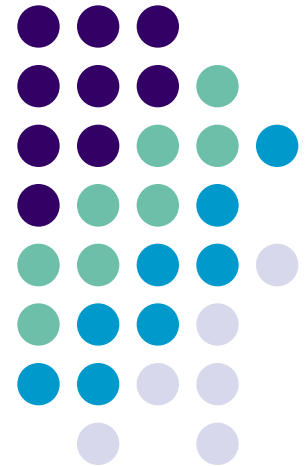


DIGITAL TOOLS & APPS

CHRIS ERICKSON
2014





SOME USEFUL TOOLS

There are many useful and free tools available for working with digital materials.

- Copy & Transfer Tools
- Rename Tools
- Integrity & Fixity Tools
- File Editing Tools
- File Format Tools

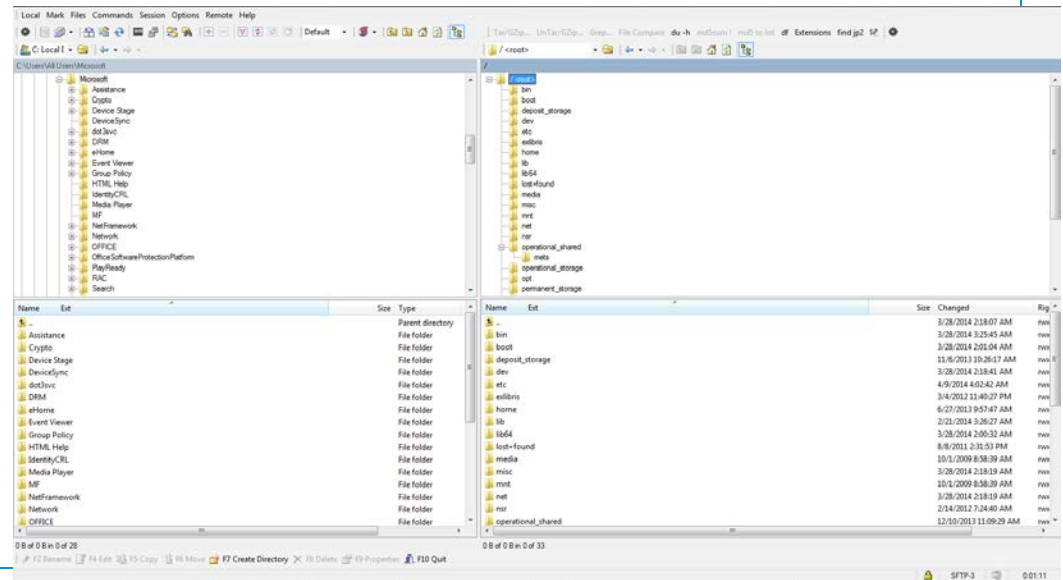
Here are some I use . . .

TOOLS: COPY & TRANSFER



WinSCP

- <http://sourceforge.net/projects/winscp/>
- WinSCP is a SFTP client and FTP client for Windows
- Main function: secure file transfer between a local and a remote computer
- Very useful for transferring between Windows and Linux system
- Programmable commands

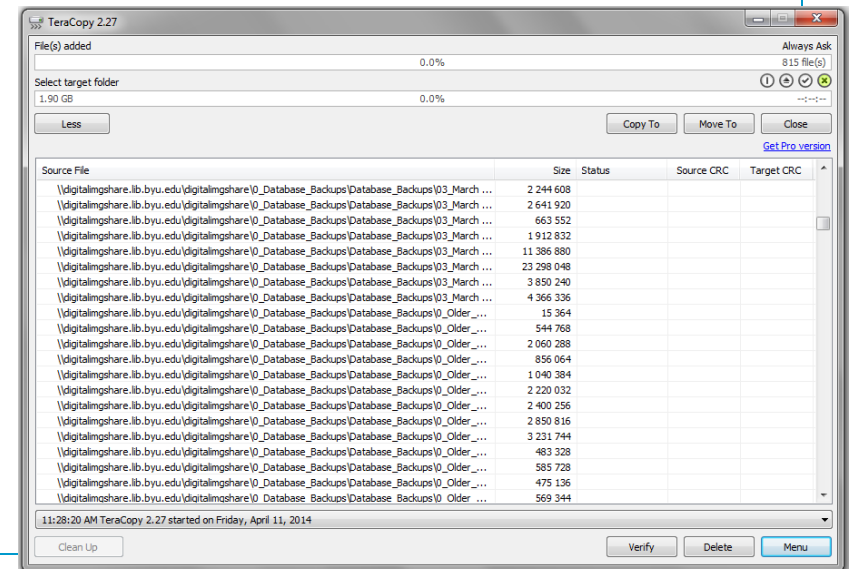


TOOLS: COPY & TRANSFER



● Teracopy

- <http://codesector.com/teracopy>
- Copy and move files at the maximum possible speed
- Uses checksum to automatically check for copy errors
- Skips bad files then displays them at the end of the transfer
- Integrates with Windows Explorer's right-click menu
- Can be set as the default copy handle

