



Federal Agencies Digital Guidelines Initiative

GUIDELINES FOR EMBEDDING METADATA IN WEBVTT FILES

September 1, 2026
Version 2.0

The FADGI Audio-Visual Working Group
<http://www.digitizationguidelines.gov/audio-visual/>



Federal Agencies Digital Guidelines Initiative

Guidelines for Embedding Metadata in WebVTT Files

By the Federal Agencies Digital Guidelines Initiative (FADGI) Audio-Visual Working Group
<http://www.digitizationguidelines.gov/audio-visual/>

Version 2.0

Last Updated: September 1, 2026



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Version History

Version	Publication Date	Contributors (in alphabetical order)
2.0	September 1, 2026	Library of Congress: Hockstein, Dan Morel, Morgan Murray, Kate Smithsonian Institution: Nabasny, Emily Sanchez, Crystal Sobers, Kira Community Collaborators: Hosale, Charlie (MIT Libraries) King, Owen (GBH Archives) Rao, Nina (Emory University) Rice, Dave (FAGDI contractor)
1.0	June 7, 2024	Same as below
0.1 (Draft for public comment)	April 15, 2024	Architect of the Capitol: Farnsworth, Claralyn Burt Library of Congress: Davis, Laura Hosale, Charlie Kim, Julia Morel, Morgan Murray, Kate National Archives and Records Administration: Holmstrom, Heidi National Library of Medicine: Calle, Danielle Smithsonian Institution: Hockstein, Dan McDowell, Blake Sanchez, Crystal Sobers, Kira Trizna, Mike

Change Log

- Version 2.0 from 1.0
 - The changes implemented in Version 2.0 are not backwards compatible with Version 1.0. Version 1.0 is retired and should not be used.
 - Clarifying changes for scope of detail of embedded metadata in introduction.
 - Metadata should now be stored in a WebVTT comment block. Added information about comment block requirements in section 2.1.
 - “FADGI WebVTT data block” now referred to as “FADGI metadata WebVTT comment block” throughout the document.
 - Clarified language around UTF-8 and ASCII characters in WebVTT files in Section 1 and Section 2.1.
 - Metadata for repeatable elements is now stored as repeated element-value pairs, rather than one element containing multiple values. Updated relevant portions of Section 2.1 and examples in sections 2.2 and 2.3.
 - Clarified that elements and values are delimited by the first occurrence of a colon and a regular space on a line. Updated Section 2.1.
 - Created a new section for Recommended elements (2.3). Optional elements moved to section 2.4.
 - Title and Origin History are now recommended elements, instead of optional.
 - Local Usage Element deformatized and replaced by underscore syntax, to be more readable and easily repeatable. Updated relevant portions of Section 2.1 and Section 2.4.
 - File Creator and Origin History are now repeatable elements. Updated sections 2.2 and 2.3.
 - Clarified that software can be a valid creating agent value in the File Creator element in Section 2.2.
 - Added additional context about how File Creator and Origin History have complimentary data in sections 2.2 and 2.3.
 - Updated Origin History element description and examples to emphasize that it is repeatable and can be used to document modifications to the file over time.
 - Updated Appendix to reflect syntax changes for delimiters, repeatable elements, and local elements.
 - Updated text in all element examples to remove specific reference to contributing institution
 - Minor formatting and other editing changes.
 - Updated references and resources.
 - Updated contributor list.
 - Date of publication updated to September 1, 2026.
- Version 1.0 from 0.1 (draft for public comment)
 - Date of publication updated to June 7th, 2024.

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1. What is This Document?

These guidelines recommend embedded metadata fields and values that FADGI supports including in WebVTT files. WebVTT files contain captions, subtitles or other descriptive data for audiovisual content. They are derivative files that are intended to be paired with associated AV content during playback, either online or locally. FADGI members recognized that provenance, administrative history, connective, and contextual information was often missing or divorced from WebVTT files in their collections. These guidelines are intended to aid federal agencies in administering their WebVTT files and make data about those files more transparent to all users. The fields and values help patrons and collection administrators understand when, where, and how a WebVTT file was made, and what kind of data it contains.

