

PYTHON LAB - MINI PROJECT

FACE RECGONITION *& DETECTION* *SYSTEM*

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Problem Statement:

We have developed a program to detect and recognize the face of a already registered user using various libraries.

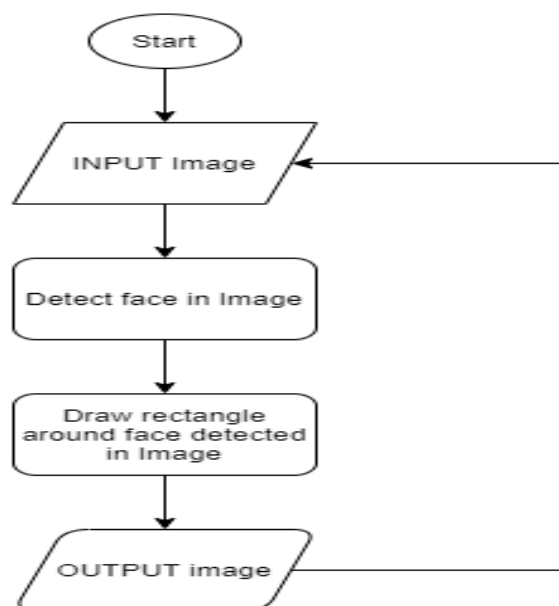
We have also build a GUI (Graphical user Interface) with the help of tkinter Library which in turn helps the user.

System Architecture

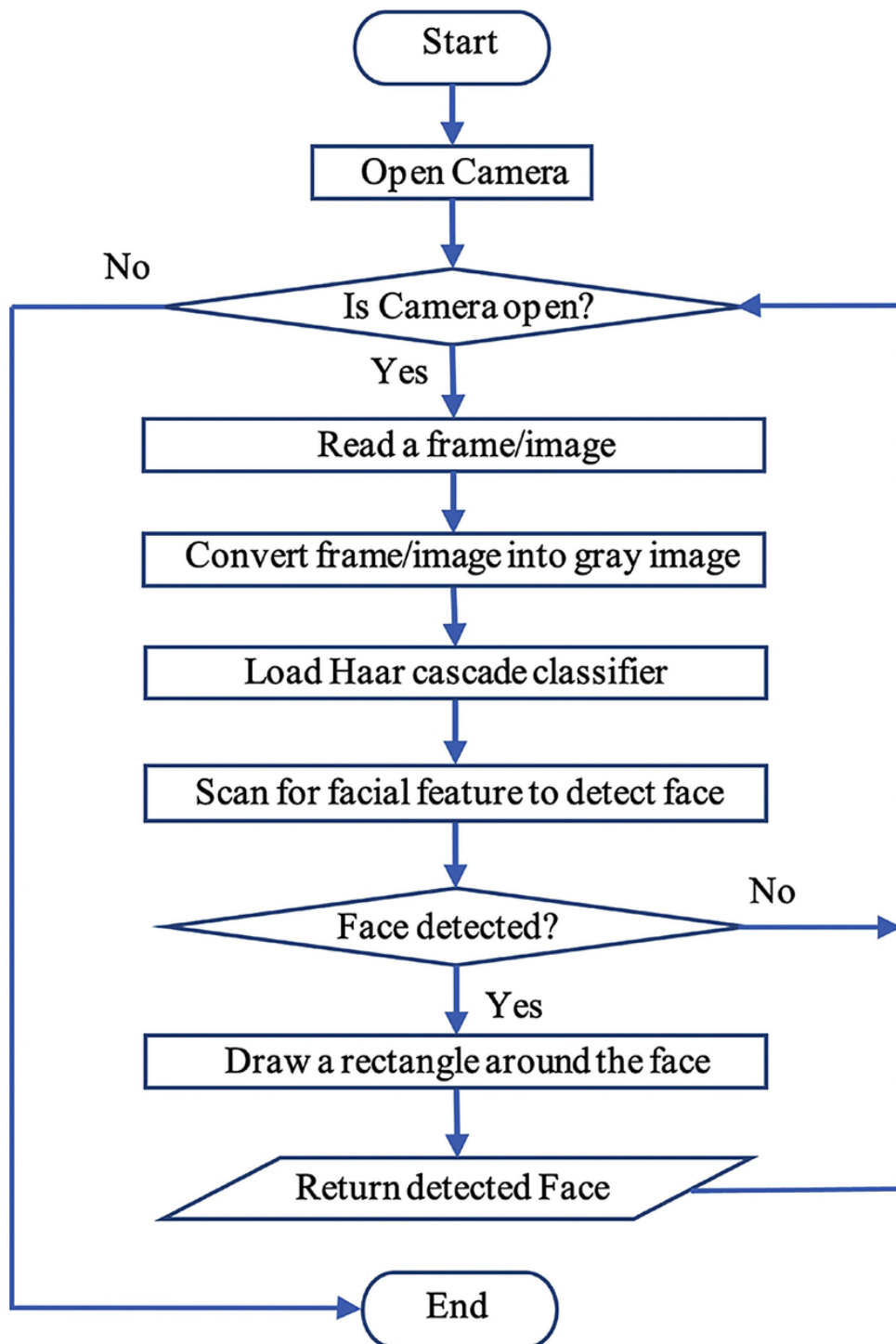
The libraries used for the code are:

