



U.S. Department of the Interior
Office of the Secretary
Office of the Chief Information Officer
Standard Operating Procedures
For
Creating Accessible Audio/Visual Media



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I. Revisions

Version Number	Date	Summary of Revisions Made	Revising Official
1.0		First approved version	

II. Background

The Department of the Interior (DOI) strives to ensure that all Information and Communication Technology (ICT) is accessible to all, including individuals with disabilities. Audio/visual media is a type of ICT that must be accessible pursuant to [Section 508 of the Rehabilitation Act of 1973 \(29 U.S.C. 794d\)](#) and Departmental Manual Section [375 DM 8](#), Section 508 Program and Responsibilities. In accordance with Section 508, Federal employees and members of the public with disabilities must have access to and use of information and data that is comparable to other Federal employees and individuals without disabilities.

According to the 2010 U.S. Census, about 56.7 million, 19% of the U.S. population, are classified as having a disability—whether from birth, by accident or due to an overall aging population. This means many of DOI’s customers may be blind or visually-impaired, deaf or hard-of-hearing, cognitively impaired, or have dexterity or other physical disabilities. For these individuals, being able to access content greatly affects their quality of life and, for DOI employees, the ability to perform their job duties.

Audio/visual media includes two or more media types such as video, audio, and animation. Examples of audio/visual media include, but are not limited to, videos, podcasts, webcasts and online training presentations. For audio/visual media to be accessible to a viewer, the person watching it must be able to understand what is happening in both the visual and audio portions. Well-produced audio/visual media ensures that a person can completely understand the message, no matter his or her disability. If your audience is not able to understand either the visual or audio pieces, you cannot deliver your message successfully.

NOTE: Audio/visual media should be maintained in accordance with the appropriate Departmental or bureau Records Schedule. For more information, contact your bureau [Records Officer](#). Questions regarding these Standard Operating Procedures, including access to links, should be directed to section508@ios.doi.gov.

III. How to Make Your Videos Accessible

Accessible videos include three main elements:

- i. Captions - The audio parts of your video appear as text at the appropriate time and provide access to people who are deaf or hearing impaired.
- ii. Audio Description - A description of a video's visual elements, which provides access to people who are blind or visually impaired.
- iii. Accessible Video Player - Ensures a person who requires keyboard navigation or an assistive device can navigate the window where the video plays (i.e., the video player).

IV. What are Captions?

Captions display spoken dialogue and non-speech information as printed words on a television screen or computer monitor. Captions appear transposed over the visual elements in a video, and are synchronized so they appear at the same time as they are spoken or generated. Captions are specifically designed for viewers who are deaf and hard-of-hearing to enable their participation when viewing audio/visual productions.

Non-speech information includes aspects of the audio track other than spoken words that convey information about plot, humor, or meaning of spoken words. Examples of non-speech information include:

- Speaker identification
- Sound effects
- Music
- Manner of speaking (whispering, word emphasis, emotion, etc.)
- Audience reaction (laughing, booing, etc.)

Please note that captions differ from subtitles and cannot be used interchangeably. Subtitles do not indicate information other than dialog and do not include critical information such as speaker identification and sound effects. Subtitles produced strictly for language translation should not be used for captions. For in-depth information on captioning, please see the [Described and Captioned Media Program \(DCMP\) Learning Center](#) and [Understanding Web Content Accessibility Guidelines \(WCAG\) 2.0 Captions](#).

1. Open vs. Closed Captioning

There are two forms of captioning: open and closed captioning:

- Open captions are displayed automatically as part of the video, without having to be selected by the user. The user cannot turn these captions off.
- Closed captions do not normally appear as part of the video unless the user has selected them to appear. The user can also turn these captions off.
- Videos shown in person should have open captions which are visible at all times. This allows individuals at visitor centers, exhibits, etc. to have immediate access to content. See [DOI Civil Rights Directive No. 2008-05, Open Captioning of Audio Visual Media](#).
- Videos posted online, and not viewed in person, should be closed captioned.

2. How to Create Captions

When creating captions, an individual must perform the following steps:

- a. Create a text (.txt) file that contains the words and non-speech information included in the video. You can do this in one of several ways:
 - i. Use the video's script if one was created. If you used Computer Aided Real-Time Transcription (CART)¹ or Relay Conference Captioning (RCC)² for a live presentation, you may already have a rough transcript.
 - ii. Use voice-to-speech recognition software to obtain a rough transcript.
 - iii. Hire a vendor. The Described and Captioned Media Program (DCMP) provides a listing of captioning and audio-description vendors, which is available on [the DCMP website](#).
 - iv. Manually create a SubRip (SRT)³ file using NotePad.
- b. Open your video in a caption editing program.
- c. Insert your script into the editor so that the words appear on screen at the same time as the spoken words.
- d. Watch your video *from beginning to end* to make sure your captions are consistently visible. Offices must:
 - i. Ensure the text is clearly visible. This prevents the captions from interfering with other visuals, such as speaker's name, title, and affiliated institution.