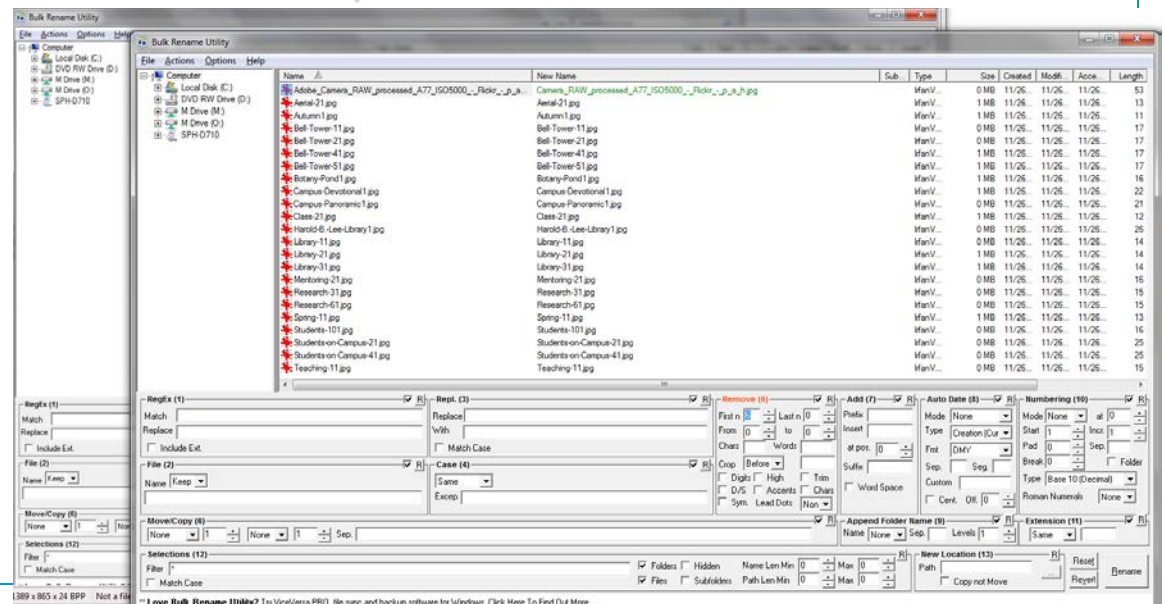


TOOLS: FILE RENAME



Bulk Rename Utility

- <http://www.bulkrenameutility.co.uk/>
- A free file renaming software for Windows.
- Easily rename files and entire folders based upon **extremely flexible** criteria
- Add date/time stamps, replace numbers, insert text, convert case, add auto-numbers, process folders and sub-folders, etc.

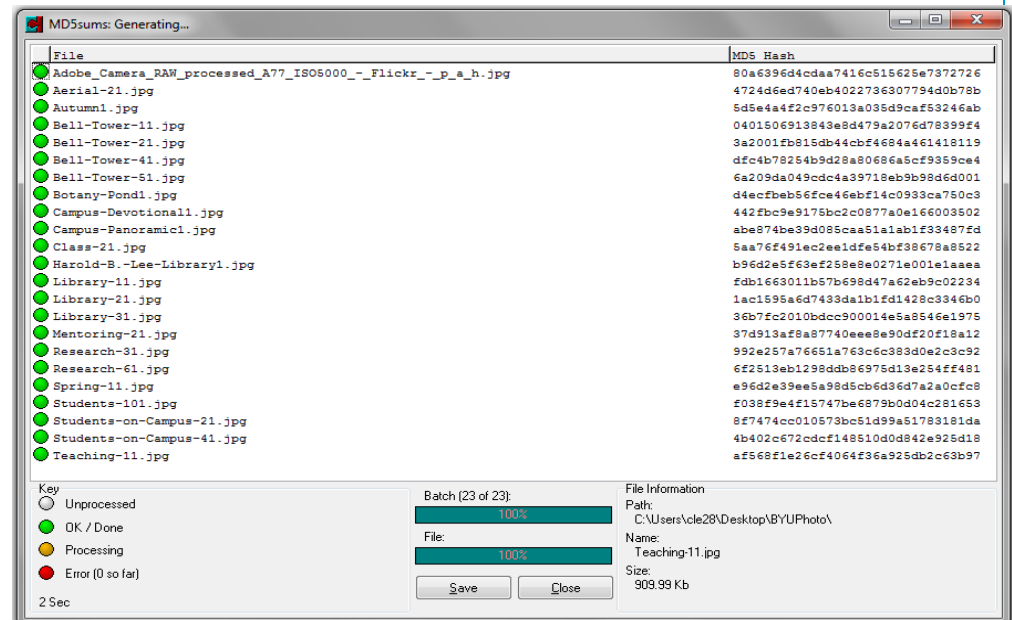


TOOLS: INTEGRITY & FIXITY



● MD5Summer

- <http://www.md5summer.org/>
- Windows application; generates and verifies md5 checksums
- Saves a list that can be used to verify files at any time
- Output file is compatible with Linux



