ISSN No:-2456-2165

Virtual Clothing Try-On

[1] V. Jyothi (Assistant Professor)
[2] A. Abilash ; [3] Saripalli Shelsi ; [4] G. Divij Reddy; [5] R. Sreenidhi Reddy
Department of CSE
Anurag Group of Institutuions

Abstract:- The global economy is expanding quickly in this age of technology and virtuality. Everything can be done with just a mouse click or phone swipe, from delivering meals to hiring handymen. The fashion and clothing sector, in which the majority of consumers purchase clothing online, is one of the main contributors. The drawback of this business model is that customers cannot digitally try on the clothing before making a purchase, as they could when shopping offline and using trial rooms. As a remedy to this issue, we suggest developing an application that seamlessly combines the 2D images of the customer with the targeted regions of clothing to produce a person image with the desired clothing and accessories. This virtual try-on clothing offers a multi-pose virtual try-on experience and contains ways to address the segmentation and warping issues of the current state-of-the-art models both qualitatively and quantitatively in performance.

I. INTRODUCTION

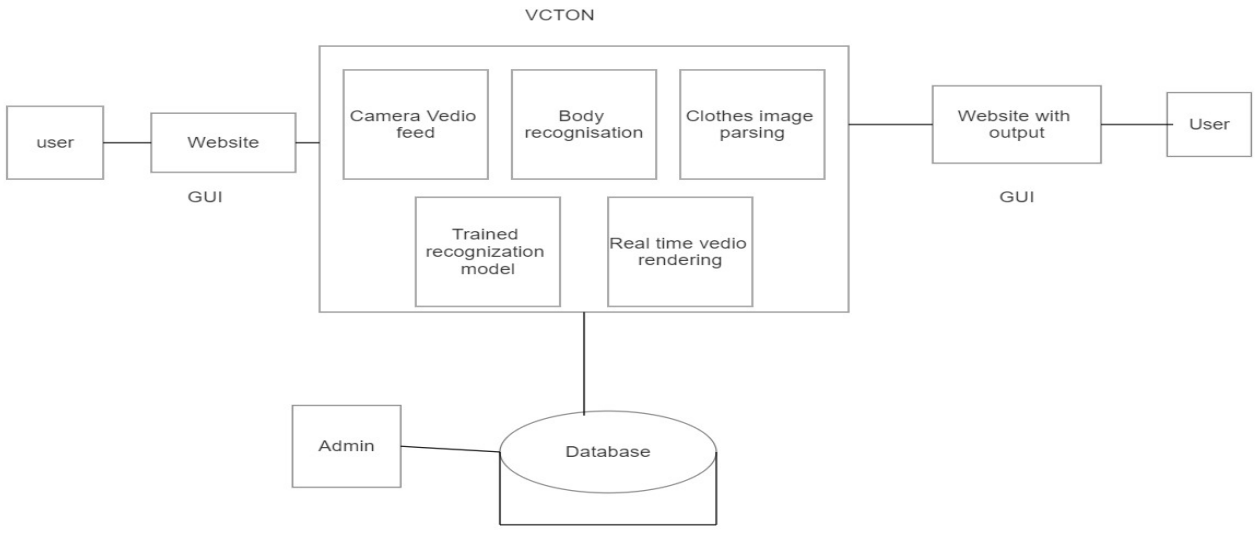
A technology that enables customers to virtually try on clothing is anticipated to enhance the purchasing experience as online shopping grows in popularity. Online shopping has significantly changed customers' purchasing behaviours. For their shopping requirements, people are increasingly turning to internet retailers. However, this change in consumer behaviour is creating a number of issues for both producers and retailers. Customers can digitally "try on" clothing and see how it fits them before making a purchase thanks to virtual try-on technology. This approach helps avoid problems with conventional e-commerce sales channels, such as fit problems and costly return shipping. You might be able to try on clothing using virtual try-on technology without having to ship anything or even leave your home.

II. EXISTING SYSTEM

For placing virtual clothing on a user's image, the current approach does not have a necessity for an exact position. When zoomed in, it incorrectly distinguishes between the user's torso and limbs and has neck synthesis. The proposed clothing 3D reconstruction and deformation method is restricted to simpler and tighter clothing. Existing systems, such as Cloth-VTON, use both 2D image-based and 3D model-based methods. 2D uses neural network methods to generate disclosed human parts, and 3D methods provide realistic deformation of clothing.

