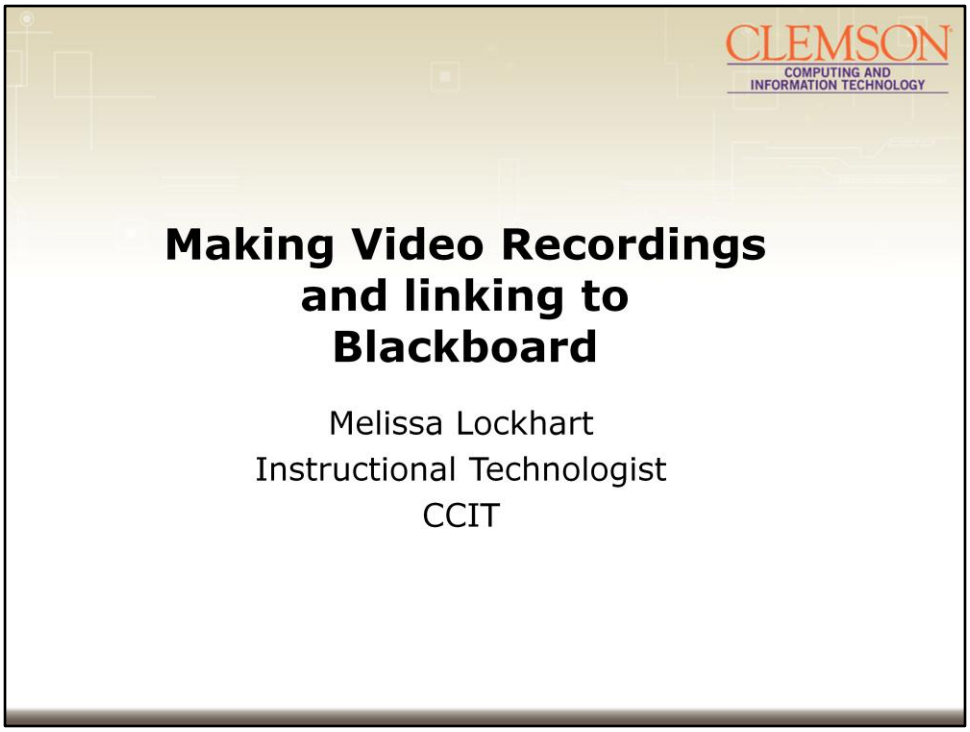
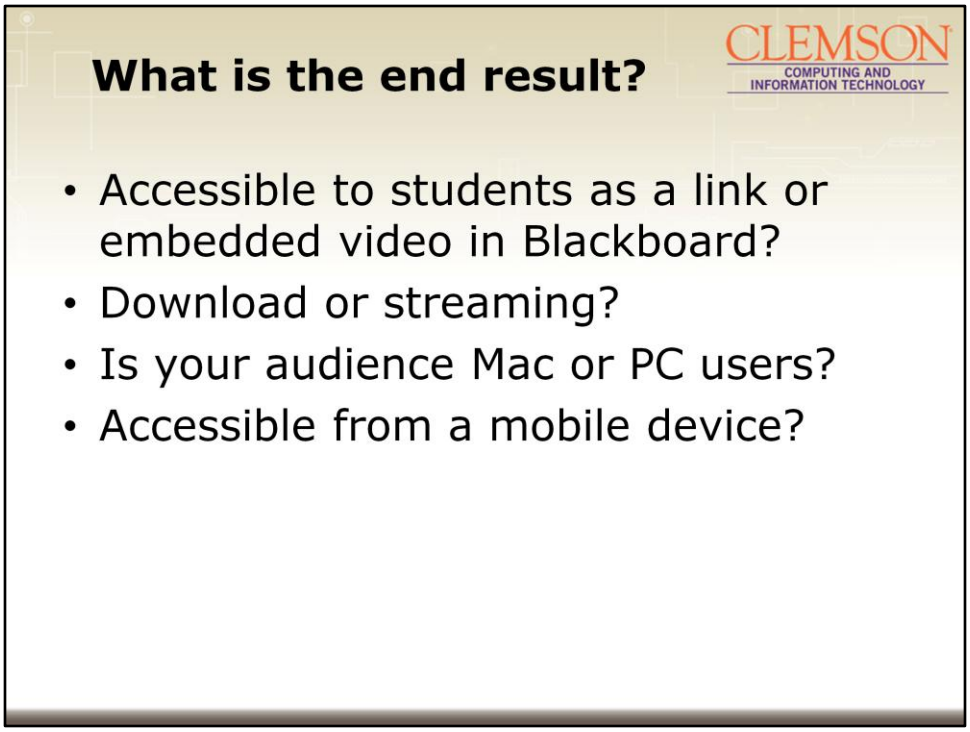


Welcome to the Tech Talk Making Video Recordings and linking to Blackboard. Have you ever wondered how to create a recording of your lecture using your webcam or lecture capture software? Once you create it, then how do you get it in Blackboard to distribute it to your students? If not Blackboard what are your other options.