TOOLS: INTEGRITY & FIXITY



● MD5sums 1.2

- <http://www.pc-tools.net/win32/md5sums/>
- Generate MD5 checksum for one or more files
- Command line interface that can check multiple files
- Can be used as drag-and-drop to check a file quickly
- UNIX compatible

A screenshot of the MD5sums 1.2 application window. The window title is "C:\Users\Desktop\md5sums.exe". The text inside the window shows the program's version, copyright information, and a list of files being processed. The files are "Bell Tower 1.jpg" and "Press ENTER to exit_". The MD5 checksum for "Bell Tower 1.jpg" is displayed as "46595877bcdd708f89e850f0b72f2bf6".

```
C:\Users\Desktop\md5sums.exe

MD5sums 1.2 freeware for Win9x/ME/NT/2000/XP+
Copyright (C) 2001-2005 Jen Berkes - http://www.pc-tools.net/
Type C:\Users\Desktop\md5sums.exe -h for help _

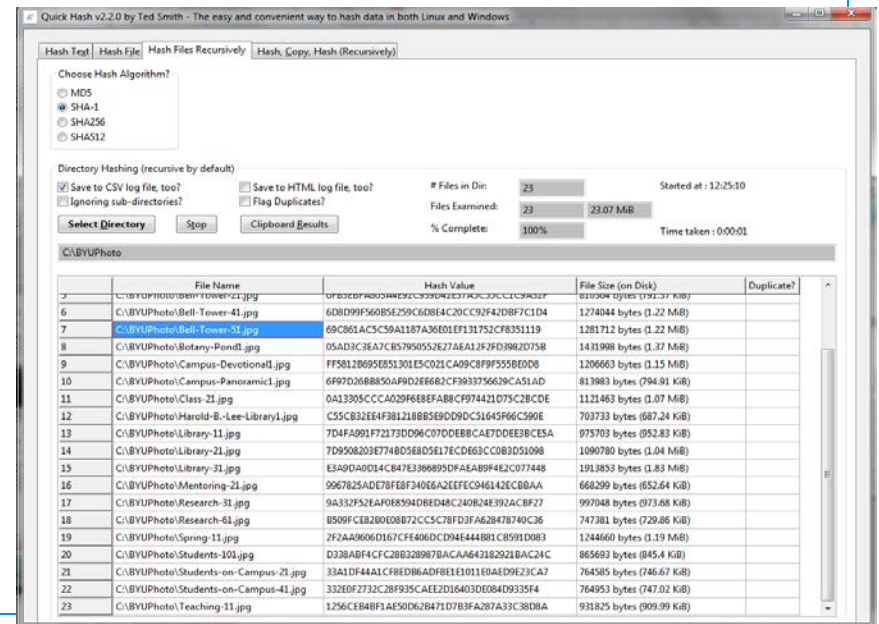
[Path] / filename                                MD5 sum
-----
[C:\]
Bell Tower 1.jpg                                46595877bcdd708f89e850f0b72f2bf6
Press ENTER to exit_
```


TOOLS: INTEGRITY & FIXITY

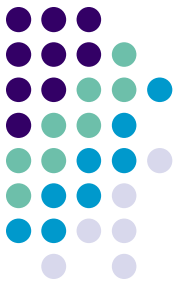


Quick Hash

- <http://sourceforge.net/projects/quickhash/>
- Linux & Windows File Hashing GUI Tool
- A selected source folder can be hashed, copied & hashed again for verification
- Allows selection and hashing of text, files or folders
- Output copied to clipboard or file
- MD5, SHA1, SHA256, SHA512

