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Virtualtrial Room using Face Detection: Android Application

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Abstract:- Dynamic-based virtual clothes animation is an great application which is setting it's footsteps nowadays. Many types of choices are being available so that users get a better choice of selection and also get better deals. We have to develop a shopping application where in user will credit his account with some amount so that he can check his balance during his purchase. In case of purchasing of clothes user will be given an option of trying the cloth online in a virtual trial room in the android application. User will also be given the option of adding money to the wallet. This makes them easier to make choices.

Keywords:- *Android application, virtual trial room, face detection, shopping.*

I. INTRODUCTION

In a shopping mall, there are few numbers of trail room is available to check how the cloth will render on customers body. Whenever there is a festival or holidays huge amount of crowd is there in shopping mall and there is long queue in front of trial room that's make customers irritating and boring. Also for safety purpose, there are also limitations on how many number of clothes should be engaged at one occasion of trial. As a result of this it increases generally shopping time. As per shopkeepers point of view a big number of robberies happens as niggling in clothes while in trial room. Also shopkeepers are unable to show all the clothes to the customers.

To overcome these problems, it is better to shop online. A lot of customers have encountered problems while shopping online as they have no clue how the particular cloth will suit on them while purchasing the item. Due to this problem various customers avoid online shopping.

II. BACKGROUND STUDY

It's not a new now to visualize virtual cloth , many application like Amazon,flipkart uses virtual cloth rendering as it is exposed more than more of the users nowadays will prefer to buy clothes online instead of going to mall.so it increase the growth of this virtual cloth[2]. As whenever when user went to online shopping website the rendering of the cloth which he/she liked the most is done on static image. After that many application is developed which render the cloth on your static image which we already taken from camera of phone but in this users has to a line up himself according to cloth image. This way of trial cloth is not more useful to the user as he not realise the clothing better nowadays there are more number of developments is done in the trial cloth. This makes our inspiration to think of virtual trial room application. This application has two parts 1. Orientation of cloth according to user 2. Practicality of cloth.

A. Orientation of Clothing

The previous various application of virtual trial room where most of used static image of cloth was rendering on the display and user has to change the position according to the static image. There are various types of methods to check correct poisoning and orientation of cloth to check the user. It was probable hand held markers by the user. We would receive, combining video tracking and image identification techniques to develop some 3D information from RGB images. The markers were used for positioning, adjustment and scaling

B. Realism of Clothing

To make a virtual trail room main motive is to give accurate visual experience to user to check various clothes as per his choice just rendering it without actual change of cloth. So the main part of virtual trail room is rendering of cloth on customer. As we know that there are various types of clothes available, so in previous application where there are static image customers will not identified different feel material.

III. EXISTING TECHNOLOGIES

A. *Using Microsoft's kinect and Asus Xtion devices*

Due to home based shopping there are different commercial applications are available. The current method which is useful and popular is using Microsoft's kinect and Asus Xtion devices. In this method using a kinect scanner a user will stands in front of screen and it detects human body and creates frames according to that. As structure is created a 3 D model is created.

The prototype is revolved, also can use colour map to check the fit. These devices are very costly. As these devices are highly hardware dependants and required more cost for damage caused

IV. PROPOSED WORK

A. Face Detection

Face detection algorithm is used finding real humanoid faces in graphical media. A appearance that is identified is informed with an connected size and coordination. When face is spotted, it can be identified for the eyes and noise

In this paper , Android Studio 3.0 is used in which there is an in build function, Camera. In this function, FaceDetectionListerner is the method used for detection of the Face. This method is used in the Camera Activity where the Camera opens and detects the face of the user. When the face is detected of the user, a green rectangular canvas is drawn on the face for indication of the Face Detection.

B. Cloth Rendering

Cloth Rendering is the process in which the cloth selected by the user is imposed over the Human Body. After face detection a green color canvas is drawn over the detected face calculating its coordinates using User defined Algorithm. After this the cloth is rendered on the body.

Fig 1:- Result

V. PRODUCT DESCRIPTION

➢ *This system is divided into following three modules.*

A. GUI

First page of the GUI contains the Login Activity. If we are an existing user we simply have to log into the account using the registered ID and Password. In case of a new user, Registration activity is performed. Once we log into the account, home page is presented and we can select our gender. It contains all the items available in that particular category. We can choose the cloth as per our choice and select the camera icon next to it. Wallet is another concept in the app from where we can pay for the selected clothes which are added in the cart by the user.

B. Face Detection and Cloth Rendering

Once the cloth is selected by the user, camera activity is initiated and we can point at the target object. By using the Face Detection algorithm, face of the target object is detected. As soon as the face is detected, by using the user defined algorithm the cloth is rendered over the body.

C. Wallet

Virtual wallet is the concept where we can add money into our account's wallet from where we can pay for the selected cloth. As soon as we make the payment, that particular amount is deducted from the total balance of the wallet.

VI. CONCLUSION AND FUTURE SCOPE

We conclude that the proposed system will ease the efforts of the individual to reach out the stores physically by providing the functionality of trying the clothes while shopping online. Future work, by considering the challenges faced during the development of this Application will consist of researching the areas where intelligent agents can usefully be applied to meet the situation in more detail which can also improve the accuracy of the developed system. One of the main area of focus can be identifying the actual size of human body and then comparing the appearance of human based on the size of cloth. The another area of work can be concentrating on the lower body detection and rendering of clothes on the lower body.

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