



The Invisible Controller

Logic Of The Code

The Imports

Opencv – Python (cv2)

This python library is used in this code to capture the Frames coming from the camera.

Mediapipe (by Google)

This python library is used in this code to process the frames and trace the hand movements.

Pyautogui

This python library is used in this code to allow python to control the mouse, keyboard .etc
Like click , scroll , move

Logic Of The Code

calculate_distance

It stores the formula for the calculation of distance between two fingers in 2d.

Cap = cv2.VideoCapture(1)

It initialise the camera.

Frames = cap.read()

Now it starts to capture the frames from the camera and stores it in the Frames variable.

NOTE : The next of the logic is continued in a flow chart way without mentioning the code.

Logic Of The Code

It checks if the camera angle is back or front

If front it rotates the frame 180°

If the frame is back it continues the code and convert it into RGB format as to be send to the as by default it is BGR

Now it is send to the Mp library to get processed

Then it draws the land marks on the fingers and traces it.

Now using landmark differences and using the distance calculation the Gestures and the movements are done.

Checking the finger positions send by the Mp library the commands such as move.to , click , scroll .etc are given to the pyautogui library.

The pyautogui library executes the program

Then the GUI setup is done

At the end of the code it destroys all the windows and closes all the capturing and processing.

Thank You

Very Much