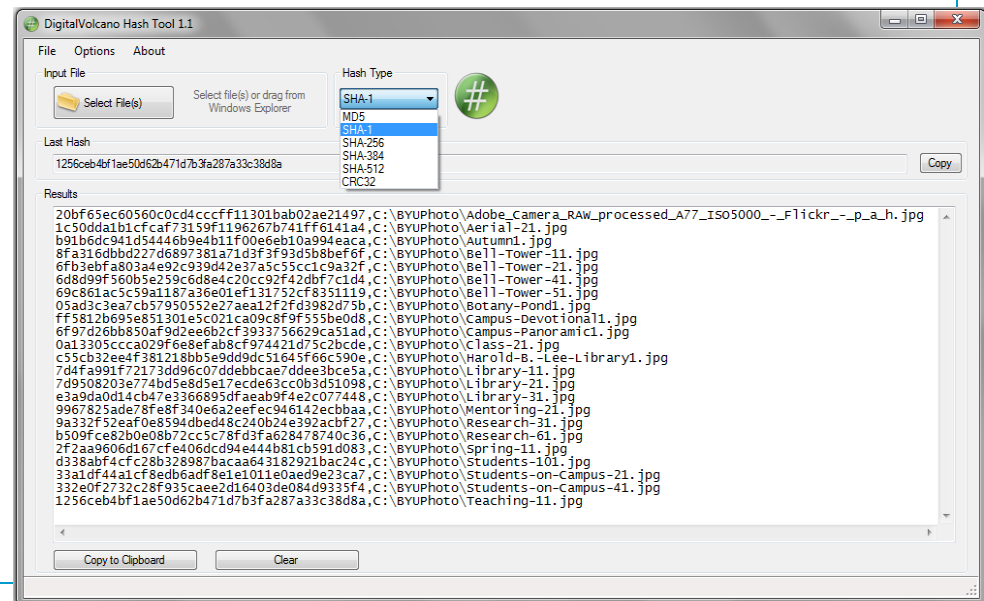


TOOLS: INTEGRITY & FIXITY



● Hash Tool

- <http://www.digitalvolcano.co.uk/hash.html>
- Calculate MD5, SHA-1, SHA-256, CRC-32 and more
- Select multiple files, or drag direct from Windows explorer
- Save results to a text file/csv, or copy to the clipboard
- Customizable results window



TOOLS: FILE EDITING



● Babelpad

- <http://www.babelstone.co.uk/Software/BabelPad.html>
- BabelPad is a free Unicode text editor for Windows that supports the proper rendering of most complex scripts
- BabelPad supports the most recent version of the Unicode Standard
- Useful for finding problem characters

```
met.xml [UTF-8] - BabelPad
File Edit Convert Insert Input Tools Options Layout View Window Help
Century Gothic
<?xml version="1.0" encoding="UTF-8"?>
<met:met xmlns:met="http://www.loc.gov/METS/" xmlns:xlink="http://www.w3.org/1999/xlink">
  <met:dmdSec ID="le-dmd">
    <met:mdWrap MDTYPE="DC">
      <met:xmlData>
        <dc:record xmlns:dc="http://purl.org/dc/elements/1.1/"
          xmlns:dcterms="http://purl.org/dc/terms/">
          <dc:identifier>MSS P 4 # 2045aa</dc:identifier>
          <dc:title>May Burt</dc:title>
          <dc:creator>Huntington, Elfre, 1868-1949; Bagley, Joseph Daniel, 1874-1936</dc:creator>
          <dc:description>A studio 3/4-length portrait of a woman wearing a white dress, sitting at a table with an open book.</dc:description>
          <dc:description>Electronic reproduction</dc:description>
          <dc:date>ca. 1927-1939</dc:date>
          <dc:date>1927; 1928; 1929; 1930; 1931; 1932; 1933; 1934; 1935; 1936; 1937; 1938; 1939</dc:date>
          <dc:publisher>L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University</dc:publisher>
          <dc:description>Gelatin silver print from a gelatin dry plate negative; 12.70 x 10.2 cm. (5 x 4 in.)</dc:description>
          <dc:source>Brigham Young University</dc:source>
          <dc:subject>Photographs; Portraits</dc:subject>
          <dc:subject>Burt family--Photographs; Women--Portraits; Books</dc:subject>
          <dc:subject>Burt family--Photographs; Women--Portraits; Books</dc:subject>
          <dc:relation>Huntington Bagley Photograph Collection</dc:relation>
          <dc:rights>http://lib.byu.edu/about/copyright/special_collections.php</dc:rights>
          <dc:rights>Public Domain; Courtesy L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University</dc:rights>
          <dc:rights>Public</dc:rights>
          <dc:type>Image</dc:type>
          <dc:format>Image/jpeg</dc:format>
          <dc:format>1202.303 KB</dc:format>
          <dc:identifier>MSS_P_4_2045aa.jpg</dc:identifier>
          <dc:terms:PartOf>HuntBag</dc:terms:PartOf>
```

