ಜೆ **AavulaTharun** / **Image-acquisition-from-web-camera**   Public

forked from etjabajasphin/Image-acquisition-from-web-camera

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AavulaTharun   ...   8 minutes ago   🕑

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Image-Acquisition-from-Web-Camera

Aim

Aim:

To write a python program using OpenCV to capture the image from the web camera and do the following image manipulations. i) Write the frame as JPG

ii) Display the video

iii) Display the video by resizing the window

iv) Rotate and display the video

Software Used

Anaconda - Python 3.7

Algorithm

Step 1: Import Opencv Package.

Step 2: Capture the Video from the WebCamera.

Step 3: Write the image to a file.

Step 4: Show the image or the live camera.

Step 5: End the program.

Program:

```
### Developed By:Aavula Tharun
### Register No:212221240003

## i) Write the frame as JPG file
import cv2
video = cv2.VideoCapture(0)
while(True):
    t,frame = video.read()
    cv2.imwrite("Newpicture.jpg",frame)
    result=False
    if cv2.waitKey(1) == ord('b'):
        break
video.release()
cv2.destroyAllWindows()
```

```
## ii) Display the video

import cv2
pic = cv2.VideoCapture(0)
while True:
    t,frame = pic.read()
    cv2.imshow('frame',frame)
    if cv2.waitKey(1) == ord('b'):
        break
pic.release()
cv2.destroyAllWindows()
```

```
## iii) Display the video by resizing the window
```

```python
import numpy as np
import cv2
im = cv2.VideoCapture(0)
while True:
    ret,frame = im.read()
    width = int(im.get(3))
    height = int(im.get(4))
    image = np.zeros(frame.shape,np.uint8)
    smallerFrame = cv2.resize(frame,(0,0),fx = 0.5,fy=0.5)
    image[:height//2,:width//2] = smallerFrame
    image[height//2:, :width // 2] = smallerFrame
    image[:height//2, width//2:] = smallerFrame
    image[height//2:, width//2:] = smallerFrame
