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Virtual Try on Clothes

Reshma Kale[1], Vaishanavi Sarode[2], Vaishnavi Bidarkar[3], Soni Singh[4], Prof. Prachi Nilekar[5]
Alard College of Engineering & Management, (ALARD Knowledge Park, Survey No. 50, Marunje, Near Rajiv Gandhi IT Park, Hinjewadi, Pune-411057) Approved by AICTE. Recognized by DTE. NAAC Accredited. Affiliated to SPPU (Pune University).

Abstract: Trying on different clothes in the store and finally choosing the right one can be a time-consuming and tedious process. So, a real- time virtual fitting room is a concept where a customer can buy pieces of her clothes without having to wear them. The virtual fitting room environment is the online equivalent of her fitting room in a store. People usually avoid buying wearable clothes online. To solve this problem, I decided to create an online test room application. Our research involves recording a video of user using the system camera, segmenting the video into indivi-dual frames to extract user's body, and developing an application that transforms, rotates, and makes wearable. is focused on as image that scales in real time to fit the user Virtual try-on technology lets customers see how clothes fit themselves or an avatar, allowing them to virtually "try on" clothing before purchasing them. This method helps avoid challenges connected with conventional e-commerce sales channels, such as fit issues and environmental and financial returns costs .

I. INTRODUCTION

In modern life, people prefer to use to purchase items, and one of them is clothes. However, one of disadvantages of online clothes shopping is that it cannot provide a physical try-on . Thus, one does not know how much chosen clothes is fitted into one's body in size, style, color etc. Even though they work well, they have fundamental practical weakness since they need 3D clothes models which requires non-negligible amount of time for constructing. Thus, recently, image-based virtual fitting systems devoid of 3D clothes model, has attracted a lot of research attention and arisen as alternative promising virtual fitting systems. You have to stand in front of the camera. With the help of algorithms, cameras scan the human body from the environment. A webcam and a monitor connected to the device processor present the consumer with a virtual clothing list. A webcam scans the scene and displays live video streaming in a window. A list of clothes that the user should wear is also displayed on the monitor. When the user selects an address, a dress is selected and the user virtually wears it.

A. Why Machine Learning

Machine learning allows the user to feed a computer algorithm an immense amount of data and have the computer analyze and make data-driven recommendations and decisions based on only the input data.it perform the task as per expected result

B. What is DATASET

MPV (Multi-Pose Virtual try on) dataset, which consists of 37,723/14,360 person/clothes images, with the resolution of 256x192. Each person has different poses. Dataset is a collection of data or related information that is composed for separate elements. A collection of datasets for e-mail spam contains spam and non-spam messages

C. What is Train and Test Datasets

MPV (Multi-Pose Virtual try on) dataset, which consists of 37,723/14,360 ... We split them into the train/test set 52,236/10,544 three-tuples, respectively. that training data is the subset of original data that is used to train a machine learning model, whereas test data is used to check the accuracy of the model.

II. PROBLEM STATEMENT AND MOTIVATION

When working on virtual fitting room apps, we conducted a series of experiments with virtual try on clothes and found out that the proper rendering of a 3D clothes model on a person still remains a challenge. For a convincing AR experience, the deep learning model should detect not only the basic set of keypoints corresponding to the joints of the human body. It should also identify the body's actual shape in three dimensions so that the clothing could be appropriately fitted to the body. the fitting rooms are always full, with long lines especially during peak holidays. Even just trying on a few clothes results in long queues, which leads to customer dissatisfaction. In fact, a customer chooses clothing shopping styles, online shopping for her or in-store, depending on their specific needs. However, neither measure falls short of the goal of allowing customers to see the size, fit, or style of their favorite clothes without actually trying them on. Therefore, this project proposes a virtual AR dressing room to help customers achieve their shopping goals.

III. OBJECTIVES OF THE STUDY

Developing an automated clothes trial system

1) Developing a CNN model to visualize clothes trail through web cam.
2) Integrate both models and test the system with both images and videos.
3) The study aims to establish the virtual size and fit technology features to enhance fashion online retailing platforms, utilizing digital human measurements to the system.