- Tkinter- for GUI.
- OS - provides the facility to establish the interaction between the user and the operating system.
- cv2 - For capturing video using OpenCV.
- Random
- Numpy

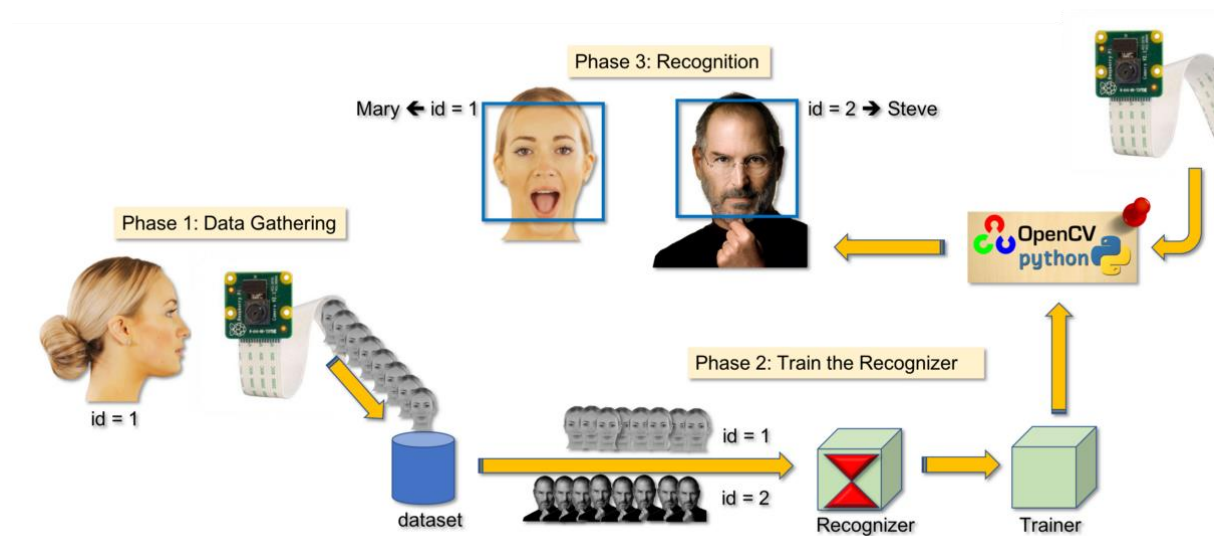
Flow Diagram for Photo & Video:



Flow Diagram for Web Cam:



Flow Diagram for Face Recognition:



Output

Main Output Screen (GUI):

The GUI for the Face Recognition & Detection System is displayed in a window titled "FACE RECGONITION AND DETECTION".

