Content

1. Preparation

You are supposed to run the project under Linux Ubuntu environment with sudo right.

First of all, make sure your computer has FFmpeg library with all possible parameters able to be adjusted including fps, bit rate, crf and voice.

Secondly, to run the instruction smoothly, it is required that you have some libraries for Python 3: matplotlib, numpy, pyplot, subprocess, time.

Two methods for installing matplotlib, numpy, pyplot libraries:

1) pip3 installation method

open terminal, insert the instructions:

```
1.  apt install python3-pip
2.  pip3 install numpy
3.  pip3 install scipy
4.  pip3 install matplotlib
```

2) Or using apt to install:

```
1.  apt-get install python3-scipy
2.  apt-get install python3-matplotlib
```

the installation is for figure display of the result.

2. Operation

After all the libraries are installed mentioned above, open your terminal and use 'cd' instruction to make sure current route is in "Github_Yiming_Cui" folder.
Then, insert

```
1.  python3 TestBed.py
```

You would later see the instructions shown in terminal. To begin with, I suggest you press 1 for the first time when test the project to generate all necessary video files, which would take a few seconds.

After everything is generated, please press 2 to start the testing, it is noticeable that during quality testing for fps, bit rate and crf, there would always be two result shown with interval of 5 seconds. The first one would be static video while the second one is dynamic video.
It is possible to test every video and see the graph of result in such project. All of the results are also noted down in the report clearly with comment.
Reminder: The "human" and "object" in the test bed refers to "static" and "dynamic" in the report. That is because there are two types of videos: static(human, who is a beautiful lady) and dynamic(object, which is a boat).