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Handling New Media Fall 2006
Assignment #2

My file & media formats: *.mov (QuickTime), JPEG2000, CD

FILE FORMAT #1

File Format Name: QuickTime, QuickTime File Format, *.mov [Apple website, NDIIPP website]

File Extension(s): *.mov (According to apple website, also " supports a wide-range of industry-standard audio formats, including AIFF, WAV, MOV, MP4 (AAC only) and AAC/ADTS."[1]

Date Introduced: (year) Introduced for Mac in 1991; Windows, 1994; in the mid-to-late 1990s, QuickTime influenced the shape of MPEG-4. [NDIIPP website]

Dates in Use: (years): 1991 (Mac only), 1992 (Mac), 1993 (Mac), 1994

Variations: QuickTime, QuickTime Pro, QuickTime 1 through QuickTime 7, versions for Mac and for Windows

Developers: Apple Developers

Open Source/Proprietary: Proprietary

Associated Operating System: Mac, Windows

Associated Application(s): Apple Quicktime Media Viewer

Associated Media: (storage) n/a – can be stored on a variety of devices as a file & application.

Compression: There seem to be various encoding options, loss varies.

Primary Usage: Multimedia, web downloads, web streaming.

Risks: Not always lossless. Proprietary. Also issues with Mac OS X and prior operating systems may affect usability of older files.

Condition Assessment: This format is wide spread, usable in a variety of operating systems and environments (web use and stand alone options). QuickTime applications and files have been around for over ten years. Apple does seem committed to the continued use and support of the format, although back information and support for earlier versions does not seem accessible

through the official web site.

Conservation Issues:

From the Apple QuickTime website: " We strive to ensure backward compatibility with content created with older versions of QuickTime. In fact, movies created with QuickTime 1 still play today in QuickTime 7."

In theory, backwards compatibility sounds great. I'm not so convinced about the logistics of this claim. Can older files be refreshed or migrated into the newest format? Can they be played in their original version? With the original player?

I also wonder about the possibilities for losslessness in this format. Are there lossless versions / capabilities for this format?

FILE FORMAT

File Format Name: JPEG 2000

File Extension(s):*.jp2 [also several other formats for extensions and additions] Also in development, a motion version – mjp2 (Motion JPEG 2000).

Date Introduced: (year) 2000 [according to an article in EE Times, linked from JPEG website].

Dates in Use: (years): 2000 – present

Variations: Initially came out in a basic version, later added further functions and capabilities.

Developers: From JPEG.org[2], "The international JPEG and JBIG groups, … represent a wide variety of companies and academic institutions worldwide. JPEG stands for 'Joint Photographic Experts Group', and JBIG for 'Joint Bi-level Image experts Group' - the term 'Joint' refers to the link between the standardisation bodies that created these working groups, ISO and ITU-T."

Open Source/Proprietary: Hmm… there are potentially dozens of research and industry groups involved, any of whom may have patents on various aspects of the technology. The NDIIPP and JPEG websites indicate that the developers of the format offer it without usage fees, however it seems more proprietary than not. NDIIPP website indicated that the format uses techniques developed for QuickTime.

Associated Operating System: n/a

Associated Application(s): n/a

Associated Media: (storage) n/a

Compression: Can be used in compressed forms of various sorts and uncompressed.

Primary Usage: Digital image files

Risks: Some versions are more lossy than others, proprietary issues associated with patents by developers. Not as wide spread as it was projected to be.

Condition Assessment: This format is in current usage, and comes from a reputable group of developers. It is unclear to what extent this format is and will be used as a preservation format, or as a popular format. The potential use of the Motion JPEG 2000 also remains unclear.

Conservation Issues:

The issue of patents and proprietary ramifications brings up some questions about the suitability of this format for preservation. Also, if the format does not become widely used as a popular format, how useful is it for preservation of files native to other formats?

