

# Technology Question - How Best To Create "Video" With Speech Matched To Scrolling Text

Post by "Cassius" of October 10, 2019 at 4:08 PM

I am thinking ahead to the Lucretius book review discussion, and I am realizing that we have a continuing need for computer method that will allow us to create video that is mostly the spoken reading of text that scrolls by on the screen as it is being read. In other words, for example, creating a video of an audio reading of a letter of Epicurus while the text of the letter scrolls by in the video.

I have confronted this issue before in creating the "[Foundations of Epicurean Philosophy](#)" video without really coming to a satisfactory conclusion. It is very tedious to match text to the audio and flash it by in segments, so what I am wondering is this:

It ought to be possible to record a segment of text on audio, and then move that audio file into a video processor where it can be matched to a text file of the same material. When I say "matched" I mean that in most video editors the audio file shows up on screen as a picture of the waveform of appropriate length. What then needs to be done is to add the "text file" of the text into the editor, and then drag that out to the same length as the audio waveform along with a "scroll this" command - kind of like the opening scene of the original Star Wars movie, but not necessarily fading into the background but simply scrolling from bottom of the screen to the top.

We ought to have a number of people who are capable of creating text excerpts like this, so I would like to develop a recommended procedure in which we identify the program and the method to recommend. In order to make that accessible to as many people as possible it would be desirable if the programs were free (such as, for example, the AUDACITY editor for editing audio) .

But the first order of business is probably to find a method that as many people as possible will find convenient, whether it is "free" or not.

I will work on this and report back in this thread.

My preferred tool is linux, but we aren't limited to that. As for free programs, the Audacity audio editor will do all the audio editing that we need, and such free video editors as KDENLIVE and OPENSLOT may do some of the video, but not necessarily the scrolling effect that is really needed.

If you are knowledgeable in computers and have a suggestion I would really appreciate it.

---

## Post by “Kyle” of October 10, 2019 at 11:50 PM

I'm making a python script that will do this. I'll attach my code repository for it in case anyone wants to see, it's almost done except I must match the scrolling speed with the audio speed.

Code repository:

<https://github.com/kpence/text-sc...ext-scroller.py>

---

## Post by “Kyle” of October 11, 2019 at 3:27 AM

I got it so that the scroll speed matches the speed of the Text-To-Speech. Here's my demo of it:

<https://youtu.be/2k2TAh82I9I>

I'll make a user interface so you can either upload audio or use your system's Text-To-Speech. I'm gonna create an installer so it's easy for other people to use, I'll do that tomorrow.

---

## Post by “Cassius” of October 11, 2019 at 5:50 AM

WOW KYLE THANK YOU! I was hoping that there might already exist some kind of sourceforge or github project to do such a thing, but it never occurred to me that it might be possible that someone here could make one specially for this use!

The demo looks great! I looked over the code and it seems so simple, but I don't know the first thing about Python programming.

I see you have a place to specify the color of the background, and the video size. That's excellent too. I can imagine that someone doing this might want to take the resulting video and surround it with some kind of frame or Titling, and the ability to specify those settings ought to be easy enough to take the result and do that in any video editor. I can see someone's first request might be the ability to specify a fixed title, a special font, and a background image instead of a simple color, and if I were to dare to make requests those would probably be it, but even as is this looks highly usable. (As to the font I mean the default font for the entire scrolling text, not the ability to change fonts within it - I presume that would require it's own word

<https://www.epicureanfriends.com/thread/1212-technology-question-how-best-to-create-video-with-speech-matched-to-scrolling-te/>

processor. But it's not clear to me whether the python program is being input text in Ascii format, or RTF, or what.)

Many many thanks for taking this initiative!!

---

## **Post by “Kyle” of October 11, 2019 at 12:04 PM**

The input text must be in ASCII format.

```
printable = set(string.printable)
audio_txt = [filter(lambda x: x in printable, origin_txt)]
```

these two lines strip everything that isn't ASCII.

I simplified the script a little bit and commented to make it simpler.

I added options for user to specify a bunch of new stuff, including backgrounds.

Quote

if I were to dare to make requests

No, feel free to be creative with requests!

Here's another demo, I chose ugly red text but it's easy to change in the ALL CAPS options at the top of the script (FONT\_COLOR)

<https://youtu.be/7rRDSR4h1ps>

Next is to add a static title!

---

## **Post by “Cassius” of October 11, 2019 at 12:35 PM**

Amazing! I am out but will try as soon as I get home. Thank you!

---

## **Post by “Cassius” of October 11, 2019 at 12:36 PM**

Hmm did you mean to include a link to a video?

---

## **Post by “Kyle” of October 11, 2019 at 12:40 PM**

Oops, I forgot I added that to my edit draft.

Edit: Ok I added the demo.

Next is adding explanation for beginners how to set it up on different operating systems, creating an installer, and static title text.