While the overall concepts of these guidelines can be reused in other text-based formats, such as plain text for transcripts, these guidelines are specifically built around the structure of WebVTT format which is standardized and documented by [WebVTT W3C Candidate Recommendation](#). For more about WebVTT files, see also the Library of Congress [WebVTT Format](#) entry on the Sustainability of Digital Formats.

The guidelines are inspired by FADGI's [Guidelines for Embedded Metadata in Broadcast WAVE Files](#) and [Guidelines for Embedding Metadata in DPX Files](#). FADGI encourages best practices for embedding metadata in digital cultural heritage objects.

Overall, the goal of this embedded metadata is to provide enough information to identify what the file is, who is responsible for it and where to find additional information. While there is a high level amount of content and provenance data, it is not intended to be a comprehensive and complete record. These guidelines are purposely lightweight.

An alternative guideline for those institutions looking for more robust embedded metadata is the AI4LAM Speech-to-Text Working Group's Transcript Provenance Metadata Elements (TPME): <https://doi.org/10.5281/zenodo.21287085>. The FADGI WebVTT and AI4LAM TPME working groups collaborated to avoid incompatibility between the two options.

1.1. Important Information about Version 2.0

Version 2.0 supersedes and is not backwards compatible with version 1.0 (released in June 7, 2024). Version 1.0 should be considered withdrawn.

1.2. Scope of FADGI Guidelines for WebVTT Files

Does this guideline supersede the WebVTT W3C recommendations?

No. FADGI's responsibility is first and foremost to federal agencies. This work was identified as a need by FADGI members who create and administer WebVTT files. This guideline is informed by the WebVTT W3C Candidate Recommendation, but is not associated with it nor an extension of it. This guideline is simply meeting a need identified by FADGI member institutions.

Organizations outside of the federal cultural heritage sector employ other methods to track and retain data about WebVTT files. FADGI tested that WebVTT files featuring FADGI metadata worked as expected in selected players and systems.

Does this project recommend best practices for encoding captions, subtitles, and other information as data tracks in AV container files?

No. FADGI broadly recommends encoding captions, subtitles, and other data into container files where possible and appropriate, but this document does not explore that topic in depth. WebVTT files are broadly used in federal agencies and these guidelines are intended to assist specifically when captions, subtitles, and other data are stored in sidecar WebVTT files. FADGI does not endorse using WebVTT files instead of encoding data into container files.

1.3. Inclusive Language and Terminology

According to the [FADGI glossary](#), “in alignment with terminology changes in the wider software, technology and the GLAM communities, FADGI states that the term primary is an acceptable substitute for master and the two convey the same intentions and meanings.” This guideline uses the term “primary” instead of “master” to convey that the file presents the best copy produced by a digitizing organization, with best defined as meeting the objectives of a particular project or program.

1.4. FADGI Levels of Recommendation

FADGI develops guidelines and models of good practice but it is not a formal standards-making organization. Therefore, it does not have the authority to declare that conformance is required or mandatory. FADGI’s documents include a tiered approach to adherence.

1.4.1. Strongly recommended

If the Working Group had the authority to do so, these would be “required.”

1.4.2. Recommended

Important information to capture and retain but not essential

1.4.3. Optional

Good to retain if there are tools and use cases to support

2. Metadata Guidelines

2.1. Syntax

FADGI recommends recording metadata in a [WebVTT comment block](#). The FADGI metadata WebVTT comment block should precede the first caption or subtitle cue and adhere to [WebVTT file body requirements](#). The FADGI metadata should follow these these conventions:

- Metadata should be recorded as element and value pairs. For example “*File Creation Date: 2024-04-05*”.

