

# Video Accessibility Tools

Given the popularity of online video, it makes sense that there are a wide variety of tools and organizations that focus on making video content accessible. This chapter is not intended as a comprehensive list of all available tools in this space, nor are the tools featured necessarily the best tools for each situation. Rather, this chapter is intended to provide examples of some of the popular tools used to make videos accessible and the most common workflows that institutions have developed to improve video accessibility. The list also offers an overview of the types of functions and features that are generally supported by existing tools.

## In-House Video Creation

For institutions interested in creating captions, transcripts, or audio descriptions in-house, there are several tools that can support this process. They offer various advantages and disadvantages, but all will allow for the creation of accessibility features by individuals with varying degrees of technical skills at the institution itself.

*CADET (Caption and Description Editing Tool)*—The National Center for Accessible Media at WGBH has been a leader in media accessibility since its founding in the early 1990s. CADET is its latest tool for captioning and audio describing online media. It is a free, browser-based tool, can be used offline, and allows users to generate both caption files in multiple formats and scripts for audio descriptions. CADET was designed in a manner that protects privacy, since it “runs locally in any Web browser, so users do not need to upload private videos or proprietary content to servers or video-hosting sites in order to create captions.”<sup>1</sup> It supports multiple types of use, including transcribing audio within the platform, importing files for editing, adding time stamps, and creating an audio description script with the proper time stamps

built into it. The end product can be exported in a range of file types, including WebVTT, SRT, and plain text. In addition, CADET offers extensive documentation, tutorials, and a user group, which make it relatively easy to learn to use the platform and to offer feedback that can impact its future.

*YouDescribe*—This free tool, developed by the Smith-Kettlewell Eye Research Institute, offers a way for anyone to add audio descriptions to existing YouTube videos regardless of whether they are the owner or creator of the video. To do this, YouDescribe offers recording functionality so that registered users can record audio descriptions for the video that are timed to the appropriate points in the video. The description is then offered on the YouDescribe platform, which is synchronized with the underlying YouTube video. Viewers have the option to modify the balance between the volume of the video’s original soundtrack and the audio description soundtrack. From the viewer’s perspective, YouDescribe offers options to search through described content, post videos to the Wish List to request that they be described, and even rate a user’s descriptions. All videos can be shared via the integrated sharing feature or URL. YouDescribe offers both written and video tutorials and the ability to contact the site for support. The tool is entirely browser-based and works with most modern browsers. YouDescribe has also debuted an iOS app for watching, requesting, and providing feedback on videos.

*YouTube*—YouTube is a well-known video hosting platform, and it has also been known for its captioning features for some time. The platform offers multiple ways to caption videos. It offers a free automatic captioning function, which will generate captions using its AI captioning feature once a video is uploaded to the platform. Unfortunately, as with virtually all automatic captioning features, these captions often have significant errors and are rarely, if ever, of a quality that is sufficient to provide equitable

access to the video content without additional editing. However, the automated captions usually provide a good starting point, which can then be edited, making the process more efficient than creating captions from scratch. YouTube also includes other tools to make captioning easier. A video creator can upload a previously prepared script, which is then automatically synchronized with the video. Video creators who wish to create captions from scratch can transcribe the video directly in the YouTube platform. Creators have fine control over the captions and can set the number of words that appear on the screen at any time, when they appear, and how long they stay on the screen. The transcription tool also pauses video automatically as captions are being typed, making the process easier. YouTube also allows users to download finished captions in several file formats, which means that it can be used to automatically generate and edit captions, even if YouTube is not the final destination for the video file.

*Amara*—As a project that is affiliated with the Participatory Culture Foundation and a nonprofit, Amara is another option for captioning projects. Unlike CADET, Amara is specifically focused on captions and subtitles. In fact, one of its primary functions is to facilitate translating and subtitling video content. These same features can be used for creating captions. One of the advantages of Amara is that it is specifically designed to facilitate collaboration by a team on a single video, which can be helpful for workflows that involve multiple individuals. Through its Amara On Demand segment, the organization also offers professional captioning and translation and subtitling. The platform also offers the option to volunteer to caption or subtitle videos as part of a number of teams that remediate videos either for specific organizations, such as the Ellen MacArthur Foundation, *Ability* magazine, Mozilla, *Scientific American*, and DoiT International, to name just a few, or at the request of D/deaf or hard-of-hearing individuals. Amara offers the ability to export captions in a variety of file formats and has a support site that covers each of the pieces of the platform.

While this selection of tools has features that can facilitate many of the functions that libraries may want to undertake, there are many reasons that institutions may consider other options, whether these are other current tools or newly emerging technologies. When selecting a tool for creating captions, transcripts, and audio descriptions, some key factors are

- the cost of the platform and whether this price can change frequently;
- the quality of any documentation and any customer support services that are offered;
- the ease with which multiple parties can collaborate on files;

- the variety of different file types and which file types are available for exporting the end product; and
- the flexibility of the tool to work on multiple devices and with multiple browsers.

## Vendors for Outsourcing Video Accessibility Features

For some institutions, or at least for some types of content, it can be preferable to outsource the creation of captions, transcripts, audio descriptions, or some combination of these features. In the case of some subscription services, the option to request that video content in the subscription be captioned, transcribed, or described may be a part of the platform. However, there are also vendors that accept submissions of video content for captioning, transcripts, and description on any platform.