(also i should add a background offset)

(Also, I love how my Text to Speech says "them" like "them-i-ser-fer". I don't know why it does that)

---

## **Post by “Cassius” of October 11, 2019 at 1:15 PM**

More greatness! Thank you!

---

## **Post by “Cassius” of October 11, 2019 at 1:19 PM**

I can imagine using this in at least two ways: (1) using it to produce just the scrolling text, and then dropping the resulting video into a video editing program to customize the area around the box with the text. (2) as is, just as you are doing, combining a user-spoken MP3 with the text that is being spoken. You're adding options that will make option (2) very viable, but if it gets to be to huge a project, option (1) should always be workable too. My experience is that it's next to impossible to drop a large amount of text into any standard video-editor program, so this will solve that problem elegantly!

---

### **Post by “Cassius” of October 11, 2019 at 1:20 PM**

What kind of text-to-speech engine are you using? I am familiar that Android has something but is your engine something that is native to Windows or Mac or Linux or Python or what?

In the end I am thinking that human voices will be the main use of this, but as text-to-speech improves (IF it improves) then that will be viable too. I say "if" because my experience was that the Ivona packages were leading the field before they were bought (by Amazon I think) and effectively removed from the market.

---

### **Post by “Kyle” of October 11, 2019 at 1:39 PM**

I added the option for choosing a premade audio file and it should work well. I'd recommend not leaving any silence at the beginning or end of the audio file so it matches with the scrolling text.

The scrolling text will use the length of the audio file you give it (in AUDIO\_FILE, if you leave it blank it will generate audio through TTS) in order to calculate its scrolling speed.

I uploaded the changes. Next I'm going to create an installer so it's easy for others to use

---

### **Post by “Kyle” of October 11, 2019 at 1:54 PM**

> What kind of text-to-speech engine are you using?

The python library will use whatever is native to your operating system, in my case it's using Mac.

I tested the human reading option and it works.

Here's a demo of human reading

<https://youtu.be/PhBEIuuIZ1U>

---

**Post by “Kyle” of October 11, 2019 at 1:55 PM**

BTW it will only work with MP3 (I could change that tho if y'all want, I think I will add m4a)

---

**Post by “Kyle” of October 11, 2019 at 2:11 PM**

ok, I have work and after like 5, I can set up easy install instructions

---

**Post by “Cassius” of October 11, 2019 at 2:27 PM**

THANK you Kyle! I am working with my first effort now....

Edit: Well it is taking me a while to install dependencies but I am getting there. No doubt most people of normal experience will not be able to do that, so this is something that can be handled through an installer?

---

**Post by “Kyle” of October 11, 2019 at 3:47 PM**

An installer will work..

I'm also considering making this into a web application so that you can just create the video by pasting text into a website and download it from the website

---

**Post by “Cassius” of October 11, 2019 at 3:50 PM**

WOW that would be even better! I am afraid I am asking too much! 😊

At any rate, I have all the python dependencies loaded, I believe, and the program appears to start, (the selection box moves to the next line) and there are no error messages, but it doesn't seem to be doing anything very fast, and I don't see a process I can identify as running. It did however create an audio.mp3 file that was not there in the beginning 😊

I should maybe say I am running debian stretch (MX-18)

---

### **Post by “Kyle” of October 11, 2019 at 3:52 PM**

Yeah I should make it print something at the start to let you know it's working.

It takes a very long time to create the video.

---

### **Post by “Cassius” of October 11, 2019 at 3:54 PM**

OK if it takes a long time then maybe I am good! I will let it run and just see what happens.

I presume that part of the time is that it is generating the speech to text, and I have an mp3 file that I am ready to use, but I decided to run it first using the Google TTS just so I could step through making the program work as you yourself have it running. I did substitute my own text file (the Vatican Sayings, in pure ascii) in place of yours.

---

### **Post by “Kyle” of October 11, 2019 at 3:55 PM**

Then it should work, and yes, the TTS takes time. Then it should show a progress bar once Moviepy starts to load the audio

---

### **Post by “Kyle” of October 11, 2019 at 4:24 PM**

I've decided to make a Web Application like I described earlier, it would be very enjoyable to make

---

**Post by “Cassius” of October 11, 2019 at 4:48 PM**

Great! Keep us posted. I am going to restart and work with a much smaller file and see if I can generate something 😊

---

**Post by “Kyle” of October 11, 2019 at 5:46 PM**

Admittedly, my server is going to be very slow, so a 15 minute video will take an hour to create.

