Digital Video

Part III: Importing, Editing, & Distribution Tips

Contact Information

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Macintosh Support
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We Will Cover

- Advanced features of iMovie 3

- Importing other file formats

- Cool editing tips

- Exporting options

- Publication options

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We Will NOT Cover

- Final Cut Pro

- Other Digital Video Applications

- Material covered in previous classes

- Story boarding

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Class Overview

- Advanced features of iMovie 3
  - Importing Tips
    - Importing other file formats
  - Editing Tips
  - Exporting Options
    - Distribution Tips & Publication Options
  - Ideas for movies
  - Practice

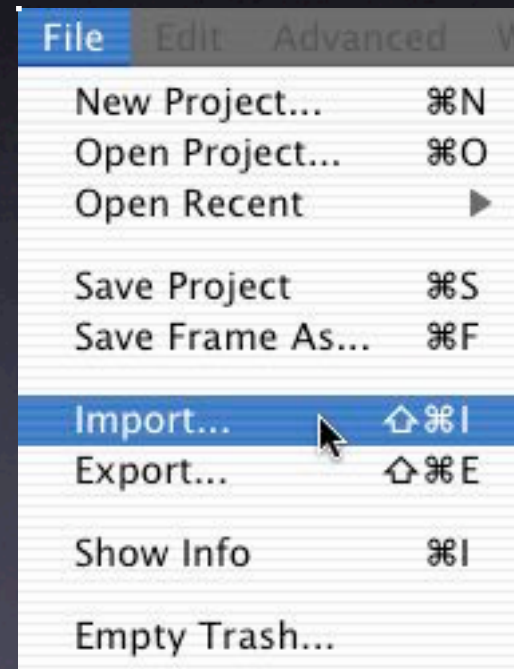The University of Utah   Student Computing Labs

Import Tips - Camcorder

- Dump an entire DV tape to the computer

  - Easier to find footage on computer than camera

- Dump trimmed clips back to tape

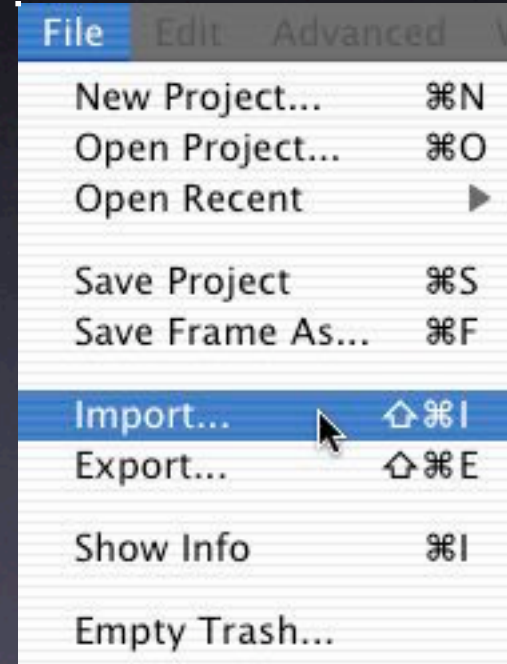 - Do this before making a movie

  - Keep good raw footage only

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Import Tips - Image Files

- Image files
  - Use iPhoto and the Photo pane
  - Or drag and drop
  - Or File - > Import

File	Edit	Advanced	W

New Project...	⌘N
Open Project...	⌘O
Open Recent	▶
Save Project	⌘S
Save Frame As...	⌘F
Import...	⇧⌘I
Export...	⇧⌘E
Show Info	⌘I
Empty Trash...	

Import Tips - Audio Files

- Audio files
  - Use iTunes and the Audio pane
  - Or drag and drop
  - Or File - > Import

File menu:

File	Edit Advanced
New Project...	⌘N
Open Project...	⌘O
Open Recent	▶
Save Project	⌘S
Save Frame As...	⌘F
Import...	⇧⌘I
Export...	⇧⌘E
Show Info	⌘I
Empty Trash...	

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Import Tips - Drag & Drop

- Drag file(s) from Finder to Clips Pane
  - Supported Video, Audio Picture & Graphic formats
    - The Short List

Supported File Formats

- All QuickTime & MPEG Formats including
  - MPEG-1
  - MPEG-2
  - MPEG-4

- All of these
  3DMF, AIFF/AIFC, Animated GIF, Audio CD, AVI, BMP, DV, Flashpix, FLC/FLI, GIF, JPEG/JFIF, Karaoke MIDI, MacPaint, MP3, OpenDML, PICS, PICT, PNG, QuickTime Image Format, QuickTime Movie, QuickTime VR, RGB Planar, SGI, Sound Designer II, Standard MIDI, System 7 Sound, Targa, Text, TIFF, uLaw (AU), WAV,

- & Many other Formats with Third Party Software

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About MPEG

- MPEG – Pronounced "M-peg"
  - Moving Picture Experts Group
    - MPEG.ORG
      - Compression standards for Analog & Digital media
        - Pictures
        - movies
        - video
        - music
        - etc

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Common MPEG Formats

- MPEG-1 (1992)
  - VHS quality
  - VCD, CD-ROM, mpg, mp3

- MPEG-2 (1996)
  - DVD quality
  - Digital TV's, DVD's, mpg, vob, vro, etc.

- MPEG-4 (1999)
  - Better quality than DVD's
  - Scalable quality

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Converting Other Formats

- Convert Other Formats and then Import
  - avi by installing 3vix codec
    - Fix .avi files with Divx Doctor II or others
  - MPEG-2
    - Convert to mov with using Diva or other software

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Aspect Ratios

4:3 Most TV's and computer monitors

9:4 ? Wide Screen TV's and Cinema Displays

4:3   NOT 4:3

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Fixing Aspect Ratio #1

- Method #1
  1. Import the file with the non 4:3 aspect ratio
  2. Edit
  3. Export using "Expert Settings" and custom size

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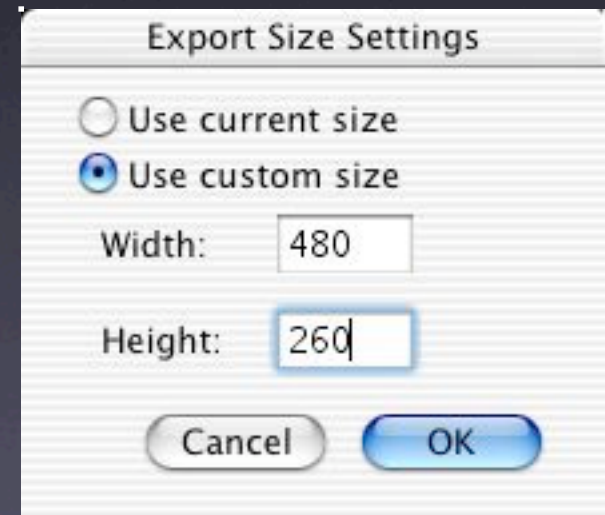
Fixing Aspect Ratio #2

- To resize or skew a QuickTime movie:
  - Open your video with QuickTime Player
  - Choose Movie > Get Movie Properties ⌘ + J
    - In the Properties window, choose
      - Video Track from the left pop-up menu and
      - Size from the right pop-up menu
  - Click Adjust
    - To resize the movie, drag the red marks in the corners
      - Watch the current frame size change in the Properties window as you drag any of the red marks
    - To skew the movie, drag the red marks on the sides.
    - To rotate the movie, drag the red circle in the middle
    - Rotate and flip a movie using additional buttons in the Size window.
  - To restore the original appearance, click Normal

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Open Original Movie

- To resize or skew a QuickTime movie:
  - Open your video with QuickTime Player
  - Choose Movie > Get Movie Properties ⌘ + j
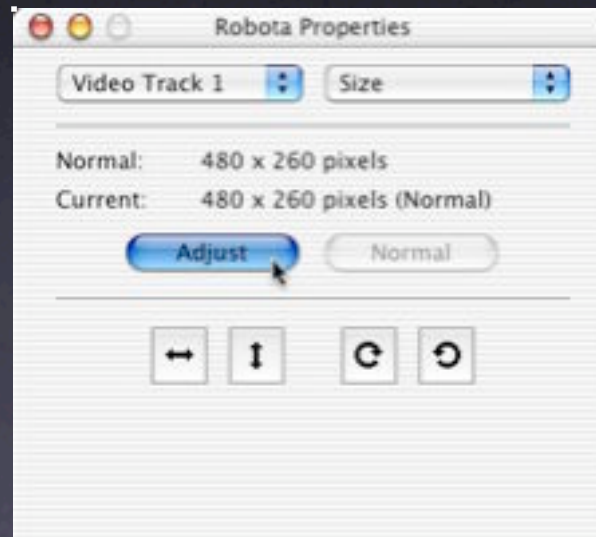
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Movie Properties

