The TL;DW-inator

Tired of watching long videos just to grasp a concept?

Here’s the right tool for you!

Info

- A desktop app that let’s you summarize a videos content.
- Great tool for understanding the gist of a video without having to watch it.
- Built using Python, and Deepgram API.
- Docs and YouTube tutorial are linked at the end of the video.

The idea

I’m a self taught programmer and I usually learnt new topics from YouTube, sometimes there was this small concept, that I could’ve simply grasped by reading about it, but there isn’t any material related to it. This inspired me to make this app!

Not only this, it also helped me understand electronic configurations of elements easily.

Implementation

The implementation is quite simple, with a very few packages and dependencies, the project is light-weight and simple, it also has a little *Retro Windows XP* UI touch to it.

In the following slides, I will be going over the packages used and what each package does.

Language and Packages used.

- Language used: Python 3.10
- Packages/Dependencies: PySimpleGUI, NLTK, PyAutoGUI, Pysummarization, Deepgram-SDK, Yt_dlp
- Front-end: PySimpleGUI and PyAutoGUI
- Backend: NLTK, Deepgram-SDK, Yt_dlp
- Database: **.txt** files

Python 3.9 

Why Python? The answer is simple: Simplicity

Python is a simple language in which networking and API can be done without any problems, GUIs can easily be built, and errors can be handled easily.

Not only that, I'm experienced in Python and hence chose it as my primary language for this project.

PySimpleGUI

- A simple GUI builder for Python, includes default modules like Tkinter, can be configured to use PyQt and Pyside2.
- Easy to read documentation, and examples.
- Well maintained code with a helpful community.
- Good ratings.

PyAutoGUI

- Hastle free GUI building.
- Easy to configure and use, best used with small scale projects.
- Well written documentation and helpful community.

YouTube DL

- A package that helps easily download YouTube videos.
- Used in the project to download videos for audio processing.

Deepgram

- Deepgram is a service which uses AI speech recognition.
- Can read multiple file formats including **.mp4**

NLTK (Natural Language Tool Kit)

- Basic package
- Easy to use
- High functionality
- Used for text summarization in this project

Source Code

- The code is divided into 3 functions.
- The first part takes in the YouTube video link as the input.
- The second part extracts the transcript from the audio.
- The third part summarizers the transcript.

Limitations

- Videos that are too small can't be summarized, because of the API cannnot catching those words (latency).
- Local files aren’t supported, this feature will be added ASAP, couldn't be added due to the time limitation.
- Cannot be used as a Binary (Due to the Hackathon being held for less than 24 hours, I didn't have the time to build a binary, but it's on the roadmap.)

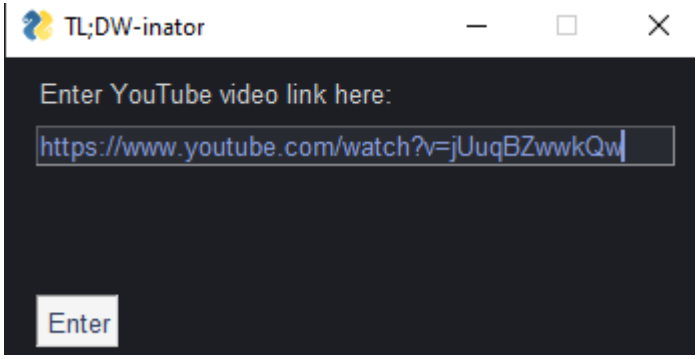
Usage

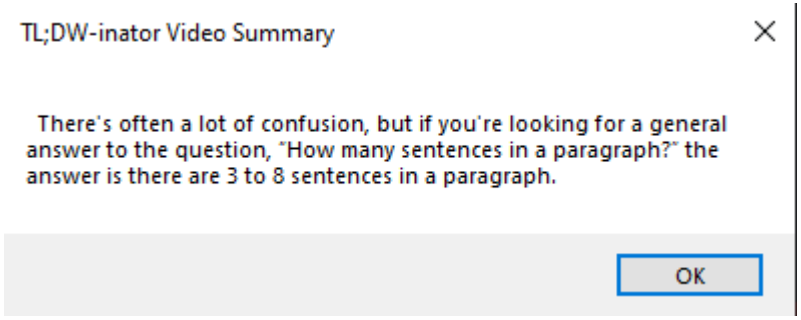
- Start with visiting the deepgram website (can be found in docs).
- Get your API key from there.
- Make a text file named **db.txt** and enter the api key in the first line.
- Save and close the file.
- Now run the script or run the binary (coming soon).
- Enter the YouTube link in the GUI and press enter.
- The Summary should now appear on your screen.

Problems faced

- The project started off by using PyTube instead of YouTube DL, then due to some updates on the same date, the project had to be migrated to YouTube DL.
- Open AI was considered for text summarization, but the user had to start paying for the services after sometime.
- The project couldn’t be converted to a system binary for easier distribution (it’s on the roadmap)

Screenshots





Roadmap

- Adding support for local mp4 files.
- Better Summarization using better machine learning models.
- Releasing binaries for Linux, Apps for Mac and Exes for Windows.
- Make a mobile version of this Desktop app.
- Language support

Links

- GitHub: https://github.com/therealcyber71/TL-DW-inator
- YouTube tutorial links: https://github.com/therealcyber71/TL-DW-inator#installation-video

Thanks for reading!