Closed Captioning for the Web

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- Solutions must be inexpensive and reliable.

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- It is way too much like safecracking to get it all to work!

Editing

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- Adobe Premier does have the tools to edit captions.
- There are products that are focused on caption editing, but they have problems, too.

Standards

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- The main standards end up being:
  - VTT (publish to web, ingest option)
  - TTML (publish to web)
  - XML (ingest option)
  - MCC (ingest option)
  - HTML 5 (web coding)
  - MPEG 4 (Video encoding)

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- The elements we are concerned with are video and captioning.
- Ah ha – captioning is its own file.

HTML 5

- The HTML code below shows how these elements work:

```
<video  width="320" height="240">
    <source type="video/mp4" src="my_video_file.mp4" >
    <track src="captions_file.vtt"   label="English captions" kind="captions"     srclang="en-us" default >
</video>
```

HTML 5

- You can use HTML 5 as the method for content delivery. It works natively in most browsers.
- But, it lacks some features, such as:
  - Multi resolution
  - Full screen toggle
  - Content sharing tools
  - Rights management

Embedded Players

- What most developers use. They are similar in deployment as the elements in HTML 5.
- Treated as an element, and then the video and captioning are described in Java, about the same as HTML syntax.
- These players have far more features.
- MPEG 4 and VTT work well.
- HTML 5 or Flash often used as a fallback.

Midterm Review Time

- The marketplace has stumbled into four standards at the user side:
  - MPEG 4
  - VTT
  - TTML
  - HTML 5

More Midterm Review

- The industry has stumbled into some more standards
  - MCC
  - TTML

One More Thing

- Remember accurate?
- Vaguely described by the FCC.
- Largely interpreted as correctly timed, proper spelling, matches the scene, and located out of the way of pertinent graphics.
- Don't forget the audit rule – "what is easy to audit gets audited."

Caption Editing

- Three products have risen to the top of the market.
    - Adobe Premier
    - Telestream's Caption Maker or Mac Caption.
    - Subtitle Edit
- All of them can edit, but they all have different file type compatibility. This is the key to cracking the safe!

Adobe Premier

- Can do basic caption editing.
- Will open MCC and VANC
- Can save as MCC and TTML
- Doubles as a handy tool for audio and video editing

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Telestream

- Uses MCC as input format.
- Both VTT and TTML output.
- Really full featured as a caption editor
- Entry level is around $1,100. Full version is over $5,000.

Subtitle Edit

- Seemingly everything but MCC as input
- VTT and TTML output
- Very full set of caption editing features
- Free!!!!

Keys of Survival

- This is classic IT centric design - nothing does everything.
- The fun part is figuring out what part of this can't be messed with. That's the anchor of the design.
- Then build the rest of the workflow based on the products that make the rest of it come together.

Sample Workflow #1

- Record the program using a Blackmagic Hyperdeck.
- Hyperdeck creates a MCC file containing the captioning.
- Trim program in Adobe Premier.
- Edit captions in Adobe Premier (works with MCC.)
- Render output to desired resolution
- Publish video and CC elements to web.

Sample Workflow #2

- Transcode video to web resolution. Have transcoder output VTT file for captions.
- Trim video in editor of choice.
- Edit captions in SubTitleEdit.
- Publish video and caption elements to web.

Thank You

- Questions? Comments? Want to get on a standards committee?
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