OpenCV CCTV Camera Software

Md. Abrar Jahin

Undergrad student (2nd year), Industrial Engineering and Management

Khulna University of Engineering and Technology

I've made a project on Python using OpenCV that is CCTV Camera Software. To run this source code on compiler, firstly make sure that the opencv is intalled using `!pip install opencv-python` . Then importing cv2, time,win32gui,win32con the codes can be run successfully. After running this code, it'll ask for the intention. Press '1' to check the CCTV camera running background. Then just clicking 'esc' button can stop it or 'm' to minimize the window.

In [1]:
```
!pip install opencv-python
```

```
Requirement already satisfied: opencv-python in h:\anaconda-new\envs\tensorfl
ow\lib\site-packages (4.2.0.34)
Requirement already satisfied: numpy>=1.14.5 in h:\anaconda-new\envs\tensorfl
ow\lib\site-packages (from opencv-python) (1.18.1)
```

In [2]:

```
import cv2,time
from os import mkdir
# importing modules to add minimize features in app
import win32gui
import win32con

#=============================================================
try:
    mkdir('footages')
except FileExistsError:
    pass
#=====metod to add minimize feature ============================
def minimizeWindow():
    window = win32gui.GetForegroundWindow()
    win32gui.ShowWindow(window,win32con.SW_MINIMIZE)

#========================== Video Camera=========================
def cctv():
    video = cv2.VideoCapture(0)
    #=======set new resolution of camera
    #video.set(cv2.CAP_PROP_FRAME_WIDTH,320)
    #video.set(cv2.CAP_PROP_FRAME_HEIGHT,240)
    video.set(3,640)
    video.set(4,480)
    width = video.get(3)
    height = video.get(4)
    print("Video resolution is set to: ",width,'X',height)
    print("--Help:  1. press esc key to exit cctv\n2. press m to minimize wind
ow.")
    #==========
    fourcc = cv2.VideoWriter_fourcc(*'XVID')
    date_time = time.strftime("recording %H-%M -%d %m %y")#set current time as
video name
    output = cv2.VideoWriter('footages/'+date_time+'.mp4',fourcc,20.0,(640,480
))
    #=====
    while video.isOpened():
        check,frame = video.read()
        if check == True:
            frame = cv2.flip(frame,1)


            ###================ show time of recording ========
            #t= time.strftime("%H:%M:%S   %d %m %y")
            t = time.ctime()
            cv2.rectangle(frame,(5,5,100,20),(255,255,255),cv2.FILLED)
            cv2.putText(frame,"Camera 1",(20,20),
                        cv2.FONT_HERSHEY_DUPLEX,0.5,(5,5,5),2)
            cv2.putText(frame,t,(420,460),
                        cv2.FONT_HERSHEY_DUPLEX,0.5,(5,5,5),1)


            cv2.imshow('CCTV camera',frame)
            output.write(frame)

            #====== close window when user click esc button
```

```
            if cv2.waitKey(1) ==27:
                print("Video footage saved in current directory.\n Be safe & S
ecure")
                break
            #===== call minimizeWindow method when user press m
            elif cv2.waitKey(1) ==ord('m'):
                minimizeWindow()
        else:
            print("can't open this camera. select other or check its configura
tion.")
            break
    video.release()
    output.release()
    cv2.destroyAllWindows()
#================================ now time to run the app=================
print("*"*80+"\n"+" "*30+"Welcome to CCTV software\n"+"*"*80)
ask = int(input('do you want to Start cctv ?\n1. Yes\n2. No\n>>> '))
if ask ==1:
    cctv()
elif ask ==2:
    print("ba bye! be safe & secure!")
    exit
```

```
********************************************************************************
***
                                Welcome to CCTV software
********************************************************************************
***
do you want to Start cctv ?
1. Yes
2. No
>>> 1
Video resolution is set to:  640.0 X 480.0
--Help:  1. press esc key to exit cctv
2. press m to minimize window.
Video footage saved in current directory.
 Be safe & Secure
```