



Video in Multimedia

Basic Concepts



ExplorNet CareerTech

from The Centers for Quality Teaching and Learning





Video in Multimedia

Digital Video:

- ✓ Moving images that have been captured or created electronically by a computer





History of Digital Video

Some Important Milestones:

1986 – Professional digital video introduced

1990 – Quicktime format introduced as a consumer digital format by Apple computers

1995 – Professional and consumer digital videotape (DV) format released

1996 – DVD (Digital Video Disks) players introduced

1996 – WRAL-TV becomes the first television station to broadcast in HDTV (high definition television)

2009 – All television stations nationwide in the US began broadcasting exclusively in a digital format (DTV)

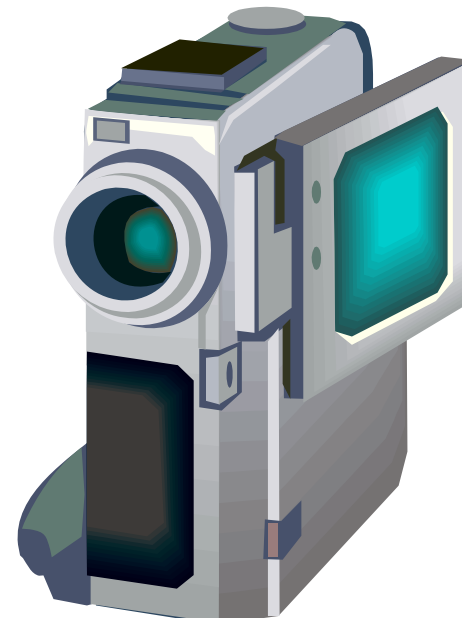




Uses of Digital Video

Digital Media is Used In:

- ✓ Education
- ✓ Information
- ✓ Entertainment
- ✓ Advertising





Characteristics of Video

Broadcasting Formats:

- ✓ **NTSC (National Television System Committee)**
Television broadcasting system used in the US
- ✓ **PAL (Phase Alternating Line)**
Television broadcasting system used in large parts of the world outside the US
- ✓ **SECAM (Sequential Color with Memory)**
– television broadcasting system first used in France





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Characteristics of Video:

✓ Analog

A non-digital representation of information in a continuous flow, rather than as individual pieces of data

✓ Digital

A representation of information as individual pieces of data

✓ Aspect Ratio

Dimension of width to height

✓ Frame Rate

Speed at which video frames appear;
Measured in frames per second (fps)





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Characteristics of Video (continued):

✓ **Streaming**

process of transmitting audio/video files over the Internet that begin playing as the remaining data is temporarily transferring to your computer. User friendly because video can be viewed as the file is loading without having to wait for the completed file to load.





Video File Formats

Common File Formats Include:

- ✓ **MOV (Movie)**
Developed by Apple computers for the Quicktime video player;
Best used for streaming;
Also known as Quicktime or movie format
- ✓ **WMV (Windows Media Video)**
Developed by Microsoft for streaming video
- ✓ **AVI (Audio Video Interleave)**
Developed by Microsoft for Windows media player;
Not good for streaming
- ✓ **MPEG-2 (Motion Picture Experts Group)**
Standard file format for DVD





Video File Formats

Common File Formats Include:

- ✓ **MPEG-4 (Motion Picture Experts Group)**
Standard file format for Blu-ray disk;
Uses a greater compression and achieves a higher quality video on the Internet
- ✓ **FLV (Flash video)**
File format used to deliver video over the Internet using Adobe Flash Player

