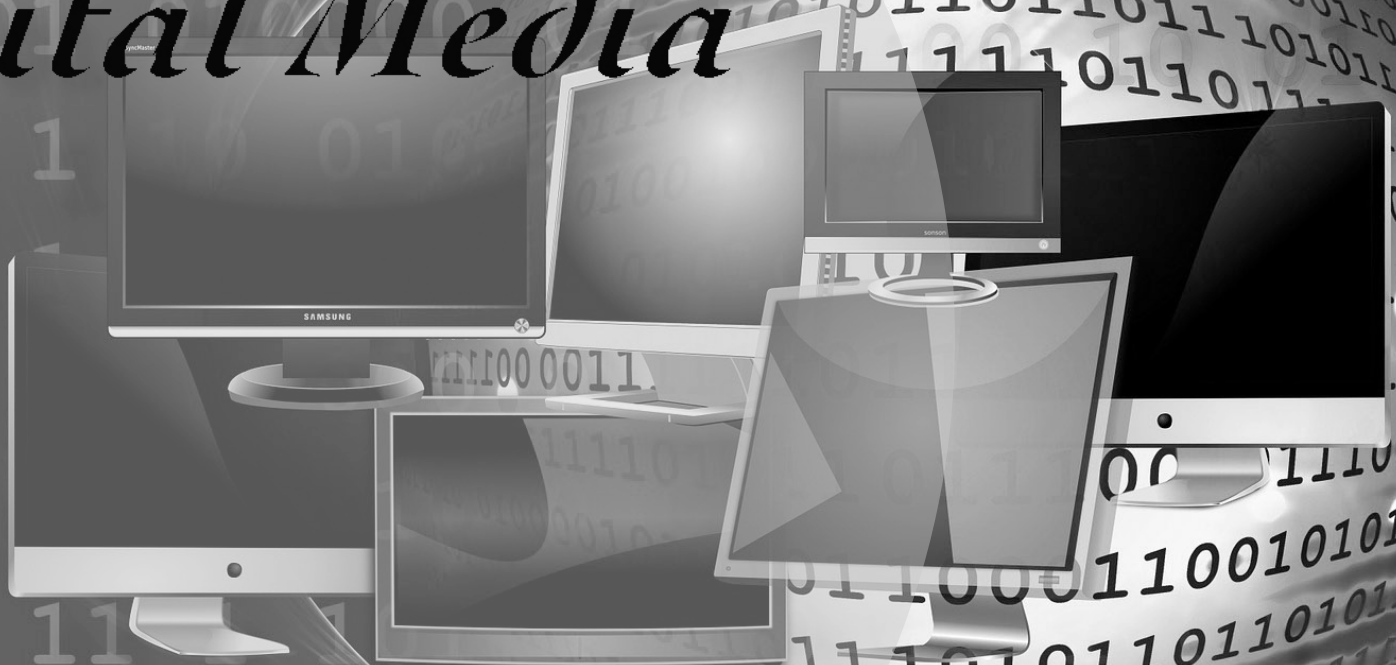




ExplorNet's

Digital Media



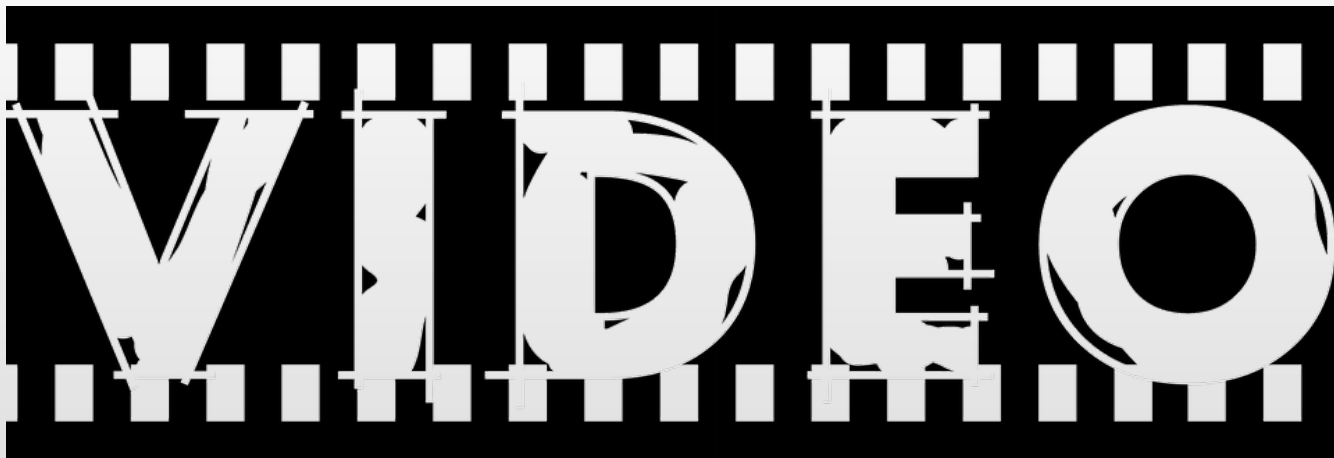
Objective 105.01

Explain concepts used to create digital video.



