

I wrote a sentence mining script that works on any website
Respective YouTube video: https://www.youtube.com/watch?v=P_nV8RPj_wE
Works with ShareX 15.0, AutoHotkey 2.0.2, Ditto 03.24.238.00, and any version of Anki
By Giovanni Smith, May 2023

Sentence mining by screenshotting a video clip, recording the audio and pasting those into Anki is not a new idea. However, all the hotkeys, coordination and things to remember makes this process much more complicated than it needs to be. To solve this problem, I created a Windows Form application and wrote multiple scripts that allow you to take a screenshot, record audio, and paste them into an Anki card with just 3 hotkey presses.

Since it either clicks the mouse or presses the spacebar for you to play or pause the video, it should work on any website, not just Netflix. The first hotkey takes a screenshot, plays the video and starts recording the audio, and pressing it again pauses the video and stops recording the audio. A second hotkey pastes both the screenshot and audio into Anki. YouTube and Netflix have browser extensions that allow you to easily copy and paste subtitles, but on other websites, what do you do if the subtitles are baked into the video, rendering them uncopyable? Just screenshot each subtitle, and a third hotkey pastes them all in order, resizes them, and can make them black & white for increased readability. It's worth mentioning that these cards look great on mobile too.

Unfortunately, these scripts are Windows only, so they won't work on Mac or Linux. With that out of the way, what will you need to download?

- ShareX will be used to take screenshots and record desktop audio. If you already have it downloaded, be sure that you're on version 15, as the layout of some things are slightly different.
- Anki is an electronic flashcard application, and any flashcard software that supports images and audio should work too. The screenshot, audio, and any other text like subtitles or translations will be placed in the flashcard. Any version of Anki should work.
- Ditto will be used to store and paste multiple copied items at once into an Anki card. Version 3.24.238 is the latest version as of the making of this video, so use that if future versions don't work.
- AutoHotkey is a programming language geared towards scripting and automation, primarily through inputting keyboard presses for you. It will chain together multiple actions in ShareX and Ditto. Download version 2 from the site.
- Finally, you can download the scripts from my Github - link in the description. Click "Code" and "Download ZIP" Right click it and extract it. It doesn't matter where you put this folder, just that it's somewhere you can easily access.

ShareX - record desktop audio

Some of you may have already set up ShareX to record desktop audio with a hotkey, so if you have, skip to [location 1](#). The following steps are taken from Matt vs Japan's video "Quickly Grabbing Audio

with ShareX,” so credit goes to him, but for convenience I’ll summarize the steps here. Open the hotkey settings by right clicking on the small icon and clicking “Hotkey settings.” Click “add,” “screen record,” and “start/stop screen recording using active window region.” After clicking the gear icon, in Task, click “override after capture tasks,” and ensure “copy file to clipboard” is the only one selected. Navigate to capture and “override capture settings.” Navigate to screen recorder and screen recording options. Then, install recorder devices, which will add the virtual-audio-capturer option to the audio, and make sure that is selected. Make the video source “none” and set the audio codec to “MP3.” Close this window out. “General,” “override general settings.” In Notifications, uncheck the first three.

Location 1

Navigate to Task. To make this task easier to remember, put something along the lines of “Record audio” in the description. Close this window and set the hotkey to something that doesn’t conflict with any other program. This hotkey doesn’t have to be easily pressable, because the script will press it for you. I’ll set mine to Ctrl Alt R by clicking [here](#) and pressing that hotkey.

ShareX - screenshot the video content

Screenshots may seem pointless, but they can help jog your memory of the context of the scene, so I highly recommend them. However, if you do not want any screenshots at all, skip to [Ditto](#).

In ShareX, go to Hotkey Settings, click add, and set it to “Capture pre configured region.” Click the gear icon, override after capture tasks, and make sure that “add image effects” and “copy image to clipboard” are the only ones selected. General, override general settings, Notifications, uncheck the first three. Capture, override capture settings, and ensure “show cursor in screenshots” is unchecked.

Go to your video watching website, and act as if you’re about to sentence mine, arranging your windows and programs in your usual setup. Chances are, you don’t watch your content in full screen, so this screenshot hotkey will automatically crop the screenshot to a predetermined area. Under pre configured region, click “Select region” and select the area of the video, avoiding capturing any subtitles as well. That cropped region has been saved, and you can easily repeat this process when updating it is needed.

Image, override image settings. Effects, image effects configuration. Delete the default preset that is in there already with the red minus sign. Now, in my folder, double click “Resize effects.”

Resizing the screenshot is optional, but I highly recommend it because images take up a lot of space on the card - physically and in file size. If you end up making hundreds or thousands of these cards, the size of your Anki deck can get unnecessarily large and sync times can be longer. Resizing it also makes the card look cleaner on the mobile app. 144p is selected by default, and if this is too small or too big, you can always change it later. However, be sure that only one resize effect is selected. If you still don’t want to resize the image, don’t check any of them. Close this window out, go back to the task settings and go to Task. To make this task easier to remember, rename it something along the

lines of “Cropped Screenshot.” Close this window out, and set the hotkey to whatever you wish, making sure it doesn’t conflict with any other program. This hotkey doesn’t have to be easily pressable, because the script will press it for you. I’ll set mine to Ctrl Alt S by clicking here and pressing that hotkey.

