Video, Video Everywhere…
Using Video in the Classroom
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This paper is intended to accompany a show-and-tell presentation showcasing various Web 2.0 video sites offering free online tools that instructors can use to produce classroom video and multimedia. The notes provide background information for the presentation. As the information is general in nature, we have not provided article citations. If you need more information, you can find it online using a search engine.

You may also wish to refer to the the section on videos in the guide "Multimedia Design Lessons for the Design Novice" that Cathy Clarke and Simon Ting compiled for another Technology Sympsium 2008 offering, entitled "Multimedia Dsign Lessons for the Design Novice". The guide is available for download on the same symposium website where this paper is available.

Introduction

In recent years, with ever faster Internet speed and more efficient video compression technology, the popularity of video sharing websites, such as YouTube, has grown exponentially. As a result, tens of millions of video clips, almost all free, are available on scores of websites for us to view in our web browsers. One can be excused if one feels that video is everywhere on the Web. Consumers and students, including many who are deaf, enjoy viewing video that other people upload. Many are also increasingly comfortable sharing their own video with friends and strangers alike on the Web.

New websites are continually appearing, offering free storage and hosting for user created video, with some even offering web-based tools to edit and enhance the video after they are uploaded. This new breed of cutting-edge websites is collectively known as Web 2.0. Many of the new video tools have instructional uses and we would like to share with you some of the more interesting applications we have found in our explorations.

Characteristics of Web Video

What are the characteristics of the video that we are seeing everywhere on the Web? Why are the video so popular? For sure it is not because people mistake them for Hollywood movies or broadcast TV programs. Most web video is short—YouTube limits video uploads to clips of no more than 10 minutes each—and quality is often just tolerable. Yet some of the shaky and grainy video uploaded by amateurs has attracted hundreds of thousands of viewers. Where Web video is concerned, information and entertainment value is more important than quality. It is more about communicating with people. If you have something interesting to say, you will find an audience. Or rather, the audience will find you via video tagging and word of mouth.

Teachers of the deaf can think of do-it-yourself video as visual text with sign language being the natural language of the medium. To create a class handout using Word, all you

need is the ability to type without making too many mistakes. In the same way, all you need to make use of video for teaching is the ability to produce basic video and audio that communicates clearly what you have to say. There is no need for Hollywood-style cinematic effects, which may even distract from your message.

Getting Started

There are only a few tools essential for creating video destined for the Web. Let us look at what you need to get started in this brave new world where anyone can aspire to be a video producer.

Broadband or High Speed Internet. Compared to text and graphics, video files are huge. You will need broadband or fast Internet access, not only to watch video but also to upload the video that you produce. Luckily, broadband service is becoming widespread and affordable in many parts of the country.

Video Camera/Webcam. Depending on your budget, you can choose a DV camera, HDV camera, DVD camera, or just a good webcam. Camera technology has advanced to the point where even a mid-range webcam will let you shoot great-looking video.

A handheld mini DV camera now typically costs under $300. Such a camera is versatile, allowing you to shoot both indoors and outdoors. You can save your video to a mini DV tape, then capture and save the recorded video over a FireWire cable to your computer hard drive. Or connect the camera to your computer with the FireWire cable and record the video directly to the hard drive. The quality of the video you produce will be better if you plan ahead. A search engine will reveal plentiful online video making tutorials with practical tips on how to shoot great looking video with a handheld camera.

If you sit in front of your computer, a good webcam will let you shoot decent "talking-head" video that will be great for video lectures. Many video sharing sites will let you create playlists grouping related video clips by topics. This is a simple approach to create video courseware online. In our projects we have used both the Logitech QuickCam Pro 9000 and the Logitech QuickCam Ultra Vision to good effect. They cost, respectively, a little under and slightly more than $100. They can be connected with ease to a desktop or laptop computer using an included USB cable. They can be handily disconnected and stored when not in use. Both have a wider angle of view and can capture more within their frames than older webcam models. Creative Technology and Microsoft also offer webcams comparable in price and features to the two Logitech models.

Video Capture/Editing Software. You will need software to capture and/or save your video as well as edit the raw footage to produce the finished video. Luckily, cheap or even free software is perfectly adequate for most of the tasks involved in creating video destined for the Web.

If you own a PC running Windows XP with Service Pack 2, you can use Microsoft's free Windows Movie Maker with the Creativity Fun pack to create professional looking video. Start Windows Movie Maker, select the webcam or mini DV camera as your video

capture device, specify a video filename, choose a video quality—we have found that "Video for broadband (512kbps)" is adequate for most web-destined video—and you are on your way. After completing the capture process, the program will let you save and organize your raw footage as video clips for editing. You can assemble video projects using the program's timeline or storyboard. You can export the finished video as WMV files. Most video sharing and hosting websites allow users to upload video in the most popular video formats, including WMV and QuickTime, but they typically will convert the video to the Flash Video or FLV format for viewing in web browsers.