DIGITAL STORAGE MEDIA

Media Format: CD (Compact Disk)

Media Type: (Disk, tape or solid state) Disk - optical

Date Introduced: (year) 1982 [according to Kees Immink, Philips engineer, http://www.exp-math.uni-essen.de/~immink/pdf/cdstory.pdf] Also: CD-R, CD-RW, CD-ROM

Dates in Use: (years): 1982 – Present.

Dimensions: 120mm diameter (standard)

Capacity: (varies) 74-minute audio capacity and a 650 MB data or an 80-minute audio capacity and a 700 MB data

Media Variations and/or Identifying Features: Related to earlier LaserDisc. Mini Disc variation.

Common Manufacturers/Brands: Sony, Philips primary developers, various brands

Associated Hardware: (playback) CD-R/ CD-RW, CD-DVD Combo drives, CD player

Associated Software: various – music, operating system, other programs

Primary Usage: Audio, file storage

Risks: Easily broken, scratched, damaged. Inner rings contain essential & irreplaceable reading information. Also glues and labels used in manufacture may decrease lifespan of media.

Condition Assessment: Problematic. Store relatively large amounts of data quickly and easily. Rewriteable CDs may pose problems. Damage to inner ring can cause loss of entire data set. Easily damaged and broken.

Conservation Issues: Labeling should be avoided (writing directly on CD not recommended). Adhesives used in creating CDs may deteriorate or cause deterioration. Debris or minor damage to CD may make sections of data or entire CDs unreadable.

DIGITAL STORAGE DEVICES

Device Name: CD Drive

Date Introduced: (year) 1985

Dates in Use: (years): 1985 - Present

Dimensions: Varies

Variations and/or Identifying Features: Combination CD/DVD drives of various configurations.

Common Manufacturers/Brands: Developed by Sony & Philips, various brands

Associated Hardware: CD drive attaches internally or externally to computer.

Associated Software: various – OS related file creation programs, music file creation programs.

Associated Media: CD, CD-R, CD-RW (+/-)

Interface/Connectors: Internal drive, IDE (ATA), SCSI, S-ATA, Firewire or USB

Primary Usage: creation of music files, data files

Risks: Laser miscalculations, breakable media, dye issues

Condition Assessment: Mostly limited by CD media limitations.

Conservation Issues: Peripheral connections may become obsolete (SCSI use decreasing). Laser may malfunction or cease to work for various reasons. Software may become obsolete. CD media limitations also constrain use of drive. Loading mechanism may fail or break.

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[1] Apple website lists the following QuickTime: Supported File Formats

3DMF (Mac OS 9 & Windows)
3GPP
3GPP2
AIFF
AMC
AMR
Animated GIF
AU
Audio CD Data (Mac OS 9)
AVI
BMP
CAF (Mac OS X)
Cubic VR
DLS
DV
FlashPix*
FLC
GIF
GSM
JPEG/JFIF
Karaoke
MacPaint
MIDI
MPEG-1

MP3 (MPEG-1, Layer 3)
M3U (MP3 Playlist files)
MPEG-2**
MPEG-4
MQV
M4A, M4B, M4P (iTunes 4 audio), M4V (iTunes video)
PDF (Mac OS X)
Photoshop*
PICS
PICT
PLS
PNG
Quartz Composer Composition (Mac OS X)
QCP (Mac OS 9 & Windows)
QuickTime Image File
QuickTime Movie
SD2 (Mac OS 9 & Windows)
SDP
SDV
SF2 (SoundFont 2)
SGI
SMIL
System 7 Sound (Mac OS 9)
Targa
Text
TIFF*
TIFF Fax
VDU (Sony Video Disk Unit)
Virtual Reality (VR)
Wave

[2] www.jpeg.org - This Web site is run on behalf of the JPEG committee on a not for profit basis by a group of elected trustees from the JPEG community, and with the full authority of the ISO/IEC JTC1/SC29 (JPEG/JBIG) committee. The intent is to provide a valuable resource to the digital imaging community, and to promote the goals, standards and work of the committee without bias or favouritism.