*3Play Media*—Offering captioning, transcription, subtitling, and audio description, 3Play Media can cover a whole range of video needs. It guarantees 99 percent accuracy and fast turnaround times, though some expedited turnaround options may cost more than its standard service. In addition to these services, it offers the 3Play Plugin, which it says allows users to integrate accessibility content into media players that do not have native support for the content, and includes APIs that can help integrate submitting content to 3Play Media into existing workflows. It can also support over twenty different languages, which is helpful for organizations that produce or maintain multilingual content. End users have the ability to edit captions and audio descriptions created by the company, and it can support both open and closed captions. For those hosting live events, it also offers live auto-captioning features that integrate with Zoom, YouTube, Facebook, and more. In addition to its services, its website also features a wealth of information about video accessibility, including white papers, webinars, how-to guides, and a blog, and it also offers an online video accessibility course.

*Rev*—Another company that offers captions and transcripts, Rev promises 99 percent accuracy with its transcription and captioning services but also offers a less expensive “Rough Draft” option that guarantees 80 percent accuracy and is machine-generated transcription. Rev can offer automatic live captions for Zoom meetings and foreign language subtitles in more than eight languages as well. It features integration with Dropbox and Google Drive to streamline workflows and offers both quicker turnaround times and verbatim transcription at a higher cost. It also offers webinars, tutorials, how-to guides, and more on its website.

*Verbit*—For those interested in taking advantage of the ever-improving capabilities of artificial

intelligence, Verbit uses its own proprietary, AI-powered automatic captioning technology to create transcripts, which are then reviewed by its team. It guarantees 99 percent accuracy of the end result. Verbit has current integrations with both learning management systems—such as Blackboard, Canvas, and Brightcove—and video hosting platforms, such as Panopto, YouTube, Vimeo, and VoiceThread. It also offers real-time auto-captioning using the same technology it uses for transcription. Its website includes additional support resources, including a blog, webinars, and guides.

*Otter.ai*—This auto-transcription tool can be used to generate transcripts that can then also be used to create video captions. It can support both automatic transcription of files that are uploaded to the platform and live auto-transcription within Zoom and other live events. The pricing model has options for individuals, educational institutions, and businesses, and there is a free tier for individuals. It also offers discounted pricing for students and teachers using their educational e-mail accounts. Because the transcription is completely automated, the accuracy may not be as high as some of the other tools discussed.

In addition to these companies and other large-scale vendors in this area, other smaller vendors may specialize in specific types of content, individual accessibility features (such as audio descriptions), or specific geographic regions. When selecting a vendor, some institutions may decide to go through a full RFP process. Generally, when evaluating vendors, one should ask the following key questions:

- What is the cost of their services, and how is the pricing determined (for example, by minute of the video)?
- What is the turnaround time for their services?
- What level of accuracy is guaranteed, and what are the available remedies if a video does not meet their standards?
- How do they address technical terminology, foreign language content, and other content that can require specialized expertise?
- What is the process for submitting content to them?
- What file formats do they offer and support?
- Are they integrated into any platforms?
- Do they offer an API?

## Identifying Seizure-Triggering Content

*Photosensitive Epilepsy Analysis Tool (PEAT)*—Created by the Trace Center at the University of Maryland,

PEAT is a free tool that helps to identify content that is high risk for causing photosensitive seizures. It works for both videos and animations, but does require access to a PC running Windows 10, Windows 7, Windows Vista, or Windows XP.

## Accessible Media Players

When sharing video online, making the video accessible through captions, transcripts, and audio descriptions is only part of the process. Without the use of an accessible media player, this content may still be inaccessible to many users. It is possible to develop a custom media player that meets accessibility standards, but there are also existing options that can streamline the process of sharing video in a way that works for a wide range of users.

*OzPlayer*—This media player puts accessibility at the forefront of its work. It asserts that it was the first fully accessible media player and that it is compliant with WCAG 2.0, Level AA.<sup>2</sup> It also continues to update its code frequently to ensure continued functionality and accessibility. OzPlayer is an HTML5-based media player that supports captions, transcripts, audio descriptions, and keyboard access. The tool is a commercial product, but it is “free for personal use and for not-for-profits with annual budgets under \$1,000,000 (USD).”<sup>3</sup>

*Able Player*—Another accessible media player is the HTML5-based Able Player, which is free and open source. It supports a wide range of accessibility features, including captions, interactive transcripts, multiple approaches to audio description, keyboard navigation, and adjustable playback rates. Able Player supports more than a dozen languages and offers multiple ways for users with various expertise to contribute to the project.

One should remember, however, that even if a media player is accessible, the site where it is hosted should be tested for accessibility and compliance with WCAG 2.1.

## Notes

1. National Center for Accessible Media, “CADET—Caption and Descriptive Editing Tool,” WGBH, <https://www.wgbh.org/foundation/what-we-do/ncam/cadet>.
2. OzPlayer, AccessibilityOz, <https://www.accessibility.oz.com/ozplayer>.
3. OzPlayer.