- In the Properties window, choose
  - Video Track from the left pop-up menu &
  - Size from the right pop-up menu

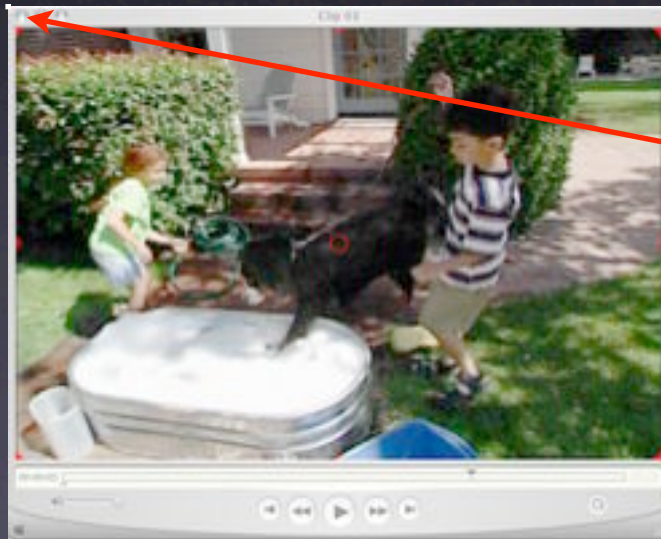The University of Utah   Student Computing Labs

Adjust

- Select the Adjust Button

Drag The Red Marks

- To resize the movie, drag the red marks in the corners
 - Watch the current frame size change in the Properties window as you drag any of the red marks

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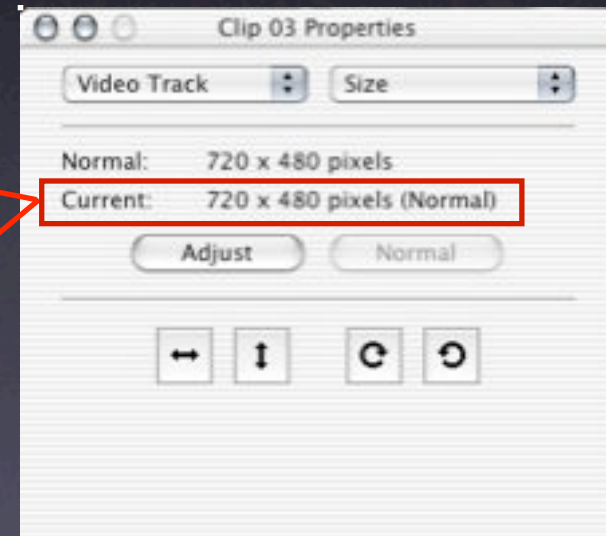
Skew, Rotate & Flip

- To skew the movie, drag the red marks on the sides.
- To rotate the movie, drag the red circle in the middle
- Rotate and flip a movie using additional buttons in the Size window.
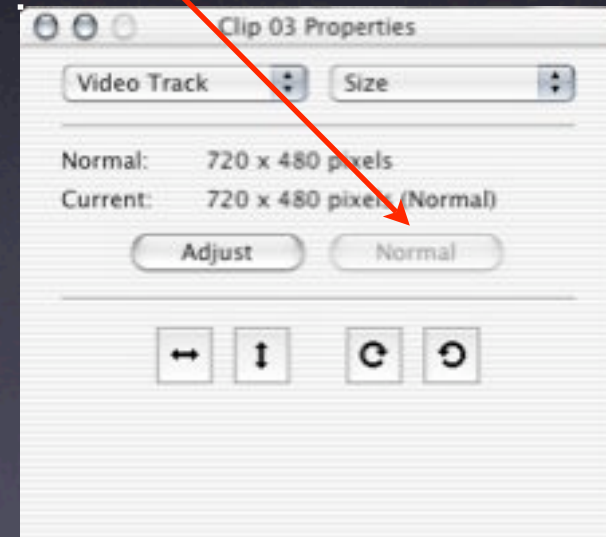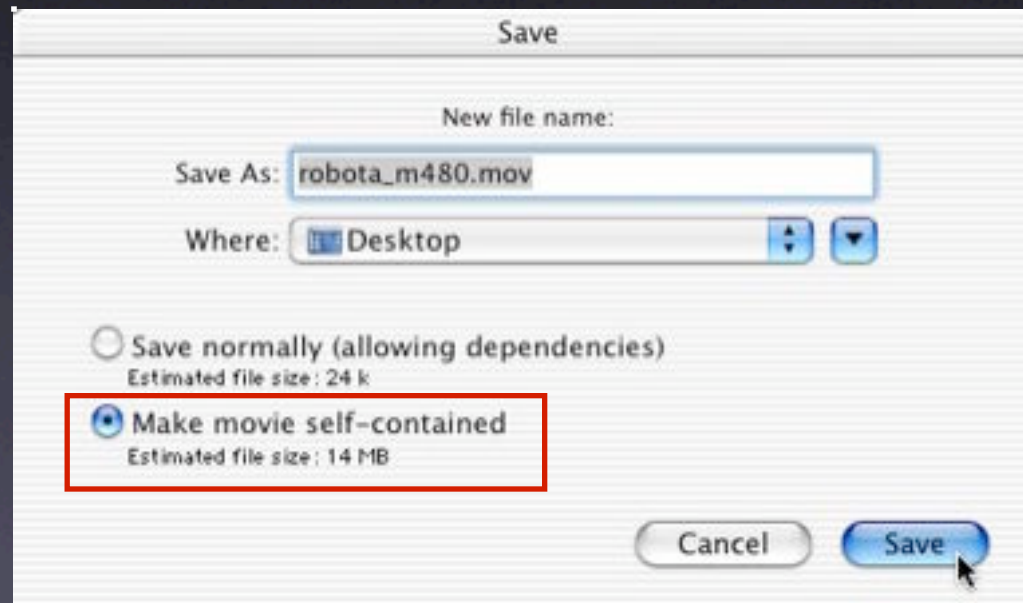
skew

Rotate

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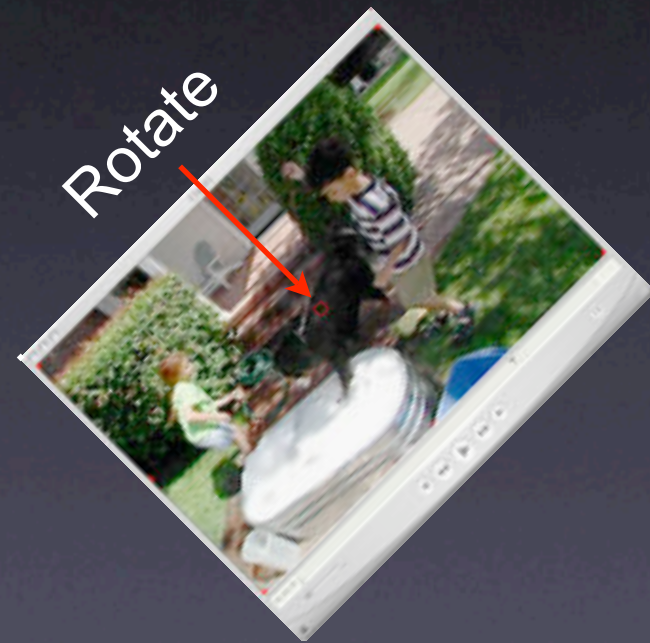
Normal to Restore

- To restore a clip to its original settings
  - Click on the Normal Button
  - Great for exploring

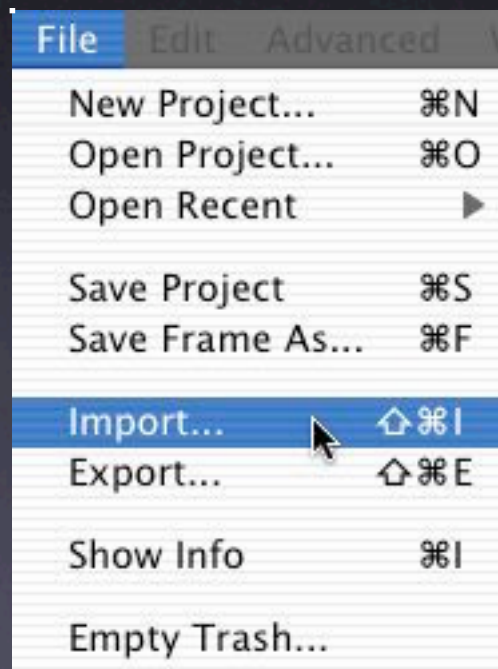The University of Utah   Student Computing Labs