IV. SCOPE OF THE STUDY

The proposed system will facilitate to Customers can now virtually try on various types of products before purchasing them. order multiple variations of a single product. What's important here is that AR helps customers avoid disappointment and choose the best products for them. As a result, both online and brick-and-mortar store return rates tend to fall. AP shortens the customer journey and increases store conversions regardless of whether the customer shops for items online or in-store.

Use case diagrams describe the high-level functions and scope of the system, these diagrams also identify the interactions between the system and its actors. A Use case diagram outlines how external entities user interact with an internal software system.

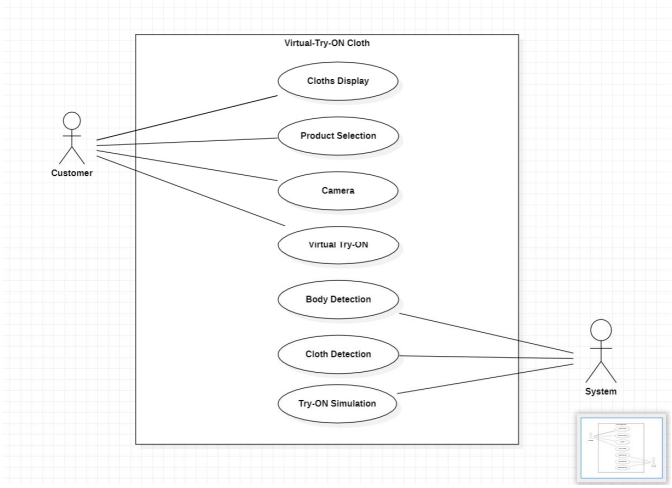

Fig -1: Use Case Diagram

A state diagram consists of states, transitions, activities, and events. It describes the different states that an object moves through or provide an abstract description of the behavior of a system

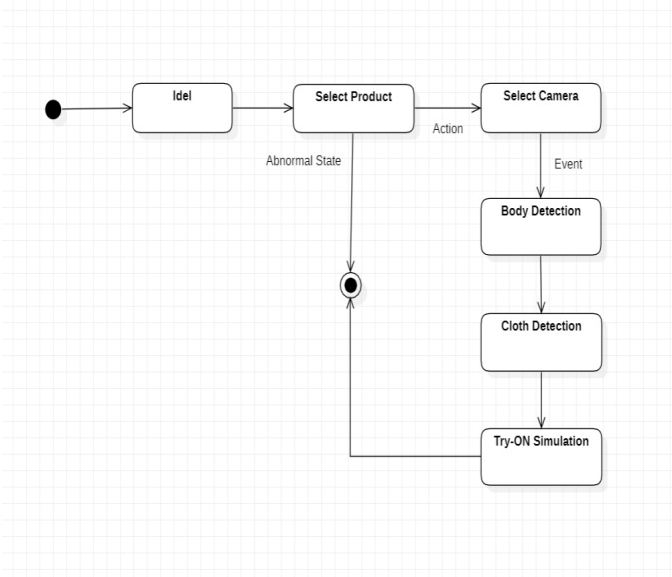

Fig -2: State Diagram

Activity diagrams are graphical representations of workflows with support for selection, repetition, and concurrency of step-by-step activities and tasks

