Video Accessibility in Schools

"From the beginning, QuickTime Player technology has included a way to read a closed caption track from video files, but there was no easy way to add the captions, so educational opportunities to bring video and written language together may have been missed."

Contents

Introduction

Apple's innovation in video-capable mobile devices has been accompanied by dramatic growth in the use of video by just about everyone, including more than 94% of teachers and their students, according to one source[1]. Both Mac OS X and iOS for iPad and iPhone include built-in QuickTime video recording and playback, a unifying factor that makes all of these devices interoperable. The same video can be recorded and played back on all of them.

However, an important piece has been missing. From the beginning, QuickTime Player technology has included a way to read a closed caption track from video files, but there was no easy way to add the captions, so educational opportunities to bring video and written language together may have been missed.

telestream

Captioning on Several Apple Devices

To solve this problem, a moderately-priced, easily adaptable closed captioning program would be especially valuable in education. Captions in video could be highly useful for teaching virtually any subject and increasing accessibility for deaf, hard-of-hearing, and second-language (ESL) students[2].

MacCaption Desktop, a video captioning program for Mac OS X, fills that niche, allowing school faculty, staff, and students who use a Macintosh computer to make videos with perfectly timed and professional-looking captions. This capability expands the value of video in education, making captioned video an exciting instructional medium with many possible educational applications.

Applications in Schools and Universities

The instructional opportunities with captioned videos produced using MacCaption and QuickTime Player technology on a Mac are many and simple to deploy. Obviously, closed captioning ensures accessibility of video curricula to deaf and hard-of-hearing students, making their school experience more inclusive and meeting the mandates to provide full accessibility to all students.

Beyond accessibility, other applications for captioned videos abound. Staff now have the exciting opportunity to combine both video and text for any subject.

Students see and practice reading, spelling, and correct written terminology at the same time that they absorb video and audio information. Many research studies done on captioned video in education demonstrate significant learning enhancement across student populations, including deaf, special education, and English as a Second Language (ESL) students[3,4,5]. A captioned video curriculum has value for students learning subjects across the board from math and science to reading and writing, but for ESL and language studies, captioned video can be particularly valuable. Students can see written vocabulary at the same time that they hear the sounds and see the corresponding images.

Additionally, if MacCaption-equipped Macintosh workstations are made available to students, their learning can go beyond passive watching. Students can caption videos themselves, allowing them to actively practice written terminology along with the video and audio subject matter. This enables a new learning medium and mechanism that teachers can easily monitor, grade, and correct. The benefits of using captioning to improve student comprehension, engage-ment, and performance have been proven in a multi-tude of studies[6]. In *The Closed Captioning Handbook*, Gary Robson explains that "augmenting an auditory experience with captions more than doubles retention and comprehension levels."

telestream

How it Works using MacCaption Desktop Software

Telestream's moderately-priced, award-winning MacCaption software for closed captioning and subtitling makes it easy for anyone to add captions to many video files and codecs that will enable the "show closed caption" features of QuickTime player. With MacCaption, you can preview and control your video file on one side of the window, while you type in the matching captions on the other side. You can see your results instantly as you go, making the captioning process simple, fast, and intuitive. You can also import captions from text or other file types and edit them in the caption window, again watching your results as you go.

MacCaption provides professional-quality TV standard CEA-608 closed captioning with positioning, roll-up, pop-on, and paint-on support. CEA-608 is the captioning standard used for TV and for QuickTime, making the captions you produce easily reusable and transportable for use within multiple QuickTime files and in other applications as well. Additionally, MacCaption allows you to insert subtitles in multiple languages and character sets, such as unicode text for Asian language playback.

MacCaption offers exceptionally flexible input and output, including captions embedded in the video as well as output to a separate caption file for use in many Internet and TV video file formats, such as DFXP Timed Text, SRT, SCC, MCC, SMPTE TT, and WebVTT. This allows you to re-import and reuse your caption files, and it can allow you to recover caption files from existing captioned videos and other captioning programs. You can even use MacCaption to add subtitles to videos for viewing in players that are not designed to display closed captions, such as videos played within PowerPoint and WordPress. In these cases, MacCaption can burn-in subtitles (open captions) into the QuickTime .mov video format so that the subtitles are "always on" in the video.

