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ICT 4510

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Discussion Questions: Module 7

1. List and explain the attributes associated with the video element.
   1. There are nine main attributes to the HTML5 element:
      1. **Auto play**- Specifies that the video will start playing as soon as it is ready
      2. **Controls**- Specifies that video controls should be displayed (such as a play/pause button etc.)
      3. **Height**- In pixels, sets the height of the video player
      4. **Loop**- Specifies that the video will start over again, every time it is finished
      5. **Muted**- Specifies that the audio output of the video should be muted
      6. **Poster**- takes a URL as a value to the attribute. Specifies an image to be shown while the video is downloading, or until the user hits the play button
      7. **Preload**- Takes auto, metadata, or none as its values. Specifies if and how the author thinks the video should be loaded when the page loads.
      8. **Src**- Also stands for source. Takes a URL as a value. Specifies the URL of the video file.
      9. **Width**- Takes pixels as the value. Sets the width of the video player.
2. What does a video file contain?
   1. The video file, depending on the file type, includes many things for it to run properly as a video. They are collections of images, audio, and other data. The attributes of the video signal include the pixel dimensions, frame rate, audio channels, and more. There are countless ways that someone can encode and save a video file. Different video file formats are common for different purposes, especially when referring to the web. The smaller the video format, or the more compressed that it is, the video will most likely load and buffer faster in the user’s browser. The three main formats that the HTML5 video element will read are MP4, WebM, and Ogg. MP4 files with H264 video codec and AAC audio codec are read. The WebM files contain VP8 video codec and Vorbis audio codec. Lastly, Ogg video files contain Theora video codec and Vorbis audio codec. In some cases, there might be some issues with cross browser HTML5 compatibility, but all video formats should read the same and render the same in the browser from the HTML5 video element. You can also save the video with multiple file types and sources in the same video tag so that the browser will render the best video format for the user.
3. What is the difference between video containers and video encodings?
   1. A codec is a method for encoding or decoding data, specifically, compressed data like that from a video file. The word codec however has become somewhere generic and is short for compressor-decompressor. Raw video and audio files contain a large amount of information and take up huge amounts of file space on a hard drive for the user. Once the video or audio file is compressed, it is more of a reasonable size and needs to be packaged, transported and presented. That is the purpose of containers says Tech Hive. Good container formats can handle files compressed with a variety of different codec.
   2. When speaking of codecs, there are many different formats that are all similar but used for different purposes:
      1. H.264/MP4-This is most common codec used in modern camcorders and digital cameras that can capture to file based devices like a hard drive or an external removable memory card. The container that holds this file type is most commonly the AVCHD format.
      2. MJPEG- This is an older format used by some digital cameras and older devices to capture video. It was developed by the same group that developed the image file format of JPEG for photography.
      3. DV and HDV- DV was developed by a consortium of consumer electronics companies that manufacture and sell camcorders. DV is a tape-based standard and is common camcorders that used to use the mini-DV tape cartridges or tapes. Some high quality videographers still use this format because it was created to allow high definition video to be recorded.
   3. Not all of these file formats are supported by the browser and there are a couple more that were not listed that tend to not be commonly used. Even some camcorder or camera companies have their video footage compressed into their own format so that the user has to use the company’s software for unloading and manipulating the footage.

<https://www.techhive.com/article/213612/all_about_video_codecs_and_containers.html>

<https://www.w3schools.com/TAGs/tag_video.asp>