---

**Post by “Cassius” of October 11, 2019 at 6:43 PM**

I will appreciate anything you can do, Kyle. Even that kind of performance would be ok, because it should be possible to generate short runs as a test, and then if someone wants to do longer ones then they can load it and wait for the result. So far all my tests are running into errors, so I presume what's going on is that without an installer to load all the required libraries, an online version would be best. And if you were to try for an installer you'd probably run into the classic Windows vs Mac vs Linux incompatibilities. Anything you can do will be appreciated and if you end up not being able to do anything, we'll still have the same options with other software! 😊

Code

```
Traceback (most recent call last):
  File ".../text-scroller.py", line 65, in <module>
    File ".../xxx/.local/lib/python2.7/site-packages/moviepy/video/VideoClip.py", line 71, in
```

IOError: MoviePy Error: creation of None failed because of the following error:

```
convert-im6.q16: authorized tmp/tmpfTeog4r0r/property.c/InterpretImageProperties/3516.
convert-im6.q16: image in EN32: /tmp/tmpjUZsOfepag/convert.c/ConvertImageCommand/3258.
.
```

.This error can be due to the fact that ImageMagick is not installed on your computer, or (

Display More

### Post by "Kyle" of October 11, 2019 at 7:04 PM

I know how to fix that error,

<https://askubuntu.com/questions/8731...cted-by-moviepy>

First of all, I install libmagick++-dev by using `sudo apt install libmagick++-dev`. Secondly, I follow the suggestion from [reddit](#). Specifically, I open `policy.xml` of ImageMagick by using command: `sudo vim /etc/ImageMagick-6/policy.xml` and then comment the `@` policy by change from `<policy domain="path" rights="none" pattern="*" />` to `<!--<policy domain="path" rights="none" pattern="*" /> -->`.

### Post by "Cassius" of October 11, 2019 at 7:10 PM

You're the answer man, all right! OK I am implementing that now.....

### Post by "Cassius" of October 11, 2019 at 7:11 PM

And BINGO it is working! 😊

<https://www.epicureanfriends.com/thread/1212-technology-question-how-best-to-create-video-with-speech-matched-to-scrolling-te/>

### **Post by “Cassius” of October 11, 2019 at 7:21 PM**

And here is the evidence we are making progress - thanks Kyle!

[https://www.youtube.com/watch?v=\\_yZy-2or7\\_o&feature=youtu.be](https://www.youtube.com/watch?v=_yZy-2or7_o&feature=youtu.be)

---

### **Post by “Cassius” of October 11, 2019 at 7:31 PM**

Kyle you are the MAN! In 20 minutes I will have my first customized version of the full Vatican sayings, with Ivona text to speech, custom background. Lots of details to play with but I can see what can be done with this. Great!!

---

### **Post by “Cassius” of October 11, 2019 at 7:44 PM**

OK i am learning that left-moving the text left takes lots more processing power, so this is just a clip. I will keep working on the full version but this shows what can be done. The audio could as easily be a live voice as it is Ivona.

Later tonight I need to run a system upgrade but we should not be offline for long. Thanks Kyle!!

[https://youtu.be/n8WTqrj\\_r9c](https://youtu.be/n8WTqrj_r9c)

---

### **Post by “Kyle” of October 11, 2019 at 7:59 PM**

You can move the text (x-position, 'center')

replace x-position with something like 10

(i think this will work, i'd test a short clip first).

I'm making the web app, it's gonna take a bit i have to learn how to do APIs

<https://www.epicureanfriends.com/thread/1212-technology-question-how-best-to-create-video-with-speech-matched-to-scrolling-te/>

---

**Post by “Cassius” of October 11, 2019 at 8:19 PM**

Very logical suggestion as to the text position!

The only thing I am not getting to work is the title. Is there perhaps an effective maximum length (and maybe I am trying something too long (? "The Vatican Sayings of Epicurus") But that is no big deal at all. I can tell it will be relatively easy to customize what you've produced so far.

---

**Post by “Kyle” of October 11, 2019 at 8:23 PM**

Yes I can make a title. I'm working on that now.

---

**Post by “Kyle” of October 11, 2019 at 8:53 PM**

Sorry the titles are too hard to implement for me to work on it unless you think they're necessary

---

**Post by “Cassius” of October 11, 2019 at 8:56 PM**

No problem WHATSOEVER -- let's forego them completely as there are easy workarounds. Thank you VERY much for what you have done so far! I am about to take the system down for just a few minutes (hopefully to do an upgrade. Be right back!

---

**Post by “Cassius” of October 12, 2019 at 3:14 AM**

Proof Of Concept: "The Vatican List of the Sayings Of Epicurus." Thank you Kyle! This is my first extended test of the scrolling text video generation system. It still has rough edges but many of those will be smoothed away, and hopefully soon the computer voice will be the thing of the past. Thanks to Kyle it is now easy to mate any text with any mp3 recording of a voice, and have the text scroll to match the voice in front of any custom background. I will experiment further with more prototypes but if you have been interested in recording a selection of the Epicurean text with your own voice, please consider sending me the MP3, along with the text you're reading from, and a proposed graphic, and we can create videos suitable for posting on Youtube.

<https://youtu.be/3Z3crjytnGM>

---

### **Post by "Cassius" of October 12, 2019 at 4:21 AM**

Thanks for the correction on 80 Kyle. I am in the process of regenerating it now. The problem was in the file I used in Ivona, as you suggested.