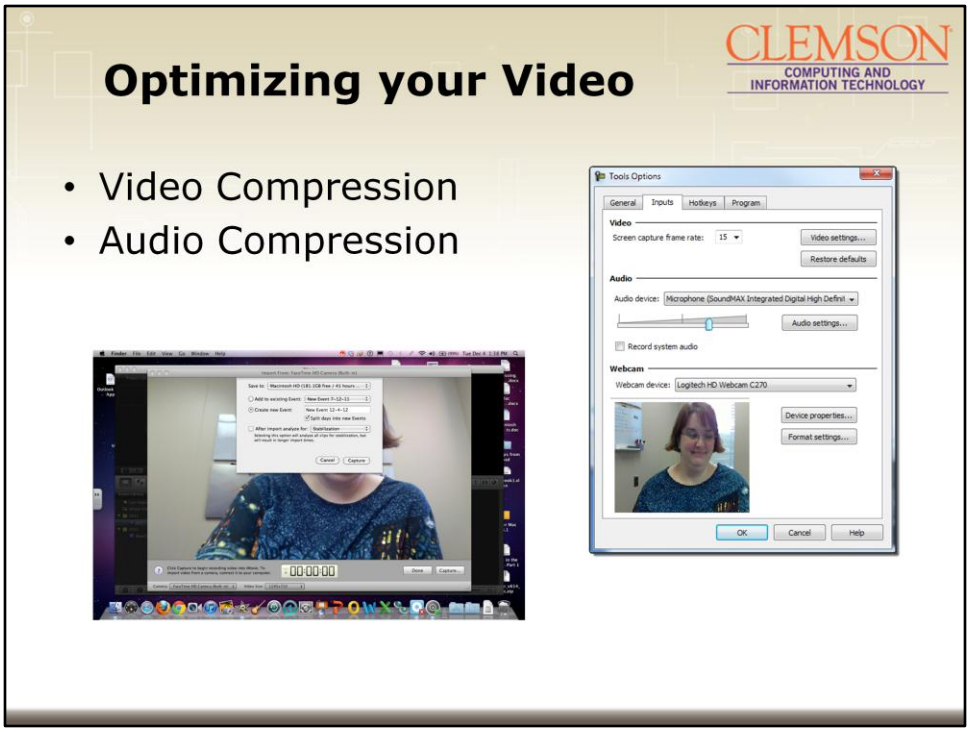
Well let's start with the end in mind. Sometimes to determine the best route to take, you need to know where you are going. How are you wanting your students to be able to access your videos? Are you wanting them to be able to download or stream the videos? Is your target audience primarily Mac or PC users? Should they be able to access the video from a mobile device?

Why would I need to know these things before I begin? Well if you are wanting to embed your videos versus linking them, it requires a different tool. If you are wanting your students to download the videos versus stream them, it requires a different file format. If your target audience is primarily Mac users and you are developing on a Windows device, you may need to convert the file to a format that can be read on a Mac. As far as mobile devices are concerned, there are certain file formats that are not optimal for mobile devices as they are really large, and others that are just not supported at all.

With the end result in mind we can now focus on our starting point. Your starting point can originate in multiple ways.

1) You could start out with a hardware device of some sort. Hardware could include a video camera that is wither Analog or Digital, a webcam, a classroom capture system, a camera that has video options, and even a SmartPhone.

2) The other option is you could be using software. This software may be used to capture your screen or to edit video brought in from a piece of hardware. The software will depend on your operating system. For example, if you are trying to capture a screen recording you might use Camtasia if you are a PC user, while Mac users may prefer Screen Flow or QuickTime Pro. Device manufacturers like Canon, Sony and even FlipCam offer their own integrated video editing software now as well. Many faculty simply start with the basics by adding audio narration to a PowerPoint or Keynote Presentation and publishing it as a video for the students.