Save as... self contained

- Save as...
  - Make movie self contained

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Import Resized Movie

- Drag n Drop your newly resized movie back into iMovie
  - Or use Import to put your newly resized movie back into iMovie

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Editing Tips – Process

- Import
  - Dump entire DV tape to computer
- Trim clips
  - Dump back to tape
- Arrange clips
  - Add transitions
  - Add Titles
  - Add Effects
  - Add Audio

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Flow

- Maintain "idea continuity"

  - Think of movies as visual stories

    - Set a pace or rhythm

    - Change it when necessary

      - Like reading a book "that you cant put down"

- Keep clips similar length

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Arranging Clips

- Similar angles and subjects (interview)

  - Do not put next to each other

    - Insert a shot of anything else

  - If you must do this, use a quick crossfade

    - 1/2 Second max (10 to 20 Frames @ 30fps)

Transitions

- Always fade in at beginning

- Always fade out at ending

- No transition is the most common cut

- Crossfade is the second most common cut

- Study – not just watch – to TV/Movies

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Titles

- Don't put Titles over moving or distracting video
- Use the same font and size throughout
- QuickTime exports need big and bold fonts
- QT margins uses full video width
- Otherwise, it uses TV-safe margins
- Use still images for special titles

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Effects

- Don't use effects unless they make sense
  - An old photograph would be "Sepia"
    - "a brownish tone produced, especially in early photographs, by some photographic processes"
  - A dream would be "Soft Focus"
    - "a deliberate slight blurring of a photograph or a filmed image giving it a hazy appearance, in order to achieve a special effect such as romance or nostalgia"
  - Viewpoint from a sleepy person
  - Etc.

Audio

- Built in editing tricks
  - Add an echo
  - Create reverb
  - Reuse audio
  - Get rid of unwanted sounds
- Voice over
  - Add exaggerated sounds
    - Crunching onion skins = fire
    - Break celery = crunching bones

Flow

- Use fonts/graphics on title pages

- Use with crossfades or other transitions to get limitless possibilities

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File Sizes

- DV time to file size:

  1 frame - 120 Kb

  1 min - 228 MB

  15 min - 3.5 GB

  30 min - 7 GB

  60 min - 13 GB

  2 hr - 28 GB

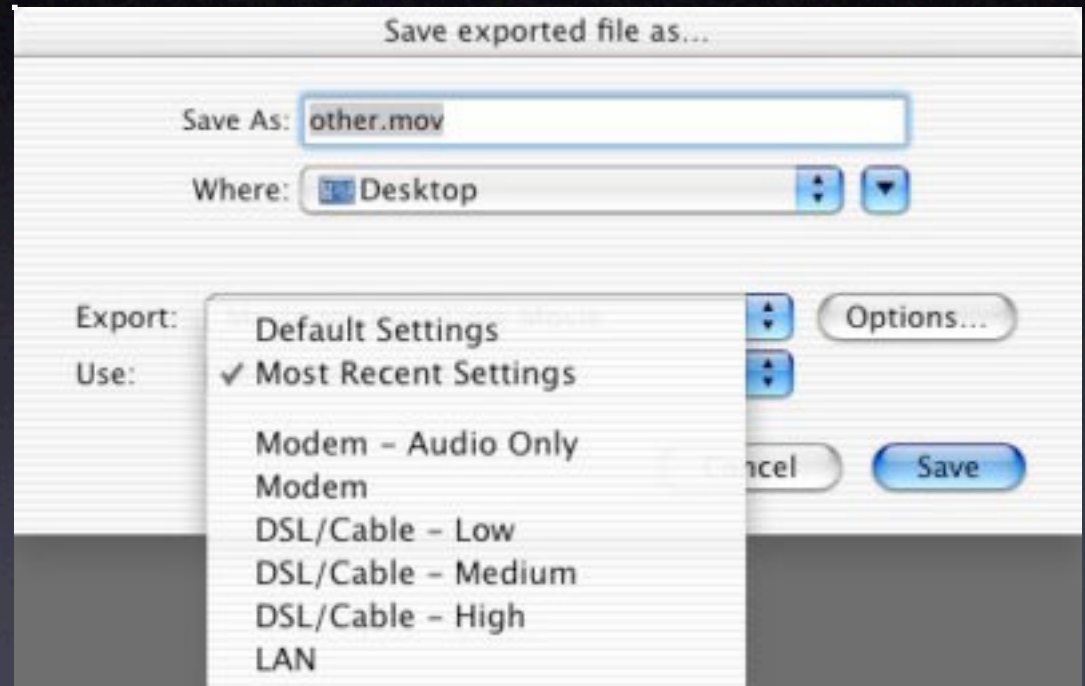 4 hr - 53 GB

iMovie Export Options

Expert Settings

- Export:

   to QuickTime

- Format:

   Expert Settings

Bandwidth Export Choices

- Default Export Settings are optimized for the users connection speed and the servers available network bandwidth
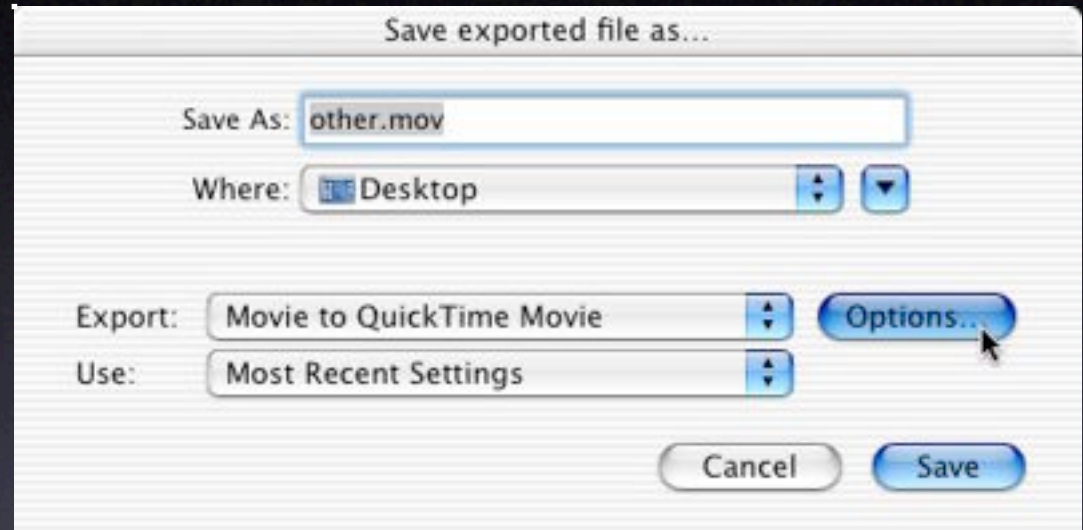

- You can override and modify any of these settings

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Export Format Options

- Choose one of the Export Formats Select a predefined Bandwidth Setting

Save exported file as...

Save As: other.mov

Where: Desktop

Export: Movie to QuickTime Movie   Options...

Use: Most Recent Settings

Cancel   Save

- Select the Options Button to customize the export settings way you want!

