International Journal of Research Publication and Reviews

A Proposed Hedonic model for Virtual Fitting room

R.Subhiksha, C.Carolin Gifta, Prof: T.Suba Nachiyar

Department of Computer Science and Engineering, Velammal College of Engineering and Technology

ABSTRACT:

Virtual Fitting Room is used in shops, malls, and any shopping centers. Trying our clothes through those shopping centers is a time-consuming activity. Sometimes some special clothes are also not allowed to try it directly in shops. Hence, we provide a solution to overcome this situation by trying the clothes virtually from any place. We have created a platform to try clothes virtually with the exact fit of our body along with our photos to check for the fit using voice command. Our main aim is to increase the performance accuracy along with the increasing overall efficiency of the system.

1.Introduction

The e-commerce platform became an important determinant for the people who spent their money on the business. Our daily life is being heavily affected by smart systems which facilitate our activities through the rapid growth of technological developments. For example, online shopping is growing up very fast. Day-by-day people are using more and more online shopping and they perform various actions through online platforms etc to purchase their desired products. This way of transformation has become popular and it provides great convenience to customers. However one of the major issues in online shopping is, that people cannot try their products while purchasing. Sometimes the feeling after wearing the dresses affects the user's decision about buying the clothes. Hence, there is a need to develop a virtual dressing room environment to simulate the visualization features of dressing. It is common behavior for the people for trying their clothes before shopping.

 In physical stores, customers can touch the clothes physically and can use them in a real-time manner but at the same time, it sucks a lot of time and effort. Sometimes, it will become impossible to try some special clothes even manually. So the virtual fitting room environment can provide comfort for both the vendor and the customers. It makes people purchase their dresses in a relaxed manner and it increases tremendous development in the technological industry. This application does not require going through the traditional system of purchasing.

It makes it easier for the customers to select any piece and make it available to try it inside the fitting room(Virtual trial room) to help the person to take the correct decision while purchasing their clothes. Hence, e-commerce is ruling the world by using many technological advancements.

2.Literature Survey

2.1"Implementation of virtual fitting room platform using image processing"
This system has a fixed webcam capture to the images of the user. The disadvantage of using this system is, that it can be used only on online platforms and not in offline mode

2.2"Virtual environment for physically impaired people"
This paper focuses mainly on physically impaired people who are completely or partially challenged rather than focusing on normal people. Hence, the disadvantage of this method is, that normal people cannot use this platform to try their clothes.

2.3"Virtual Fitting room with augmented reality concept"
This paper focuses on the augmented reality concept which enables the customers to switch on their webcam present on their devices to try the clothes. The disadvantage of this project is people cannot try the clothes if the webcam is disabled or repaired.

2.4"Virtual environment with 2d model"
    Here, the 2d model pattern with the garment model was created with the help of images along with the look in the backside view. The demerits of the project are, that the system is not user-friendly the people and have a poor accuracy level.

3. Proposed Method

The execution of the project is initialized by uploading photographs and trying them with the desired clothes with manual adjustments. Before, the upload action the user can select their clothes from the given types which acts as a mediator between the website and the photo upload action module. The types of wear denote various categorization of wear like formal wear, jumpsuits, party wears, western wear, etc To upload the photographs, the

user can select their photos from a local drive or folder. Then by manual adjustments, they can fit their clothes and can capture them easily. The captured photographs can be shared on any social networking site respectively. This module is also inbuilt with a unique feature called voice assistant. This voice assistant acts as a guide for processing the next steps with basic instructions and an interface. This paper mainly focuses on the virtual fitting room with the voice-based assistant in a 3d model. Since, there are various limitations like reduced poses, etc. In the 2d model, we created a solution to overcome those limitations by using 3d systems where the user can able to view their clothes from all directions. Before trying it with 3d rotation user can select different apparel from the given categorization of wears and try it by entering their body measurements which includes height and weight respectively along with the voice assistant's instructions. This paper highly focuses on the accuracy level. That is, while using this fitting room, an online prediction-based accuracy matcher for apparel viewing has been set up in order to check the percentage of matching apparel. Finally, a complete model has been implemented with the final module of customized descriptions. By using these customized descriptions, people don't want to search for any unknown information about the provided specifications by redirecting to another page like Google, Internet Explorer, etc to search for it.
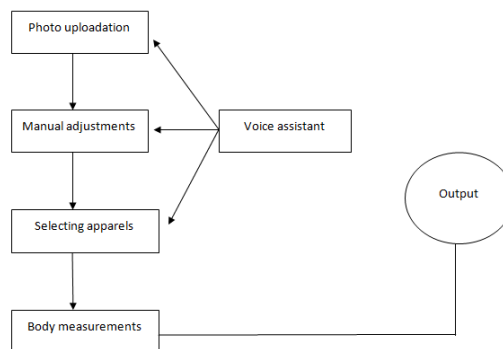
4. System Architecture

Fig: 4

4.1 3D view module:

Users can view their fittings from all directions (3D view) by rotating them completely. This makes the platform to be very user-friendly and customized.

