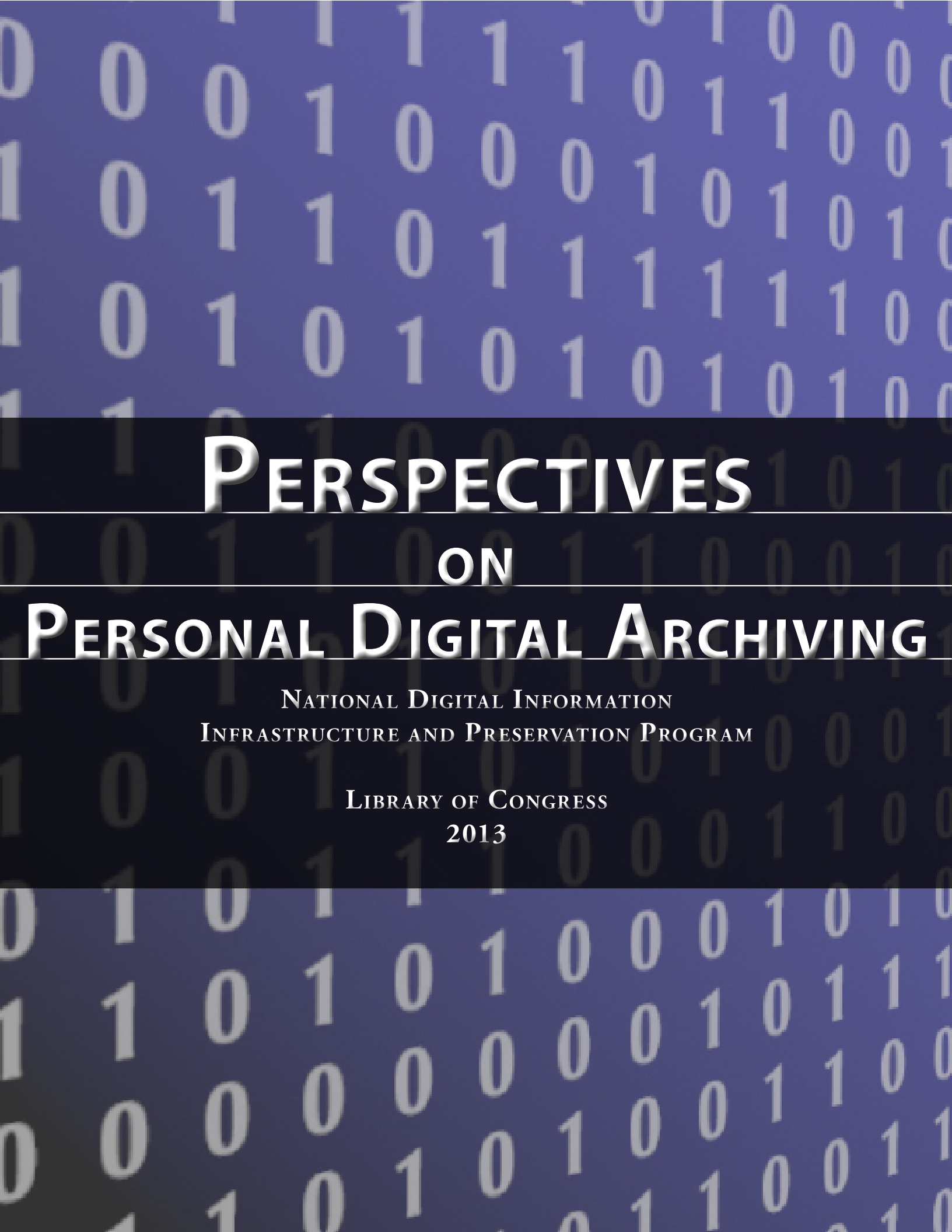

Perspectives on Personal Digital Archiving

National Digital Information Infrastructure and Preservation Program

Library of Congress

2013

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Introduction

Imagine someone 50 years from now who wishes to study our life in the early twenty-first century. Getting any kind of reasonable understanding will require using born-digital sources: websites, email, digital photographs and a host of other material that exist only in electronic form.

This means we have to preserve lots of digital information for a long time. Doing this work is, however, fundamentally different that preserving books, papers and other traditional forms of information. Digital content can be hard to capture, difficult to organize and use and prone to going obsolete due to changing technology.

The Library of Congress is attending to its digital holdings to ensure that they remain available over time. This is a critical responsibility for a collecting organization, and requires a good deal of careful planning and attention. Acting now, and continuing to act tomorrow, is essential if digital materials are to carry memories into the future.

The same is true for individuals and families who want to pass on their personal digital memories. One of the still unfolding impacts of the computer age is that everyone now must be their own digital archivist. Without some focused attention, any personal collection is at high risk of loss – and quick loss at that.

Through its national digital preservation program, the Library of Congress aims to build awareness of the personal digital archiving challenge. We first offered tips on managing personal digital materials on our website, digitalpreservation.gov, in 2007. At the time, there was little guidance available on the subject, and we wanted to help people with some basic advice.

