Web & Mobile Device Captioning

Closed captioning products MacCaption and CaptionMaker allow you to easily author, edit, encode and repurpose video captions for television, web and mobile delivery. Utilizing exclusive e-Captioning™ technology, MacCaption (for Mac) and CaptionMaker (for Windows) simplify the process of complying with FCC regulatory requirements, enabling greater access to broadcast content for television, online and mobile viewers.

Challenges for IP/Web Video Captioning

For broadcast video, there is one specific area in the video signal where captions are placed. Since there is only one broadcast specification for all of North America, every TV station has the equipment necessary to insert the captions, and every TV sold in the region can receive them.

For web video, there are a number of different standards and types of video playback mechanisms (Flash, Silverlight, HTML5, QuickTime, HLS, HDS, MS Smooth Streaming, MPEG DASH, UltraViolet, etc.). To support a broad variety of different playback devices, a provider may need to stream the video in multiple formats, because there is no one video format that is supported by every device.

Until now most of the focus on web captioning has been video on demand (non-live video) which has pretty broad captioning support across the different formats, but live captioning has mostly been an afterthought. Telestream's goal is to work with live streaming providers, encoder manufacturers, etc. to cooperate on the necessary pieces of the puzzle to enable live web video with captions.

Post-production Web Captioning:

Telestream captioning software, CaptionMaker and MacCaption, support a large number of formats for captioning video files for video on demand (VOD) on the web, including:

- SMPTE Timed Text (SMPTE 2052): A new standard for captioning for both broadcast and the web, also for UltraViolet (DECE CFF format)
- WebVTT: Another new standard for captioning and subtitling web videos, frequently used with HTML5 and Apple HLS streaming
- H.264 SEI Embedded Captions: Used for Akamai and Wowza VOD streaming
- DFXP (TTML): Used by many Flash players and providers such as Brightcove, Limelight, Flowplayer, JW Player, etc.
- iTunes Timed Text (iTT): Used for delivery to iTunes
- SRT: Supported by many Flash players and also YouTube
- SCC: Supported by YouTube and some other web video players

Live Web Captioning:

The difficulty with live web captioning is how to get the caption data from the source (broadcast feed, etc.) to the end user. Most web streaming encoders and web technologies were designed to convey only video and audio, not captions.

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Uvault, a live streaming provider and content delivery network, has added closed captioning support to its network. Telestream's live captioning software can send the captions to Uvault's servers, which then deliver them to the end users along with the video.

Another option is Wowza Media Server, which as of version 3.6 can receive embedded CEA-608 captions inside the video stream and pass them on to the clients. If your video encoder can insert/preserve CEA-608 captions into the encoded stream which is sent to Wowza, then it can deliver various types of captions to the viewers, depending on what kind of device or software they're using to view the stream. If you are a TV broadcaster, then your captioned broadcast feed should already contain CEA-608 captions. All you need is a web encoder (e.g. H.264 streaming encoder) that will preserve the CEA-608 closed captions data.

Telestream is eager to work with other streaming providers and encoder manufacturers to enable live closed captioning support in their streaming web video products.

FCC Regulations for IP Captioning

Accessibility Act of 2010 Chart of Deadlines
On January 13, 2012, the FCC released a Report and Order adopting rules for closed captioning of video programming delivered using Internet protocol (the "IP closed captioning rules"). These new closed captioning rules were published in the Federal Register on March 30, 2012, and will generally become effective 30 days later, on April 30, 2012.

The IP closed captioning rules apply to non-exempt full-length programming and will be implemented according to the following schedule:

- Pre-recorded programming that is not edited for Internet distribution must be captioned if it is shown on television with captions on or after September 30, 2012.
- Pre-recorded programming that is edited for Internet distribution must be captioned if it is shown on television with captions on or after September 30, 2013.
- Live and near-live programming must be captioned if it is shown on television with captions on or after March 30, 2013. Near-live programming is video programming that is performed and recorded less than 24 hours prior to the time it was first shown on television.

- Programming that is already in the video programming distributor's or provider's library before it is shown on television with captions must be captioned:
    - Within 45 days after it is shown on television with captions on or after March 30, 2014 and before March 30, 2015
    - Within 30 days after it is shown on television with captions on or after March 30, 2015 and before March 30, 2016
    - Within 15 days after it is shown on television with captions on or after March 30, 2016

To see the actual FCC web captioning regulations, see below:
http://www.fcc.gov/encyclopedia/twenty-first-century-communications-and-video-accessibility-act-0

The process to add closed captioning to web files is called e-captioning. Continue reading below to see how Telestream's closed captioning software can help you meet the new web closed captioning regulations.

Web formats with Closed Captions

Mobile Devices Closed Captioning
Many mobile devices already support closed captions, although they require the captions in different formats depending on the device. With Telestream software it is easy to create captioned videos that work on multiple devices.

The iPhone, iPod, and iPad are very common players for portable video and music media. The Apple devices support TV-style closed captioning in H.264 video files. CPC MacCaption software can encode closed caption tracks into QuickTime videos with any pixel resolution.

The closed captions can be extracted from a broadcast tape or file, converted from other caption formats, or even created from scratch. Simply add the captions track to your existing video files with MacCaption.

Most Android-based phones which support Flash can take advantage of Flash closed captions.