TOOLS: FILE EDITING



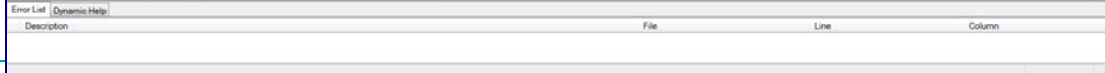
● Notepad++

- <http://notepad-plus-plus.org/>
- Notepad++ is a free source code editor and Notepad replacement that supports several languages for Windows
- Syntax Highlighting
- Open multiple files

```
1 <?xml version="1.0" encoding="UTF-8"?>
2 <mets:mets xmlns:mets="http://www.loc.gov/METS/" xmlns:xlink="http://www.w3.org/1999/xlink">
3   <mets:dmdSec ID="ie-dmd">
4     <mets:mdWrap MDTYPE="DC">
5       <mets:xmlData>
6         <dc:record xmlns:dc="http://purl.org/dc/elements/1.1/"
7           xmlns:dcterms="http://purl.org/dc/terms/"
8           <dc:identifier>MSS P 4 # 2045aa</dc:identifier>
9           <dc:title>May Burt</dc:title>
10          <dc:creator>Huntington, Elfie, 1868-1949; Bagley, Joseph Daniel, 1874-1936</dc:creator>
11          <dc:description>A studio 3/4-length portrait of a woman wearing a white dress, sitting at a table with an open
12          book.</dc:description>
13          <dc:description>Electronic reproduction;</dc:description>
14          <dc:date>ca. 1927-1939</dc:date>
15          <dc:date>1927; 1928; 1929; 1930; 1931; 1932; 1933; 1934; 1935; 1936; 1937; 1938; 1939;</dc:date>
16          <dc:publisher>L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young University</dc:publisher>
17          <dc:description>Gelatin silver print from a gelatin dry plate negative; 12.70 x 10.2 cm. (5 x 4 in.)</dc:description>
18          <dc:source>Brigham Young University</dc:source>
19          <dc:subject>Photographs; Portraits;</dc:subject>
20          <dc:subject>Burt family--Photographs; Women--Portraits; Books;</dc:subject>
21          <dc:subject>Burt family--Photographs; Women--Portraits; Books;</dc:subject>
22          <dc:relation>Huntington Bagley Photograph Collection</dc:relation>
23          <dc:rights>http://lib.byu.edu/about/copyright/special_collections.php</dc:rights>
24          <dc:rights>Public Domain; Courtesy L. Tom Perry Special Collections, Harold B. Lee Library, Brigham Young
25          University</dc:rights>
26          <dc:rights>Public</dc:rights>
27          <dc:type>Image</dc:type>
28          <dc:format>Image/jp2</dc:format>
29          <dc:format>1202.303 KB</dc:format>
30          <dc:identifier>MSS_P_4_2045aa.jpg</dc:identifier>
31          <dc:terms:isPartOf>HuntBag</dc:terms:isPartOf>
32        </dc:record>
33      </mets:xmlData>
34    </mets:mdWrap>
35  </mets:dmdSec>
36  <mets:amdSec ID="repl-amd">
37    <mets:subMD ID="repl-amd-subMD">
```



- <http://www.microsoft.com/en-us/download/details.aspx?id=7973>
- Simple intuitive user interface for browsing and editing XML documents
- Instant XML schema validation; errors and warnings shown in task window
- Tree View synchronized with Node Text View for quick editing of node names and values