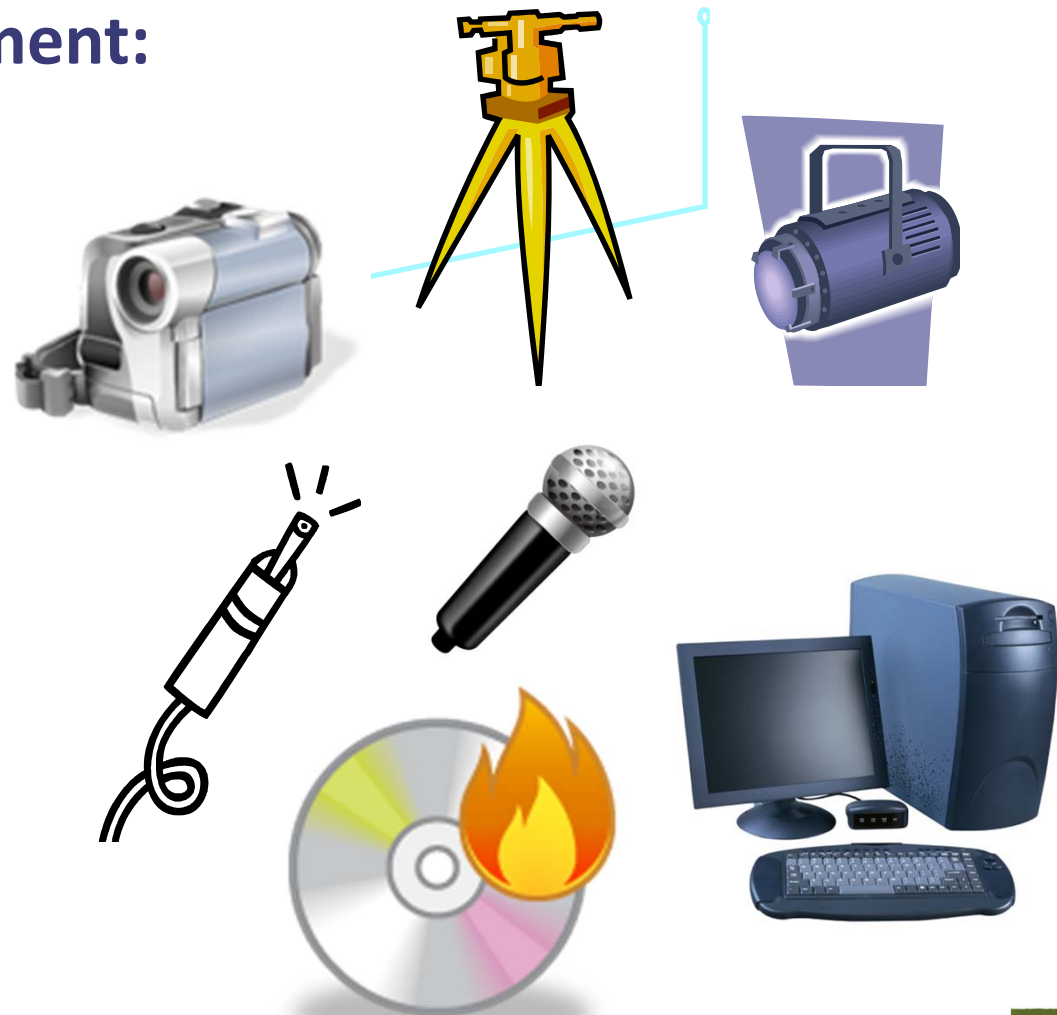




Video in Multimedia

Digital Video Equipment:

- ✓ Computer
- ✓ Video Camera
- ✓ Microphones
- ✓ Tripods
- ✓ Lighting
- ✓ Recordable media
- ✓ Video switcher
- ✓ Cables/connectors





Video Cables

Common Video Cables Include:

- ✓ RCA
- ✓ BNC
- ✓ HDMI
- ✓ Coaxial (F-connector)
- ✓ RGB
- ✓ Firewire





Video in Multimedia

Camera Movements:

✓ **Pan**

Camera remains stationary and the movement is from side to side (left and right)

Directions are “pan right” or “pan left”

✓ **Tilt**

Camera remains stationary and the movement is up and down

Directions are “tilt up” or “tilt down”

✓ **Truck**

Camera physically moves side to side (left and right)

Directions are truck right or truck left





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Camera Movements:

✓ **Dolly**

Camera physically moves towards or away from the subject
Directions are “dolly in” or “dolly out”

✓ **Zoom**

Uses the mechanics of the camera lens to make the subject appear closer
Directions are “zoom in” or “zoom out”





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Camera Compositions:

✓ **Rule of Thirds**

Mentally dividing the frame (what you see in the viewfinder) into thirds, both vertically and horizontally
Subject should occupy two thirds of frame (horizontally and vertically)

✓ **Close-Up**

Shot used to single out the more important part of the subject
Example – camera framing of a person's face





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Camera Compositions:

- ✓ **Medium Shot (Mid Shot)**

Shot shows some part of the subject in more detail while still giving an impression of the whole subject

Example – camera framing of a person from waist up to top of head

- ✓ **Wide/Long Shot**

Shot shows subject and location in its entirety

Example – camera framing of a person from head to toe





Video in Multimedia

Camera Compositions:

✓ **High Angle Shot**

Shot composed by shooting the subject from above normal eye-level

High angle shots make the subject look small, weak, afraid, or dependent

✓ **Low Angle Shot**

Shot composed by shooting the subject from below normal eye-level

Low angle shots make the subject appear tall, powerful, commanding, strong or scary