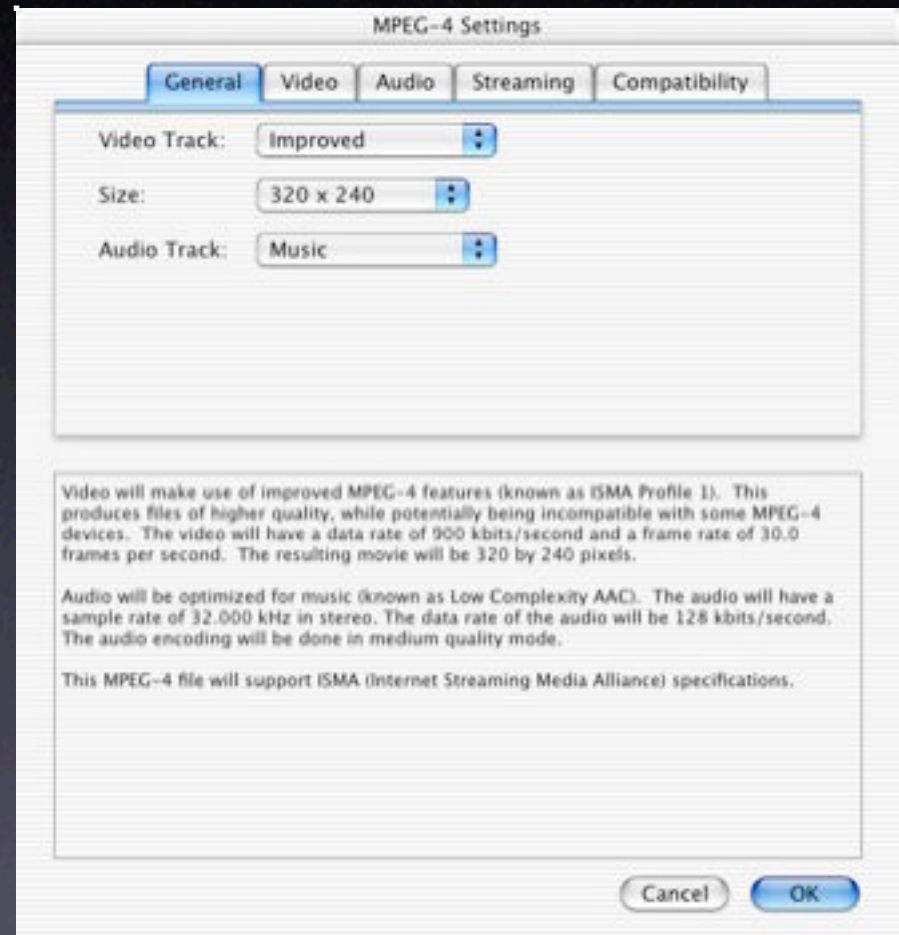The University of Utah   Student Computing Labs

Audio / Video Formats

- MPEG-4

- QuickTime Movie

- AVI

- DV Stream

- Image Sequence

- Toast Video CD

- AIFF
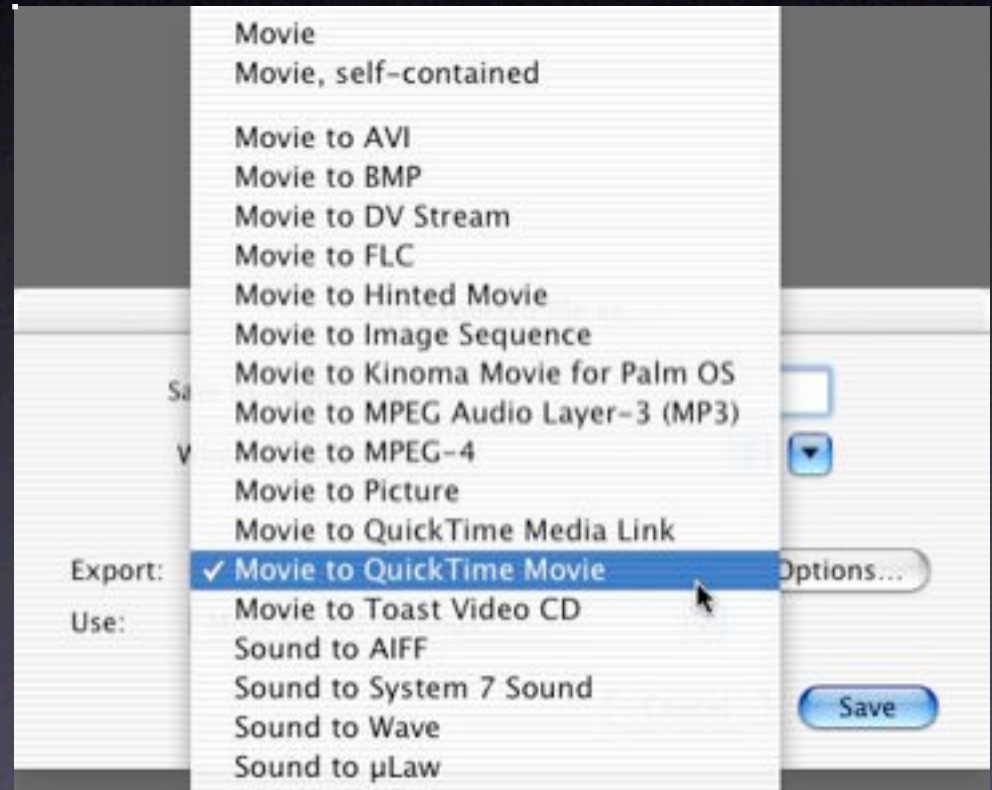
MPEG4 Format

- Newest MPEG standard

- Requires QuickTime 6

- Better compression rates

- Great for Multi-Platform
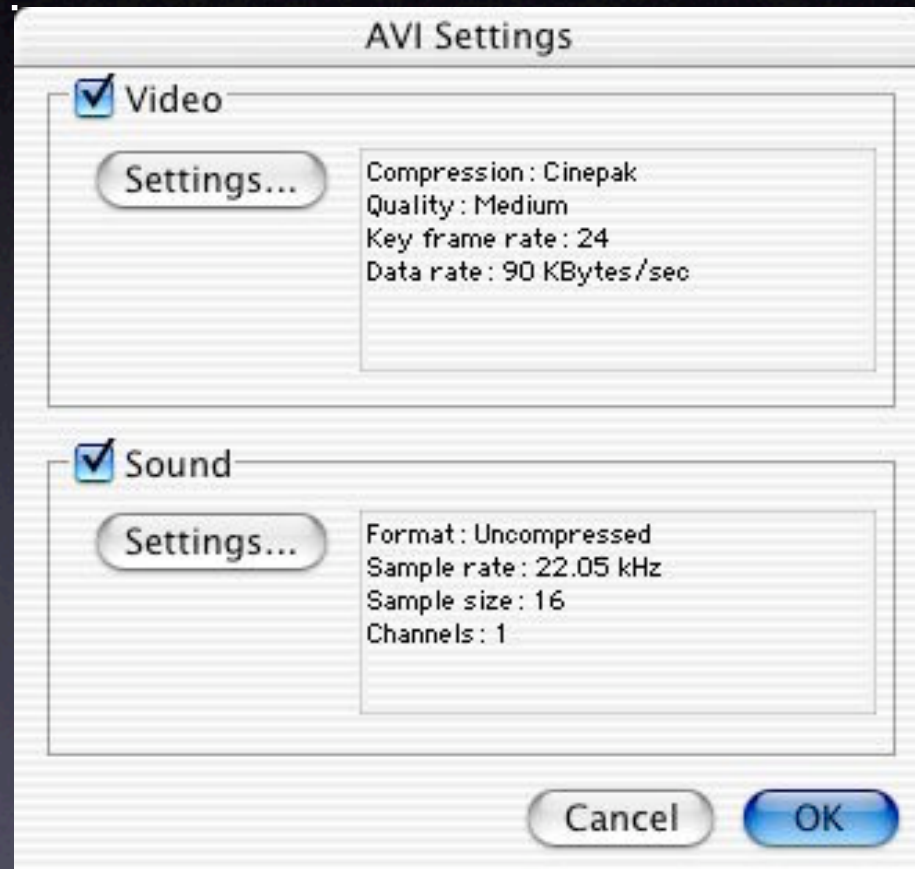
- http and Streaming servers

MPEG-4 Settings

| General | Video | Audio | Streaming | Compatibility |

Video Track: Improved

Size: 320 x 240

Audio Track: Music

Video will make use of improved MPEG-4 features (known as ISMA Profile 1). This produces files of higher quality, while potentially being incompatible with some MPEG-4 devices. The video will have a data rate of 900 kbits/second and a frame rate of 30.0 frames per second. The resulting movie will be 320 by 240 pixels.

Audio will be optimized for music (known as Low Complexity AAC). The audio will have a sample rate of 32.000 kHz in stereo. The data rate of the audio will be 128 kbits/second. The audio encoding will be done in medium quality mode.

This MPEG-4 file will support ISMA (Internet Streaming Media Alliance) specifications.

