Comprehensive Digitization

Everything Patrons Need to Digitize and Preserve Their Pictures, Home Movies, Audio and Slides
Chris Smith
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Arlington Heights Memorial Library
Definitions to Know

● Digitization
  ○ the conversion of text, pictures, or sound into a digital form that can be processed by a computer
What We Will Cover

- Identify the types of media that are able to be digitized.
  - Photos and Documents
  - Tapes and Films
  - Records and Cassettes
- What equipment do you need?
  - Storage Media
  - Computer/Conversion Kit
  - Local Services
- Services and hardware offered at my library.
- Tips and additional resources.
Photos and Documents
The Originals
File Types

**JPEG**
- Great for creating smaller file sizes for uploading on the internet, or for use with e-mail
- File size about 0.7 - 15 MB

**PNG**
- Is a good choice for storing line drawings, text, and iconic graphics at a small file size
- Can have transparency.
- File size about 0.7 - 15 MB

**TIFF**
- Great for archiving images when all detail must be preserved and file size is not a consideration
- File size about 4 - 85 MB
Image Quality

PPI = Pixels Per Inch

sometimes called DPI (Dots Per Inch)

300 PPI – best for photos
600 PPI – best for enlarging photos
2400 PPI – best for slides and film

Higher PPI = larger file size & longer scan time
Quality Comparison
Quality Comparison

300 PPI  401 kB  600 PPI  1.1 MB
Quality Comparison

300 PPI | 401 kB
600 PPI | 1.1 MB
Quality Comparison

300 PPI  401 kB  600 PPI  1.1 MB
Tapes and Film
The Originals
File Types

- Both produce video of equal quality and size
- MOVs work better with Apple devices
- MP4s are more universally compatible
- AVIs have much high-quality audio fidelity
Software Specs

• Video Resolution
  • 360p – approximate VHS quality
  • 480p – max DVD quality
  • 720p/1080p – High Definition

Higher Resolution = larger file size
Video Software

- VLC
- Handbrake
- QuickTime Player
Software Specs

- VLC
  - Open source video player
  - Can play most video CODEC’s
- Handbrake
  - Used to extract Audio/Video data into digital files
- Quicktime
  - Used to play MP4’s and MOV’s on apple devices.
Records and Cassettes
The Originals
File Types

• Lossy Formats
  • MP3
    • Works on most devices
    • Small file type
  • AAC (MPEG-4)
    • Better sounding audio for mobile devices, Apple products and YouTube.
File Types

• Lossless Formats
  • FLAC
    • No compression or audio loss.
    • Can be difficult to find applications or mp3 players to play them.
Audio Software

Audacity

fre:ac

Apple Music
Software Specs

- Audacity
  - Free multi-track audio editor and recorder for Windows and macOS.

- Fre:ac
  - fre:ac is a free audio converter and CD ripper with support for various popular formats and encoders

- Apple Music
  - Can play AAC, AIFF, Apple Lossless, MP3, and WAV
Storage
Which is best?

Flash Drive  External Hard Drive  CD or DVD
<table>
<thead>
<tr>
<th>Flash Drive</th>
<th>External Hard Drive</th>
<th>CD or DVD</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Up to 1TB (1000GB)</td>
<td>▪ Up to 16TB (16,000 GB (depending on the model))</td>
<td>▪ Up to 4.7 GB</td>
</tr>
<tr>
<td>▪ Very Portable</td>
<td>▪ Slightly less portable</td>
<td>▪ Store at most 8 hours*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▪ Less compatible</td>
</tr>
</tbody>
</table>

Which is best?
Computer/Conversion Kit
VHS to Digital Converter

• Equipment:
  • VHS player
    • $150 - $700
  • Video Cables
    • $6.00
  • Capture card
    • $16.00 - $500
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Film Reel to Digital Converter

• Equipment:
  • Film reel scanner
    • $255
  • SD Card
    • $9.00 for a 32 GB SD card
Film Reel to Digital Convertor

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  • Film reel scanner
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Film Reel to Digital Convertor

• Equipment:
  • **Film reel scanner**
    • $9000
    • converts 8mm, super 8 and 16mm
    • PC to run software
  • Website: [https://www.moviestuff.tv/](https://www.moviestuff.tv/)
35mm Slide Scanner