¹ The [National Court Reporters Association](#) describes CART services as “the instant translation of the spoken word into English text using a stenotype machine, notebook computer and realtime software.”

² [Relay Conference Captioning](#) provides live, realtime text streamed to an Internet-connected computer.

³ SubRip (SRT) files use the extension `.srt`, and contain formatted lines of plain text accompanied by timing information to ensure text is properly synchronized with video content.

- ii. Captions must remain visible as the background colors change throughout the video. Ensure sufficient color contrast as specified by [Web Content Accessibility Guidelines 2.0 AA](#).
 - iii. Ensure the text is correctly synchronized to the video.
 - iv. Ensure the font size suits the venue. While closed captions may be adjusted by an online viewer, in-person venues may require large text to ensure visibility.
 - v. Ensure that non-speech information has been included in your captions. Features that can be used to identify non-speech information include: italics, music icons, underlining, quotation marks, and explicit description. For videos with multiple speakers, type in double chevrons “>>” to indicate change in speakers.
- e. Whenever possible, adhere to the following best practices:
- i. Avoid separating nouns and verbs from their modifiers. For example if a speaker remarks, “He is riding a mountain bike” do not separate “mountain” from “bike” in the captions. Separating “mountain” from “bike” could lead to the text, “He is riding a mountain” to be displayed alone, leaving the reader confused until “bike” is displayed in the next line of captioning.
 - ii. Keep prepositional phrases on the same line.
 - iii. Maintain the rules of grammar.

For additional best practices, see the [DCMP Captioning Key](#).

3. How Do I Format My Videos?

The DOI Office of Digital Strategy has instructions for formatting Videos for the Drupal Platform, which is available at <https://sites.google.com/a/ios.doi.gov/doi-gov-cms/how-to-drupal/video?pli=1>. Drupal is the content management system used for DOI.gov. JWPlayer is used to play videos posted on www.doi.gov.

JW Player is an embeddable media player for websites. It supports a wide array of platforms, browsers, and media formats. It is open-source software which is easy to configure, customize, and extend. To utilize the JW Player source code for your Drupal platform, contact the DOI Office of Digital Strategy.

4. Elements of Audio/Visual Media: Audio-only Content

a. Online Content

Audio-only content produced or published online by DOI bureaus and offices must include text transcription. The text transcription must be in either HTML form or in a text document i.e., (.txt, .docx, etc.). Rather than listening to the content in the audio file, the individual will read it as they would any other content. This text transcription must be placed in the near vicinity of the audio file. The link to the audio file may be accompanied by a second link that transports users to a web page or text document where they can read the text transcription.

b. Content Presented In-Person

As a best practice, audio content presented in-person, in a museum, visitor center, etc. may be presented in synchronized captions. A text transcript placed in the vicinity of the audio-only content is acceptable, but will not provide the best user experience possible.

V. What is Audio Description?

Audio Description (sometimes referred to as video description), is an additional audio track that describes essential visual information. Audio Description can be used to enhance videos, museum exhibitions, live performances and educational programming. Audio description makes audio/visual media accessible to people who are blind or low vision by using words to capture what is happening on screen. Audio Description is usually delivered as a separate audio track that a person would play alongside the original video (in the same way as a commentary on a DVD).

Audio description is played during natural pauses or periods of silence within the audio track. For an example of effective audio description, see National Park Service video [America's Wilderness](#).

There are three types of audio description:

- i. Closed audio description - These descriptions can be turned on or off by the viewer. Note: All video players do not support this functionality.
- ii. Open audio description - These play automatically when you click play and cannot be turned off.
- iii. Real-time audio description - This type of description provides live commentary or narration by a trained audio describer via headphones and a small transmitter. It applies to theatrical productions, in-person tours, and other live events, as opposed to pre-

recorded videos.

A written transcript or description of your video will NOT fulfill the Audio Description requirement. Providing a separate file that individuals need to switch back and forth from is not a comparable experience. For more information on audio descriptions, please see [Understanding WCAG 2.0, Audio Description or Media Alternative](#).

1. How to Create Audio Description

There are three ways to add audio descriptions to your videos:

a. Build the Descriptions into the Video

Before you record your video, you can usually weave the audio description of key visuals into the dialogue/narration. This prevents you from having to go back later and add audio descriptions. For example, in a training video, instead of pointing to a slide and saying, "as you can see on this slide, the traffic peaked here", you can say "this chart of website traffic for the last year shows that it peaked in August." Additionally, request speakers or subjects identify themselves and their surroundings (rather than only showing their name on screen). Please note that this option is not always possible, especially if individuals are speaking while text is being shown on screen.

b. Add an Additional Audio Track

If you have a video player *and* a streaming protocol capable of supporting multiple audio tracks the user can choose which audio track to play. Many online video players don't support extra audio tracks.

c. Create a Second Video

You may create two videos, one with audio descriptions and one without. You can post these videos with labels such as "Video with audio descriptions" and "Video without audio descriptions." Note: If a second video is created, both videos should include captioning. This maximizes the accessibility of the video, enabling the video to be shown to a broad audience with varying accessibility needs.

