JETIR.ORG ISSN: 2349-5162 | ESTD Year : 2014 | Monthly Issue
JOURNAL OF EMERGING TECHNOLOGIES AND INNOVATIVE RESEARCH (JETIR)
An International Scholarly Open Access, Peer-reviewed, Refereed Journal

Trying on online cloths using AI

Prof .Shah S. N. , Professor ,Computer Department ,SPCOET Someshwarnagar College , Baramati , India.

Apeksha Chavan, Student ,Computer Department SPCOET Someshwarnagar College , Baramati , India.

Samiksha Dange, Student ,Computer Department SPCOET Someshwarnagar College , Baramati , India.

Renuka Garud, Student ,Computer Department SPCOET Someshwarnagar College , Baramati , India.

ABSTRACT : -

Long lines and waiting times frighten off clients in this fast-paced world. This has an impact on the store's sales as well. Inventory management is one of the more significant problems we encounter when discussing large retail showrooms. These days, inventory management is a more significant issue. Businesses are spending a lot of money because handling big crowds requires a lot of manpower. A potential answer to all of this is the creation of virtual trial rooms, where clients can theoretically try on clothing without really doing so. Augmented reality and artificial intelligence can help with this. Comparing this technique to the traditional one, it will be quicker and even more participatory degree. Additionally, this will relieve the shops of the burden of constantly folding and unfolding clothing and help them maintain the freshness of their inventory. Additionally, this can deter shoplifting to a larger degree.

KEYWORDS : - AR, VR, Navigation, Simulation

I. INTRODUCTION

Since fashion is a way of life in the twenty-first century and not just something we wear, the experience of purchasing it must be amazing. As everyone knows, the stores get quite crowded during the sales. The situation gets worse when we need to try on things and there is a long line in front of us. Additionally, there are occasions when they won't even let clients take more than three clothes at once. From the perspective of the client, who has had to endure a great deal of waiting and irritation, the buyer simply looks at the goods, assumes its size, and purchases it, only to later regret the purchase because of the size issue. Our objective is to save the user time when they are shopping in various stores or online and trying on different clothes. OpenCV can be used to fix the issue with ease. We have developed a system that facilitates everyday fashion coordination, saves the user time, and improves the user experience. This enables the user to interact with the virtual mirror and view a virtual version of oneself dressed in their favorite clothes. The algorithm that follows is made to work with any computationally efficient system that has a camera. The suggested algorithm is very independent and economical because of this attribute.

II. LITERATURE REVIEW

1. **Md. Farhan hamid, md. Ashraful alam, "virtual wardrobe for physically impaired using microsoft kinect sensor"**

   This research sheds light, in particular, on those who are partially or wholly challenged and physically disabled. For those who are totally blind, a sensor detects eye movements to choose an outfit and head

movements to cycle between the clothes[5].However, the paper leans more in the direction of the challenged than the normal, which causes observable functional changes and, in addition, a decrease in the population relative to the normal.

2. **Ari Kusumaningsih; Arik Kurniawati; Cucun Very Angkoso, Eko Mulyanto Yuniarno; Mochammad Hariadi, "User experience measurement on virtual dressing room of Madura Batik clothes"**

   The online trial approach presented in this study is used for Madura Batik clothing, an Indonesian regional wear. It offers overseas clients access to a virtual reality trial room to enhance their purchasing inclination and alter their shopping experience [8]. The main negative here might be that the clothing is restricted to what is appropriate for the region and nothing more.

3. **Srinivasan K.,Vivek S., "Implementation of virtual fitting room using image processing"**

   The user photos are taken by this system using a fixed webcam. MATLAB is used to process this image in order to calculate each pixel and determine which clothing best fits the user's preferences [9]. The system's exclusive use as an online retail platform, with no additional offline applications, is a disadvantage. Furthermore, the lack of a Kinect sensor means that the actual depth data are lacking.

4. **Aishwarya.G, Nivedha.A, Reshma.R, Ananthi.M, Emerson Raja. J Online Trial Room (OTR), 2019 JETIR April 2019, Volume 6, Issue 4**

   This project involves creating an android application for the online shopping customers. It provides a platform where the buyer can try the clothes and check if it fits them and suits them. The user is supposed to stand in front of the camera such that their whole body is covered. As soon as the user sets the camera the distance of the user from the camera is calculated using triangular similarity. Once the distance has been calculated the human body of the person standing is recognized. This is done using landmark identification. After the human body has been landmarked, the dress is adjusted according to the landmark size. once the customer confirms the dress. The report generation of the body metrics are done. The system doesn’t have additional features such as dynamic suggestion of dresses using data analytics, direct update process via speech recognition.