Whether you are recording a screen capture video or capturing video from a device like a camcorder, you will be asked to select your video and audio compression. When you are initially creating or capturing your files, you want to use the better settings. When you are finished with your project and are exporting it or compressing the final product, then you can choose to optimize your settings for web distribution. This will create a clearer video for your audience to view and hear.

So what is a codec? Codecs are on both the machine that created the video and the machine that is going to play the video back. How many times have you gone to watch a video and you get a black screen, but you can hear the audio? That is usually caused by a missing video codec. The most common codec is H.264 for distribution of video over the web. Some devices like FlipCams or software like Camtasia though contain their own set of codecs.

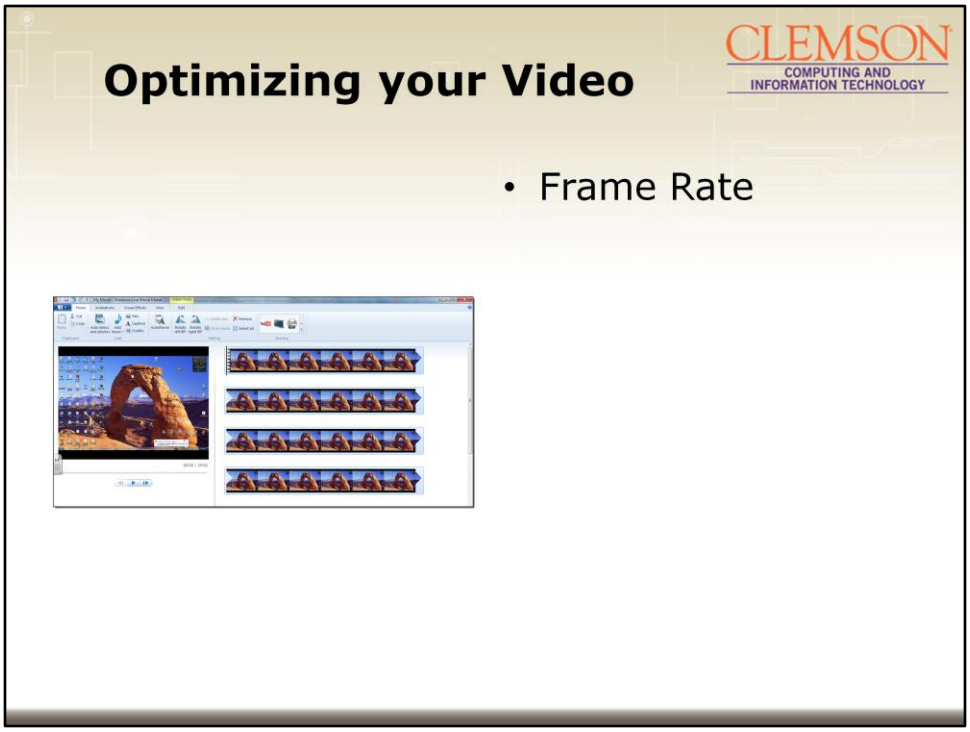
With audio compression or codecs, this determines the quality of the audio recordings. The quality is determined by both the sample rate and the sample format or sample size. The sample rate is the rate at which the samples are captured. This is usually measured in HZ. To give you an idea the sample rate for an audio CD is usually 44,100 Hz.

There are two main types of audio files on a computer PCM and Compressed files.