TOOLS: FILE EDITING



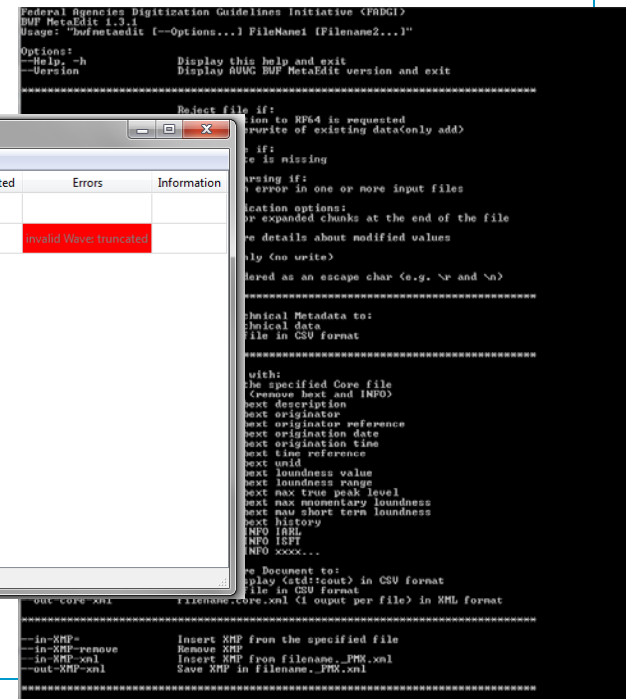
● ExifTool

- <http://www.sno.phy.queensu.ca/~phil/exiftool/>
- Platform-independent, command-line application for reading, writing and editing meta information in a wide variety of files
- Read, Write and/or Create meta information in Tif & JPEG images
- Supports many metadata formats
- There is also a gui version

```
File Name       : MSS_P_3_0004.tif
Directory      :
File Size       : 41 MB
File Modification Date/Time : 2007:11:09 12:52:00-07:00
File Access Date/Time   : 2014:04:11 14:29:28-06:00
File Creation Date/Time  : 2014:04:11 14:29:28-06:00
File Permissions : -rw-rw-rw-
File Type        : TIFF
MIME Type        : image/tiff
Exif Byte Order   : Big-endian (Motorola, MM)
Subfile Type     : Full-resolution image
Image Width      : 5442
Image Height     : 3954
Bits Per Sample  : 16
Compression      : Uncompressed
Photometric Interpretation : BlackIsZero
Strip Offsets    : 31960
Orientation      : Horizontal (normal)
Samples Per Pixel : 3954
Rows Per Strip   : 43035336
Strip Byte Counts : 800.0001
X Resolution     : 800.0001
Y Resolution     : 800.0001
Resolution Unit  : inches
Software         : Adobe Photoshop CS3 Macintosh
Modify Date      : 2007:11:09 11:52:00
XMP Toolkit      : Adobe XMP Core 4.1-c036 46.276720, Mon Feb 19 2007 22:13:43
Date/Time Original : 2007:11:09 11:52:00
Native Digest    : 36864.40960.40961.37121.37122.40962.40963.37510.40964.36867.36868.3
37382.37383.37384.37385.37386.37396.41483.41484.41486.41487.41488.41492.41493.41495.41728.41729.41730
4926.41996.42016.8.2.4.5.6.7.8.9.10.11.12.13.14.15.16.17.18.20.22.23.24.25.26.27.28.36;B57E678956045
Keywords         :
Media Type       : Negative
Original Type    : Transparent
Scan Quality     : Standard
Crop Size H      : 128.800003051768
Crop Size V      : 194.699991689453
Resolution       : 31.496065137795
Scale Factor     : 100
Analog Light Factor : 1
Depth           : 16
Creator Tool     : Adobe Photoshop CS3 Macintosh
Create Date      : 2007:11:09 11:52:00-07:00
Metadata Date    : 2007:11:09 11:52:00-07:00
Format           : image/tiff
Color Mode       : Grayscale
History          :
Derived From     :
Instance ID      :
Document ID      :
Current IPTC Digest :
Application Record Version :
IPTC Digest      : e8f15cf32fc118a1a27b67adc564d5ba
Displayed Units X : inches
Displayed Units Y : inches
Global Angle     : 30
Global Altitude  : 30
Copyright Flag   : False
Photoshop Thumbnail : <Binary data 6414 bytes, use -b option to extract>
Color Space      : Uncalibrated
Exif Image Width : 5442
Exif Image Height : 3954
Image Size       : 5442x3954
```



- <http://bwfmetaedit.sourceforge.net/>
- Developed by the Federal Agencies Digitization Guidelines Initiative (FADGI)
- Embed, edit, and export metadata in Broadcast WAVE Format (BWF) files
- Windows, Mac, Linux

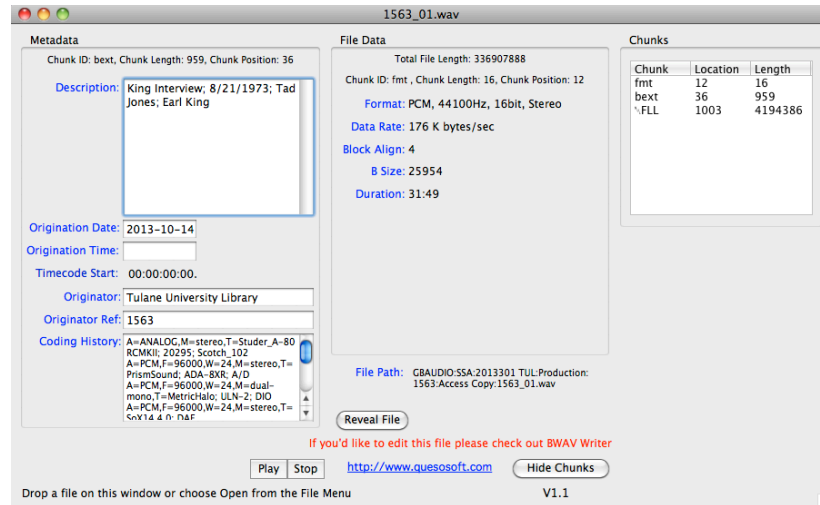


TOOLS: FILE EDITING



● BWAV Reader

- <http://www.quesosoft.com/reader.html>
- Commercial program; Must purchase the editor
- Embed, edit, and export metadata in Broadcast WAVE Format (BWF) files
- Mac