4.2 Measurements module:

Users can able to enter their body measurements to check the suitability of the clothes within a certain milli-second accuracy level.

4.3 Accuracy matcher:

An online predictions-based accuracy matcher has been set up to increase the accuracy level of this system.
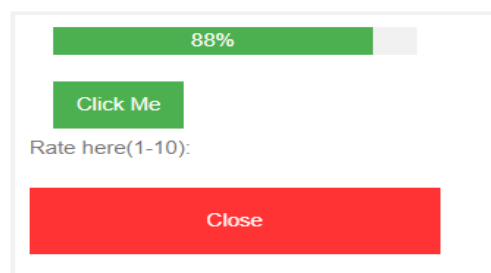

Fig: 4.3

5. Photo uploadation

Position of photographs should be straight in order to get a clear view

Fig: 5

6.Transformation

The measurements should not be in decimal format and once entered cannot be reset again into the default sizes. Now a complete 3d view has been obtained with our measurements

Fig: 6

7. Conclusion

As the final output, a complete e-commerce website with a fitting room along with the voice-based assistant has been obtained. Thus it will be convenient and easy for the customers to select the perfect clothes/apparel through this virtual room platform also an extra features that get displayed on the website would be 'XXL', 'XL', 'L', 'S', 'M', along with the cost of the product about the selected category can be also displayed.

References

[1] Ari Kusumaningsih; Arik Kurniawati, Eko Mulyanto Yuniarno; Mochammad Hariadi, " User Experience Measurement On Virtual Dressing Room Of Madura Batik Clothes" , 2017 International Conference on Sustainable Information Engineering and Technology (SIET) .

[2] Zugara. 2021. Virtual Style Sense. [online] Available at: < Virtual Style Sense (zugara.com)> .

[3] [Dr. Anthony L. Brooks , Dr. EvaPetersson Brooks , "Towards an Inclusive Virtual Dressing Room for Wheelchair- Bound Customers", IEEE conference, 2014

[4] S.Priyadharsun1 , S.Lakshigan2 , S.S Baheerathan3, S.Rajasooriyar4, U.U.S.K. Rajapaksha5, S.M.Buddika Harshanath6, "Parade in the Virtual Dressing Room", 978-1-5386-5495-8/18/$31.00 ©2018 IEEE

[5] Analysis of the Demand by White-Collar Women for Virtual Fitting-Room Design. Jialin Huang. 2012
Fibre2fashion.com. 2021.Browzwear & Metail join hands for garment technology.

[6] Han, H., Kim, T. and Jeon, E., 2021.3D standard avatar creation of Korean women in their twenties and thirties by body types for apparel industry.

[7] Stitch Meshes by Cem YukselJonathan M. KaldorDoug L. JamesSteve Marschner. 2012. [online] Available at: < Cem Yuksel(http://www.cemyuksel.com/research/stitch meshes/) >

[8] 2017 Privacy Security and Internet Fraud Analysis Report [Accessed 20 May 2021]. [12] Li, C., 2014. One size does not fit all: why Londonbased Metail just raised $12 million for its 'online fitting room' - Tech.eu. [online] Tech.eu. Available at: < One size does not fit all: why London-based Metail just raised $12 million for its 'online fitting room' - Tech.eu craft. 2021.

[9] Zugara. 2021. Augmented Reality Startup Los Angeles. [online] Available at: < Augmented Reality Startup Los Angeles (zugara.com)> [Accessed 14 May 2021].

[11] Bhalekar Sourabh, Chitte Darshan, Dhamal Hemant Implementation of   Virtual Dressing room Using Newtons Mechanics, May 2017 Ijarcsse.

[12] A.A.Shaikh,P.S.Shinde,S.R.Singh "A Review on Virtual Dressing room For   e-shopping Using Augmented Reality",2014 IJSCE. [7] Jaychand Upadhyay,Divya Shukla,Nidhi Patel"Virtual Makeover and Virtual TrialDressing",2015 IJIRCCE