SMART MEDIA PLAYER

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Abstract: This paper pursuits to advise a desktop application as a way to capable of apprehend the person's face and hand, and in keeping with that the video can be performed or paused on a player. With the advancement in generation, now we can increase an utility in which the person just has to do eye or face actions or hand gestures and in step with that player will act. We can broaden this mission by means of the usage of a popularly adopted domain by way of researchers - synthetic Intelligence (AI). Artificial Intelligence gives delivery to numerous applications wherein a system may be used to work as a human expert. This utility can be advanced the usage of diverse algorithms inclusive of Haar Cascade Classifier. In recent times everything is online. This player will play a major function in all the platforms as it will play and pause depending upon the consumer moves..

IndexTerms - **Artificial intelligence, desktop application, face movements, haar cascade classifier, hand gestures, human expert.**

I. INTRODUCTION

An Intelligent Media player is a player which is designed for time-saving as well as for the handicapped people who are not able to do the movement of the hands. This player will play an essential role as it includes eye, face, and hand gestures according to which player will be able to play and pause the video. Usually, when you are watching a video and someone calls you, you have to look somewhere else or go away from the screen for some time so you miss some part of the video. Then need to drag back the video from where you left it. To alleviate this difficulty, we will work to develop a media player that pauses itself based on the user's current viewing habits. The player will play the video after the user looks at the screen again. For this, we need the camera or webcam on top of the computer. As long as the camera detects the user's face, eyes or hand gestures the video will be played. The player will pause as soon as the user's face, eye, or hand gestures is not completely recognized.This paper is organized as follows: Section 2 explains the need and scope of the project. Section 3 has the Problem Definition . Objective &Study in Section 4 followed by the conclusions drawn from

II.NEED AND SCOPE

Following is the need and scope of the project:

- It will be useful for people with certain disabilities who can play and pause the video by eyes and face.
- The pandemic forced everything from nurseries to big businesses to go online.
- This player will play a major role in all the platform sas it will play and pause depending upon the user actions.
- It will also be useful for watching recorded lectures for students, workshops, and meetings for employees.
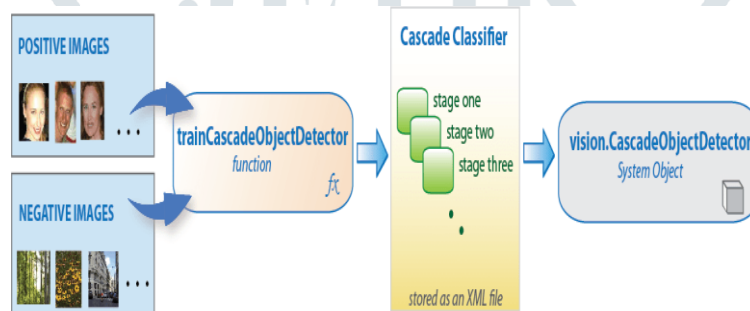
III. PROBLEM DEFINITION

- To build a system to control VLC Media player Through Guesture Recognition system to make it more efficient and convenient.
- To design the system in a user friendly model so that can be used by any of the age group.
- Get better experience of using media player
- Not missing any part of the video

IvOBJECTIVE OF STUDY

- Developing a Face and Hand Gesture Recognition System is the main objective of the system.
- To develop a successful system which follows the user Input and provide user the respective output
- Save time by reducing the number of keystrokes and mouse clicks.
- In order to be a smart media player, it has to be convenient to use.

