial Room was implemented successfully in Python OpenCV. This application can help users save time of going to the shops to try on attires which they can do online as well. The application is able to track user's movement and angles with respect to screen to accurately super impose the attire onto the user without having the user to align to the device screen hence improving user experience. The application can be used by online retailers and vendors to sell their wearable products which will surely attract more customers. Last but not the least there is a scope for improvement in the accuracy of the application specially when it comes to clothing which can be achieved by taking multiple snaps of the cloth in different angles and then aligning the particular angle of the cloth with the particular angle in which the user is standing tilted. Also having the clothes in multiple sizes like S, M and L will further improve the accuracy of the application.

FUTURE SCOPE

The application is currently designed to allow users to try on virtual garments and we can enhance this application by adding extra features like wishlist dress price, order dress bill generation. We can build another application just for the owner or shopkeeper. The owner or shopkeeper will receive dailyinformation from this programme on how many individuals tried on items, how many bought them, etc.

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