Ditto

After downloading Ditto, right click in the small taskbar and click Options. Go to the keyboard shortcuts tab, and for “Activate Ditto,” choose a hotkey that doesn’t conflict with any other program. It doesn’t have to be easily pressable, because the script will press it for you. I’ll be using Ctrl Shift Alt D by clicking here and pressing that hotkey. Click Ok to save the changes.

Anki

Any flashcard software that supports images and audio should work, but by far the most popular one is Anki. Explaining all the intricacies of this program is beyond the scope of this video, but if you’re a new user, just know that images, audio and text can be pasted into a card.

Change hotkeys and settings with windows form

After having downloaded the folder from my github, go into the main folder and locate AnkiAudioSentenceCardScript inside Sentence-mining-script-master \ AnkiAudioSentenceCardScript \ AnkiAudioSentenceCardScript \ bin \ Debug, the Windows Form application, and open it by double clicking. It might get caught in Windows’ antivirus, so if it does, click “more info” and “run anyway.” This form controls the hotkeys that you will press to start the scripts, and the hotkeys of ShareX and Ditto that the scripts will press for you. A hotkey is entered into the form using AutoHotkey’s programming language, and a basic guide is given at the top. Official documentation on this hotkey language can be found at the link provided. The first three hotkeys at the top will be the ones you press to start the scripts, so make these something that is easily pressable. By default, they are Ctrl Shift F1, Ctrl Shift F2, and Ctrl Shift F3.

If you don’t already have the hotkey page of ShareX open, right click the small icon and go to “Hotkey Settings.” Make sure the hotkeys for “take screenshot” and “record audio” match for ShareX. To open Ditto’s options, right click the small icon and click “Options.” Go to “Keyboard Shortcuts.” Make sure the hotkey for “activate ditto” matches for Ditto.

When a screenshot is taken for you, you are given the option to choose if it is taken at the beginning of the clip, at the end of the clip, or if no screenshot is taken at all.

On practically every video-watching website, left-clicking the screen or pressing the spacebar plays or pauses the video. However each one comes with advantages and disadvantages.

- Left click advantages: At least for Netflix, left clicking the play button takes up significantly less time than pressing the space bar for some reason.

- Left click disadvantages: Your mouse has to be over the screen or play button.
- Spacebar advantages: You don't have to worry where your mouse is.
- Spacebar disadvantages: You have to make sure that the video window is focused. What is focus? Focus is basically the default location that the keyboard types in. For example, if Anki has focus instead of your video window, it'll press the spacebar inside there, so just make sure that it presses the spacebar "inside" the video window by having clicked somewhere in there.
- Personally, I prefer letting the left click automatically play or pause the video, so I'll use that method.

ShareX, Ditto and your computer cannot run the actions of these scripts instantaneously, which is why a delay is required in the scripts. When ShareX records audio, it takes a fraction of a second to start playing. It can be seen from this yellow outline going to green, and that is why "Delay for ShareX audio recording to start" is needed, which is the delay necessary to play the video once you press the primary hotkey. This is a very rough estimate and may vary depending on your computer speed. Leave these two variables as they are, and we'll adjust them later if necessary.

Saving the changes, along with "open all scripts," runs the scripts, and you might get a message asking to download a version of AutoHotkey. If you do, you only need to click yes to one, and say no to the others. Now if you click "open all scripts," three Hs will appear in the small taskbar. This means that the scripts are activated, and the primary hotkeys will trigger them. When you're done sentence mining, you can click "close all scripts" to close them out.

Keep in mind that this form does not have to be open while the scripts are active. As long as the three Hs are in the small taskbar, it should work. To make this form easy to access, I suggest creating a shortcut by right clicking, clicking "create shortcut," and putting it somewhere convenient. On Windows 11, "create shortcut" will be in "show more options."

Subtitles

If you use Google Chrome and sentence mine with Netflix, you'll have to disable hardware acceleration, or else your screenshot will just be a black screen.

Most likely, you're going to put the subtitles and translation of the clip into Anki. If you use Chrome and Netflix, the Language Reactor extension allows you to view dual subtitles at the same time, and copy-paste the subtitles into your flashcard. If your subtitles aren't showing up, go into the settings and change Netflix subtitle language to a different version. For Firefox and Netflix, there exist similar extensions such as Netflix Bilingual Subtitles and Subadub that do more or less the same thing. Now copy and pasting subtitles sentence by sentence with these browser extensions is not the most efficient. ShareX has a tool called OCR that can take text from a screenshot and convert it into real text. If you're not interested in setting this up though, skip to [location 2](#).