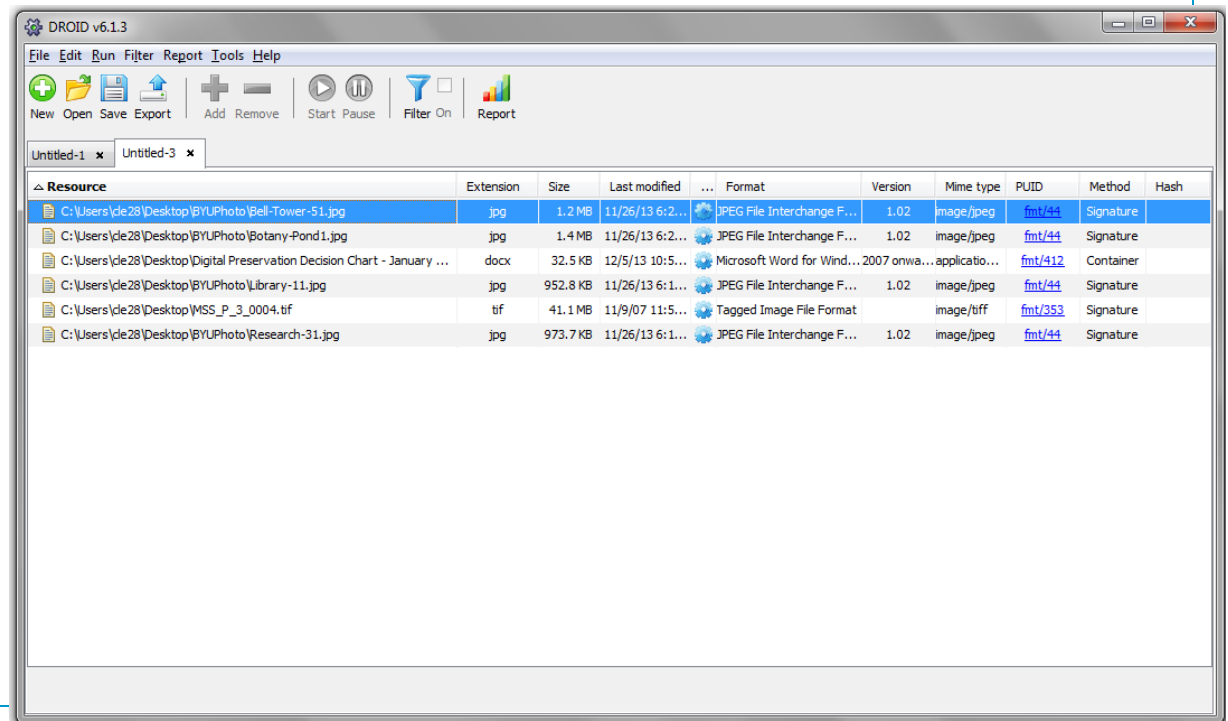


TOOLS: FILE FORMAT



● DROID (Digital Record Object Identification)

- <http://digital-preservation.github.io/droid/>
- Identifies the precise format of digital objects
- Link identification to the PRONOM technical registry service