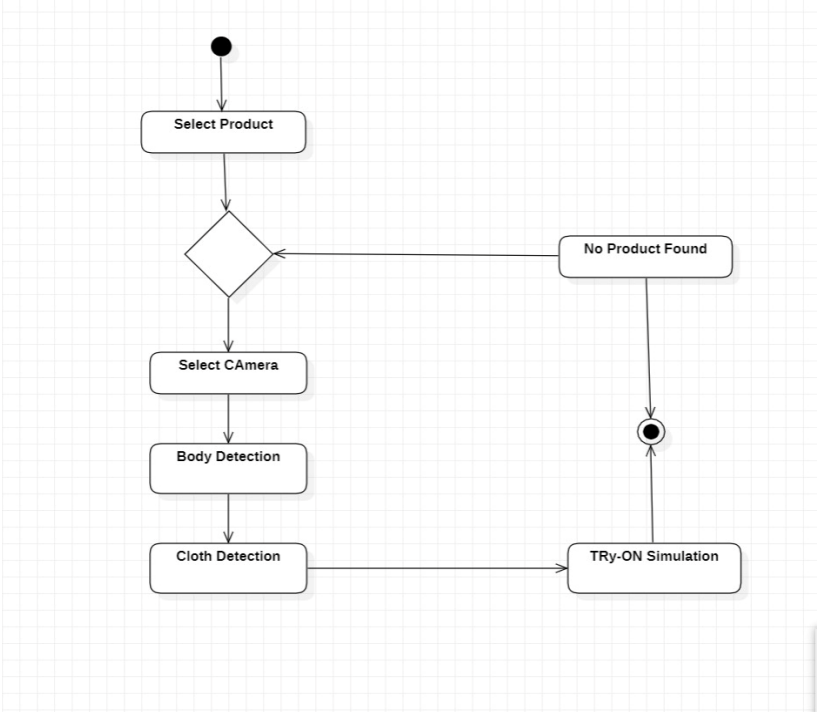

Fig -3: Activity Diagram

V. PROJECT ARCHITECRURE DIAGRAM

A design diagram explains how to build it. An architecture diagram describes what you're building.

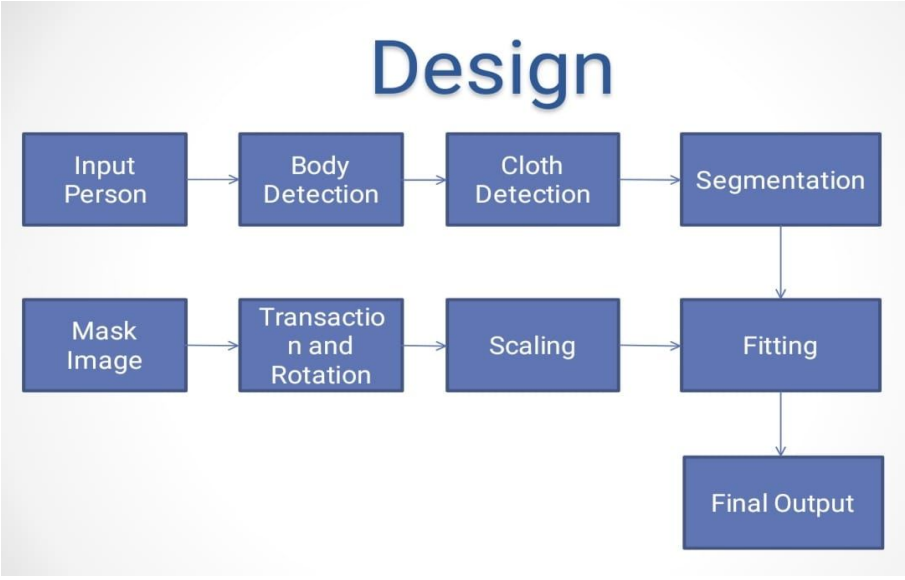

Fig -4: Design Diagram

Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.

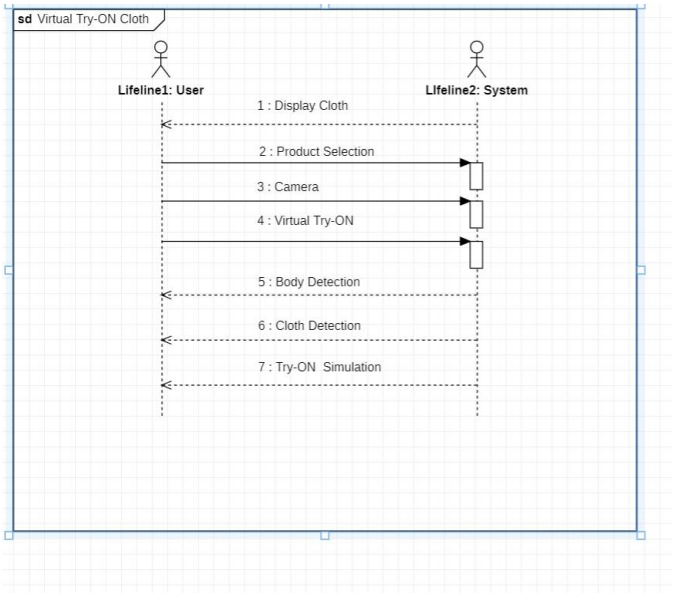

Fig -5: Sequence Diagram

VI. CONCLUSIONS

The future of fashion lies in customization and virtual try-on. With augmented shopping, customers will be able to configure their products in 3D, trying on different colors, styles and sizes to see what looks best.