If you own a Mac and have OS X, you may already have some version of iMovie on your hard drive. If not, you may purchase it as part of Apple's iLife suite at http://www.apple.com/ilife. For Mac users, iMovie offers much the same functionality as Windows Movie Maker does for PC users.

Video Hosting/Sharing Sites

There are many websites offering video hosting and sharing services to consumers, usually for free. You can choose a service that matches your needs in terms of file size and file upload limits, privacy protection, intellectual property safeguards, and other considerations. The upload process usually follows the same pattern. You upload a video in a format supported by the site. As mentioned, most popular video formats, including WMV and QuickTime, will be supported although most sites will then convert the uploaded video to the FLV format. FLV is the format of choice for most video sites because of its superior cross-platform support. Flash video can be viewed in Adobe Flash Player. At last estimate, Adobe Flash Player works for 97% of all web browsers, which means the FLV format has practically universal support.

You can "tag" your video using labels or keywords to describe the video content. You can tag a video with more than one keyword. For example, if you upload a sign language ABC story on video, you might tag it using terms such "ASL", "Deaf Humor", "ABC Story", "Sign Language", etc. This helps to categorize your video, making it easier for users to find it. Once users find your video, they can click on a link to view it. You can embed the video in your website or publish it in a blog. Some video sites will let you group related video clips in playlists. Playlists are a great way to organize related video by topics as video lessons or courseware.

The most popular site for video hosting and sharing is, of course, YouTube (http://www.youtube.com). You can upload an unlimited number of videos, but they can be no longer than ten minutes each. YouTube is a huge online community where you can tag your videos so that others can find them and comment on them. If you wish, you have control over the privacy of your videos. YouTube also makes it easy to embed videos in other web pages and blogs.

Another useful site is Blip.tv (http://www.blip.tv). You can upload large video files up to 1 GB each. The site provides you with your own blog, and you can set up cross-posting. If you post a video on Blip, it will automatically be mirrored to other blogs and sites. This is a nice alternative to YouTube if you have larger video files to upload.

What Else Can You Do?

Video sharing and hosting services by sites such as YouTube are great. But as wonderful as these services are, they pale in comparison with newer video applications now appearing on the Web. As mentioned at the beginning of this presentation, these applications are offered as online services by a new breed of cutting-edge websites known collectively as Web 2.0.

Besides video, some of these websites will also let you upload other types of multimedia assets, such as photos, images and audio. Some will allow you to record and save video to their servers directly from your webcam or video camera. You can take advantage of a wide range of services allowing you to manage your uploaded video and multimedia assets or import similar assets from other Web 2.0 web sites, e.g., photos from a photo sharing site like Flickr. Some will even let you assemble and edit projects in a storyboard or timeline, add text, special effects and transitions. You can perform all of these tasks in your web browser without installing any software on your computer! Welcome to the brave new world of Web 2.0 video!

These websites also serve as platforms for publishing your video, both for sharing with the world or limited to a small select audience, such as your students. You can send your video as a link in an e-mail. Or you can embed it on a course homepage, video blog or social networking site.

Many Web 2.0 video sites are communities of users who socialize around video, usually in some area of common interest. These websites are gaining popularity among a new generation of web-savvy consumers who are comfortable creating and viewing video content. This is part of a trend that sees video technology spreading from entertainment to the consumer world to education. The spread of video technology is a positive development for deaf education because the video is the ideal medium for producing and disseminating sign language content.

Jumpcut (http://www.jumpcut.com) is a recent offering from Yahoo! which not only serves as a place to upload and host videos, but has a nice online video editing tool. You can add your own videos and photos, and also select media from other Jumpcut users. You then use a web-based editor to edit, add titles, transitions, and effects. The resulting video can be shared and embedded in other sites.

Motionbox (http://www.motionbox.com) is another video editing site. It has fewer features than Jumpcut, but if all you want to do is trim your videos and join multiple clips into one video, this service may be a good fit. The resulting video can be shared securely.

Eyespot (http://www.eyespot.com) is similar to Jumpcut. You upload videos, images, audio, and also can choose from a pool of user-created media. A web-based editor lets you edit, organize, and add special effects. Then you can share your videos with others.

Live Streaming Video

The Web video we have discussed so far is a view-on-demand medium. When users want to view a video they found on the Web, they click on a link or a thumbnail poster to play the video. Usually, play starts immediately through a process called HTTP streaming. On-demand video is streamed to one individual at a time and when the individual requests it. Viewing the video is typically a private experience. There is no interactivity between the creator and the viewer or between the viewer and other viewers.

Live streaming, on the other hand, is a scheduled broadcast that can be seen by many people. The broadcast happens at a set time so that many people can watch it at the same time. Members of the audience are able to interact with each other and even with the broadcaster. This is a Web 2.0 service that is beginning to make its appearance on the Web. In this modality, live video is streamed from your webcam to your audience on the Web. Your broadcast can be public and viewable by anyone who visits the site. It can also be private, viewable only by those you specifically invite, such as your students. Live streaming is a great tool for lesson broadcasts, remote guest lectures, and joint classroom sessions with groups of students and instructors in different geographical locations.