- Elements are delimited by the first colon and regular space character (U+0020) pair on a line; all following colon and whitespace pairs on the line are not delimiters.
- Values are delimited by a new line.
- Each element and value pair should be placed on a new line.
- Elements that are repeatable should have their second instance placed on a new line, in a second element-value pair. For example:

*“Language: eng
Language: fra”*

- Elements can be presented in any order according to preference within the comment block. However, if multiple instances of repeatable elements are present in the same block, it may be preferable to group them together in the block for clarity.
- Organizations can add local elements to the FADGI metadata WebVTT comment block by prepending an underscore character (“_”) to an element name. For example: “_Version History: v1.1”. Local elements are optional and are not documented by FADGI. See “Local Usage Elements” in Optional Elements (section 2.4) for more information.
- Metadata should conform to [W3C WebVTT comment block syntax requirements](#). Comment blocks “are preceded by a blank line, start with the word “NOTE” (followed by a space or newline), and end at the first blank line.” The comment block also “must not contain the substring “-->” (U+002D HYPHEN-MINUS, U+002D HYPHEN-MINUS, U+003E GREATER-THAN SIGN).” FADGI metadata should not include blank lines or WebVTT’s restricted arrow substring. WebVTT validators and parsers will not function as expected if these requirements are disregarded.
- Though it is optional in the WebVTT specification, FADGI strongly recommends using a new line character to separate the comment block initialization string “NOTE” from the first metadata element in the file (see the Appendix for example).

2.2. Strongly Recommended Elements

If the Working Group had the authority to do so, these would be “required.”

Type	
FADGI Application	This element describes the type of information contained in the WebVTT file. The values to choose from are: subtitle, caption, audio description, chapters, or metadata. A WebVTT can have only one type. These values are guided by WebVTT specifications for WebVTT types but are FADGI’s variations on the HTML Kind attribute values WebVTT recommends.
Mandatory/optional	Strongly recommended (if the Working Group had authority: “required”)

Repeatable	No
Values	Controlled values: subtitle, caption, audio description, chapters, or metadata
Example	Type: caption
Example	Type: subtitle

Language	
FADGI Application	This element specifies the language(s) used in the WebVTT content displayed to users. It does not define the language in the audio or video stream content, except in instances where the language of the audio or video stream are the same as the WebVTT content (ex, English WebVTT captions for an English language video). This element should complement, but not replace, data contained in WebVTT cue language spans: https://www.w3.org/TR/webvtt1/#webvtt-cue-language-span. This element does not document the language of the WebVTT metadata values.
Mandatory/optional	Strongly recommended (if the Working Group had authority: "required")
Repeatable	Yes
Values	Use ISO 639-3 three letter language codes .
Example	Language: eng Language: spa
Example	Language: fra

Responsible Party	
FADGI Application	This element names the entity responsible for the maintenance and preservation of the WebVTT file. Entity designations should be as specific as possible including a two-character country code to avoid the potential for conflict in the responsible organization's name.
Mandatory/optional	Strongly recommended (if the Working Group had authority: "required")
Repeatable	Yes
Values	[Country code]comma space[Entity name]. Use ISO 3166 alpha 2 country codes .
Example	Responsible Party: US, Library of Congress American Folklife Center

Example	Responsible Party: US, Smithsonian National Museum of African American History and Culture
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Media Identifier	
FADGI Application	This element contains a string that is a non ambiguous reference to associated content. The typical usage for this element is the identifier of the work with which the WebVTT is associated and/or from which the WebVTT is derived.
Mandatory/optional	Strongly recommended (if the Working Group had authority: "required")
Repeatable	Yes
Values	If labeled: Identifier [comma space] type [comma space] comment If no labeling: Identifier
Example	Media Identifier: 9083934297, lccn
Example	Media Identifier: 2012.79.1.16.1a

Originating File	
FADGI Application	Filename for the specific AV file from which the WebVTT was created or is derived. If a derivative access copy was used to create the WebVTT instead of a primary file, record the derivative's file name. This field is intended to help distinguish and surface any discrepancies introduced by versioning of the originating media. Organizations may or may not intend a WebVTT to be accessed together with the originating file.
Mandatory/optional	Strongly recommended (if the Working Group had authority: "required")
Repeatable	No
Values	Free text
Example	Originating File: 180419plc1900_1280x720_2000.mp4
Example	Originating File: 2012_79_1_16_1a_DER_01.mp4