V.METHODOLOGIES

To implement this project, we used an integrated webcam to get the input from the user. This input is then passed through an image processing technique to process the images and extract the desired information. The model provides basic functions of a VLC media player such as play, pause, All these are controlled by the user through simple. The system is designed to be highly intuitive and user- friendly. It can be used for a variety of tasks such as streaming media, and watching videos. The image processing technique used in this project is highly efficient and accurate. It is capable of recognizing various kinds of gestures and generating the desired output. With the help of this project, we have been able to make the process of playing media much simpler and easier The Python programming language gives us access to a wide range of libraries and modules to build applications. We make use of these libraries and modules such as OpenCV, NumPy, Pyautogui, math, and subprocess to construct our applications.The subprocess module is a library of Python used to run new applications or programs. We often use the subprocess.Popen() function to open VLC applications and VLC video players. This function takes the arguments of the VLC program command line, which includes the location of the video file to be played. We can also use this module to run external programs from our applications. In addition, we make use of the NumPy library for numerical computing and scientific computing. This library offers a wide range of mathematical functions and operations, such as linear algebra, Fourier transforms, and random number generation. We also use this library to handle large array data structures. Finally, the OpenCV library provides us access to a variety of computer vision algorithms and tools. With this library, we can develop applications that can process images and videos, detect faces, and recognize objects. We can also use the OpenCV library to detect and track motion in videos . Haar cascades can be used to detect objects in images, no matter how small or large they may be. This algorithm is not as complex as some of the more advanced ones and can run in real- time. We can train a haar-cascade detector to detect different objects ,to like cars, bikes, buildings. KSE-100 index is an index of 100 companies selected from 580 companies on the basis of sector leading and market capitalization. It represents almost 80% weight of the total market capitalization of KSE. It reflects different sector company's performance and productivity. It is the performance indicator or benchmark of all listed companies of KSE. So it can be regarded as universe of the study.Non-financial firms listed at KSE-100 Index (74 companies according to the page of KSE visited on 20.5.2015) are treated as universe of the study and the study have selected sample from these companies.
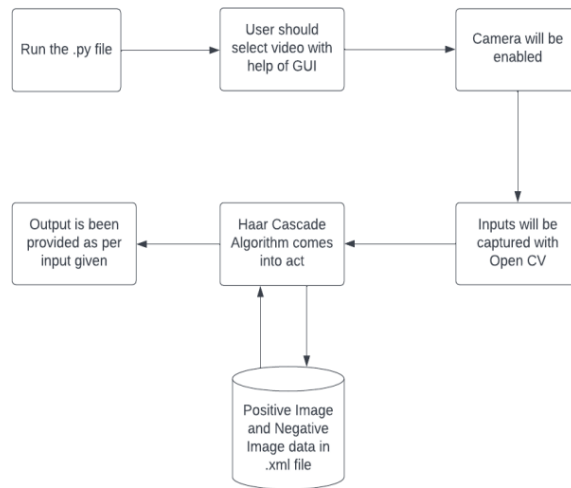

VI.REQUIRMENTS

1)Hardware Requirements.
- Processor - Intel Core i5 and above Speed - 2.5 GHz
- RAM - 8 GB (min).
- Hard Disk - 50 GB.
- Webcam.
- OS version 5.0 and above.

2)Software Requirments.
- Operating System Windows 10 .
- Programming Language - Python 3.6 Compiler - Python Idle.

VII . PROPOSED DIAGRAM

1) The user must first run the Python file.
2) Upon successful run, the user will see a GUI with a camera and can select the video from which they wish to view.
3) The Web Camera records the gestures given by the user and processes them with a Haar Cascade Classifier to produce theoutput
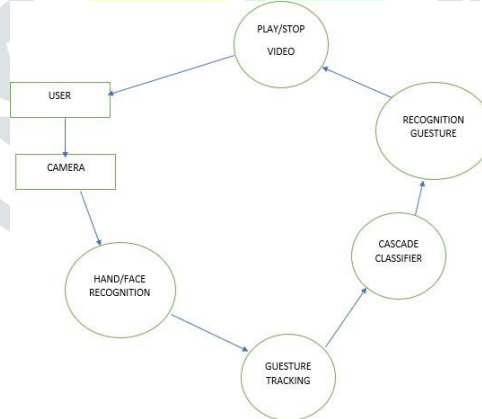
Data Flow Diagram

Level 0 DFD

In this level 0 data flow diagram, the whole system is represented with the help of input, processing and output. The input to the gesture recognition system is the live feed from the camera which contains the gestures performed by the user. The camera provides the frames which can be mapped to their corresponding meanings.
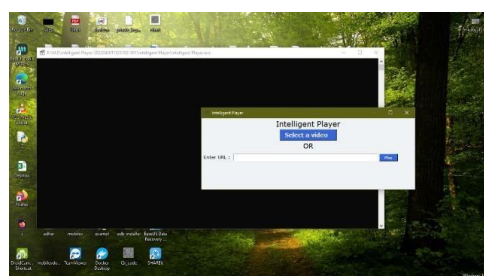