FACE RECGONITION & DETECTION SYSTEM

Input fields for user identification:

- ID:
- Name:

FACE DETECTION

Buttons for detection methods:

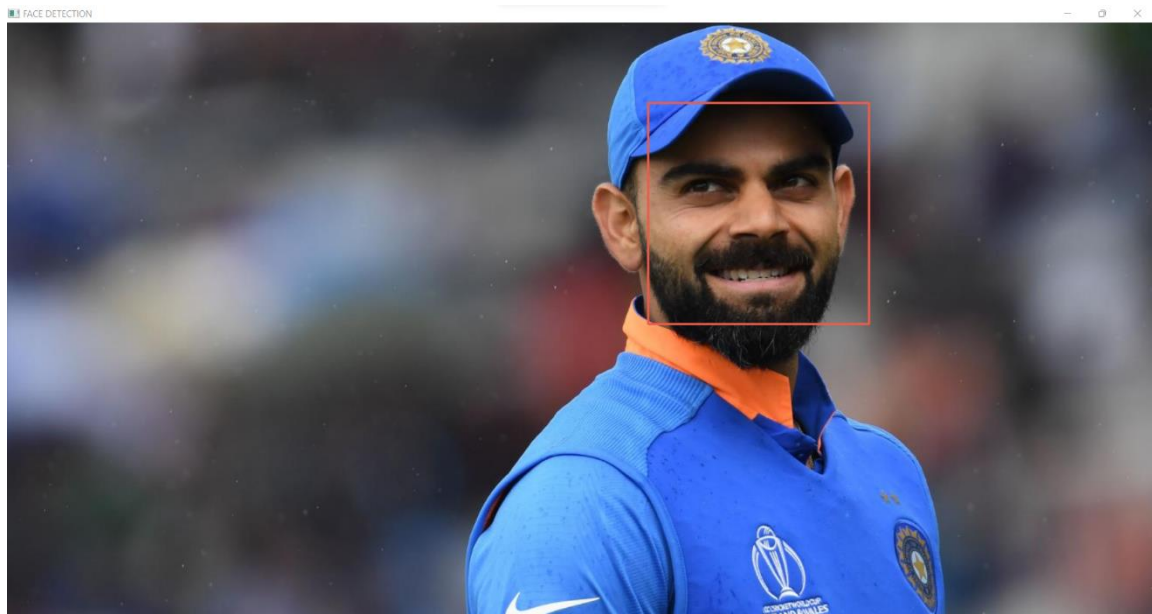
- PHOTO
- VIDEO
- WEB CAMERA