Yahoo! Live (http://live.yahoo.com/) is one of the online companies offering live streaming. You can use the service to broadcast a lesson to a group of students in different locations. The students can view your presentation and ask questions of you or engage in discussions with each other using the built-in chat room. Students with webcams can be added to a video panel under the chat room. Up to four student webcams can be added in this way. If all four webcam positions in the video panel are occupied, a student wishing to talk can use the chat room to catch your attention. You can then let the student change places with another in the video panel. With practice you can manage this type of turn-taking based on the raise-you-hand-to-speak protocol that is traditional in the classroom.

A caveat: You may have read accounts of young people being subject to online harassment or bullying. Although such incidents are rare, the risk is real. As teachers you should take steps to protect the privacy of your students if you plan to use a live streaming service for online meetings and video chat. This is important due to the heightened intimacy of interaction by video. Make your broadcasts and video chat sessions private and by-invitation only, so that they are only accessible to your students and people whom you trust.

Asynchronous Video Discussion

A new Web 2.0 service recently started offering a video microblogging service called Seesmic as a public beta. You can sign up for an account on the company's website: http://www.seesmic.com. Seesmic allows a group of people to set up a topic and carry on an asynchronous online discussion by video. The concept is similar to the more established threaded discussions, popular as a tool for blended learning. Blended learning is a hybrid instructional approach that combines online interactions with traditional classroom teaching. Seesmic lets you record and save a video from your webcam to their server through your web browser. The video is posted on Seesmic's website. On viewing

your video, viewers can record and upload their own video in response. As more people post their responses, a video-based threaded discussion builds up. Seesmic keeps track of video uploads, generating RSS feeds to keep participants informed whenever a visitor posts a new video to the thread. Seesmic is a great tool for the deaf studdents to have discussions online using sign language. Like all Web 2.0 services, you can post a Seesmic thread in your own website or blog.

Conclusion

As we have said, Web video seems to be everywhere nowadays. Its popularity has given teachers a new and affordable instructional tool. Students, like other consumers, are increasingly comfortable viewing Web video, creating and sharing their own video, and using video as a tool for communicating with each other. This is the beginning of a wave that will continue to grow. Do-it-yourself sign language video can become an important teaching tool in the hands of those who teach deaf learners. We believe it is worthwhile for educators of the deaf to explore, master and find new uses of the technology. We, the presenters, have just begun to experiment with Web 2.0 video technology. We hope what we have shown will move you to begin your own explorations.

After Word: Web Video Issues

Web video can be a great teaching resource. However, as with most things, there are caveats to remember. We would like to discuss some issues here that we did not cover in the main presentation.

Copyright vs. Creative Commons License

Instructors traditionally have turned to the fair use principle for protection when using content published by others in the instructors' own lessons, but the fair use principle is more problematic where video is concerned. Commercial video is expensive and time consuming to produce. As a result, the creators and intellectual property owners of video content have usually sought to enforce their rights vigorously. This has implications for using commercial content in teacher-produced video because even such do-it-yourself video has the potential of reaching a wide audience, with adverse financial impact on content creators or intellectual property owners.

If you are planning to make use of existing video (and music) in a video that you plan to produce, one option is to make use of video and audio materials whose owners have made them available for use under a so-called Creative Commons License. This is a legal device by which content creators release their creative works for certain uses while reserving some rights for themselves. For example, owners can license a piece of work free for personal or non-commercial use while requiring a fee otherwise. They can also specify that their work be used as is or allow users to modify it, creating so-called derivative works.

If you are interested in licensing your own work on the Web under a Creative Commons License, there are web-based tools (e.g., http://creativecommons.org/license) that will generate a license to suit your preferences and the content type of your work.

Video Captions
Sign language video makes up just a tiny proportion of all video clips available on the Web. The law requires that television programs distributed directly to home viewers must be captioned. As far as we know, there is no such requirement for video distributed on the Web and meant for viewing in web browsers. It is fair to say that video clips are almost always released online with no thought given to whether they are accessible to deaf people. The situation is not likely to change soon.

Here at NTID, we are making attempts to create a Web-based captioning tool that will allow users to caption any web-accessible video clip viewable in a web browser. Currently the application works with the more established QuickTime, WMV and AVI formats, but work has started on a prototype application to caption video clips in the newly popular FLV format. The goal is to allow users to caption a video clip hosted on, say, YouTube, for them to be able to embed the resulting captioned video in their website, blog or social networking site. We hope to build this into a Web 2.0 application for release on the Web in the near future.

Bandwidth Limitations
Even though many users now have broadband Internet access, the speed offered by most DSL and cable modem services are not fast enough for optimum live streaming video. As a result, it is sometimes difficult to decipher or understand the signing in live Internet broadcasts and videoconferencing sessions. However, given the pace of technology advance, we expect the issue will resolve itself in the not too distant future.