- Equipment:
  - Slidesnap
    - $3000
    - converts 35mm slides in to jpg format.
    - website: https://slidesnap.com/
Digital Scanner

• Equipment:
  • Epson V600
    • $299
    • Flatbed size: 8.5" x 11.7"
    • Scans documents, slides, film negatives, photos
  • Software Included
Slide & Film Scanner

• Equipment:
  • Kodak SCANZA Digital Film & Slide Scanner
    • $160
    • 35mm, 126, 110, Super 8 & 8mm Negatives & Slides to JPEG Digital Files
  • SD Card
    • $9.00 for a 32 GB SD card
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Book Scanner

• Equipment:
  • ScanSnap SV600 Scanner
    • $500
    • recognizes document size, A3, A4, A5, A6, B4, B5, B6, Post card, Business card, Double Letter, Legal
    • save files as pdf and jpg.
    • can use OCR
Audio Conversion Kit

• Equipment:
  • TEAC LP-R550 LP & Cassette To CD/Digital Converter
    • $150-400
  • USB 2.0 Type B
    • $10

• Software:
  • Audio Hijack
    • $64
  • Audacity
    • Free
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Cassette to Digital Convertor

• Equipment:
  • Reshow Cassette Player
    • $35
  • USB 2.0 Type B
    • $10

• Software:
  • Audio Hijack
    • $64
  • Audacity
    • Free
Cassette to Digital Convertor

• Equipment:
  • Reshow Cassette Player
    • $35
  • USB 2.0 Charger Cable - A-Male to Mini-B Cord
    • $10

• Software:
  • Audio Hijack
    • $64
  • Audacity
    • Free
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  • Reshow Cassette Player
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• Software:
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    • Free
Document Scanner

• Equipment:
  • Compact Color Desktop Scanner
    • $200
    • Up to 25 pages per minute scanning
    • 20-page capacity auto document feeder
    • Scan to optional USB flash memory drive
  • USB Flash Drive 32GB
Document Scanner

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  • Compact Color Desktop Scanner
    • $200
    • Up to 25 pages per minute scanning
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    • Scan to optional USB flash memory drive
  • USB Flash Drive 32GB
    • $7.00 - $17.00
Services and hardware offered at my library
Arlington Heights Memorial Library

- 45 Mins northwest of Chicago
- Population served 75,071
- Average digital media lab use per month: 255 users
- Library of things budget: $8000
  - consisting of small electronic items, cameras, hotspots, streaming devices and more
Batch Slide Conversion Kit

Audio Conversion Kit
Local Services
Walgreens DVD Transfer

Videotapes

**Accepted media formats:** Betamax, VHS/SVHS, VHS-C, 8mm, Hi8, Digital8, MiniDV, Micro/Mini

**DVD:** $24.99 per videotape + $9.99
**Blu-ray:** $24.99 per videotape + $19

[Find a store] [Get started]

Movie Films

**Accepted media formats:** 8mm, Super 8, 16mm

**DVD:** $19.99 per 50’ of film + $9.99 per DVD
**Blu-ray:** $19.99 per 50’ of film + $19.99 per Blu-ray

Photos

**Accepted media formats:** Photo prints, slides, negatives

**DVD:** $0.59 per photo + $9.99 per DVD
**Blu-ray:** $0.59 per photo + $19.99 per Blu-ray
**USB:** $0.59 per photo + $19.99 per USB

*Minimum of 30 photos per order*
Legacy Box

STARTER
Up to 3 Tapes or 3 Films
or 3 sets of 25 Pictures
OR MIX & MATCH *
$59.98

FAMILY
Up to 10 Tapes or 10 Films
or 10 sets of 25 Pictures
OR MIX & MATCH *
$279.98

CLOSET
Up to 20 Tapes or 20 Films
or 20 sets of 25 Pictures
OR MIX & MATCH *
$559.98
Tips and additional resources
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• Create a specific spot for your equipment.
• Set time limits for machine use.
• Host classes or perform appointments to make sure equipment is being used by those familiar with it.
• Guidebooks for equipment.
• Purchase equipment that you can easily service.
• Work with staff to see if they have old equipment that can be used or coordinate with a friends of the library.
Thank you!

Feel free to reach out to me for follow up questions at:

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