FACE RECGONITION

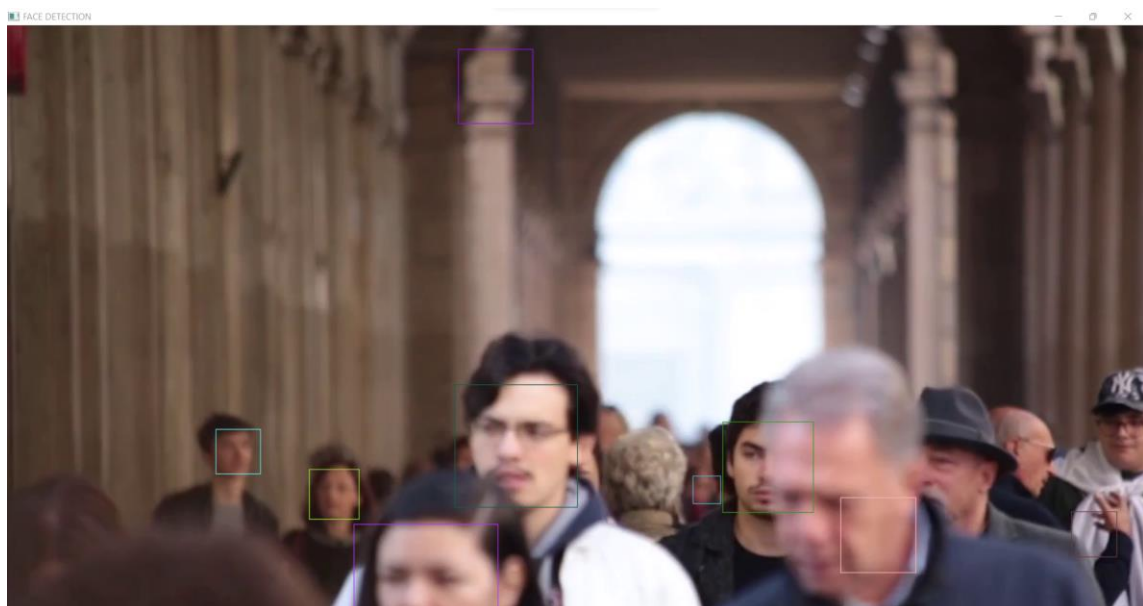
Buttons for recognition actions:

- TAKE IMAGE
- TRAIN IMAGE
- RECOGNIZE
- Quit

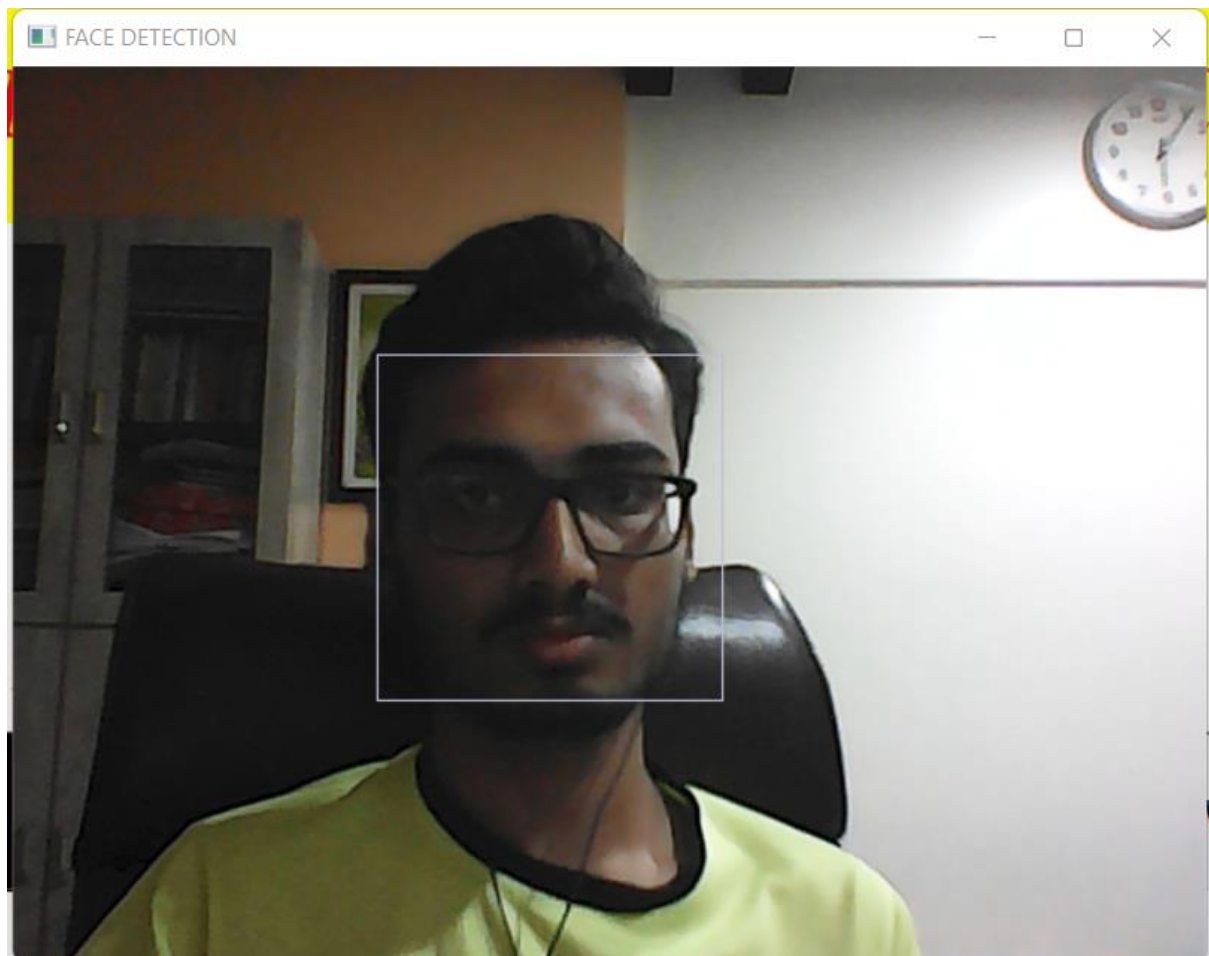
Face Detection in a Photo (Virat Kohli):



