MIINI PROJECT

PYTHON

WEBCAM MOTION DETECTOR

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Aim :

Detect the moving objects with webcam and log their entry and exit time to/ from the camera.

OpenCv

The Open Source Computer Vision Library has >2500 algorithms, extensive documentation and sample code for real-time computer vision.

OpenCV supports a wide variety of programming languages like Python, C++, Java, etc. It can process images and videos to identify objects, faces, or even the handwriting of a human.

OpenCv use:

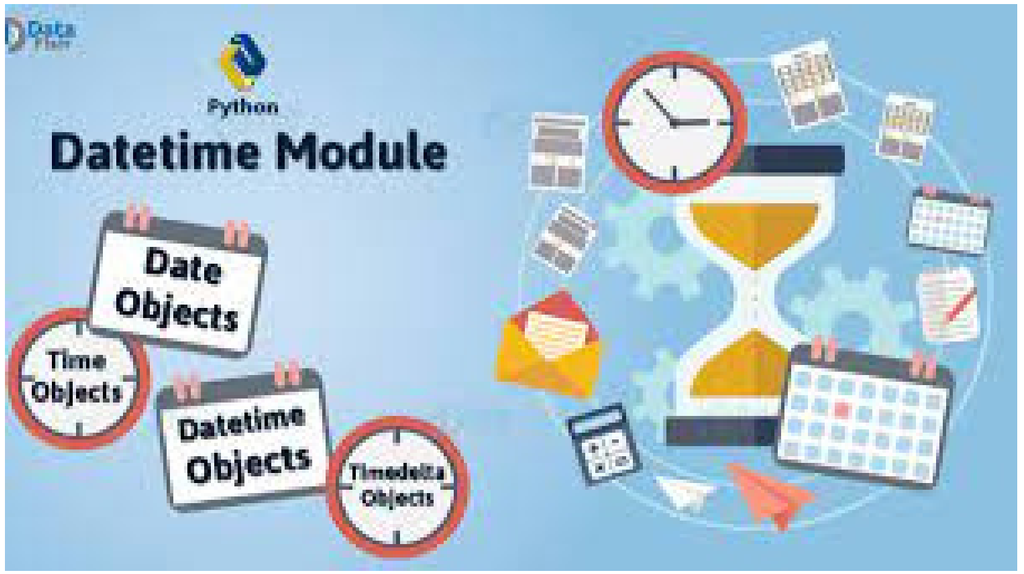
Computer vision is a field that deals with acquiring and processing images and make decisions based on the images.

pip install opencv-python

- cv2.VedioCapture()
- cv2.destroyAllWindows()
- cv2.cvtColor()
- cv2.imshow()

Other Libraries

pandas



Implementation:

Take 1st frame as base:

Using while loop take another frame

Create Delta image

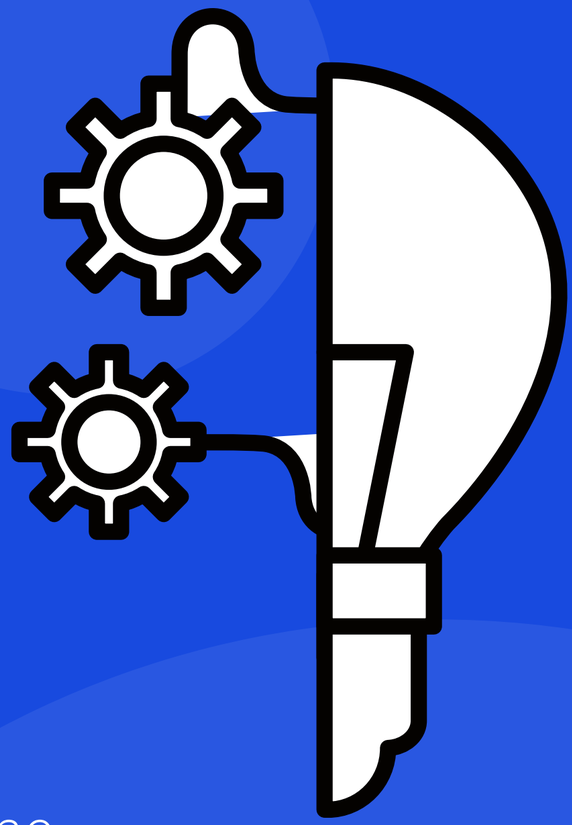
Create Threshold image

Find Contours

Detect Motion and built green frame

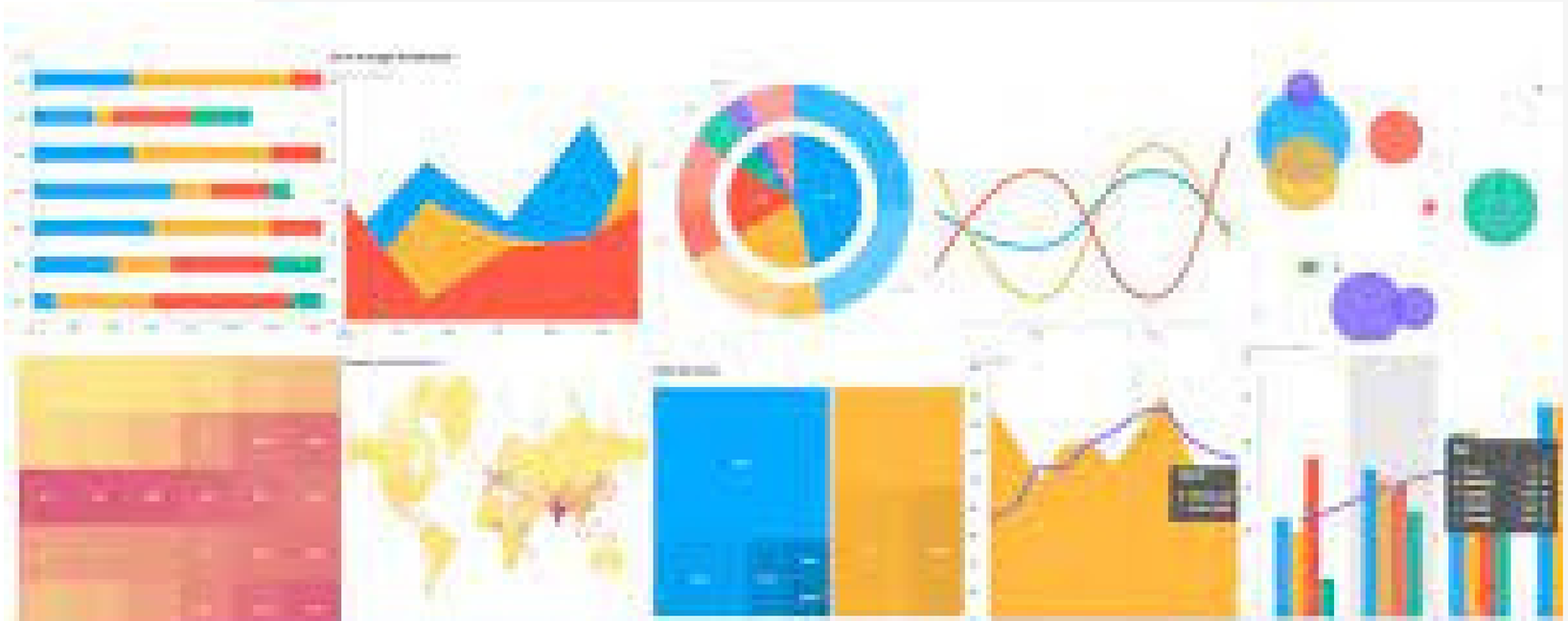
Note time

Plot



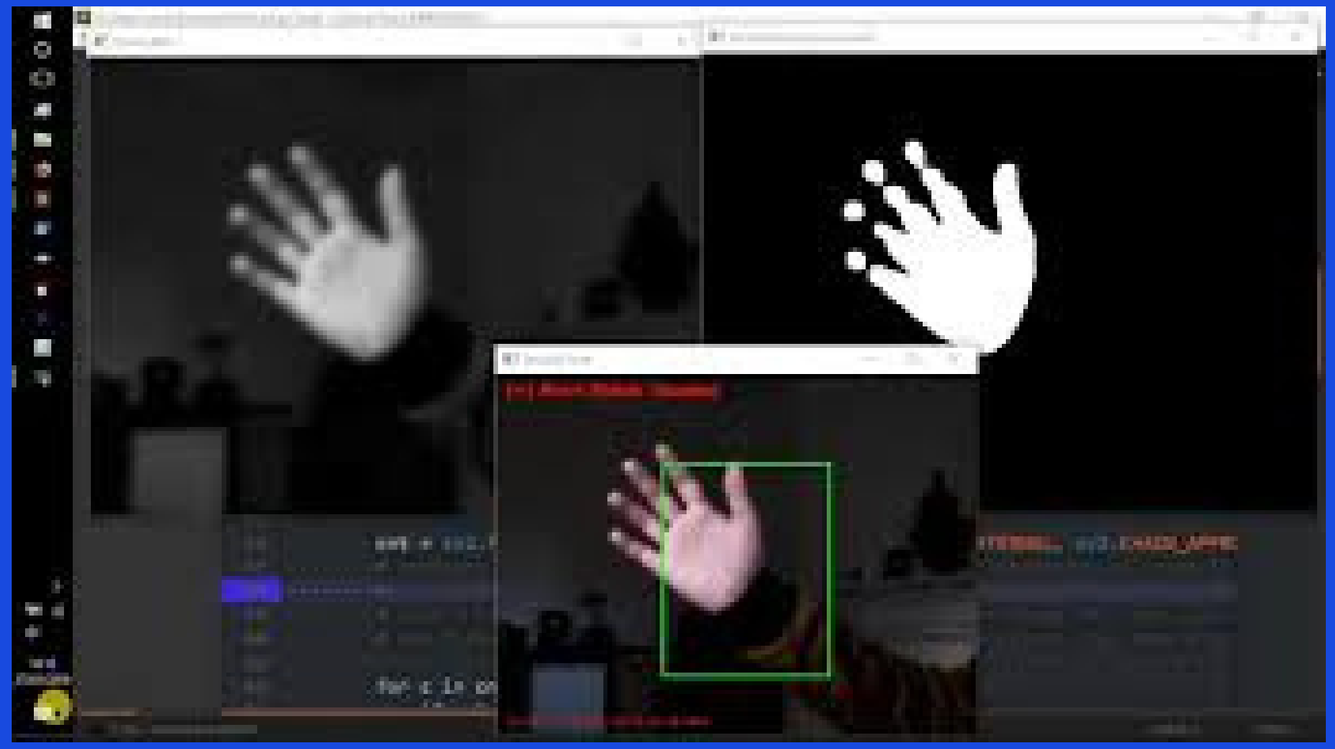
Bokeh Library

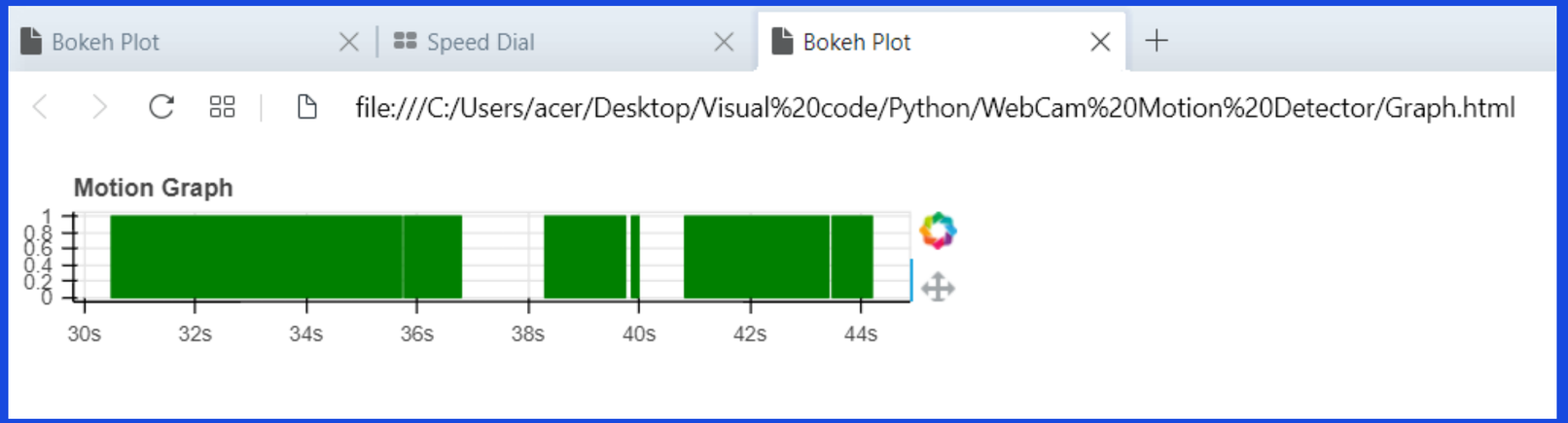
Bokeh is a Python library for creating interactive visualizations for modern web browsers. It helps you build beautiful graphics, ranging from simple plots to complex dashboards with streaming datasets.



Output:

The original image
The Delta frame
The Threshold frame





The Bokeh Plot

Future Scope:

(1)

In Future to improve it we could embed it in a webapp ,deploy it on Heroku .

(2)

Rather using a webcam we can use a camera and deploy it on Rasberry Pi .
It will make it simple and fast.

(3)

Also, we could do is to click the image of the object in motion.

THANK YOU