Note: As of this writing, YouTube doesn't support extra audio tracks. Therefore, you will either need to use another video player that supports audio descriptions or post two versions of the video - one with audio descriptions (and closed captioning), and the other with just the closed captioning. If audio descriptions are built into your video posting two versions will not be necessary.

2. Best Practices for Audio Description

- i. Use the present tense. Audio description should be in the present tense as it is

- explaining what is happening at the given moment.
- ii. Use pauses to allow the user to process information.
- iii. Do not add interpretative information. Convey the information available on screen to allow the viewer to form their own interpretation. For example the sentence, “She purses her lips and narrows her eyes” is preferable to the sentence, “She narrows her eyes suspiciously.”
- iv. Include key visual clues that are essential for the viewer to know in terms of plot development or character.
- v. Avoid stating the obvious. For example, a telephone ringing will already be apparent to the viewer and should not be audio described.
- vi. Use proper nouns rather than pronouns to explain who is doing what. If there are several people onscreen at once, using proper names will avoid ambiguity. In this case, using the pronouns “he” or “she” could be confusing to the viewer.
- vii. Use complete sentences when possible.
- viii. Avoid the term, “we see.”
- ix. Never override dialogue.

For additional resources, see the [Audio Description Project Website](#).

3. Extended Audio Description

It is often the case that the natural pauses in a video do not afford enough time to provide a complete audio description. When this is the case, the video may be paused allowing time for the additional audio description to be read aloud by assistive technology. The video may be resumed when the additional audio descriptions have been completed. This technique allows the video to play from end to end yet pause in places where extended audio descriptions are needed. For more information on how to provide a video including extended audio description see [G8: Providing a movie with extended audio descriptions](#).

VI. What is an Accessible Video Player?

Video players should support the following requirements to be accessible to individuals with disabilities:

- a. Support for closed captioning and audio descriptions for deaf or blind users including the ability to turn captions and audio descriptions on and off.
- b. Keyboard navigable features for users who have difficulty operating a mouse.
- c. Speech recognition for those not using a keyboard or a mouse. For example, an individual could say, “Click play,” and the video would play.
- d. Buttons and controls must be properly labeled for screen reader users
- e. Ability to increase or decrease volume

- f. Adjustable font size or caption colors.

The specific types of video players and their requirements can be very technical. If you need assistance, contact your bureau web manager, IT helpdesk or bureau Section 508 Coordinator.

VII. Audio/Visual Media Included in Information Kiosks

An information kiosk is, “an interactive device that allows users to access information or conduct other self-service functions.” See [Georgia Tech Research Institute Monograph Series #6, Kiosks](#)⁴. Examples of kiosks found throughout DOI may include museum information kiosks, entrance fee collection, and wayfinding kiosks. Kiosks often use complex user interfaces that create accessibility challenges. Adherence to Section 508 Accessibility Standards improves the ability of individuals with disabilities to operate the user interface and access information provided by the kiosk.

Kiosks often employ audio and video displays to convey information to users. For example, museum information kiosks may display video and graphic content to provide an educational experience. In this case, audio information provided by the kiosk must be accessible to individuals who are deaf or hard of hearing. Additionally, any visual information relayed by the video display must be made accessible to individuals who are blind or low vision.

Audio output can be used to improve the accessibility of a kiosk for users who are blind or low vision. However, users who are deaf or hard of hearing may rely on visual displays to obtain information from kiosks. If information is conveyed only via audio, the information will not be perceivable by all users. Important information conveyed via audio should be provided by visual means such as graphics, text, indicator lights, captions, etc. As a best practice, kiosks should also provide sufficient output volume and range of adjustment through the built-in speakers and the headphone output.⁵

Visual displays used in kiosks may range from informational videos to touch screen controls. Informational videos are required to be audio described as outlined in Chapter V, What is Audio Description. Hardware that transmits information or includes user interfaces, such as kiosks using touch screen controls, fall under the technical requirements governing hardware. See [Information and Communication Technology Standards and Guidelines, Chapter 4: Hardware](#), or contact your Bureau Section 508 Coordinator.

⁴ The term “information kiosk” is not defined by the United States Access Board or the Americans with Disability Act Standards.

⁵ See [Georgia Tech Research Institute Accessibility Monograph Series, #6 Kiosks](#), A study of accessibility issues and potential design solutions for designers, procurement officials and consumers, Fain, Bradley W., 2009.