III. PROPOSED SYSTEM

As the primary piece of hardware for the project, the kinect sensor must first be initialized before any further work can be done. Processing 3.5.3 is the IDE (Integrated Development Environment) that is also used to run the program. Asp.net is the language used for programming. The GUI that flashes a debut as soon as the application launches gives the user the option to select between male and female. Following completion of the first stage, the next step is to choose your clothing from a variety of categories, including shirts, pants, dresses, and t-shirts. After that is chosen, the user's body is mapped onto the chosen clothing using body coordinates. This can be a digital depiction of the clothing's appearance.

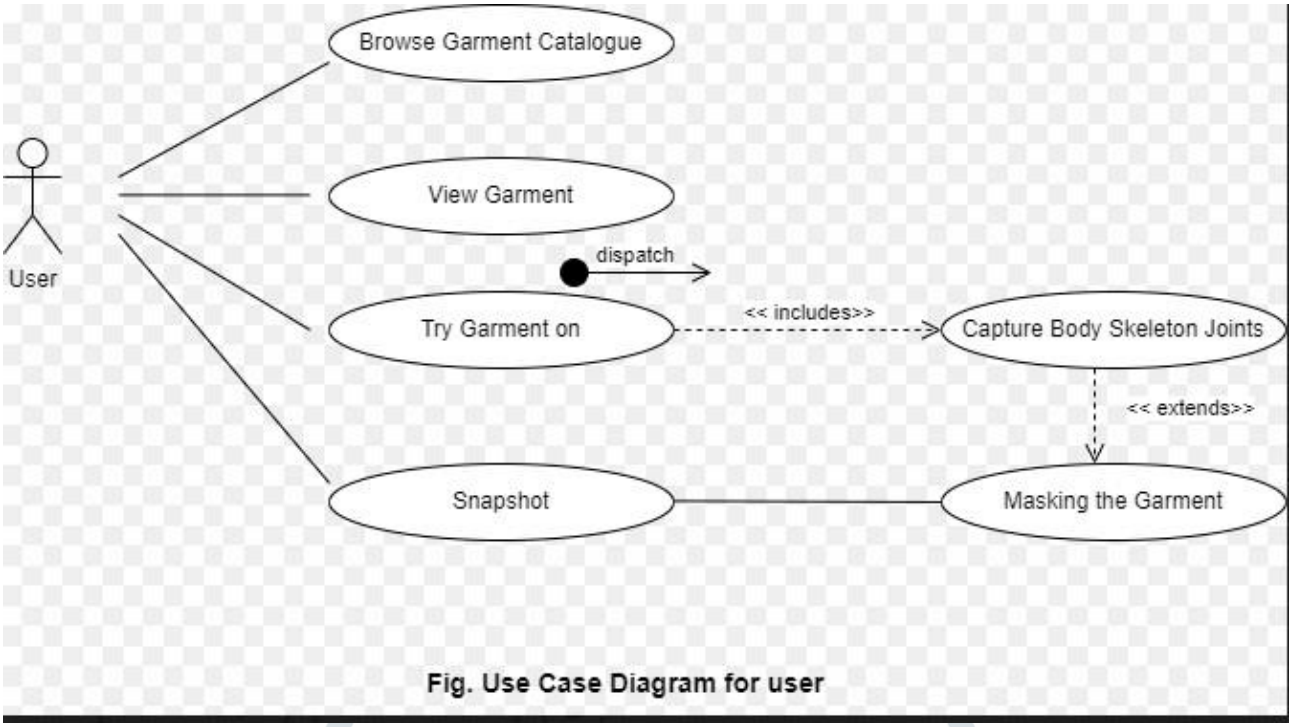

Fig. Use Case Diagram for user

Figure 1. Flow Chart

AR is a technology that overlays digital information, such as images, videos, or 3D models, onto the real-world environment. It enhances the user's perception of the real world by adding computer-generated elements. AR experiences can be delivered through devices like smartphones, tablets, AR glasses, and smart lenses, allowing users to see both the physical world and digital content simultaneously.

Applications of AR are as follows:

- Virtual Try-On: AR enables users to try on virtual clothing and accessories in real-time, allowing them to see how items look on their bodies before making a purchase.

- Navigation: AR apps provide real-time directions and information overlaid on the user's view, aiding navigation in unfamiliar environments.

- Gaming: AR games merge digital elements with the real world, creating interactive and immersive gaming experiences.

- Training and Education: AR is used for educational purposes, providing interactive learning experiences by overlaying educational content onto physical objects.

- AR technologies include markers (QR codes, image recognition), depth-sensing cameras, and sensors (gyroscopes, accelerometers) that enable the system to understand the user's position and the environment.

