

SMART TRAIL ROOM

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ABSTRACT:

Augmented Reality is immediate an back Handed perspective on genuine components that are increased on PC programming. It Mainly adds the product data and refines the clients view To real climate. The point of this work is to create Virtual Trial Room application utilizing AR which permits a client to take a stab at Different shades of garments. The vast majority of the early applications Attempted to do this by overlying a static picture of dress over A picture of the client caught by a camera or any advanced camera. However, similar to some other thought, the virtual preliminary room required from Basic answers for further developed arrangements which were more Synchronizing with genuine reality. This is the inspiration driving Any AR application. This application is executed utilizing OpenCV and web camera to catch Image, Once the picture is caught, It distinguishes the foundation and object of human and changes the Color of the dresses and chose the brand as indicated by the Users' decision.

This application use OpenCV for recognizing the User and to change the tone and

brand as per client's decision. It is a superb stage essentially intended to for accomplishing Computational effectiveness and furthermore to give accentuation for ongoing Applications. OpenCV contains different capacities which together Help in recognizing the shapes of various items.

Keywords : *Trail room, OpenCV, AR.*

1. INTRODUCTION

Virtual changing areas for the design business and advanced diversion applications target making a picture Or then again a video of a client in which the person wears unexpected articles of clothing in comparison to in reality. Such pictures can be shown, for instance, in an enchantment reflect shopping application or in games and films. Current arrangements include The blunder inclined errand of body present following. We recommend a methodology that permits clients who are caught by a bunch of cameras to be practically dressed Recently recorded articles of clothing in 3D. By utilizing picture based calculations, Innovation is improving at a quick speed, as numerous things are conceivable Today that were impractical fifteen years prior.

These days, a portion of the Incomprehensible things are meeting people's high expectations as Augmented Reality (AR) and Virtual Reality (VR). Virtual path rooms are not The special case of this developmental cycle. Virtual Trail Room, likewise often Alluded to as virtual changing area, virtual changing room or virtual take a stab At room, is the on the web or in-store likeness a genuine retailer changing Area. Essentially, it empowers purchasers to take a stab at garments to check Distinctive material highlights like size, fit or style, however basically as Opposed to actually. The principle objective of a STR is giving the client how a Thing of garments will look on him/her without really giving it a shot.

2. OBJECTIVES

Increased Reality is immediate and circuitous perspective on genuine world components that are increased on PC programming. Increased Reality thinks about genuine and virtual components. It fundamentally adds the product data and refines the clients view to the real climate. In most increased reality supplications, a client will see both manufactured and common light. This is done by overlaying projected pictures that permit the pictures what's more, intelligent virtual items to a layer on top of the client's perspective on the genuine climate. Increased Reality gadgets are frequently independent, they are totally

untethered and do not need a link or work station to work. OpenCV is a contracted type of Open Source Computer Vision Library which upholds python, C++, java interfaces. It is essentially intended to for accomplishing computational effectiveness and furthermore to give accentuation for continuous applications. This bundle has an additional benefit that is multi center handling at the point when the code is written in C or C++. Utilizing expanded reality innovation decreases the hour of the clients and furthermore the bedlam made while buying the materials by practically attempting the fabrics.

3. EXISTING SYSTEM

The virtual dressing room is classified into two types: they are in-store clothing and virtual clothing . In this first type customer can try the cloth physically at the shop but it is not safe because of the hidden camera ,and the second type is based on kinect sensor it is a depth camera based on the skeleton shape it will align the cloth.

Drawbacks:

- ❖ Sensitive to external infrared source (sunlight).
- ❖ Cannot detect crystalline or highly reflective objects.
- ❖ Detection and tracking of one or two people moving in the field of view

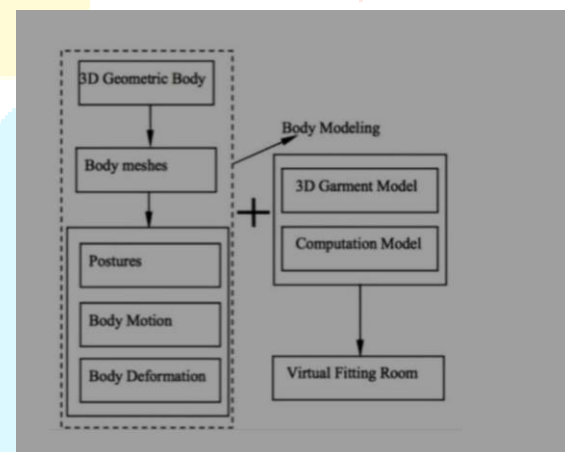
- ❖ of the sensor, using the tracking of parts of the skeleton
- ❖ There is no privacy
- ❖ It can be easily hacked