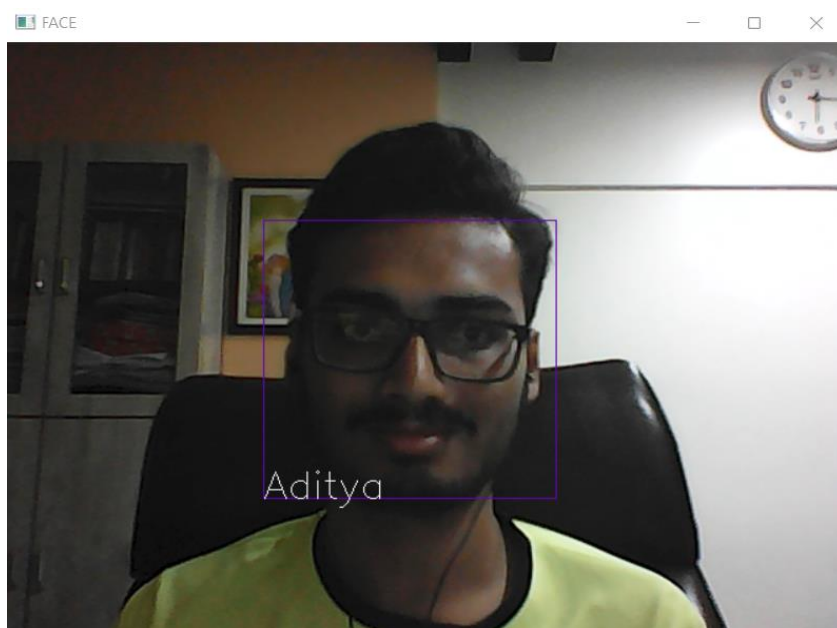
Face Detection in a Video:



Face Detection on a Web Cam:



Face Recognition:



Implementation:

The use of this program or in general use of face detection and face recognition application is mainly in attendance of staff, student, employees in different field.

Conclusion

In conclusion, we had a great experience learning the system architecture and coding the entire mini project. We understood the various different types inbuilt functions of the cv2 module which helped us in the face detection process. We also learnt the different elements of the tkinter library which allowed us to create the entire GUI of our project. We hope we can construct better codes and projects and excel in this field in the coming years and learn about other different python modules and functions.

References:

<https://www.geeksforgeeks.org/python-face-recognition-using-gui/>

<https://stackoverflow.com/>

<https://stackoverflow.com/>