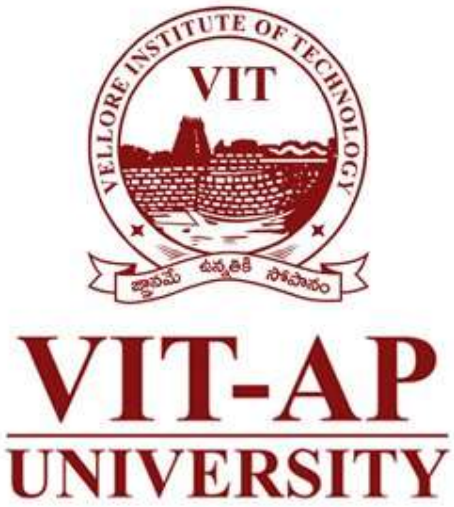

VIT-AP UNIVERSITY

ENGINEERING CLINICS

Project-Title : Virtual trial room using raspberry pi pico

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ABSTRACT:

One of the biggest challenges faced in being a part of the online fashion platform is the apparel fit. Due to limited fitting guides and no actual visualization, it is physically impossible for the user to try on clothes and see how they fit on them.

In order to cope with this challenge and enhance the shopping experience, we aim to provide a way to find out the customer's actual body measurements and in order to use this functionality, they simply have to process their body in front of the camera and once this is done, the outline of their body will be traced and the measurements will be given as the output.

Along with this, we're also providing a hassle-free shopping by introducing a "virtual try on" of the apparels, using which the customers can undergo the actual garment fit. This will also help the buyer in finding best matches according to their body shape and help in resolving the 'misfit' issue that the online platform currently faces.

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2. Background
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Introduction:

The body measurement detection project is an innovative solution that utilizes computer vision techniques and machine learning algorithms to detect accurate body measurements. The project is aimed at improving the online shopping experience for customers by providing accurate sizing information, reducing returns, and increasing customer satisfaction. With the increasing trend of online shopping, customers often face challenges in finding the right size and fit of clothing, leading to an increase in returns and dissatisfaction.

The body measurement detection project addresses these challenges by providing accurate body measurements, allowing customers to buy clothes online with confidence. The project involves the use of a camera and sophisticated algorithms that analyze the images to extract precise measurements of the body. This technology has the potential to revolutionize the online shopping industry, making the process of buying clothes online easier and more efficient.

BACKGROUND:

The body measurement detection project has emerged as a solution to the challenges faced by customers while shopping for clothes online. In recent years, online shopping has significantly increased, with customers choosing the convenience of shopping from home. However, finding the right size and fit of clothing can be challenging, leading to an increase in returns and customer dissatisfaction. This issue has led to the development of the body measurement detection project, which uses computer vision techniques and machine learning algorithms to provide accurate body measurements to customers.

The technology behind the body measurement detection project has its roots in computer vision, which is a field of artificial intelligence that enables machines to analyze and understand images and video. In recent years, computer vision has made significant progress, with the development of advanced algorithms that can detect and analyze human body features accurately. Machine learning, another field of artificial intelligence, has also made significant progress, with algorithms that can learn and improve their accuracy based on data.

The combination of computer vision and machine learning has led to the development of the body measurement detection project. This project has the potential to revolutionize the online shopping industry by providing accurate sizing information to customers, reducing returns, and increasing customer satisfaction. With the continued development of technology, the accuracy of body measurement detection is expected to improve further, making the process of buying clothes online even more seamless.

Identification Of problem:

- nowadays most of us are purchasing clothes online. It became an integral part of our life.
- Online shopping offers a wide range of products and services, from everyday essentials to luxury items, and often at competitive prices.
- It allows consumers to browse and buy products from the comfort of their own homes.
- But the main disadvantage of using online shopping is that they lack the physical touch
- Whenever you order a particular trouser Is it perfectly fit to your size?
- Have you ever faced difficulty in finding the best-fit size for you?
- This will be a major problem while using online shopping after buying the products

Objectives:

The main objectives of the body measurement detection project are:

To provide accurate body measurements to customers to help them find the right size and fit of clothing while shopping online. Reducing the number of returns due to sizing issues will ultimately increase customer satisfaction. To improve the online shopping experience by making the process of buying clothes online easier and more efficient.

Solution:

The solution to the body measurement detection project involves using computer vision techniques and machine learning algorithms to detect accurate body measurements. The process involves the following steps:

Capture Images: The first step is to capture images of the customer from different angles using a camera or a mobile device.

Image Analysis: The captured images are then analyzed using advanced computer vision techniques to extract body measurements accurately.

Machine Learning: The extracted measurements are then fed into machine learning algorithms that use this data to learn and improve their accuracy.