4. PROPOSED SYSTEM

In our Application we can use the normal mobile camera or webcam to use to capture the photo or image of the particular person. The full body gesture is calculated by the OpenCV and the virtual cloth is fitted by the augmented reality, because the augmented reality is used to combine the real world into reel world. Every one of the past variations can be used either for on the web or in-store based virtual path rooms yet this variation is an endeavor to arrive at a virtual path room experience utilizing cell phones. The client snaps a picture of herself / himself and afterward changes the material agreeing his/her body shape.

Advantages: Coronavirus has changed the way individuals overall act every day, and no place is this felt more definitely than in blocks and-mortar retail. For quite a long time, retailers have been attempting different client commitment methodologies to acquire individuals and let them peruse tests and wait however much they might want. However, the pandemic has made virtually every one of those encounters dangerous and bothersome. Individual wellbeing wins out of the craving to take a stab at garments, gems, cosmetics,

and other wearable items. A virtual changing area permits a client to transfer a video of themselves and afterward delivers an Augmented Reality picture of the individual demonstrating their point of view things. Certain areas of the retail business have effectively been accepting Augmented Reality changing areas, most strikingly the beauty care products and adornments ventures. However, a lot more retail areas are receiving virtual changing areas, and the pandemic has speed up the cycle significantly.



Technology used: This innovation is an assembly of two methods: utilizing genuine models and spruce up life sized models. Rather than shooting articles of clothing on individuals like client's shape and size, pictures are made utilizing shape-moving, automated life sized models. The PC controlled life sized models rapidly transform through a progression of body shapes and sizes while articles of clothing – in each extraordinary size – are captured and the picture put away in a data set along with the

estimations that produce the picture. Since the life sized models are PC controlled, the entire interaction is moderately quick.

In the last form, the life sized model is altered out from the photography and supplanted with a virtual symbol, which can be changed to mirror the brand in question. When a client inputs their estimations into the frameworks, the right arrangement of pictures – those pictures where the life sized model has similar estimations as the customer – is recovered from the data set and appeared to the customer. Most expanded reality virtual changing area arrangements work by superimposing the 3D model or image of a piece of clothing or extra inside the live video feed of the client.

The superimposed 3D model or image of the piece of clothing or embellishment will at that point track to developments of the client so it shows up as though the client is wearing the virtual thing in the video see. Enlarged reality virtual changing areas ordinarily require a work area webcam, a cell phone camera or 3D camera like Kinect to work. Another illustration of increased reality used for virtual changing areas incorporates utilization of a 3D camera to control regions of a piece of clothing or frill inside a presentation.

Open CV: It is a subdiscipline of computer vision. Gestures can originate from any bodily motion or state but commonly originate from the face or hand. Current

focuses in the field include emotion recognition from face and hand gesture recognition. Users can use simple gestures to control or interact with devices without physically touching them. Many approaches have been made using cameras and computer vision algorithms to interpret sign language. However, the identification and recognition of posture, gait, proxemics, and human behaviors is also the subject of gesture recognition techniques.[2] Gesture recognition can be seen as a way for computers to begin to understand human body language, thus building a richer bridge between machines and humans than primitive text user interfaces or even GUIs (graphical user interfaces), which still limit the majority of input to keyboard and mouse and interact naturally without any mechanical devices. Using the concept of gesture recognition, it is possible to point a finger at this point will move accordingly. This could make conventional input on devices such and even redundant

5. MODULE DESCRIPTION

- 1). Human Pose Estimation
- 2). Virtual Clothes
- 3). Fitting Clothes

5.1. HUMAN POSE ESTIMATION

Pose Estimation algorithm contains three parts: information procurement, present

assessment and clothing trail. The information securing is assembled by utilizing a nonexclusive web camera. The camera first records the foundation without the moving of the client. At that point the client is permitted to be in the field of perspective on the web camera. Consequently utilizing an edge distinction, foundation enlistment and deduction philosophy and the recognizable proof of the great arch focuses the human body can be fragmented out from the video. The posture assessment is determined by the recognizable proof of the head, end of feet and hands, neck and elbows. At long last the material path is accomplished superimposing the fabric on a human layout model (T act like the underlying stance) with some attire post preparing upgrades.