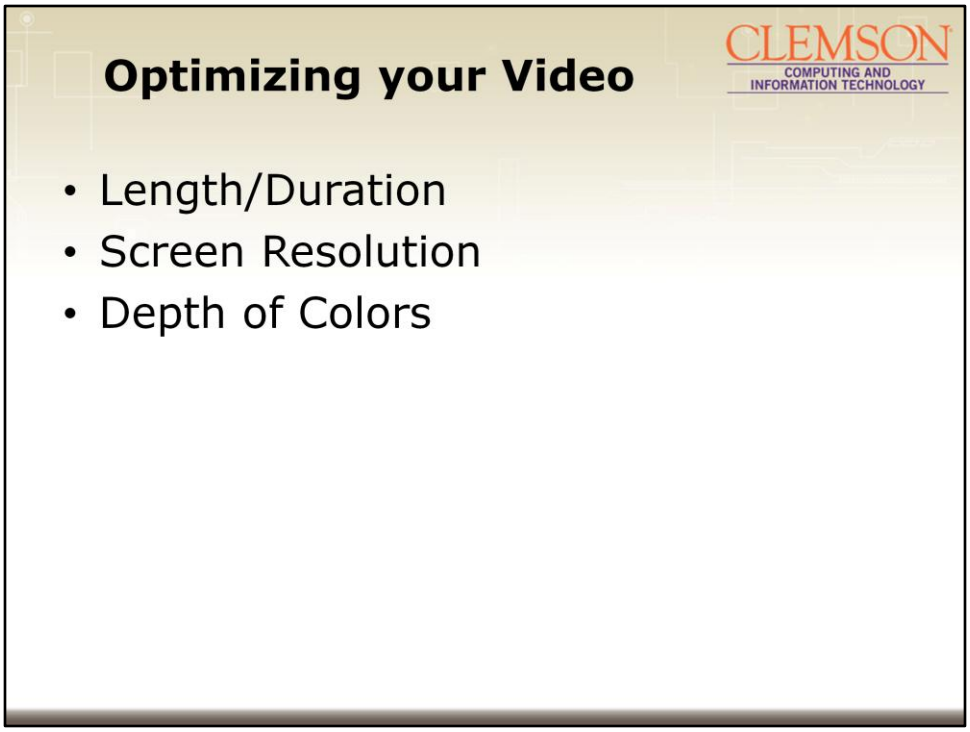
•PCM stands for Pulse Code Modulation. This is just a fancy name for the technique in which each number in the digital audio file represents exactly one sample in the waveform. Common examples of PCM files are **WAV** files and **AIFF** files.

•The other type of files are called compressed files. Earlier formats used logarithmic encodings like the **Sun AU** format. Modern compressed audio files use sophisticated psychoacoustics algorithms to represent the essential frequencies of the audio signal in far less space. Examples of these include **MP3** (MPEG I, layer 3), **Ogg Vorbis**, and **WMA** (Windows Media Audio).

The ideal is to record with PCM, but when you compress for distribution have the final output be MP3 or AAC. MP3 usually yields a highly compressed file with very little loss of audio. Also use Mono instead or Stereo if it is just voice over narration. If there is other audio incorporated then you might use Stereo.



Frame/Rate – this is the actual number of frames per second at which you are currently recording. Average video camcorder captures motion at 30fps. Motion picture films are slower at 24 fps. Screen capture video ideally should be around 12 to 15 fps. If you are just recording a presentation like a PowerPoint 1 to 2 fps should be fine.



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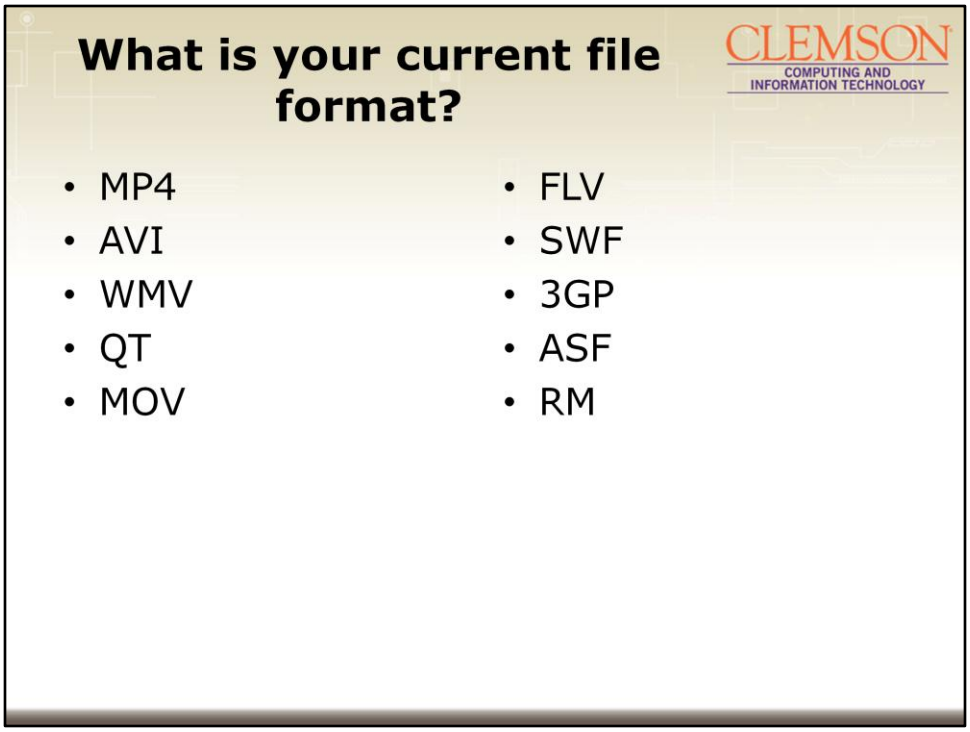
Length/Duration – how many minutes/seconds long is your video, splitting your videos into smaller segments or chunks helps not only with file size, but also with learning the materials.
Screen Resolution – 800x 600 or 1024 x 768