Level 1 DFD

In level 1 data flow diagram, the gesture recognition module is explained in further detail. The camera provides live feed of the user actions. Operations are performed to enhance the hand movements. The hand movement is recognized and sent to the gesture tracking module. The gesture tracking module checks for the gesture in the pre trained network of gestures and their respective meanings. The gesture control module maps the gesture to its meaning. Thus in these processes the gesture is recognized and meaning is displayed.
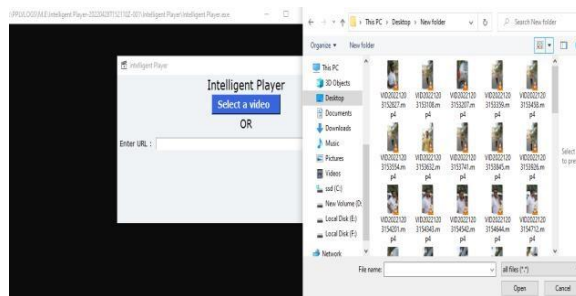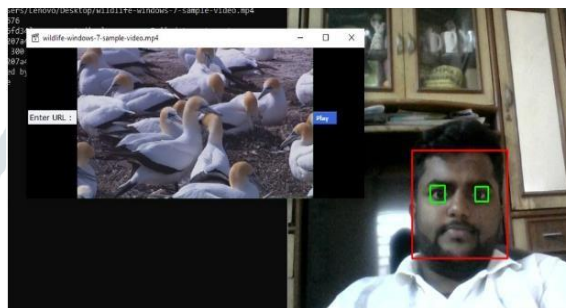

VIII . RESULT ANALYSIS

1.Once the Python file has been executed a GUI willappear that will ask input from user to select thevideo which is to be played.
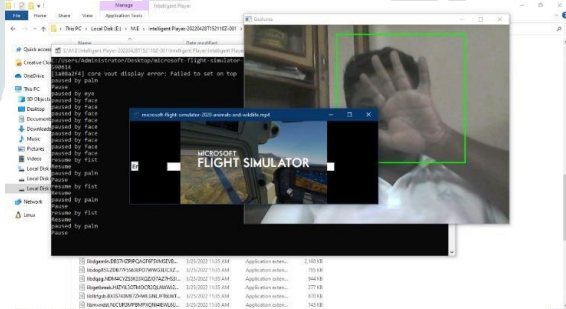
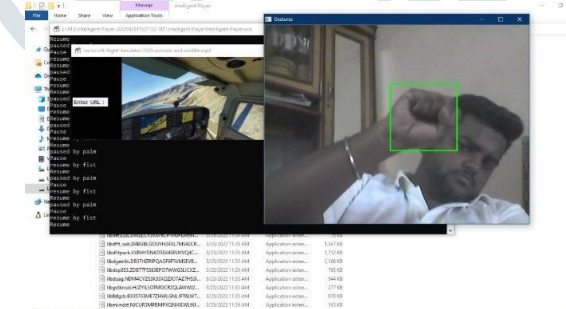2.Once the GUI has appeared the user has to select the respective video which he/she has to watch.

3.After selecting the video, the camera will be enabled and the video will begin playing.The following image shows the camera detecting the faceand eyes as shown by green squares indicating the eyes and red squares indicating the face.

4.As shown in the following output, video is pausedwhen using hand gestures; the camera will pause video if it detects the palm

5.As shown in the following output, video is played by using hand gestures; the camera will play video if itdetects the fist.

IX . CONCLUSION

In this project, we aim to help the user get a better experience of using intelligent media players. We are doing this by using hand gestures and face detection for controlling features of the media player such as playing the video and pausing when proper hand guestures are being given as input.

The main purpose of this research was to explore

System that allows for detection of the face and hand gestures.

- The system has to be user-friendly his device will be very
- useful for people who are paralyzed or handicapped as it
- would allow them to control their computer without using their hands.

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