III. PROPOSED SYSTEM

Our platform is significantly superior in terms of effectiveness and accuracy. Because it gets around some of the shortcomings of the current approach, the final image is superior. This platform/tool uses methods including stance transformation and image segmentation to help with texture transfer, outfit matching, and apparel contouring. It is incredibly user-friendly and aids in avoiding difficulties with typical e-commerce sales channels, including fit problems, return expenses, and travel fees. Users of the platform we developed can browse the many products that are offered on the platform's website, add those products to their shopping carts, and virtually try them on.



(Fig.1 Proposed System Architecture)

ISSN No:-2456-2165

IV. EXPERIMENTAL TOOLS

- *Pandas:*

Pandas is an open-source library made primarily for working quickly and easily with relational or tagged data. It provides a variety of data structures and methods for working with time series and numerical data. The NumPy library is the foundation of this library. Pandas is speedy and offers users exceptional performance and productivity. data sets joining and merging. Data sets can be rotated and altered as necessary. There is time-series functionality available. Strong group by functionality that may be used to divide, apply, and combine data sets.

- *Python:*

The models utilized in the virtual try-on solution were built in Python. For Deep Learning jobs, it offers libraries and packages that are appropriate.

- *Flask Facial:*

An open-source web framework is Flask. This indicates that flask offers you the technologies, tools, and libraries required to build a web application. A web-based tool called Flask Facial finds faces in films by using Flask OpenCV and Face Recognition.

- *Body Recognition*

- *OpenCV:*

A free and open-source software library for computer vision and machine learning is called OpenCV (Open-Source Computer Vision Library).

- *Dlib, Haar Cascades Dataset:*

A facial detector with pre-trained models may be found in the Dlib dataset. The 68 coordinates (x, y) that map the facial locations on a person's face are estimated using this method. The pre-trained model and the iBUG300-W dataset were used to find these points. It is possible to find faces, profiles, eyes, smiles, and upper bodies using the Haar Cascades dataset. It uses an Object Detection Algorithm to find faces in still photos or live video.

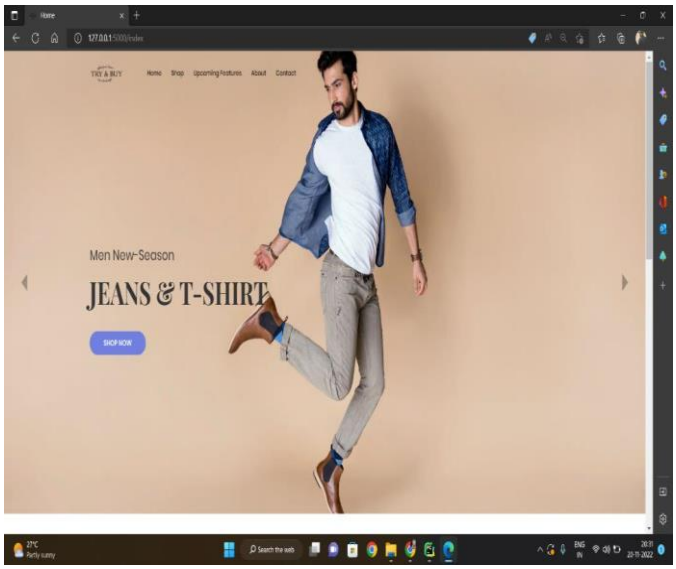
- *HTML & CSS:*

Hyper Text Markup Language (HTML) (Hyper Text Markup Language) On the internet, text documents can be formatted using HTML. A document written in a markup language can have its appearance and formatting described using CSS (Cascading Style Sheets), a style sheet language.