    cv2.imshow('frame',image)
    if cv2.waitKey(1) == ord('b'):
        break
im.release()
cv2.destroyAllWindows()
```
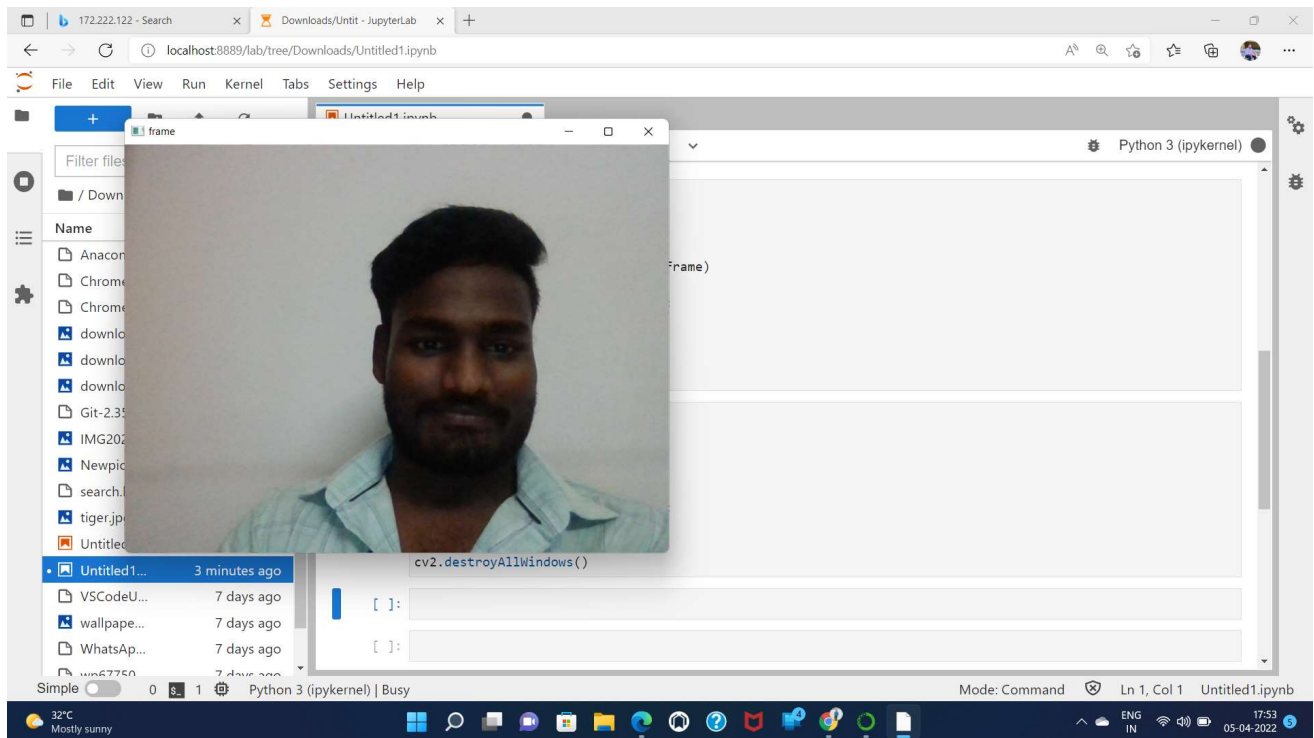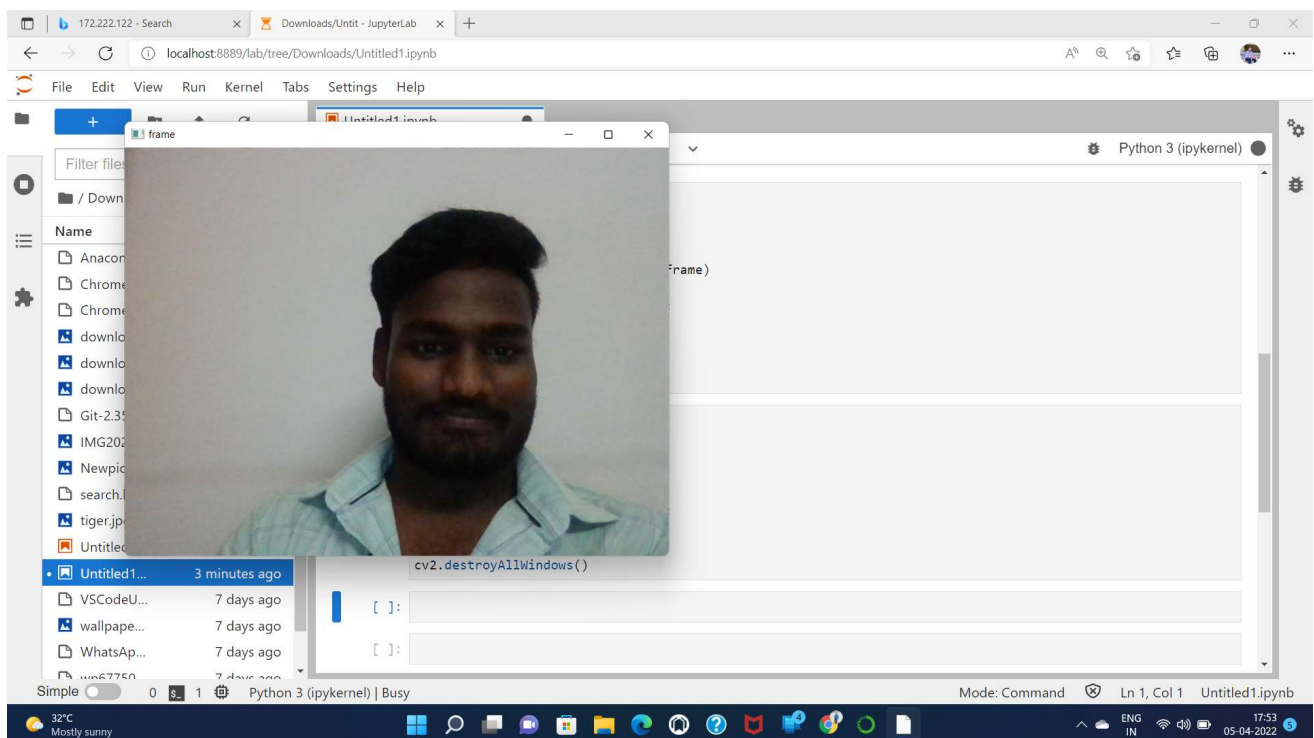
iv) Rotate and display the video

```python
import numpy as np
import cv2
im = cv2.VideoCapture(0)
while True:
    ret,frame = im.read()
    width = int(im.get(3))
    height = int(im.get(4))
    image = np.zeros(frame.shape,np.uint8)
    smallerFrame = cv2.resize(frame,(0,0),fx = 0.5,fy=0.5)
    image[:height//2,:width//2] = cv2.rotate(smallerFrame,cv2.ROTATE_180)
    image[height//2:, :width // 2] = smallerFrame
    image[:height//2, width//2:] = smallerFrame
    image[height//2:, width//2:] = cv2.rotate(smallerFrame,cv2.ROTATE_180)
    cv2.imshow('frame',image)
    if cv2.waitKey(1) == ord('b'):
        break
im.release()
cv2.destroyAllWindows()
```
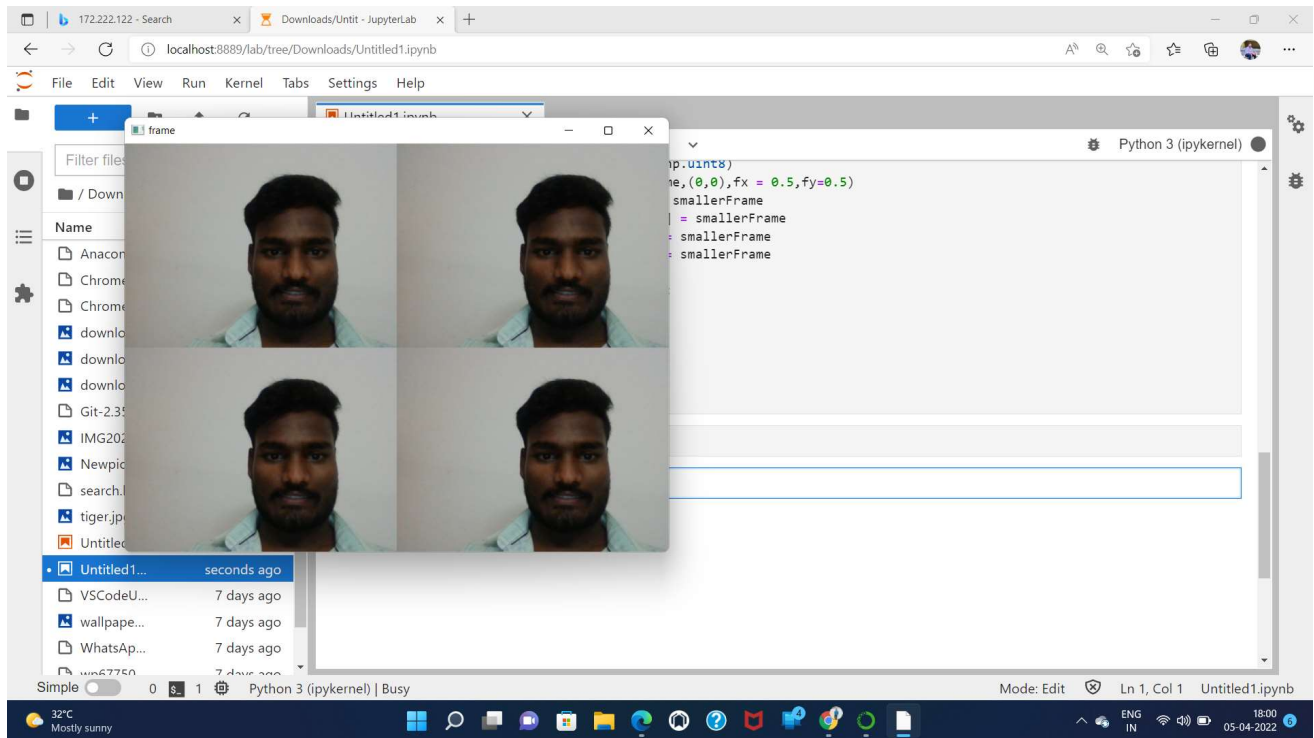
Output

