Austin Blackstone

Job: Developer Evangelist at Treasure Data

Engineer_Austin

linkedin.com/in/austinblackstone

BlackstoneEngineering

Intro to ffmpeg

Command line video editing

Setup

- Install ffmpeg and VLC - `brew install ffmpeg, vlc`
- Download github repo: GitHub.com/BlackstoneEngineering/ffmpeg-workshop

Schedule

Basic Use

- Convert video
- Transition video
- Trim Video
- WaterMark

Advanced Use

- Moving Watermark
- Formatting for Social Media

FFmpeg Basics

`ffmpeg [options] [[infile options] -i infile]... {[outfile options] outfile}...`

Convert .flv to .mp4

```
ffmpeg -i intro.flv -c:v libx264 intro.mp4
```

By specifying file type (.flv, .mp4) ffmpeg will try to convert between them.

For .mp4 osx will try to use the quicktime codec, the best format is `libx264`, so we specify this as an override with `-c:v libx264`

Now we have the intro.mp4 to use for the rest of the project.

Trim

```
ffmpeg -i intro.mp4 -ss 00:00:02 -to 00:00:04 -c:v libx264 intro.mp4
```

-ss starts the time offset

-to time_stop

In this command we take the intro.mp4 file, and cut out a 2s clip from 2s->4s, we then overwrite the intro.mp4 file with it.

This is an explicit time spec, you can also do relative with the `-t` duration, `-frames` to specify number of frames, or `-fs` to limit file size.

Concatenate (join) Video

```
ffmpeg -f concat -i videos.txt -c copy output.mp4
```

Use the concat protocol to merge videos together.

To change the order or videos change the order in the `videos.txt` file.

videos.txt
file 'intro.mp4'
file 'mid.mp4'
file 'end.mp4'

Watermark

`ffmpeg -i output.mp4 -i logo.png -filter_complex "overlay=10:10" output2.mp4`

Overlay the logo.png at a watermark on the video.

The `-filter_complex "filter"` is used to overlay the image on the video
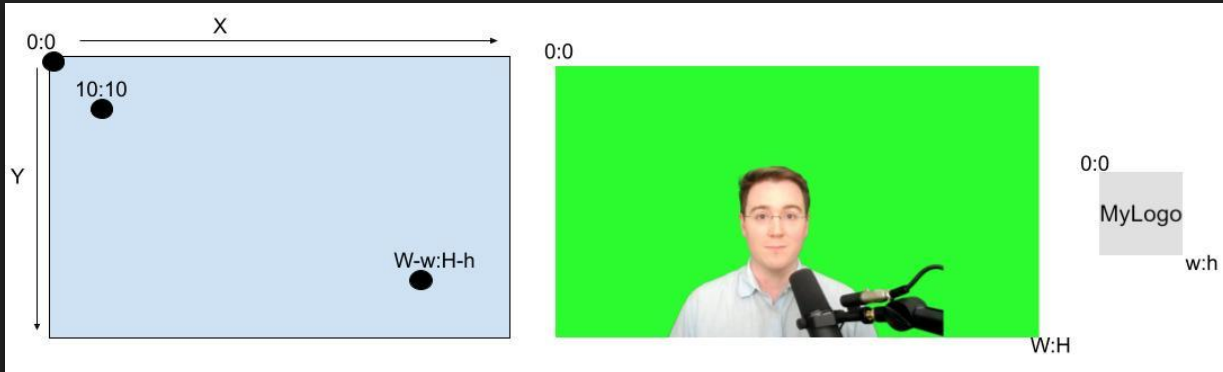
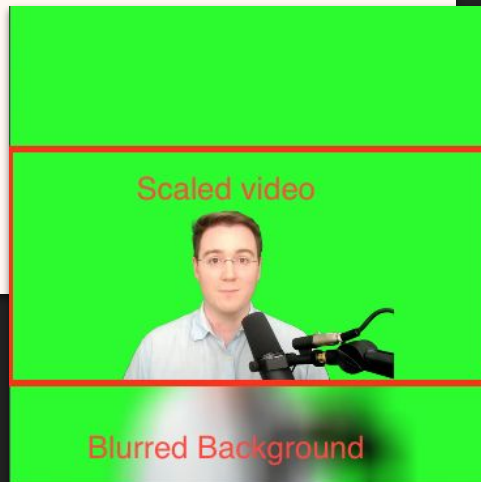`ffmpeg -i output.mp4 -i logo.png -filter_complex "overlay=W-w:H-h" output3.mp4`

FFmpeg Advanced

`-filter_complex "...[l1];...[l2];...[outv]" -map [outv]`

Social Media Formatting

```
ffmpeg -i output.mp4 \

    -filter_complex \
        "[0:v]scale=1080:1080,setsar=1,boxblur=luma_radius=min(h\,w)/20:luma_p
        ower=1:chroma_radius=min(cw\,ch)/20:chroma_power=1[bg];

        [0:v]scale=1080:608:force_original_aspect_ratio=decrease[fg];

        [bg][fg]overlay=(W-w)/2:(H-h)/2[outv]" \

    -map [outv] \

    -map 0:a? \

    output_social.mp4
```

Moving Watermark

```
ffmpeg -i output.mp4  -loop 1 -i logo.png \

-filter_complex \
    "[1:v]scale=iw*0.2:-2, pad='iw+20:ih+20:10:10:0x000000@0.0'
    ,tile=25x25[logo];
    [0:v]scale=1080:1080,setsar=1,boxblur=luma_radius=min(h\,w)/20:luma_power
    =1:chroma_radius=min(cw\,ch)/20:chroma_power=1[bg];
    [bg][logo]overlay=-'mod((((t-0.9)*120)/5),w*0.2)':-'mod((((t-0.9)*120)/5)
    ,w*0.2)'[mg];
    [0:v]scale=1080:608:force_original_aspect_ratio=decrease[fg];
    [mg][fg]overlay=(W-w)/2:(H-h)/2[vout]" \

-map "[vout]" -map 0:a? -t 00:00:10 output_moving_logo.mp4
```
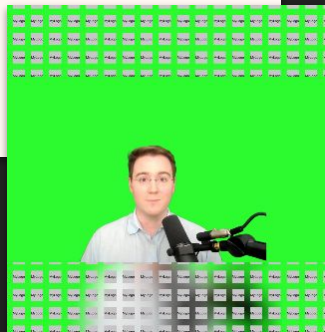
Questions?

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