Instructions for Extracting frames from Videos

Note: It is assumed that all the group members have installed Python and PIP (Python Installer Package) on their PCs.

Note: For the Latest versions of Python, PIP is already included in the setup, user just has to mark that option to install it along with Python

However, these are some links to install Python with PIP :

https://phoenixnap.com/kb/install-pip-windows

https://pip.pypa.io/en/stable/installing/

For correctly running the imageToFrames.py file:

- **Install OpenCV – Python:**
  Using pip command, open Command Prompt and type:
  pip install opencv-python
  If facing any errors, please search online or ask me.
  Some of the links for installing OpenCV are:
  - https://pypi.org/project/opencv-python/ -- **Recommended**
  - https://pysource.com/2019/03/15/how-to-install-python-3-and-opencv-4-on-windows/

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User just need to change the **'VIDEO_PATH'** named variable in the **line 13** with your actual video path. I have provided a sample example in **line 11 and line 12**. **Note the '\\'. Use this instead of '\' in Windows OS.**

```
1  """
2  Created on Tue Jul 21 18:34:39 2020
3  @author: karan
4  """
5
6  # importing library
7  import cv2
8  import os
9
10 # path of the Video file
11 # For Ubuntu OS : Example : VIDEO_PATH = '/home/karan/Desktop/temp/vtest.mp4'
12 # For Windows OS : Example : VIDEO_PATH = 'F:\\temp\\vtest.mp4'
13 VIDEO_PATH = 'path\\to\\video\\file\\video.mp4'
14
15 # path of the Folder where you want to save the frame
16 SAVE_IN = os.path.join(os.path.split(VIDEO_PATH)[0],
17                        os.path.split(VIDEO_PATH)[-1].split(".")[0])
18
19 if not os.path.exists(SAVE_IN):
20     print("[INFO] Folder created...")
21     os.mkdir(SAVE_IN)
22 else:
23     print("[INFO] Folder already exists. Contents of the folder will be overwritten...")
```

For convenience, a folder will be created in the same directory where the video file exists. This newly created folder will have same name as the video file. This folder will store all the frames of the corresponding video that are generated during the execution of the python script.

Also, note that if a folder with the same name as the video file exists in that directory, then the contents of that folder will be over-written with the newly generated frames as stated in **line 22**. So, be clear with this.

To run the imageToFrames.py file:

1. Open Command Prompt.
2. Change the virtual environment if any.
3. Change the directory and move to the folder where this python file exists.
4. Edit the **'VIDEO_PATH' variable** in the script.
5. Then run using : python imageToFrames.py
6. You will see few messages as the command line output.

7. While the code is running, you can press **'q' key** to stop and quit the execution.
8. At the end, you will see the number of images generated and the exact path where they are generated as stated in **Line 64** of the below image.

```
59  # release the 'capture' object
60  capture.release()
61  # destroy all windows
62  cv2.destroyAllWindows()
63  print("[INFO] Task completed...")
64  print("[INFO] {} images generated at {}".format(frameCounter, SAVE_IN))
```

In Windows OS, my output looks like the below figure

```
F:\temp>python imageToFrames.py
[INFO] Folder created...
[INFO] fps =  20.028
[INFO] Task completed...
[INFO] 47 images generated at F:\temp\vtest
```

This should successfully generate frames from the videos.

If you face some errors, try correcting it yourself first, and then contact me or other members.

Sincerely yours

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