DM ***DIGITAL VIDEO***

- Moving images that have been captured, created, or edited electronically.
 - Digital video signals transmit information in the form of individual bits of data.
 - Analog (non-digital) video signals transmit information continuously in the form of a wave.





QUESTIONS TO CONSIDER

- Do you think most modern day movies are digital or analog?
- When you go to the theater are you watching a digital video or an analog video? Do you think you could tell the difference between the two?



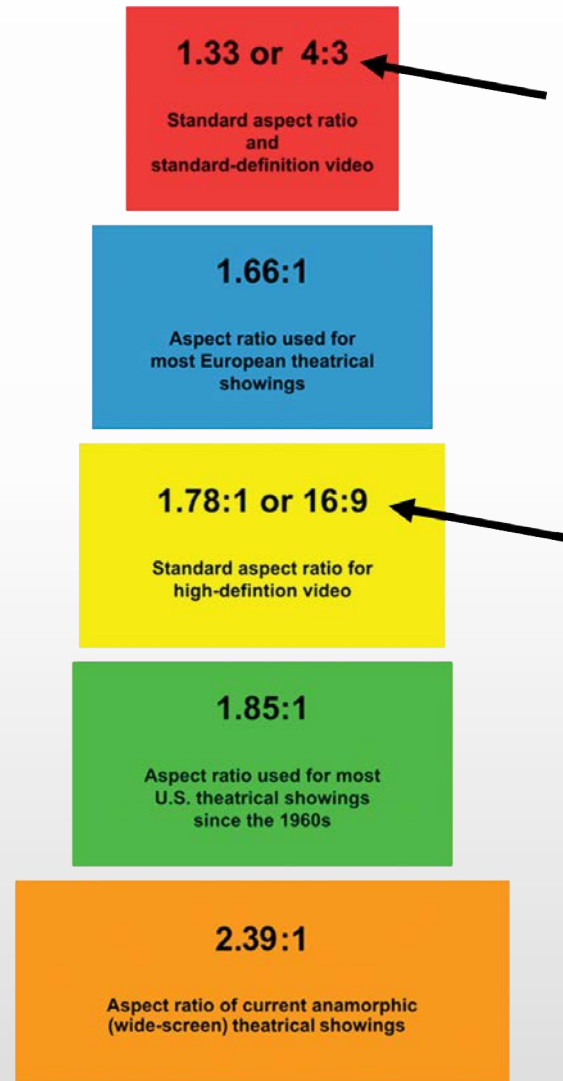
CHARACTERISTICS OF VIDEO

○ Aspect Ratio

- Ratio of a video screen's width and height dimension; common ratios are standard (4:3) and widescreen (16:9).

○ Frame Rate

- Speed at which video frames appear on a screen; measured by frames per second (FPS).





CHARACTERISTICS OF VIDEO

- Scanning Method
 - Method by which video picture appears on a screen (720p, 1080i, etc.).
- Interlaced (I)
 - Displays half of the video picture at a time (odd lines, then even); alternates too quickly for human eye to notice.
- Progressive (p)
 - Displays the entire video picture at all times; greatly reduces any flickering of picture; better quality image than interlaced.



QUESTIONS TO CONSIDER

- Why might someone use interlaced scanning instead of progressive scanning video? Can you think of any possible advantage of only seeing, or having, half of the image appear at once?

