Virtual fitting room

CVC 2019 project

proposal

BARMS

Your dressing room is in your pocket

Project Description

BARMS virtual fitting room is an android application to facilitate changing clothes while shopping, just install the application, take a picture of you, pick the piece you want to try and VOILA! Here is your picture wearing the required to try piece. Don't miss the chance.

1- For the store's owners

They can upload their collections to the application database

2- For customers

To try on clothes.

Bored of the time consumed on trying on clothes? Tired of shopping online then finding out that what you bought doesn't suit you? Then this App is for you.

Implementation

1-image processing

Using OpenCV make the user image binary image, then apply contour detection to the image and get the body center line and using face detection algorithm (harr cascade) to position the clothes piece on the body. For the clothes we apply threshold and contour and the piece center, then resize the piece according to the body dimensions ..then position the clothes piece on the body.

2-Android development

The application is divided to two activities one for the store which has the database so that store owners can add their collections. The other is for the customer in which he can take a photo , choose the clothes he want to try on and apply the magic!

3-connection between android and python code

Using Flask restful API on the python code to connect to the server. The server is Heroku from which we upload environment with required libraries and the code with other files on git and create an app on Heroku then push the created respiratory on it. In the Android app we use the server URL in GET and POST requests to send the captured image, cloth image, cloth's type and receive the resulted image after the processing.

4-DataBase

On store, we will save text from EditText and Image from gallery into SQlite database by clicking on "Add" after choosing image of clothes and give it a name of clothes and type which can take 2 values 0 or 1. "0" for Tops and "1" for Dresses, then customer can show all data to custom gridview by pressing "Clothes List" button in customer activity, then by long click on an image, customer can get which clothes he wants to wear.

Challenges

Constrains:

White background image when taking the user picture

Future Plans:

1- Position the clothes on the body on real time using mobile camera video
2- Add other clothes types to try, e.g.: skirts and trousers
3- Change the clothes color on real time while the user wearing it

4- Add the textures effects according to clothes material

Team Members

- Amira Ayman Ismail .... ID 43739

- Basma Mauad Gomaa .... ID 43758

- Ruba Mohamed Medhat .... ID 43780

- Sara Maher Attia .... ID 43791

- Salma Khaled El-Gendy ...... ID 43794

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Test Images

Input   output