ExplorNet's

Digital Media

Objective 104.01
Explain concepts used to create digital audio.

DIGITAL AUDIO

- Sound that has been captured, created, or edited electronically by a computer.
- Analog (non-digital) audio sources are converted to a digital format by a process called sampling.
- Sampling reproduces a sound wave by recording many fragments of it.
- In media production, sound and music are crucial to helping to establish moods and create environments.

QUESTIONS TO CONSIDER

- Can you identify any analog audio devices?
- Have you ever heard analog audio? If you have, do you think analog or digital audio sounds better?

CHANNEL NUMBER

The amount of individual audio channels used during playback. The more channels of audio, the more realistic the sound.

- Monaural (Mono)
  - All sources of audio play out of one single channel.
- Stereophonic (Stereo)
  - Audio sources can be separated into two different channels (left and right).
- Surround Sound
  - Multiple audio channels; usually 5-7 channels.

QUESTIONS TO CONSIDER

- Do you think there is a limit to the number of channels a piece of audio can have?
- How many channels of audio do you think big budget movies (Marvel movies) have?
- Do you notice the different channels in movie theaters?

STREAMING AUDIO

Transmitting audio files that can begin playing over the Internet as the remaining data is still being downloaded.

- Creates little to no wait time to begin hearing the audio file.
- Example of websites that use streaming audio technology include Pandora, Spotify, Grooveshark, etc.

AUDIO FILE FORMATS

.MP3

- Most popular audio file format.
- Standard for downloading and storing music.
- Commonly used for streaming over the Internet.

.WAV

- Standard file format for PCs.
- Native sound format for Windows environment.

AUDIO FILE FORMATS

.WMA

- Uses Windows Media Player for audio playback.
- Microsoft format used for streaming audio files.

.MIDI

- Musical Instrument Digital Interface
- Standard file format used by digital instruments (keyboards, guitars, etc.).
- Contains information about musical notes.

AUDIO FILE FORMATS

.AAC/.M4A

- Standard file format for Apple Computers.
- Higher quality sound than .MP3.
- Standard file format used by mobile devices.

QUESTIONS TO CONSIDER

- What type of situation would require someone to use any of the aforementioned specific audio formats?
- Do you think it's important to have different audio formats or should there be one, universal, audio format?