- *JavaScript:*

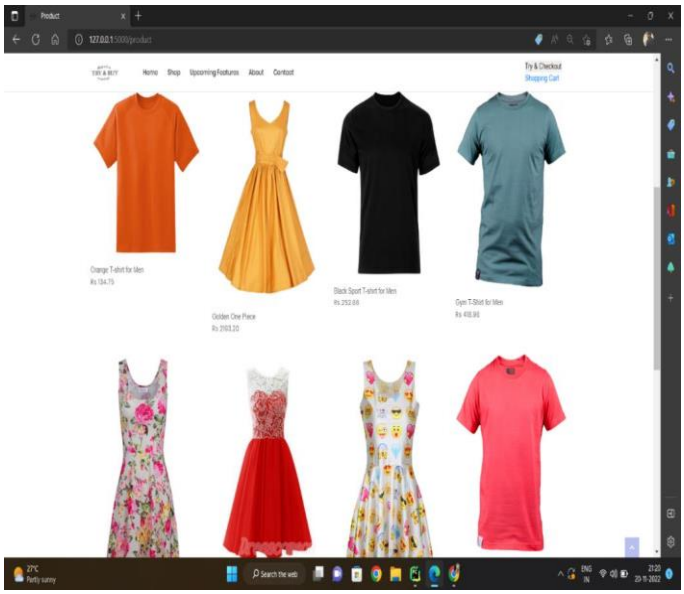
Computers can use Java Script (JS), a dynamic programming language. With client-side implementations, web browsers are where it is most frequently utilized. It is used to communicate asynchronously, interact with the user, manage the browser, and modify the displayed document's content. Pop-up windows that display various system notifications, such as "User registered successfully," "Product added to cart," and so forth, are made using Java Script.

V. OUTPUT



(Fig.2 Home Page)

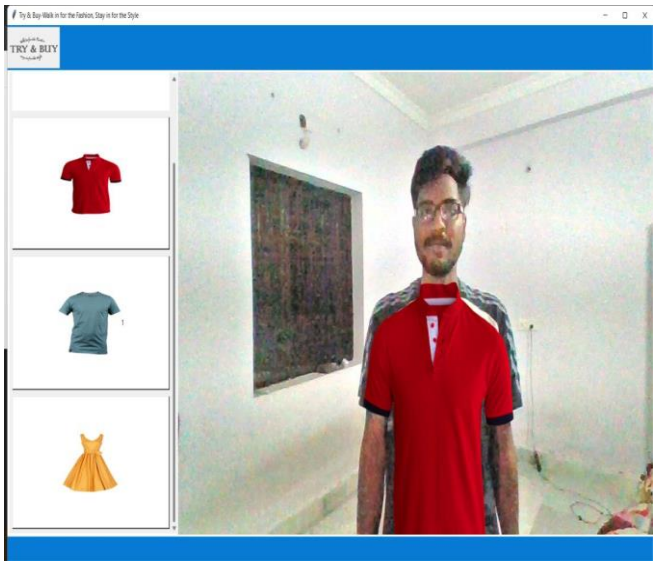
Home Page of the website where you can shop, see upcoming features and also about our website and about us.



(Fig.3 Shopping items)

In shop you can select the dress materials and add it to your cart, you can also select multiple items at once.

ISSN No:-2456-2165



(Fig.4 Opening Webcam)

After adding items to your cart you can select any particular item and check whether it suits you or not.

VI. CONCLUSION

Users can virtually try on their garments with our project to see if they fit. Our project's website is user-friendly and packed with useful features. Additionally, it enables simultaneous use by many individuals to try on the same clothing. Our invention enables internet shoppers to virtually try on their clothing. Additionally, we find that including optical flow with our design enhances temporal smoothness. To enhance image synthesis quality, we made a number of methodological advances and showed that our method generates noticeably more convincing-appearing virtual try-on images than cutting-edge approaches.

REFERENCES

[1]. CLOTH-VTON+: Clothing Three-Dimensional Reconstruction for Hybrid Image-Based Virtual Try-On (Matiur Rahman Minar, Thai Thanh Tuan, Heejune Ahn- Department of Electrical and Information Engineering, Seoul National University of Science and Technology, Seoul 01811, South Korea)
[2]. A Mixed Reality Virtual Clothes Try-On System (Miaolong Yuan, Ishtiaq Rasool Khan, Farzam Farbiz, Senior Member, IEEE, Susu Yao, Arthur Niswar, and Min-Hui Foo)
[3]. Shine On: Illuminating Design Choices for Practical Video-based Virtual Clothing Try- on (Gaurav Kuppa, Andrew Jong, Xin Liu, Ziwei Liu, Teng-Sheng Moh)
[4]. https://www.analyticsvidhya.com/blog/2021/10/easy-introduction-to-flask- framework-for-beginners/
[5]. https://towardsdatascience.com/cnn-based-face-detector-from-dlib-c3696195e01c
[6]. High-Resolution Virtual Try-On with Misalignment and Occlusion-Handled Conditions Sangyun Lee, Gyojung Gu, Sunghyun Park, Seunghwan Choi, and Jaegul Choo (Soongsil University, Korea Advanced Institute of Science and Technology & Nestyle Inc.)