File Creator	
FADGI Application	Creator of the WebVTT file. The File Creator can be different from the Responsible Party - for example, the creator may be a contractor or software employed by the responsible party. If including personal names such as a technician, consider if it is necessary to provide that information to the public. This element should describe the instantiating author(s) or modifiers - software or human - of the WebVTT file, whereas the Origin History element should be used to store narrative or organizational information pertaining to the file's authorship.
Mandatory/optional	Strongly recommended if known (if the Working Group had authority: "required")
Repeatable	Yes
Values	Free text
Example	File Creator: LOC NAVCC Video Lab File Creator: FFmpeg version 7.1.5
Example	File Creator: YourVTT CaptionCorp
Example	File Creator: OpenAI Whisper release 20250625

File Creation Date	
FADGI Application	The day the WebVTT file was created.
Mandatory/optional	Strongly recommended (if the Working Group had authority: "required")
Repeatable	No
Values	Use ISO 8601 (typically yyyy-mm-dd or yyyy-mm. Review the standard for other variations)
Example	File Creation Date: 2018-04-21
Example	File Creation Date: 2020-04

2.3. Recommended Elements

Important information to capture and retain but not essential

Title	
FADGI Application	The title of the work with which the WebVTT is associated and/or from which it is derived.

Mandatory/optional	Recommended
Repeatable	No
Values	Free text
Example	Title: Staying Human: Poetry in the Age of Technology
Example	Title: Black Journal: 26; Alice Coltrane

Origin History	
FADGI Application	This element contains a brief description of the origin and history of the WebVTT file. This element may assist in tracing or comparing multiple versions of WebVTT files by contextualizing the process or resources that enabled individual file creation. This element may be used to track changes by repeating this element and optionally adding ISO 8601 date information.
Mandatory/optional	Recommended
Repeatable	Yes
Values	Free text
Example	Origin History: Automatically created during video capture by FFmpegby extracting the EIA-608 (line 21) captions and decoding into WebVTT.
Example	Origin History: Modified content throughout the document during human review on 2024-07-01 to correct transcription errors.

2.4. Optional Element

Good to retain if there are tools and use cases to support

Local Usage Elements	
FADGI Application	Free text fields used for adding local element and value pairs. Allows organizations to add fields to the FADGI metadata comment block to meet their needs. FADGI does not define or monitor the elements or values used locally. To indicate that an element is local, prepend an underscore (“_”) to the element name. When an organization decides to utilize local elements, they should determine their own metadata rules for the new local element(s) they’re adopting.
Mandatory/optional	Optional
Repeatable	Yes
Values	Prepend an underscore before the element’s name.

Example	_Order Number: abcxyz123 _Quality Control: True
Example	_Version History: version 2.0

2.5. File Naming

WebVTT files are usually named the same as the AV file with which they're paired. In situations where specific filenames are not dictated by presentation or preservation systems, and where reasonable and appropriate, FADGI recommends adding the type and language as subdivisions of the filename. For example:

- *Primary AV file*: "2021690767.mp4"
- *English captions*: "2021690767.caption.eng.vtt"
- *Spanish subtitles*: "2021690767.subtitle.spa.vtt"

This naming convention helps some AV players automatically load the WebVTT files and is a recommended accessibility practice.

Appendix: Example FADGI Metadata WebVTT Comment Block

(FADGI metadata colored and italicized for emphasis)

WebVTT

NOTE

Type: caption

Language: eng

Responsible Party: US, Library of Congress

Media Identifier: 2021690767, Library of Congress Control Number

Originating File: 180419plc1900_1280x720_2000.mp4

Title: Staying Human: Poetry in the Age of Technology

File Creator: LOC Multimedia Group

File Creator: FFmpeg version 7.1.5

File Creation Date: 2018-04-21

Origin History: Automatically created during video capture by FFmpeg by extracting the EIA-608 (line 21) captions and decoding into WebVTT.

_Version History: v1.0

_Quality Control: True

00:00.680 --> 00:22.090

>> From the Library of
Congress in Washington, DC.

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