Sizing Recommendations: Based on the measurements obtained, the algorithms provide recommendations for the right size and fit of clothing to the customer.

The solution to the body measurement detection project provides a simple and efficient way for customers to find the right size and fit of clothing while shopping online. This technology has the potential to revolutionize the online shopping industry by reducing the number of returns due to sizing issues and increasing customer satisfaction.

Components-Required:

Raspberry-pi-pico -400 Rs/-

Lcd display- 300 Rs/-

Female to female connecting wires- 50 Rs/-

Camera – 500 Rs/-

Budget Required for the Project:

Raspberry-pi-pico -400 Rs/-

Lcd display- 300 Rs/-

Female to female connecting wires- 50 Rs/-

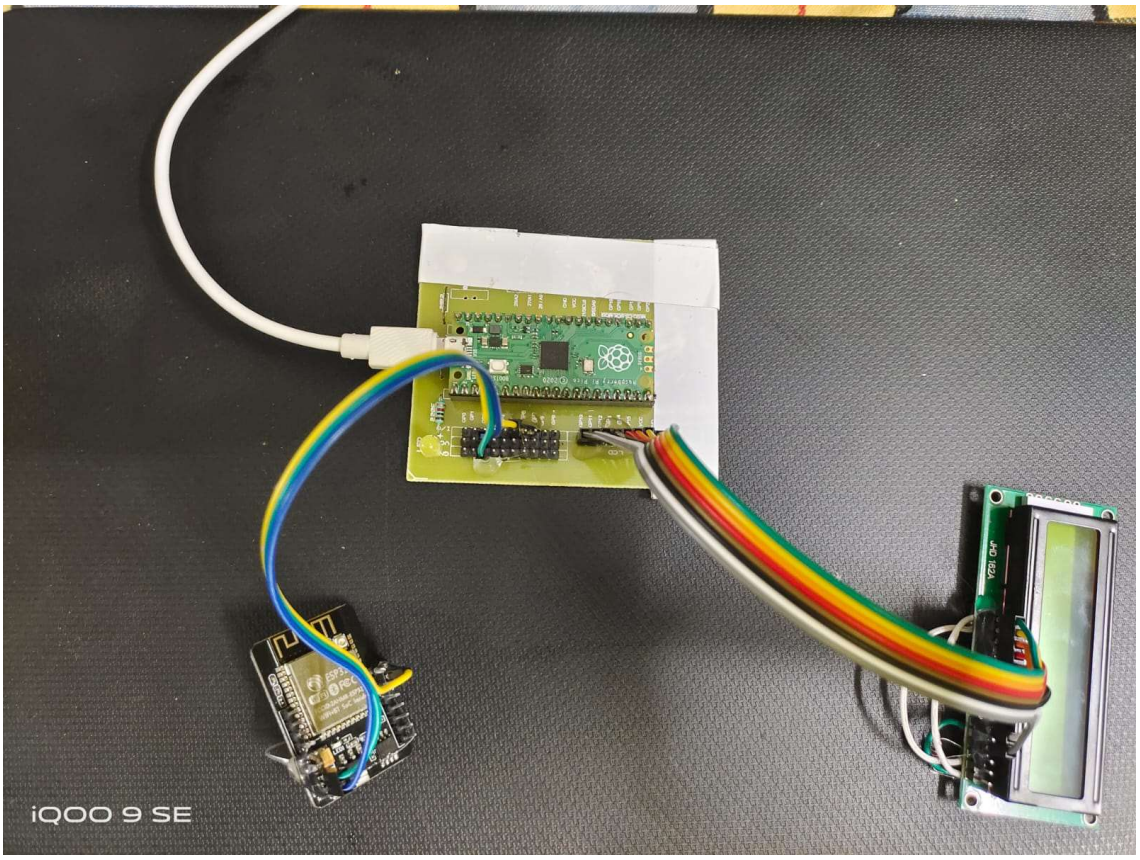
Camera – 500 Rs/-

Procedure:

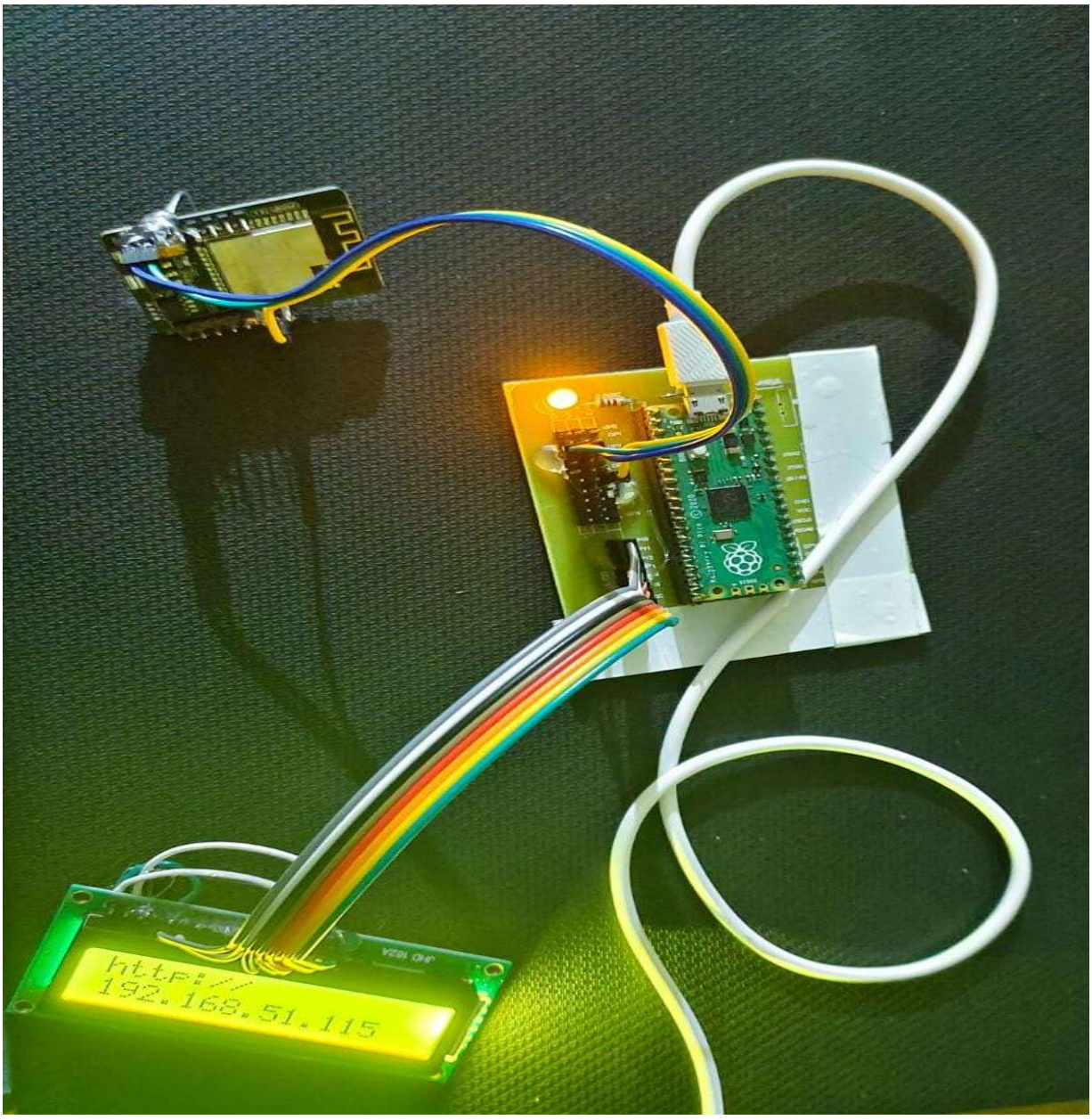
Run the flasktry.py file by double clicking on the file or by typing flasktry.py on terminal. On the terminal you will find the port number on which it is running. On the browser type "http://localhost:'portno'" .. (port no is most of time '5000') and run it. The site will be loaded and On the main page, you can check out various shirts and pants from the navbar.

By Clicking 'Predict' you will get options to select various shirts and pants to try on.After that on clicking "TRY" button, it will show you the result with the selected shirt and pant.

By Clicking on "Get Measurement" you will be able to get your body measurements done through image processing and edge detection. Once successfully processed, the 2d measurements will begin to appear on the user’s window



RESULT:



Conclusion and Future Scope:

The body measurements detection project is an innovative solution for the online shopping industry. It is a great way to improve the customer experience by providing accurate sizing information, reducing returns and increasing customer satisfaction. The project involves the use of advanced computer vision techniques and machine learning algorithms to detect body measurements accurately. By using this technology, customers can buy clothes online with confidence, knowing that they will fit well.

The future scope of this project is significant. As technology continues to evolve, the accuracy of body measurement detection can be further improved, and the process can become even more seamless. The project can also expand to include other industries, such as medical applications where accurate body measurements are crucial for diagnoses and treatment. Additionally, the project could be extended to include different body shapes and sizes to cater to a more diverse audience. Overall, the potential for this project is vast, and it is exciting to see how it will continue to develop in the future.

References:

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