Cancel   OK

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QuickTime Movie

- Macintosh standard

- Change size to anything

- You can configure the codecs

- "Prepare for Internet Streaming" allows "Hinting"
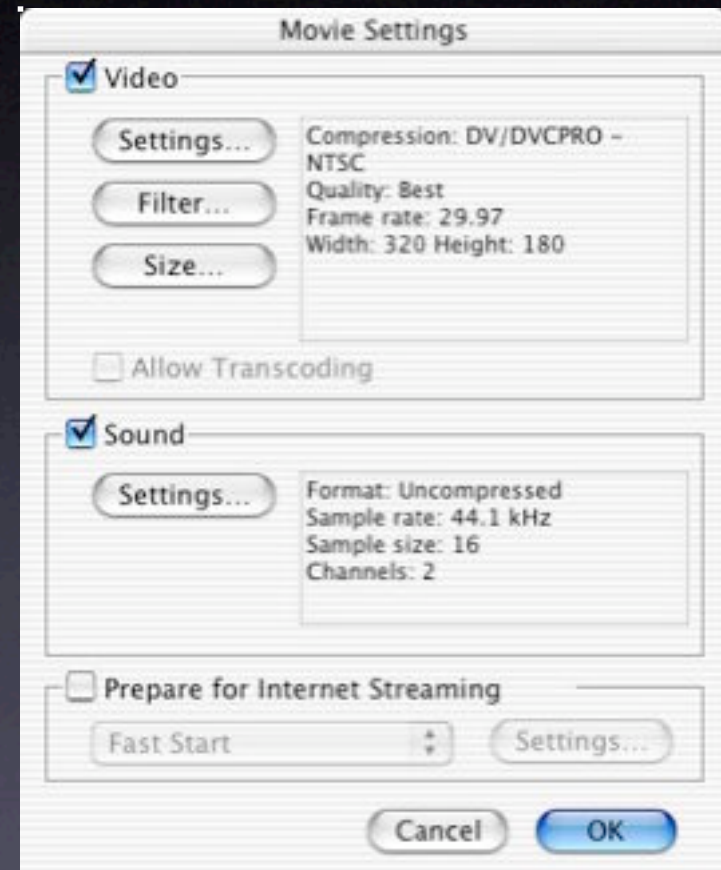
AVI

- Windows standard

- Most AVI Files require 3rd party codec to view on Macinotsh
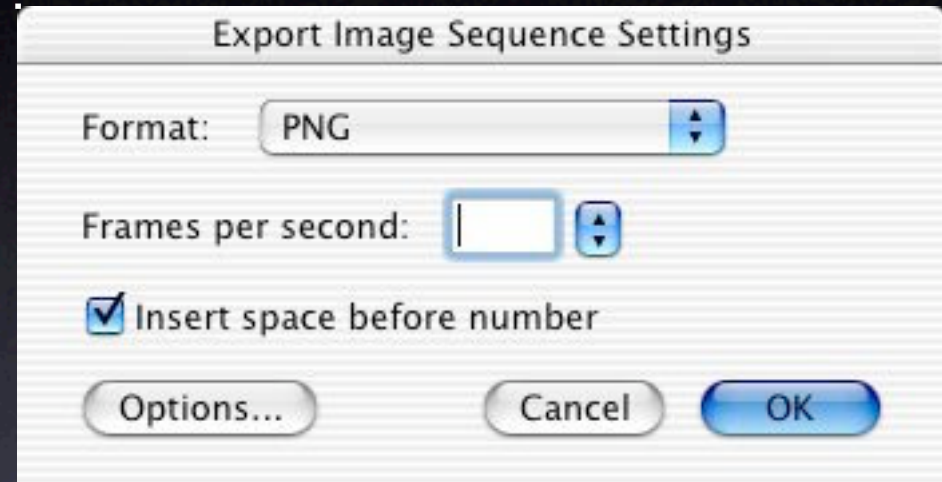
- You can configure the codecs

AVI Settings

☑ Video
Settings...
Compression : Cinepak
Quality : Medium
Key frame rate : 24
Data rate : 90 KBytes/sec

☑ Sound
Settings...
Format : Uncompressed
Sample rate : 22.05 kHz
Sample size : 16
Channels : 1

Cancel   OK

DV

- NO compression
  - FULL QUALITY
  - HUGE file sizes
- Covert to PAL

DV Export Settings

DV Format: DV

Video Format:
- ⦿ NTSC
- ◯ PAL

Audio Format:
- ☐ Locked

Rate: 32.000 kHz

Cancel   OK

Image Sequence

- Use if you want to
   edit frame images
  - Photoshop
  - GraphicConverter
  - Import back into
     QuickTime when done
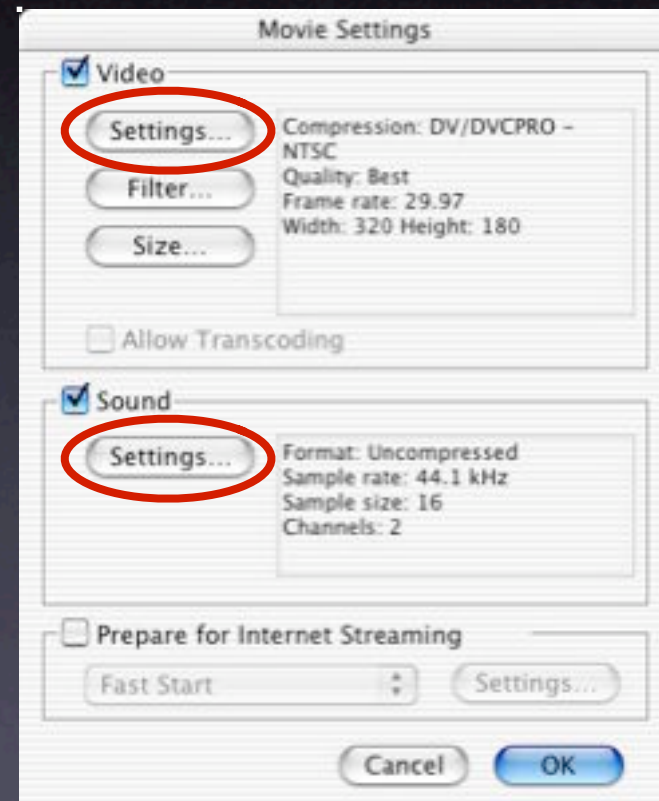- Or export as QT and use ImageReady
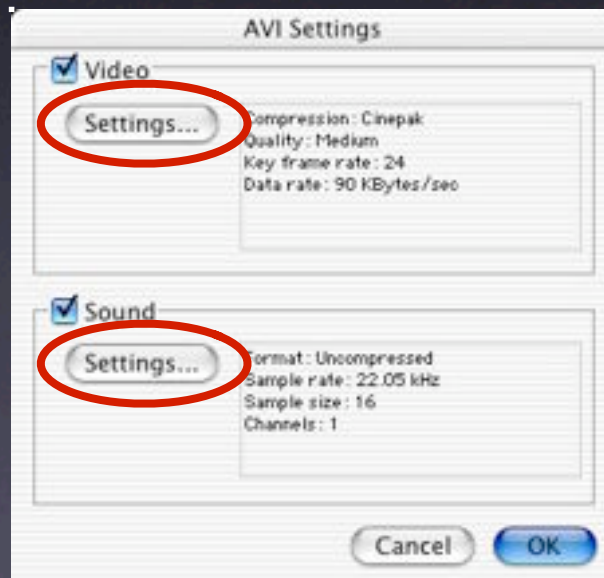- You will lose the audio

Export Image Sequence Settings

Format: PNG

Frames per second:

☑ Insert space before number

Options...   Cancel   OK

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Roxio Toast

- Roxio Toast

- Burn a VCD

Toast Video CD Options

Format:	NTSC (29.97 fps)
Image:	Fit
Mode:	Normal

☑ Launch Toast When Done

Cancel   OK

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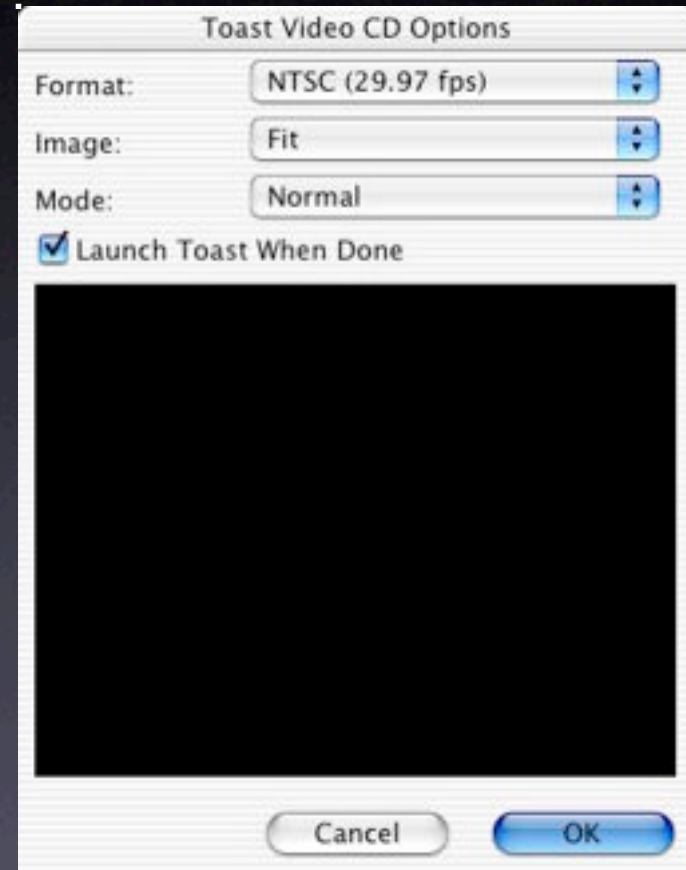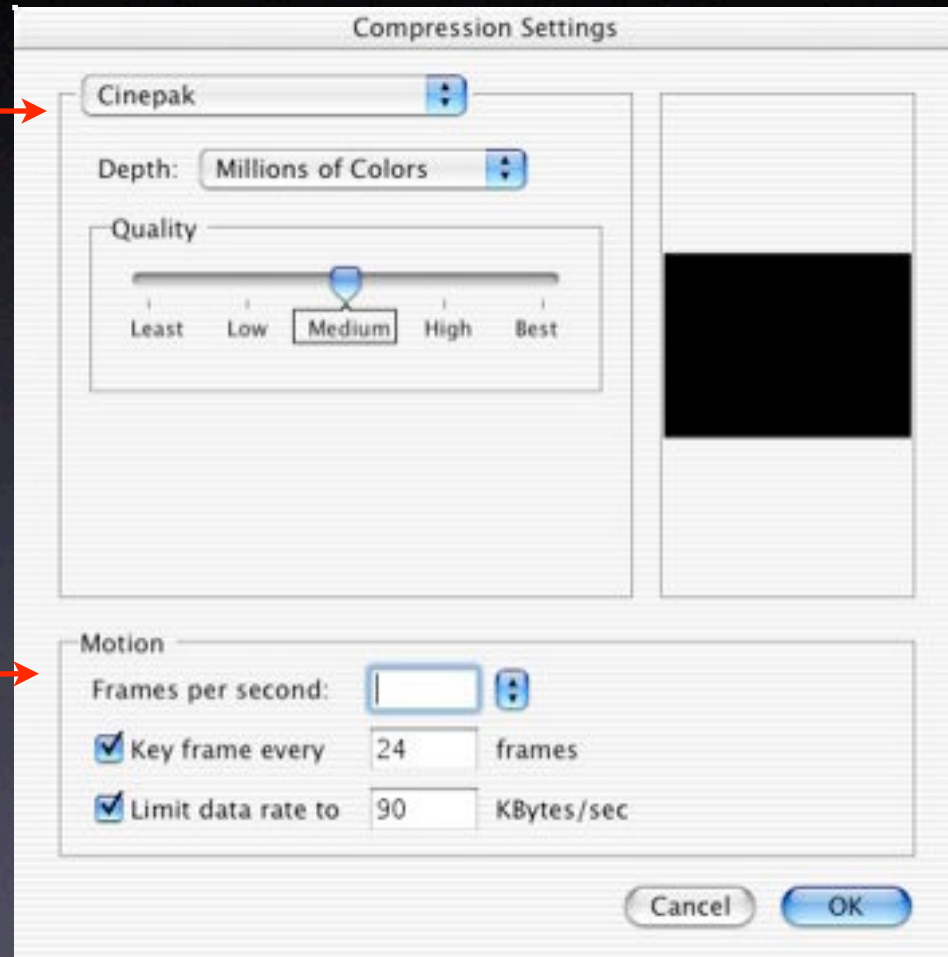
Compression Settings

- Compression settings
  - For AVI and QuickTime

Codec & Motion Settings

- Codec settings →

- Motion settings →

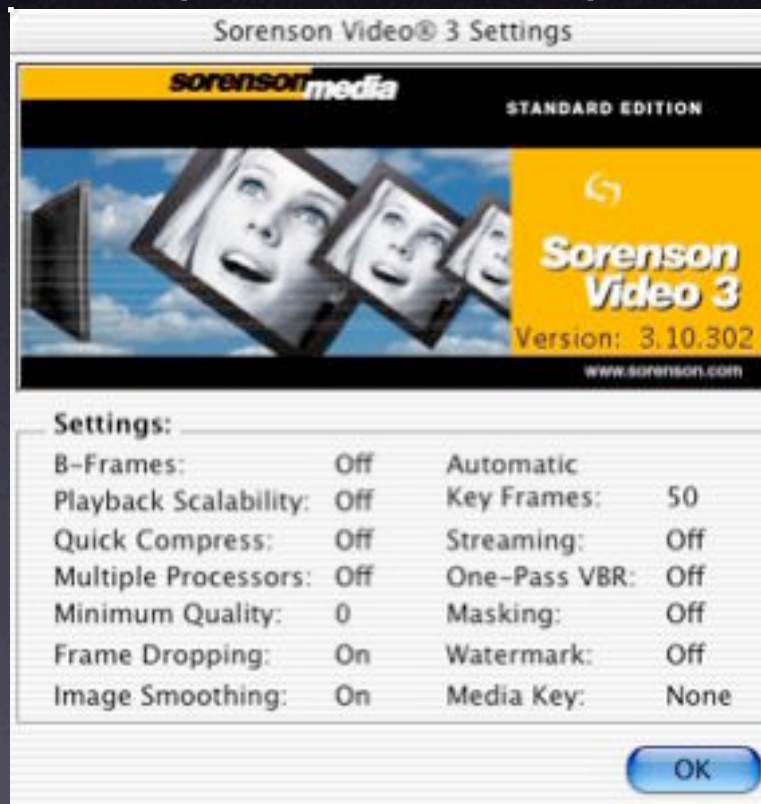# Movie & Sound Formats

- Codec settings
  - Depth
    - Number of colors
    - Higher the crisper
  - Quality
    - How much effort to put into it
    - The higher, the longer it will take
    - The higher, the bigger the file size will be (generally)
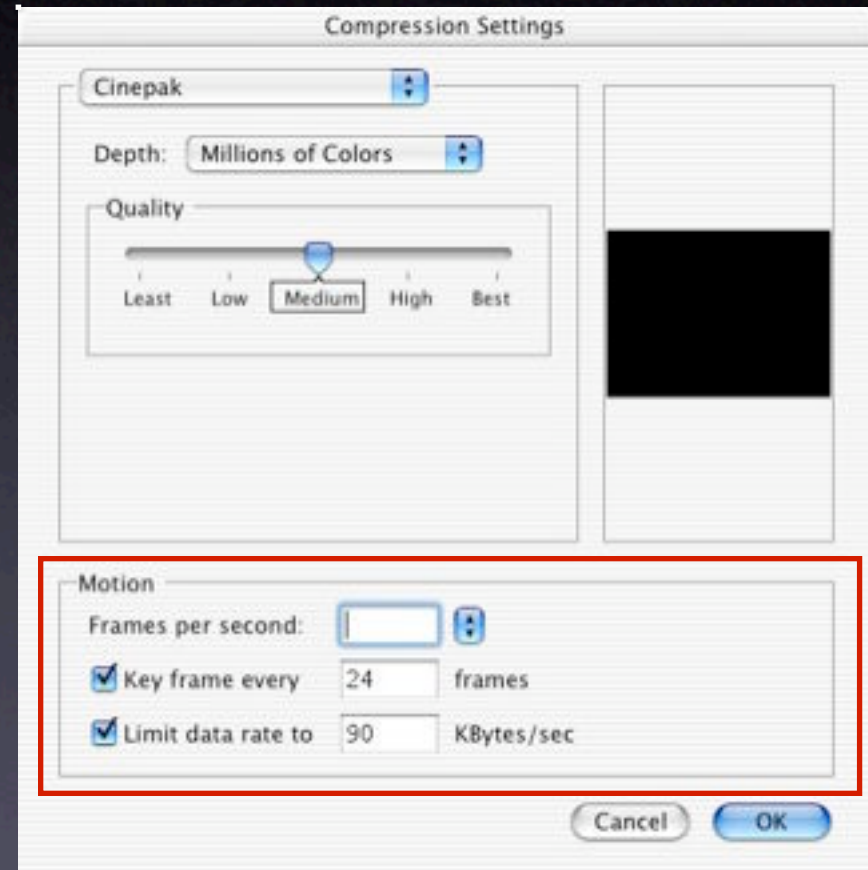 - More options depending on codec