Depth of Colors – usually ranges from 256 to 16,777,216. This is taken from the color depth of your monitor. Setting this to 16-bit can save a bit on your file size



MPEG, .m4v, .mp4 – used to stream video online, supported on both Mac and PC, it is the new and upcoming format for internet video that is supported by YouTube, Flash players and HTML5.

.AVI – not usually compressed, larger files, developed for PC but supported on Mac and PC

.QT

.MOV – developed for Mac, but supported on PC with QuickTime player, often used on the web

.FLV – Flash player is cross platform compatible, but not mobile compatible, good for progressive streaming

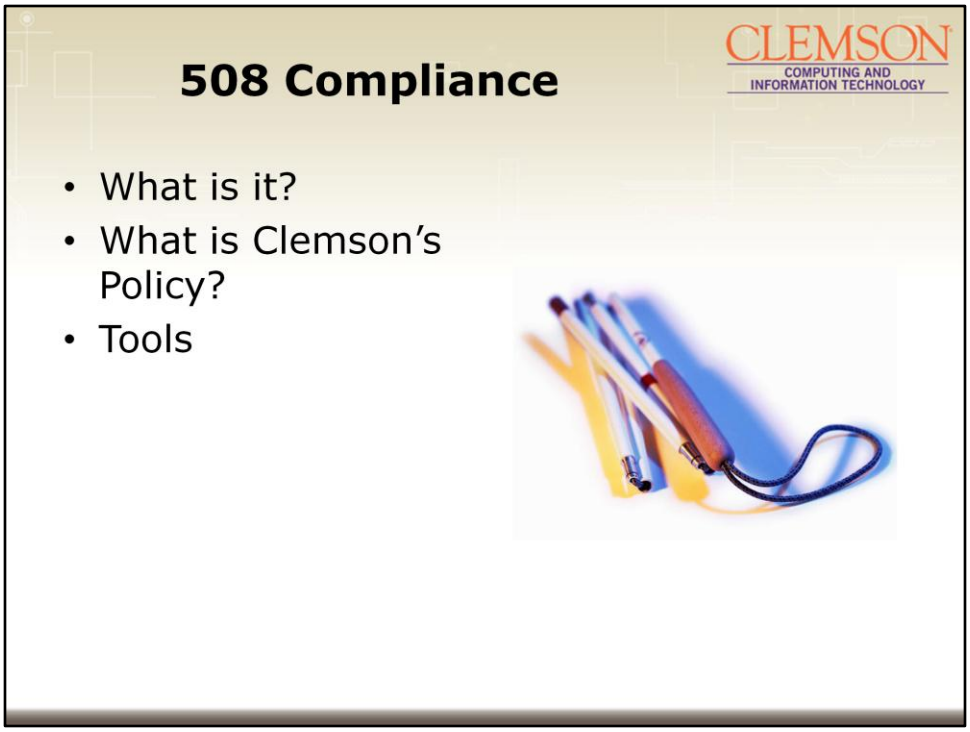
.SWF – Plays through a web browser with Flash plug-in

.wmv – developed for PC, streaming file format, not supported on Mac

3GP – most commonly used to capture video from your cell phone and place it online. Supported on Mac and PC.

ASF – subset of wmv file format, streaming media, PC only

RM- Real Media, only plays through Real Media Player, works on both Mac and PC



508 Compliance

What is 508 Compliance?

What is Clemson's policy regarding 508 Compliance

http://www.clemson.edu/campus-life/campus-services/ows/governance.html

http://blogs.clemson.edu/ows/clemson-university-web-style-guide/video-standards-and-guidelines/

Tools that allow for captioning

Camtasia

Captivate

Ensemble

MAGPIE

There are many tools you can use to distribute your video. We have several multimedia servers on campus and there are social media devices you can use as well.