Practical Preservation for Everyone

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November 20, 2015 Arizona Library Association Conference in Flagstaff, Arizona.

Digital technology has enabled us to record and share our memories and histories faster and in greater numbers than previously imagined. However digital files rely on hardware, software, and descriptive information to be used. As formats change and equipment to read them goes out of use we are all challenged to connect our present to our future. How long do you want your digital files to last? Decades or even a few years from now will you still be able to access and enjoy those pictures, documents and other digital items you create today? Libraries, museums and archives spend countless hours and resources preserving physical items from the past and present, but may be forfeiting the longevity of our digital work and connecting to future generations through unintended neglect. Using practical examples and employing best practices of research institutions, participants will learn important first steps to digital preservation including the importance of metadata to personal history, recommended file formats, and approaches they can immediately use to ensure the work they create today will still be enjoyed tomorrow. Help yourself, your organization, and your patrons continue to connect their digital heritage to the generations yet to come.

Conference Theme of Making Connections:
Regardless of the type of library, digital information connects our communities. This presentation provides practical guidance and tools to help Librarians and the patrons they serve manage and preserve their digital content. Through the preservation of digital content, connections can be made across generations as individuals enjoy the creations of today and the recent past. Furthermore, by helping their patrons to understand how to preserve their digital content, librarians can establish a strong relationship with their community and the individuals who reside there.

Outline
- We are all susceptible to losing our files.
- Preserving books is a library tradition, but what about Digital Information? Is it any different? What level of expertise is required? Can we apply our traditions at home and share these concepts with our patrons?
- NASA Viking mission had it's own share of digital preservation issues dating back to the 1970's. Information stored on magnetic tapes which began to decay and the software to read them was no longer available. NASA needed to move them to a sustainable format but discovered they could not read the tapes and were only able to recover 3,000 images out of more than 56,000.

- Why do WE care?
  - Because the life of a digital object is far shorter than a book and is susceptible to just as many risks (if not more).
  - Damage can come from natural disasters, bit rot, and format deprecation. We have all had our own experiences with damage.
  - User error is more common yet we don't always think about it.
  - Losing our history means losing everyone's history. It's not just money, it's time we spent creating and curating as well as our memories.
- Practical example: MicroSD card died on Sam's phone he lost it all. Matthew's external hard drive crashed without warning and full repair would cost $3,000 with no promise of success.
- Lets now talk about actions to prevent loss and preserve our stuff!! No matter what you want save. Everything requires the same strategy.
- Identify what you want to save. Where are the files? It may not be practical to save everything so pick the masters, and reduce the size. What do you have and why do you want to keep it. If you have multiple versions pick the most important ones.
- Organize files into folder hierarchies. Have a main archive folder and subfolders with simple descriptive names.
- Identify and then describe it. Organize it. Use the metadata "usual suspects" (Title, Subject, Creator, Location, Date, etc.)
- Start with your filenames
  - Make sure they have descriptive names to help you find the files again in the future.
    - Warning: Renaming can affect projects if they can't find old file names
    - Make them sortable by date and subject
  - Avoid punctuation and special characters, even for metadata.
- Be consistent!
  - Review metadata for typos, and different methodologies impeding sorting and discovery
  - Use an established metadata standard
  - Keep of dictionary of the elements to guide you
- Move files from devices to your main folder archive folders, and save the highest quality masters.
  - Converting your files to widely adopted formats ensures a longer shelf life, better sharing, improved preservation and most importantly access. If something is used it is likely to be preserved.
  - Establish a schedule to review your content, make sure you can still use it.
- Practical Example: The Lowell Observatory in Flagstaff keeps a Power Macintosh G3 and monitor to access old files.
  - Depreciation and obsolescence are real. How long can we maintain old equipment?
- Format Recommendations
  - Well-adopted and preferably open formats have a higher chance of being used and verified for integrity.

- ○ If you can't access it and don't know what it is, it will get lost.
- Security
  - ○ Routers can be a hardware firewall
  - ○ Most operating systems have built in Virus scanning software but it must be kept up to date
  - ○ Update software and patch operating systems and storage media (firmware)
  - ○ Scan incoming donations
- User Error is your nemesis
  - ○ It is so easy for things to go wrong
  - ○ Use Passwords to limit access from bad guys and user error
    - ■ Don't send via email
    - ■ Use PGP (pretty good privacy) encrypted digital file
    - ■ Require admin login to add software or make changes
    - ■ Keep wireless devices password locked (you should all be doing this now)

- Backup Plans
  - ● Utilized the Library of Congress's suggested 3, 2, 1 plan with 3 locations
    - ○ Origin, Local, External
  - ● Evaluate and refresh portable drives every 5 years!
  - ● Avoid discs and thumbs drives, while cheap and convenient, are not good media for backups. (Subject to decay, can get lost, damaged)
  - ● Networked storage is now the norm. Utilize cloud storage
    - ○ Many are free but the more robust solutions will cost.
    - ○ Flickr, Shutterfly, Photobucket, Blogger (family backup)
    - ○ iCloud, Google Drive, Microsoft, Amazon, Carbonite, Mozy, BackBlaze, Open Drive many come with auto upload direct from mobile devices
    - ○ Take advantage of Academic or Cultural History Repository consortia projects like the Internet Archive and HathiTrust
  - ● More on Backup Plans
    - ○ Distribution prepares you for the unexpected like human error, disasters, theft or computer failures.
    - ○ Limits liability at the library and is just as important for home records
    - ○ All storage media are vulnerable to risk. So duplicate.
- You CAN DO Digital Preservation
  - ○ Description doesn't need to be exhaustive
  - ○ Conversion depends file types
  - ○ Be secure
  - ○ Backup whatever you do - apps can auto backup now
  - ○ Any strategy is better than none. Description is a great place to start because it begins at the most basic level… the file
  - ○ Make it a family/group project - get everyone involved - like family album time
  - ○ Start small and build momentum.