ShareX - copy-paste subtitles with OCR

To setup OCR, open ShareX and navigate to hotkey settings. Click Add, Tools, OCR. After clicking the gear icon, capture, override capture settings, OCR, and select the language of the text you will be grabbing. If your language doesn't show up here, it's because you haven't installed the language to Windows. In the Windows preferences, go to the language settings, add the language there, and restart ShareX. Click "process OCR silently." Close this window and choose a hotkey that is easily pressable, because you will be pressing this hotkey. I'll choose Ctrl Alt O.

Location 2

If you're not watching your content on Netflix or a popular platform, you might not be able to simply copy and paste subtitles, especially if they're embedded into the video. Trust me, ShareX's OCR is very inconsistent at best. Instead of manually typing out the subtitles, you can screenshot each subtitle and use another script of mine to automatically paste them. If you don't need to do this though, skip to [Running the scripts](#).

ShareX - copy-paste subtitles with screenshots

In ShareX, go to Hotkey Settings, click add, and set it to "Capture region." Click the gear, general, override general settings, notifications, and uncheck the first three. Image, override image settings. Effects, image effects configuration. Delete the default preset that is here with the red minus sign. Go to my folder you downloaded and double click "Subtitle effects". As stated before, images pasted into Anki are almost always too big, taking up too much space on the card. Fixed height means your subtitles will look like this, while fixed width looks like this. Choose which one you like better. I'll be choosing a fixed height, and be sure to only check off one.

The final effect is grayscale, and it's optional. I like it because usually the background of the subtitle is a bit too distracting, so this makes it more readable. Close this window out, go back to the task settings and go to Task. To make this task easier to remember, rename it something along the lines of "Capture subtitle." Close this window and set the hotkey to whatever you wish, making sure it doesn't conflict with any other program. Make sure it's easily pressable. I will be using Ctrl Alt P.

Running the scripts

We're finally ready to do a test-run of the scripts. Ensure that ShareX, Ditto and all three scripts are running by seeing if they appear in the small taskbar. If you do not see three Hs, open the form and click on "open all scripts" to open the scripts.

If you have left click enabled, remember to put your mouse over the video or play button. If you have the spacebar enabled, make sure that the video window has focus. As stated previously, focus is basically the default location that the keyboard types, so just make sure that it presses the spacebar "inside" the video window by having clicked somewhere in there.

I'll press the hotkey I set up which is Ctrl Shift F1 to start it. Ctrl Shift F1 stops it. The screenshot and audio files have been copied to the clipboard, and now I'll go over to Anki and press Ctrl Shift F2 to paste them. For some reason, the first time you record audio with ShareX after starting your computer, it takes a tad longer, so if the audio was cut off on this one, try it again.

LanguageReactor, the Chrome extension I'm using, allows me to copy and paste subtitles. If you chose to set up OCR, you can press that hotkey to grab the area and paste the text. If the subtitles are embedded into the video, rendering them uncopyable, you can use the method of screenshotting each subtitle. You will also have to remember how many screenshots you take. By the way, this is a good opportunity to demonstrate that you can change the settings in the form on the fly, and the scripts will reload once you save the changes (no screenshot).

Your computer may be a bit slower, meaning that the recording and pasting may be messed up. If so, increase the general delay by increments of 50 milliseconds or so. Remember that roughly speaking, the general delay controls how fast the script runs. There is also a chance that the audio might be slightly cut off. For "Delay for ShareX audio recording to start", if the first part of the recording is silence, then decrease it. If the first part is cut off, increase it. For reference, my desktop can get away with 300 milliseconds, but my laptop needs about 500 milliseconds.

Upon completing your sentence mining session, you can close the scripts by pressing "close all scripts" in the Windows form. Something I forgot to mention is that audio clips and subtitle screenshots will be saved to a file in the screenshots folder. I prefer storing both screenshots and audio because I'm unironically a datahoarder. The criteria for getting saved as a file appear to be somewhat inconsistent, so if you want to make sure a copied element is saved as a file, add "Save image to file" in the task settings of that hotkey. However, if you do not want a copied element to be saved as a file, add "Delete file locally."

Troubleshooting

There are a lot of steps in this video, and if it doesn't work properly, ask yourself these questions to try to troubleshoot. Do the hotkeys in the scripts and in ShareX and Ditto match up? Are the hotkey symbols for Ctrl, Alt and Shift correct? Did I accidentally make a letter uppercase, where it should have been lowercase? Is my video window focused if I'm using the spacebar? Am I putting my mouse over the play button if I'm using the left click? Is ShareX configured to copy my files to the clipboard? Is ShareX using the correct screenshot crop? Did I turn off hardware acceleration if I'm using Google Chrome and Netflix?

Outro

Thanks for watching. I've been writing the script for this video and coding the programs on and off for the past 4 months, so I'd appreciate it if you liked the video, subscribed and hit the bell if you found this useful. Also, share this video with other language learners if you think they'll find it helpful. See you in the next video.