This will allow for a more personalized shopping experience, as well as give customers a better idea of what they're buying. And with virtual reality, customers will be able to experience products as if they were actually wearing them.

VII. ACKNOWLEDGEMENT

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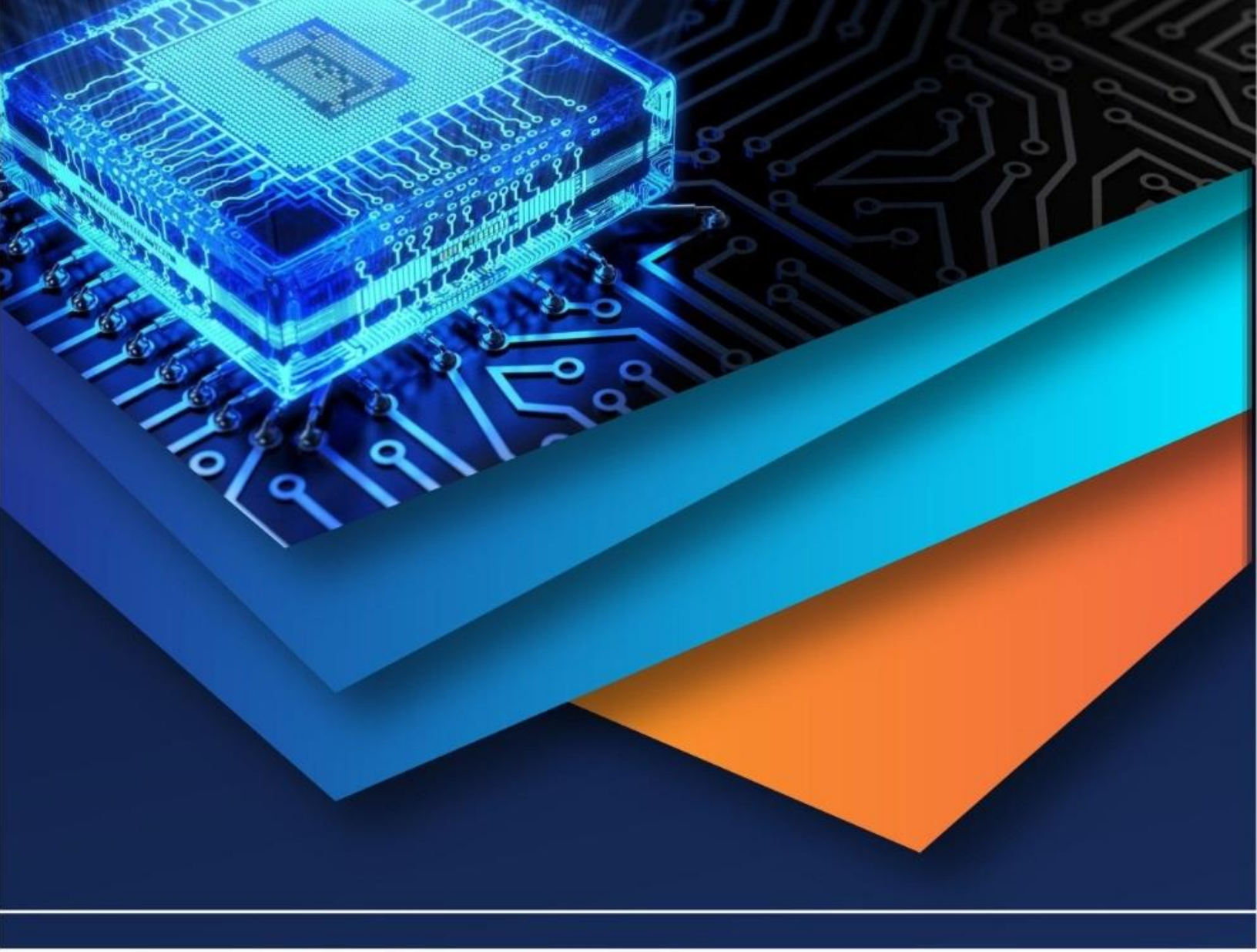

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