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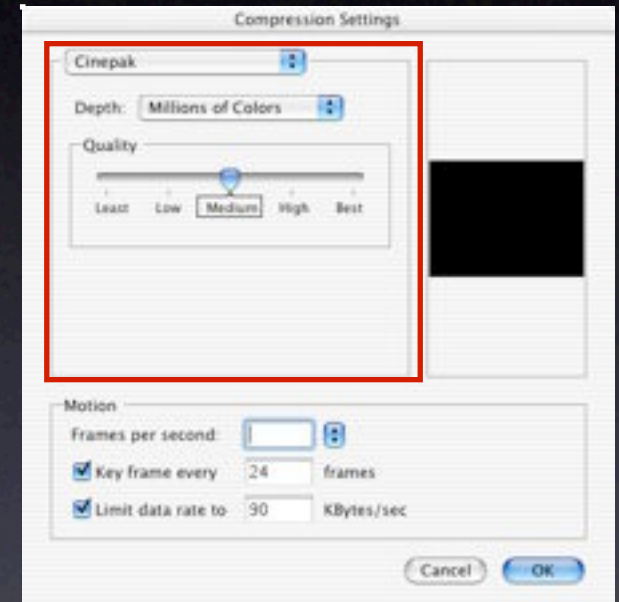
3rd Party Codecs

- Examples of more options (if available)

Motion Settings

- Frames per second

  - 8-20 jerky

  - 12, 15 - OK

  - 24 Hollywood movies

  - 29.97 NTSC

  - DEMO

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Key Frames

- Key Frames

- Default setting is usually 30

  - Look at frames per seconds

  - 1 key frame every 4+ seconds

    - Ok for talking head

    - Slow seek time

  - 2+ key frames a second

    - Fast moving, lots of scene changes

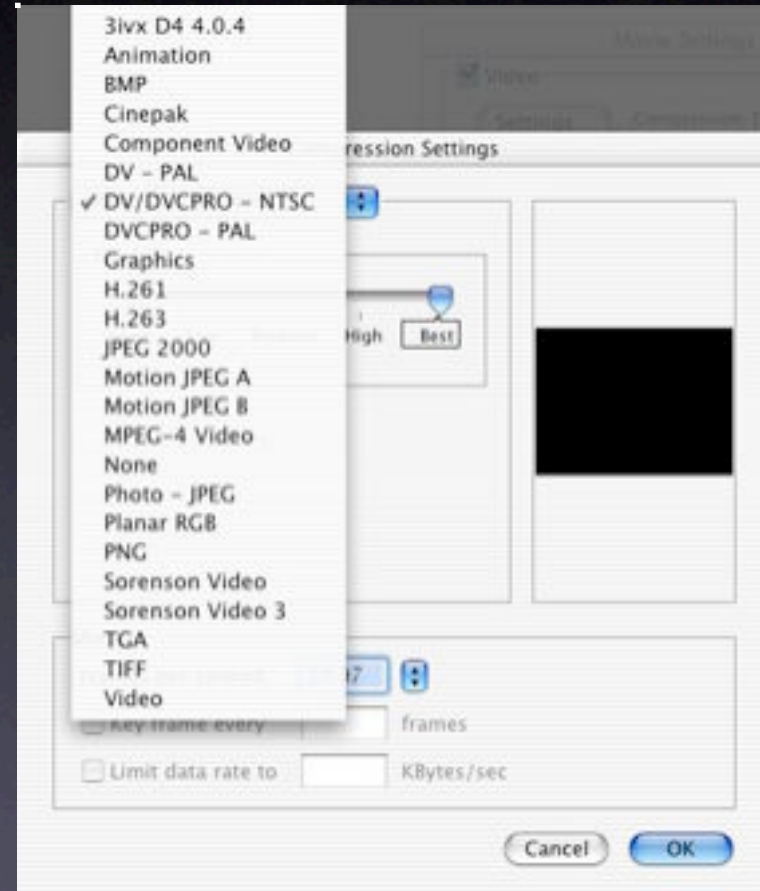The University of Utah   Student Computing Labs
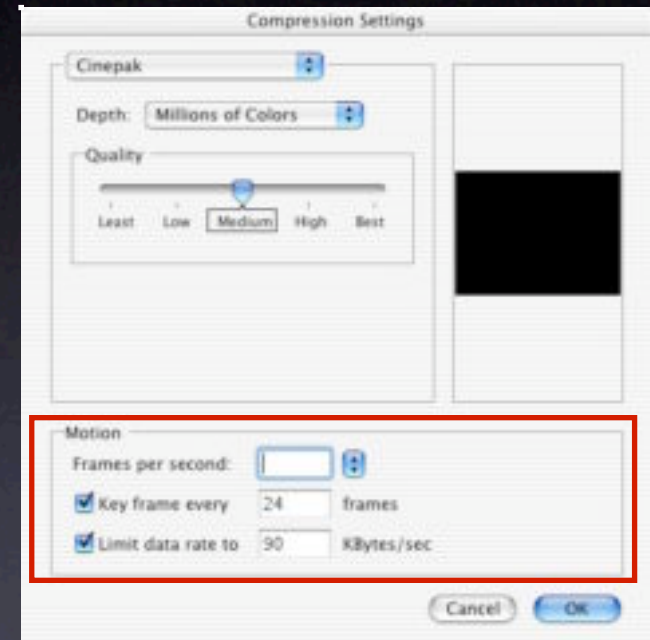
Limit Data Rate

- Limit data rate

  - Web, 240 x 180 movie, 150 K/sec

  - 2x CD-ROM, 150-200 K/sec

  - 4x CD-ROM, 350-500 K/sec

  - 12x CD-ROM, 1.8 M/sec

  - 24x CD-ROM, 3-3.6 M/sec

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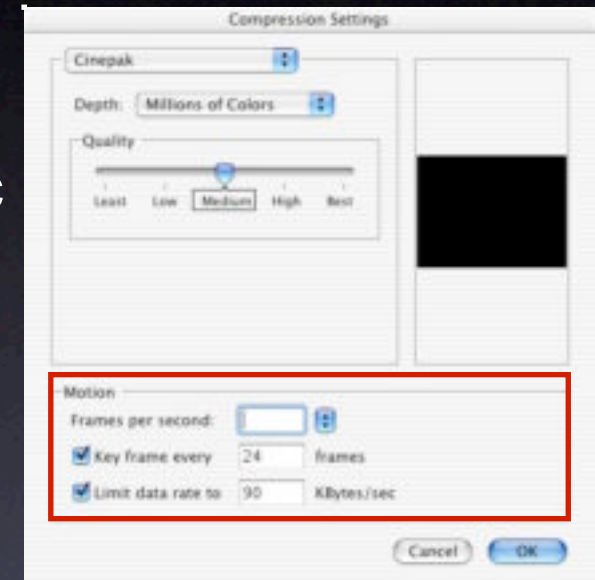
Codecs

- Many codecs

- Compression/
  decompression

- New codecs are added
  quite often

- Old Codecs are
 still supported and
  rarely removed

Other Codecs

- Sorenson Video 3
  - The best
  - Takes a long time
- H.263
  - Good for talking heads
- Animation
  - DV quality
  - Compresses only a little
- Video
  - Compresses fast, not too good, use to test

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Audio

- Rate
  - 44.1 CD
  - 48.0 DV Stream
- Size
  - 8 bit
    - Low quality
  - 16 bit
    - High quality
- Use mono for web

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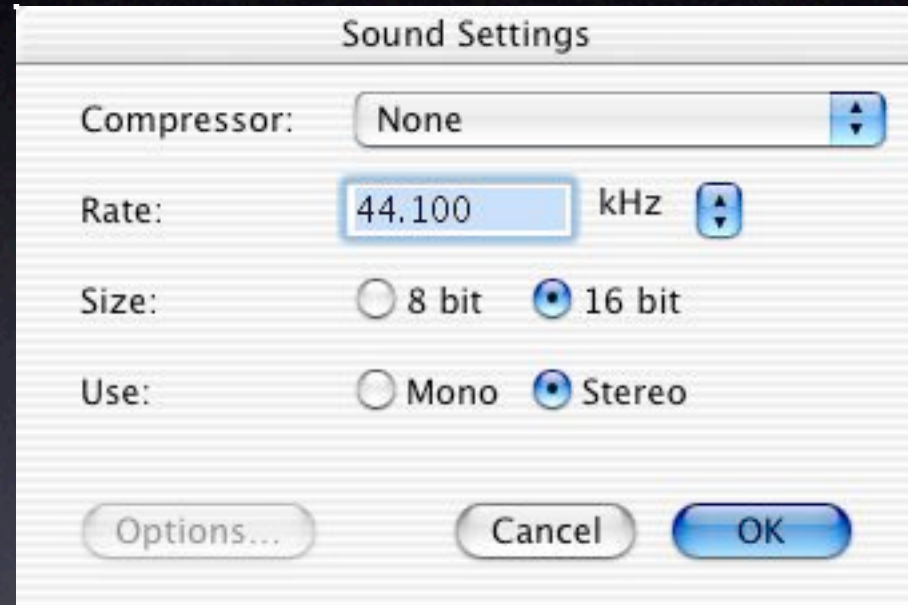
Audio Compression