Virtual Reality

- VR is a technology that creates a completely artificial, computer-generated environment in which users can interact with digital elements in a realistic way. VR immerses users in a 3D environment, blocking out the real world.
- VR experiences are typically delivered through VR headsets or goggles, which completely cover the user's field of view and often include motion-tracking sensors and controllers for interaction.

Applications of VR are as follows:

- **Immersive Gaming:** VR provides deeply immersive gaming experiences by transporting players into virtual worlds where they can interact with the environment and other players.\\

- **Virtual Tours:** VR allows users to take virtual tours of real-world locations, museums, historical sites, and architectural designs.\\

- **Simulations:** VR is used for training simulations in various fields, such as aviation, healthcare, and military, enabling realistic and safe training scenarios.\\

- **Therapy and Healthcare:** VR therapy is employed to treat phobias, PTSD, and other mental health issues. VR is also used for pain management and physical rehabilitation exercises.

VR technologies include high-resolution displays, motion-tracking sensors, haptic feedback devices, and spatial audio systems that create a sense of presence and immersion for users.

IV. CONCLUSION

This paper has concluded, the Online Virtual Trial System represents a significant advancement in the realm of online shopping and customer experience. By leveraging technologies such as augmented reality (AR) and computer vision, this system revolutionizes how consumers interact with products, especially in the fashion industry. The ability to virtually try on clothing and accessories from the comfort of one's home bridges the gap between traditional in-store shopping and online retail, providing users with a more immersive, convenient, and personalized shopping experience. The Online Virtual Trial System addresses common challenges faced by online retailers, such as high return rates due to sizing issues and customer hesitation to make purchases without trying products first-hand. By allowing customers to visualize how items fit and look on them, this system significantly reduces the likelihood of unsatisfactory purchases, leading to increased customer confidence and trust in online shopping platforms

REFERENCES

[1] Md. Farhan Hamid, Md. Ashraful Alam, "Virtual wardrobe for physically impaired using Microsoft Kinect Sensor",2017 IEEE 2nd International Conference on signal and image processing

[2] Srinivasan K.,Vivek S., "Implementation of virtual fitting room using image processing" , 2017 IEEE International Conference on Computer, Communication and Signal Processing(ICCSP-2017)

[3] Ari Kusumaningsih; Arik Kurniawati; Cucun Very Angkoso, Eko Mulyanto Yuniarno; Mochammad Hariadi, "User experience measurement on virtual dressing room of Madura Batik clothes", 2017 IEEE(978-1-5386-2182-0/17), 2017 International Conference on Sustainable Information Engineering and Technology

[4] "Online Trial Room (OTR)", 2019 JETIR April 2019, Volume 6, Issue 4 Aishwarya.G, Nivedha.A, Reshma.R, Ananthi.M, Emerson Raja. J

[5] "A Real-Time 2-D to 3-D Image Conversion Technique Using Computed Image Depth" H. Murata, X Mori, S. Yamashita, A. Maenaka, S. Okada, K. Oyamada, S. Kishimoto Sanyo Electric Co., Ltd., Osaka, Japan

[6] K. Seo and A. M. Fiore, “Effect of the fitting room environment on older clothing shoppers,” Journal of Retailing and Consumer Services, ELSEVIER, pp. 15- 22, 2018.

[7] Nikkisingh,sagarmurad, premlone, vikasmulaje "virtual trial room" vishwakarma journal of engineering research,Volume1Issue 4,December2017

[8]Shreyakamani, neelvasa, kritisrivastava, "Virtual trial room using augmented reality", International Journal of Advanced Computer Technology (IJACT), Vol. 3/6, pp. 98-102, Dec. 2014

[9]Yashwant Kanduri, Sanugula Durga Prasad, "A modular Approach for Cloth Modelling in Virtual Fitting Room", 2016 11th International Conference on Industrial and Information systems(ICIIS)

[10]Vinaya Kulkarni, Sailee Morde, Bhairavi Pawar, Supriya Mahadik, Rutuja Dahore, "2D Virtual Trial Room Using Augmented Reality", Volume 4/ Issue 1, International Journal on Future Revolution in Computer Science and Communication Engineering.

[11] Shreya Kamani, Neel vasa, Kriti Shrivastava, "Virtual Trial Room Using Augmented Reality", Volume 3, Number 6, International Journal of Advanced Computer Technology (IJACT)

[12]S.Palanivel Rajan, L.Kavitha, "Automated retinal imaging system for detecting cardiac abnormalities using cup to disc ratio",Indian Journal of Public Health Research and Development, P-ISSN: 0976-0245, E-ISSN :0976-5506, Vol.:10, Issue:2, pp.1019-1024, DOI : 10.5958/0976 -5506.2019.00430.3, 2019.