

# Subtitle format support in TextTrack and TextTrackCue

Breakout TPAC 2017

#texttrack

# Agenda

- Re-Capture Breakout TPAC 2016 Lisbon
  - Motivation
  - Discussion
  - Conclusion
- What does HTML5 say?
- Discussion
- Next Steps (13:45h latest)

# Breakout Session TPAC 2016 (Lisbon)

- Motivation
  - TextTrack has no type attribute to identify different subtitle formats
  - Non WebVTT caption formats must use the VTTCue interface
    - A (generic) TextTrackCue interface exists, but no object can be constructed.

# Example: Missing type attribute

```
<video controls>  
  <source src="video/james.mp4" type="video/mp4">  
  <source src="video/james.webm" type="video/webm">  
  <track kind="captions" src="james_subs.vtt" srclang="en">  
  <track kind="captions" src="james_subs.xml" srclang="en">  
</video>
```

# Example: Use of VTTObject

```
var myVideo = document.getElementById("video_id");
var myTrack = myVideo.addTextTrack("captions", "test", "en");

var myCue = new VTTCue(0, 2, "");
myCue.htmlPayload = "...";

myCue.onenter = function() {
    //overlay video with html payload
};

myCue.onexit = function() {
    //remove video with html payload
};

myTrack.addCue(myCue);
```

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# Why not use DataCue?

*cyril*: I checked that DataCue in HTML5.1 is specified and has a constructor.

*ericc*: It does not render.

*atai2*: It does not work with @kind=captions

*ericc*: Correct.

## Use case for type attribute?

*zcorpan*: The main use would be avoiding download of definitely not supported data.

*ericc*: It could be helpful too - in webkit we populate a menu with the tracks, and we get bug reports that some tracks are not functional and the reason is that the UA doesn't understand the format.

# Missing rendering rules for other formats?

*zcorpan*: I think if we really want to have web developers implement other text track formats then we should expose the primitives for rendering stuff on a video.

*ericc*: We would need to expose more 'knobs' on the interface for adjusting the display of cues.

*zcorpan*: It's not that we need the rendering rules, but that the web developer is in control of the rendering.

# Re-use of current track/cue implementations

*cyril*: So you could in js create something that has a payload that can be rendered and create js event handlers that tell the browser to render it?

*gadams*: You have to keep track of time?

*ericc*: You can keep track of time using a timeupdate handler. It can be slightly out of sync and has more performance impacts than native support.

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- *atai2*: I'm not sure if this is a task for WHATWG or Web Platform WG or there should first be a CG to evaluate different options.
- *zcorpan*: Web Incubator Community Group would be a good place.
- *atai2*: Show of hands for interest in contributing?
- *group*: [several hands go up including contributors to the discussion]

What does HTML5 say?

# What does HTML5 say about ... type?

## 4.7.14.11.3. Sourcing out-of-band text tracks

“This specification does not currently say whether or how to check the MIME types of text tracks, or whether or how to perform file type sniffing using the actual file data.

Implementors differ in their intentions on this matter and it is therefore unclear what the right solution is. “

# What does HTML5 say about ... type?

## 4.7.14.11.3. Sourcing out-of-band text tracks

“In the absence of any requirement here, the HTTP specification’s strict requirement to follow the Content-Type header prevails (“Content-Type specifies the media type of the underlying data.” … “If and only if the media type is not given by a Content-Type field, the recipient MAY attempt to guess the media type via inspection of its content and/or the name extension(s) of the URI used to identify the resource.”).”

# What does HTML5 say about ... other formats?

## 4.7.14.11.4. Guidelines for exposing cues in various formats as text track cues

How a specific format's text track cues are to be interpreted for the purposes of processing by an HTML user agent is defined by that format [\[INBANDTRACKS\]](#).

In the absence of such a specification, this section provides some constraints within which implementations can attempt to consistently expose such formats.

# What does HTML5 say about ... other formats?

## 4.7.14.11.4. Guidelines for exposing cues in various formats as text track cues

“To support the [text track](#) model of HTML, each unit of timed data is converted to a [text track cue](#). Where the mapping of the format’s features to the aspects of a [text track cue](#) as defined in this specification are not defined, implementations must ensure that the mapping is consistent with the definitions of the aspects of a [text track cue](#) as defined above...”

# What does HTML5 say about ... other formats?

[Sourcing In-band Media Resource Tracks from Media Containers into HTML](#)

[\(section 4.5\)](#)

“...ISOBMFF text tracks carry TTML ...

Browsers that can render text tracks in the TTML format should expose an as yet to be defined TTMLCue. Alternatively, browsers can also map the TTML features to VTTCue objects. Finally, browsers that cannot render TTML format data should expose them as DataCue objects. Each TTML subtitle sample consists of an XML document and creates a DataCue object with attributes”

# Discussion and next Steps

- ...