- Compressors
  - Most are old
  - MPEG-4
    - The "new" best
  - QDesign Music 2
    - The "old" best
  - Qualcomm PureVoice
    - Good compression

Sound Settings

| Compressor: | ✓ None |
Rate:	24–bit Integer
	32–bit Floating Point
Size:	32–bit Integer
	64–bit Floating Point
Use:	ALaw 2:1
	IMA 4:1
	MACE 3:1
Options...	MACE 6:1
	MPEG-4 Audio
	QDesign Music 2
	Qualcomm PureVoice™
	µLaw 2:1

iDVD

- Must have iDVD 3

- Create chapters

- Click "Create iDVD Project"

- iDVD 3 will open
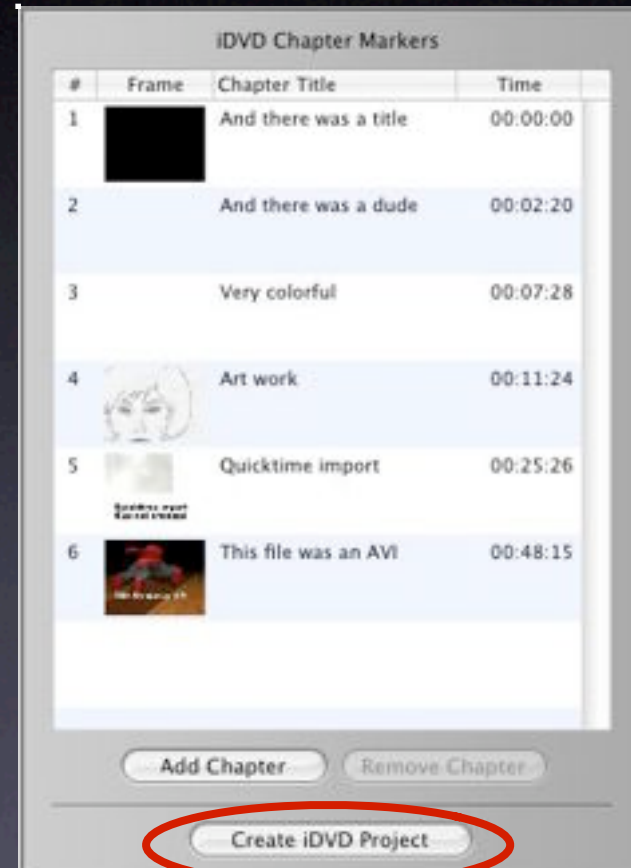
Customizing iDVD

- Click customize
  - Themes
  - Settings
  - Audio
  - Photos
  - Movies
  - Status
- Preview
- Click "Burn" when ready

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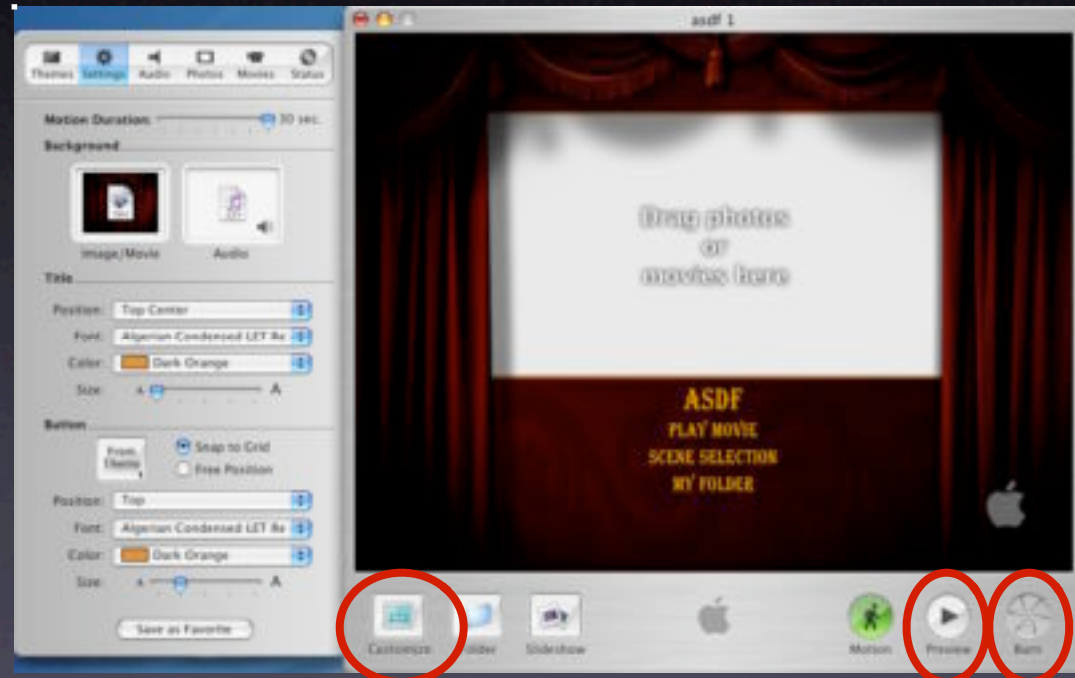
QTSS & RTSP Servers

- QTSS (QuickTime Streaming Server)
  - Select "Streaming Web Movie"
  - Or select "Hinting"
  - Copy file to server
- RealPlayer and Windows Media
  - Convert QT movie to RealPlayer or WMP format
    - Not as easy
    - Quality not as good
    - Popular because of Windows marketshare, not quality

HTTP Server

- HTTP server
  - Put on any web server
    - Use ftp (Fetch or SFTP)
    - Use Finder's "Connect To Server"
  - Add link to the file in a webpage
  - Or "embed" in a webpage

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Windows & Mac Code

```
<object
classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
width="160" height="144"
codebase="http://www.apple.com/qtactivex/qtplugin.cab">
<param name="src" value="sample.mov">
<param name="autoplay" value="true">
<param name="controller" value="false">
<embed src="sample.mov" width="160" height="144"
autoplay="true" controller="false"
pluginspace="http://www.apple.com/quicktime/download/">
</embed>
</object>
```

Mac Only Code

```
<embed src="sample.mov" width="160" height="144"
autoplay="true" controller="false"
pluginspace="http://www.apple.com/quicktime/download/">
</embed>
```

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Ideas & Tips

- Time Lapse
- Reverse clip direction
- Free Stuff
  - Video files & clips
  - Audio files

Time Lapse

- How to create time-lapse video

  - Speed clip up (5x is the max in iMovie)

  - Export to camcorder

  - Import back to computer

  - Repeat

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Reverse Clip Direction

- Why reverse clip direction?
  - Comic
  - Subtle effects
    - Blink of an eye
    - DEMO
  - Reverse a pan or zoom

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Free Stuff

- Video files

  - Search for "public domain video"

- Audio files

  - FreePlay (.Mac)

  - Search for "Open Source Music"

  - See Apple's iMovie web site

More Free Stuff

- iMovie transitions

  - See Apple's iMovie web site

- More compression codecs

  - 3ivx (MPEG-4)

  - Toast VCD

  - Must use iDVD or FCP for MPEG-2

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Finishing Up

- Your turn to test drive iMovie
  - But first...
    - Next class
    - Survey
    - Contact information
    - Questions and answers

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Next Class

- This series will be offered again next semester
  - No date has been set
- All 3 classes in this series will be posted on the web
  - www.macos.utah.edu
    - Main Page
      - DIgital Video

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Survey

How did we do?

Please take a minute to fill out the survey.

Contact Information

- Web — www.macos.utah.edu

- Email — mac@scl.utah.edu

- Offices — Multimedia Center (Room 1705), ask at the service counter for someone from the "Mac Group."

Questions & Answers

?

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