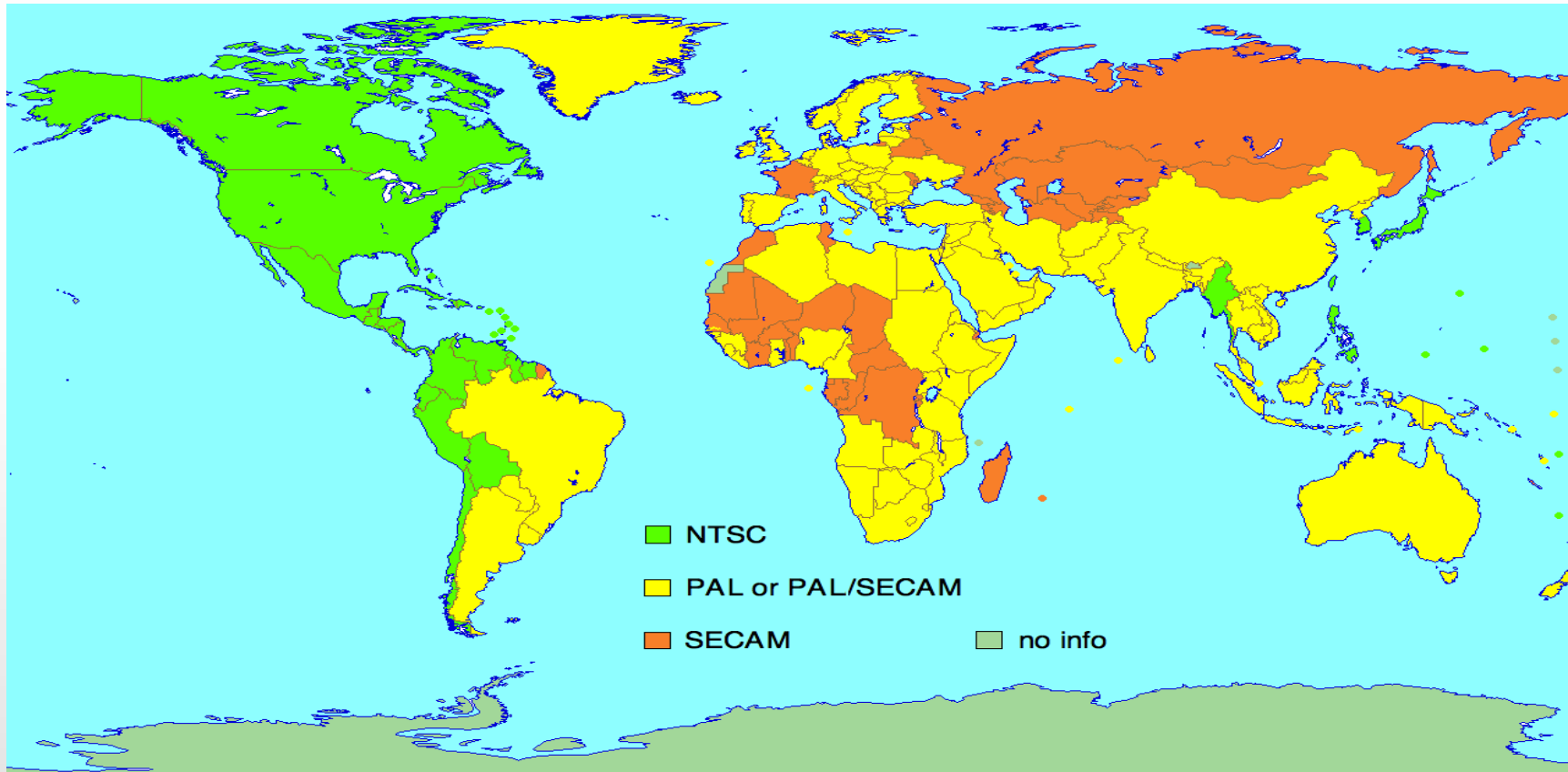


BROADCASTING SYSTEMS

- National Television System Committee (NTSC)
 - Standard used in North America and most of South America. In NTSC, 30 frames are transmitted each second.
- Phase Alternating Line (PAL)
 - Standard mostly used overseas. In PAL, 25 frames are transmitted each second.
- Sequential Color with Memory (SECAM)
 - French and Asian broadcast television standard.



BROADCASTING SYSTEMS





DM **STREAMING VIDEO**

- Transmitting video files that can begin playing over the Internet as the remaining data is still being downloaded.
- Creates little to no wait time to begin viewing the video file.
- Example websites that use streaming video technology include: YouTube, Netflix, Vimeo, UStream, etc.



QUESTIONS TO CONSIDER

- How has streaming video changed the way we watch videos?
- What do you think are some of the most important aspects of creating videos for streaming? What possible problems exist for streaming videos?



DM **VIDEO FILE FORMATS**

.MOV

- Uses the Quicktime player for video playback.
- Standard video format for Apple computers.

.AVI

- Standard video format for Microsoft PCs.



DM **VIDEO FILE FORMATS**

.WMV

- Uses the Windows Media Player for video playback.
- Microsoft file format used for streaming on the Internet.

.FLV

- Uses the Adobe Flash Player for video playback.
- Commonly used for embedding videos on the Internet.



DM **VIDEO FILE FORMATS**

.MPEG-2

- Format used for DVDs.

.MPEG-4

- Format used for Blu-Ray Discs (better quality than MPEG-2).
- Standard for streaming videos over the Internet.