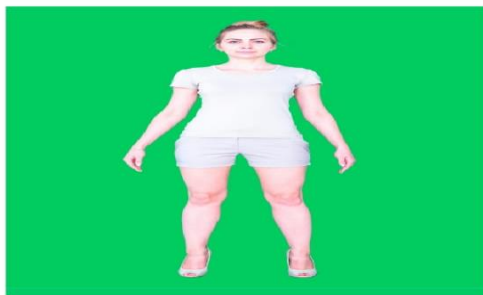


Fig.1.human pose estimation

5.2. VIRTUAL CLOTHES

The virtual clothing are image of the clothes that are stored in the application.

Customer can able to choose the cloth based on the customer preference.

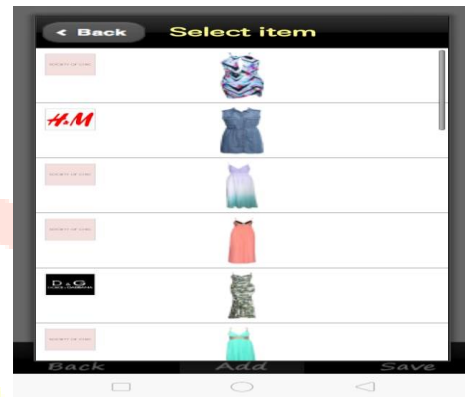


Fig.2.virtual clothes

5.3. FITTING CLOTHESs

On the pose Estimation technology the body point is calculated and fitting the clothes virtually based on the augmented reality.

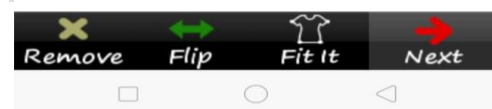
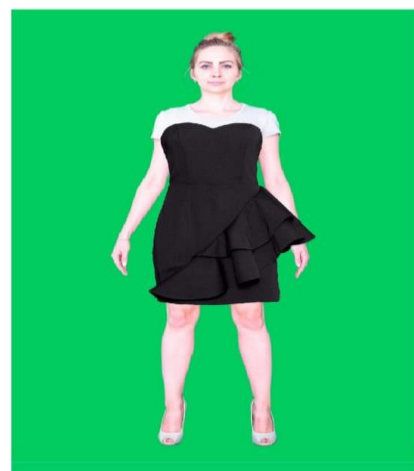


Fig.3.fitting clothes

6. CONCLUSION

A mixed reality based virtual clothes try on system described Series of novel techniques

for virtual try on was proposed. The major contributions automatically customized an invisible avatar based on users body size. A user study Was also conducted to evaluate effectiveness .The result showed that it can help in customers purchased Decision .It can be concluded that AR is far behind than VR in reality in maturity.May be it take too much time to applied in regular life because if the cost Accuracy is required in success of AR that is quite difficult But still AR has a great future as it promises better interaction with real and VR world which is previously Unimaginable To add information and meaning to a real object or place .Unlike VR,AR does not create a simulation of Reality ,but its augments the reality or mix the virtual with real .AR will further blur the line between what's real and what's the computer generated by enhancing what we See .What we hear ,feel and smell The goal is to make the system that will be so efficient that the user will not be able to tell the difference Between real world and VR world It has possibilities beyond our imagination and perception .

7. FUTURE ENHANCEMENT:

Integrate STR with payment methods to enable the fast integration of online payment gateways with the STR or through the Usage of QR codes. Share virtual shopping experience The fact of sharing with friends or other people at the same time the STR experience Advanced

shading modules Until now, there are no studies that analyses the shade in clothes in order to make STR more realistic solutions. Analyse STR not just from the user perspective but the provider also because there is also a pre-process task involved to include new clothes of different brands.

8. REFERENCES

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