YouTube Closed Captioning
It is easier than ever to caption web videos through YouTube. Not only does YouTube have a speech recognition engine to help transcribe your video, but also an automatic time stamping tool to synchronize an

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already existing script. If you need the transcription to be perfect it is best to type it out manually in a word processor and upload a .txt file alongside your video to YouTube. This will result in accurate captioning text. However, there are times when you may have a closed captioning file or tape that already has captions but needs to be converted to a video that can be uploaded to YouTube. Telestream software can help by quickly converting your TV closed captioning file or tape to the .SRT format that is native to YouTube.

iTunes Closed Captioning

iTunes software for Mac and Windows now has the ability to display closed captioning for iTunes videos, including video podcasts and iTunes U. All you have to do is add closed captions to a QuickTime .mov or .m4v file. The closed captioning in these iTunes files are called closed caption tracks for QuickTime. MacCaption can create this CC track quickly and easily by embedding them from any caption document or already captioned video into the QuickTime .mov without re-compression or generation loss. Take existing video podcast archives that you are hosting and add closed captions to them using MacCaption's batch processing.

Flash Closed Captioning

Adobe CS5, Flex, Flow Player, JW Player, Hulu, and Captionate plug-in support closed captioning files for the web. Flash video is like a sea of different custom video players. There are a variety of caption file formats that Flash video can support. They include .srt, DFXP Timed Text .xml, SAMI .smi, Captionate .xml, and embedded .FLV with captions. Telestream software can export any of these file formats to support a variety of custom video delivery websites.

QuickTime Closed Captioning

MacCaption provides the best workflow for inserting closed captioning or subtitle tracks into QuickTime files. These work not only in QuickTime Player on your desktop, but also in your web browser or on your Apple mobile devices.

Windows Media Closed Captioning

If you are delivering captioning content to an all-Windows audience then Windows Media closed captioning could be the most compatible option. Windows Media can read the captioning either from a separate SAMI (.smi) file or from an embedded .WMV file with captioning. Telestream software can generate either one of these options for Windows Media servers needing to deliver accessible video content.

Akamai Sola Sphere Captioning

MacCaption software automatically converts TV closed caption data to web closed caption data, which can then be streamed in HD quality by Akamai. This means that any organization with a large number of archived captioned video files can reduce captioning operational time and errors by using batch processing mode to convert all the files in a folder to desired web captioning formats. MacCaption software can also create captions from scratch.

Workflows for Web Closed Captions

Preparing your captioned video for the web

TV broadcast producers now need a way to get their videos that were closed captioned for broadcast onto the web without losing the captions. Telestream software can easily handle any situation. It can extract and convert closed captions to any required format. If a frame rate or time code change is needed, it has all the necessary tools to easily adjust the closed caption data. Typically this also involves editing the video to remove commercial breaks or shorten the duration.Telestream's closed captioning software can make use of an edit decision list (EDL) from your editing system to automatically conform the original captions to the new web version.

Consider what your audience is using to view your captioned video

If everyone's computer was the same, then you could simply upload your video in one format such as Windows Media and sleep well at night knowing that everyone in the world can watch your video. In reality this is not the case. Some people watch videos on a Mac and some on Windows computers. Some watch videos in mobile phones and iPads. Even the most common web video player using Flash technology requires the user to download and install Flash in order for the video to work. After the new law is passed not only does your video have to be compatible with your viewer's desktop video player, but also the video player must support closed captioning in some form or another. Using the latest technology, Telestream can consult with your webmaster to make sure that your internet video content will play with closed captioning for all your online viewers.

Batch Processing of Closed Captioning

Because TV broadcast producers have been closed captioning video for over 20 years, there are large archives of closed caption files and videos in many different formats. Entire video tape libraries exist with old closed captioned programming that needs to be uploaded to the web with the captions intact. Telestream software can take entire archives of video and caption files and batch process them for web delivery.

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Tape to Web Closed Captioning

Final Cut Pro 7 includes a feature that provides professional video producers with an elegant and versatile closed captioning workflow. With Final Cut Pro 7, Mac users can capture their closed captioned tapes into the QuickTime format without losing the important captioning information. MacCaption software can convert this QuickTime captioning into any other captioning file for the web, including Flash, iTunes, QuickTime, YouTube, and Windows Media.

TV to Web Closed Captioning

There are many devices for watching DTV (on air or cable) broadcasts using your computer. What is critical to viewers who need accessibility is that the closed captioning data can also be viewed and recorded live to a hard drive. Broadcasters who need to post clips to the web now have a simple solution. Telestream software can extract the closed captions from the live recording and convert them to any other closed captioning file, including Flash, iTunes, QuickTime, YouTube, and Windows Media.

Video files to Web Closed Captioning

There are many different kinds of video files used in the professional editing and broadcast world. MXF, MPEG-2, DV25, DVCPRO HD, QuickTime ProRes, Line-21 VBI, Avid AAF can all have closed captions in one form or another. Telestream software can batch process or manually extract closed captioning from virtually any video file or format, and easily convert it to any web friendly format.

Create Closed Captioning for the Web from Scratch

To caption a video for the web, a few ingredients are needed: a transcript of the video, the actual video file, and closed captioning software to format and synchronize the text with the video. There are many tools that can help make this process quick and easy.Telestream's MacCaption and CaptionMaker software are optimized for professional captioning workflows that require speed and flexibility. Once the captioning project is finished inside our software, there are a variety of export options for compatibility with any kind of video.