Typical Uses with Apple Products

MacCaption and Apple devices are the perfect marriage, since both work natively with QuickTime Player compatible video files such as .mov and mp4. Using MacCaption, you can create closed captioning for these devices (and other) applications:

QuickTime video for desktop viewing–QuickTime player comes standard with all Mac computers and can be installed on a Windows computer to playback video files with captioning.

The advantage of QuickTime Player and MacCaption together is that both employ the same professional closed caption capability that television has used for many years. All of the familiar TV caption positioning and formatting options are available with MacCaption and QuickTime video playback. Additionally, this captioning standard makes the captions easily transportable to other applications.

Apple TV video for classroom viewing–MacCaption captioning for QuickTime is ideal for wireless streaming directly to an Apple TV appliance. Using Apple AirPlay, staff and students who have captioned videos with MacCaption can stream their videos to large-screen HDTVs wirelessly.

iOS video for iPad and iPhone–The QuickTime closed captioning track with embedded captions from MacCaption also works on popular iOS devices, such as the iPad and iPhone. Using this technology, instructors can stream video and text to students' commonly available handheld devices, either in the classroom or remotely. With iOS 7, captioning can be turned on or off as needed.

iTunes U content for distribution–Apple iTunes U leads the revolution in multimedia curriculum development, integrating video, audio, photos, notes, and student note taking into a unified package on the iPad. Since iTunes uses the same QuickTime playback technology we've been discussing, you can now add captions to your iTunes U videos with MacCaption. Captioning will work on all podcasts distributed through iTunes U.

iBooks video content–Author your next textbook using iBooks, and add videos with captions produced on a Mac with MacCaption. QuickTime once again underlies the iBooks app video player technology, making it a snap to add captioned video to your content and distribute it to your students' iPads.

YouTube video uploads–Once the captioning is created in MacCaption for QuickTime playback, it can also be converted to a variety of internet captioning file formats such as WebVTT, which is compatible with YouTube and the YouTube app on the iPhone and iPad. YouTube serves as the perfect intermediary platform for students who have video-capable non-Apple mobile devices. Just output the MacCaption file created for your QuickTime video in the WebVTT format and upload it to YouTube together with the video. The YouTube player adds the captions to the video during playback.

telestream

Summary

Studies show that captioning enhances video learning across all student populations and subjects and provides essential accessibility to students with hearing difficulty. Apple offers many devices for distributing closed captioned videos to students: Apple TV, iPad, iPhone, iTunes U, and iBooks app. Now, helping students learn by putting captioned video in their hands is as simple as adding MacCaption to your Macintosh video production computer. Telestream offers special bundles for MacCaption educational users to make it easy and affordable to add a new dimension to your QuickTime compatible instructional videos.

Sources

[1.] Zane Education. "The Missing Piece –Subtitles on Educational Video," n.d. Web. 11 Dec. 2013. <http://www.zaneeducation.com/video-subtitles-captions/the-missing-piece.php>.

[2.] National Center for Technology Innovation and Center for Implementing Technology in Education (CITEd). "Captioned Media: Literacy Support for Diverse Learners." Reading Rockets, 2010. Web. 11 Dec. 2013. <http://www.readingrockets.org/article/35793/>.

[3.] Bowe, Frank G. and Kaufman, Aviele. "Captioned Media: Teacher Perceptions of Poten-tial Value for Students With No Hearing ImpairmentsNational Survey of Special Educa-tors," 2002. Web. 11 Dec. 2013. <http://www.dcmp.org/caai/nadh51.pdf>

[4.] Bianchi, Francesca and Ciabattoni, Tiziana. "Captions and Subtitles in EFL Learning: an investigative study in a comprehensive computer environment," n.d. Web. 11 Dec. 2013. <http://www.openstarts.units.it/dspace/bitstream/10077/2848/1/bianchi_ciabattoni.pdf>

[5.] Zdenek, Sean. "Which sounds are significant? Towards a rhetoric of closed captioning." Disability Studies Quarterly, Volume 31, No. 3, 2011. Web. 11 Dec. 2013. <http://dsq-sds.org/article/view/1667/1604>.

[6.] Robson, Gary. "The Closed Captioning Handbook," Focal Press, 2004.

To Learn More

To find out more about Telestream and our Mac and PC captioning solutions, visit us at:

www.telestream.net, or call us at: 1.530.470.1300.