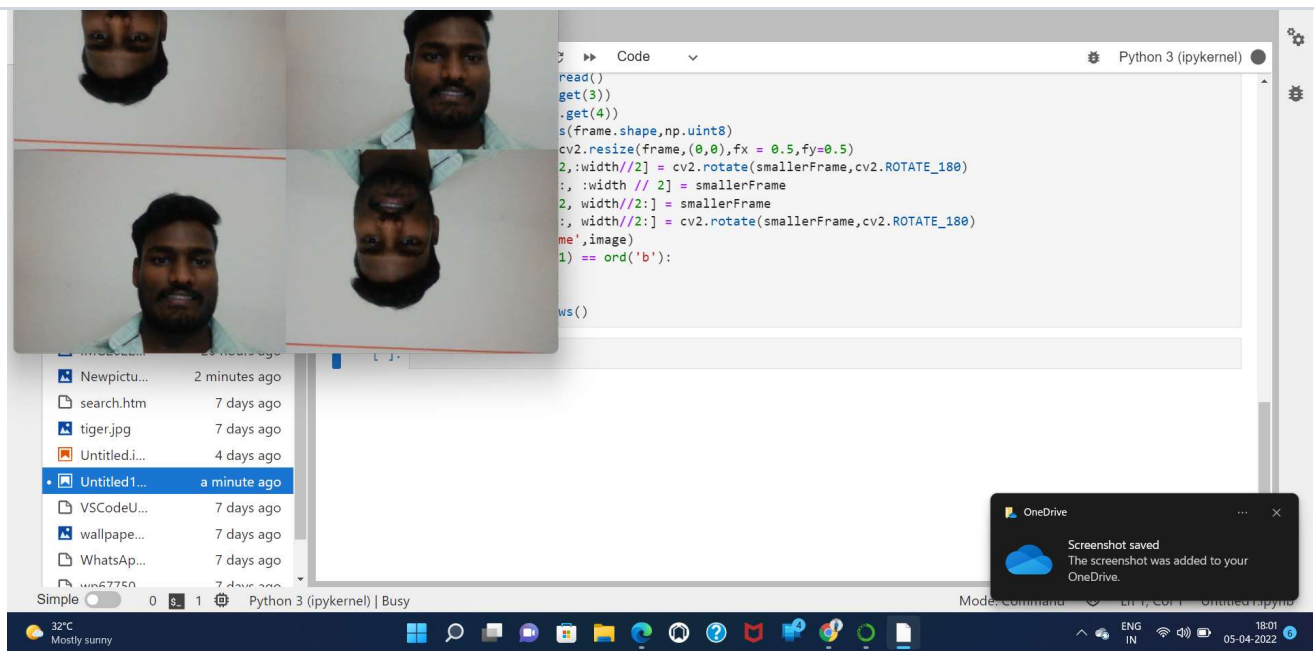# i) Write the frame as JPG image

ii) Display the video

iii) Display the video by resizing the window

iv) Rotate and display the video

README.md

Result:

Thus the image is accessed from webcamera and displayed using openCV.

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