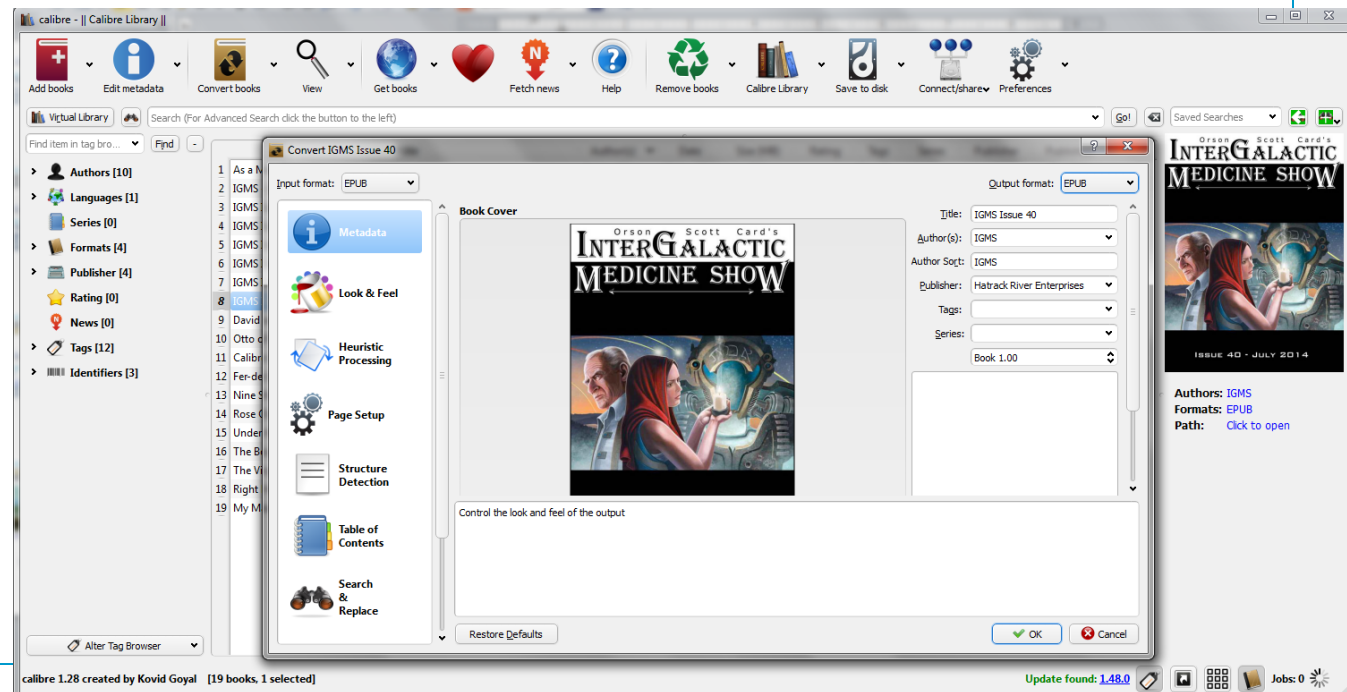


TOOLS: FILE CONVERSION



eBooks

- <http://calibre-ebook.com/>
- Calibre eBook management
- Output to many formats, PDF, MOBI, AZW3, Text, etc.





TOOLS: FILE CONVERSION

● Outlook Email

- Adobe Portfolio



TOOLS: FILE CONVERSION

● To PDF/A

- Adobe Acrobat Pro
- MS Word
- Neevia Technology - <http://convert.neevia.com/pdfconvert/>



TOOLS: OTHERS I USE

- 7-Zip file manager: zip, tar, gz
- Recuva: Recover files
- WinHTTrack: Website copier
- ImgBurn: Burn CDs, DVD, ISO files
- CDBurnerXP: Burn CDs and DVDs, Blu-ray, ISO files
- VirtualCloneDrive: Load ISO files as a drive
- Folder Size: Check size of files on computer
- USBWriteBlocker
- Open Office: Convert office documents
- Jhove: format validation
- VLC: Audio, video viewer; some editing



TOOLS: OTHERS TO CONSIDER

- Bitcurator
- NARA File Analyzer and Metadata Harvester
- Xena: Convert files to open format
 - LibreOffice - Convert office documents to OpenDocument format
 - Tesseract - Create plain text versions of file formats
 - ImageMagick - Convert a subset of image files to PNG
 - Readpst - Convert Microsoft Outlook PST files to XML.
 - FLAC - Convert audio files to FLAC format.
- SysTools Outlook PST Viewer
- RichCopy: Copy large numbers of files
- Karen's Power Tools: directory printer; hash files; etc.
- TIFTags: View Tiff header
- ODIN: Backup of hard drives or drive volumes

TOOLS: OTHERS TO CONSIDER



- PeDALS Email Extractor
- AVPreserve
 - Fixity
 - MDQC: Metadata verification
 - Interstitial: Compares two audio streams
 - AVCC: template for documenting AV collections
- Jpylyzer: verifies jp2k files
- FTK Imager Lite: Create image of drive
- PDFtk Free: Merging and splitting PDF documents
- MFT PictureBox: Catalog /display images in directory & EXIF data
- Duke Data Accessioner: Help migrate files from physical media
- FITS: Identifies, validates and extracts technical metadata
- CUSpider: Find Personally Identifiable Information (PII)



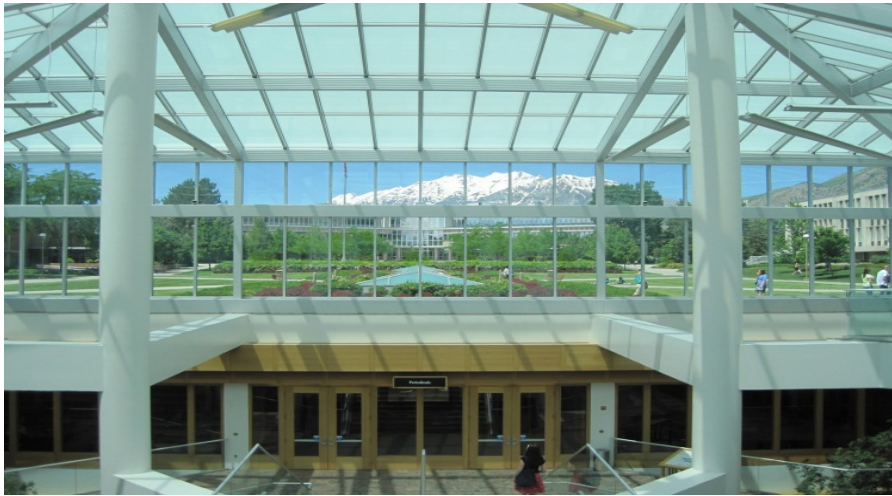
TOOLS: EMAIL TOOLS

- Email backup
 - MailStore Home
 - KLS Mail Backup
 - Safe PST Backup
 - GMail Backup (Softpedia)
 - Gmail Backup (from gmail-backup.com)
 - Gmail Backup Tool (mail2web.com)
 - Gmvault Gmail Backup (<http://gmvault.org/>)

TOOLS: OTHERS?



- More to come
- Others you recommend?



Questions?

Chris Erickson
cle@byu.edu