This advice has evolved over the years and we now have a broad range of information available. Our approach has always been to provide what we think of as high-level, basic guidance that gives the non-specialist some ideas for getting started. We find that most people have practically no experience with or understanding of practices to manage digital content. Their biggest need is for an accessible introduction and some simple first steps. Our major task , then, is broad public engagement. We aim to reach people directly, and also work to help other cultural heritage organizations build their own public outreach programs.

Our digital preservation blog, The Signal, is a major outlet for addressing personal digital archiving. Over the last two years, the blog has featured three categories of stories on the topic:

- Discussions about applying the guidance listed in the Preserving Your Digital Memories section of our website.
- Narratives about real-world encounters with personal digital preservation issues.
- Descriptions of the outreach we have undertaken to connect with institutions and individuals to promote personal digital archiving.

We have gathered the most useful posts in each of these categories into this electronic publication. Perspectives on Personal Digital Archiving is intended as resource for individuals – and the institutions that serve them – to meet a critical challenge. Our aim is for it to be a primer for the digital archive novice, as well as a refresher for those with more experience.

Each entry has a link in the title back to the original post on our blog. The original posts include pictures and graphics. We have made some minor edits here in cases where the original language referred to illustrations or was otherwise more suited to interactive content.

We believe this compilation is best used in tandem with our other digital preservation resources. These include our website and our blog, as well as our Twitter account, @ndiipp, and our Facebook page. We also have a diverse assortment of videos available through YouTube. Our monthly Library of Congress Digital Preservation Newsletter is available by free email subscription.

All these sources offer a regular stream of current details with a bearing on personal digital archiving. We also aim to engage with people through all our communication channels. A key measure of how well we are doing is tied to the comments and other responses we get from our readers. We are eager to know what you think and to hear your ideas for how we can do better.

This resource is possible because of the fine team at the Library of Congress and wonderful guest bloggers from other places. For details on all, please see the About the Authors section. Special thanks to Tess Webre for her invaluable help as a compiler and formatter.

Bill LeFurgy, March 2013

Personal Digital Archiving Guidance

Four Easy Tips for Preserving Your Digital Photographs

BUTCH LAZORCHAK

Like many of you, I've got hundreds (thousands?) of photos. One of my favorites is of me doing an improvised kung-fu move – not the most flattering photo in my collection, but it was taken by a good friend back when I was still a crazy grad student and I crack up every time I see it.

Of course, the photo is only in digital form, which means it's got a "preservation" problem.

Digital preservation is the set of management processes that ensure the long-term accessibility of digital information. At NDIIPP we deal with these issues on a grand scale, working to ensure the nation's valuable digital cultural heritage survives for the long-term benefit of all.

But the valuable cultural heritage material we're interested in often starts off as a lone artifact in someone's personal collection.

That's why we've been offering guidance on how you can preserve your own personal digital information. Not to say that there's any long-term national interest in my photo, but you never know. In any event, it's valuable to me and that's enough for now.

We've come up with four simple steps to start you on the digital preservation path: Identify, Decide, Organize and Make Copies (I.D.O.M. anybody?).

Identify means to take an inventory of where you have pictures. Are they still on your camera? On your computer? Stored on a photo-sharing website? Identifying where your photos are located is the first step to getting a handle on preserving them.

Next, **decide** which photos are the most important. Digital photography makes it easier than ever to keep every picture you take, but that's not always a good thing, especially if you've got similar pictures with only slight variations.

A smaller collection of really essential photographs is easier to maintain than a sprawling mish-mash of everything, so don't be afraid to decide to toss some away if they aren't important (a process known in the cultural heritage world as deaccessioning). If you do get rid of copies, make sure you keep the one with the highest resolution.

My photo is the only one I have from that time and place, so it's about as essential as you can get. Luckily for me, the copy I have is at 300ppi (pixels per inch), which is a decent resolution for my purposes, including printing at its current size.

Next, **organize** the photos that you've selected. This is the most time-consuming part of the job (depending on how many photos you've got)

but will be well worth the effort for accessing the pictures in the future.

Give each photo a descriptive file name. My photo has the relatively nonsensical name "butch_dogg.jpg," but I know exactly which picture it is when I scan through my directories.

You should also tag your photos with descriptive information to remind you of the "who, what and where" in the photo. There are a number of photo editing tools that can help you add tags to your photos. Additionally, most cameras add valuable information to your pictures automatically in the form of Exchangeable Image File Format (EXIF) data.

The EXIF data tells me the exact date my photo was taken, something I wouldn't know otherwise.

Next, create a directory structure for your picture storage environment. You can organize your photos by year, location, person, or any other structure that makes sense to you.

My structure is a bit random. But that's okay – I can work on this later!

Write a brief description of your directory structure and the photos in it and store it with the pictures.

Finally, **make copies** of your pictures and store them in different places. During the "identify" process you probably found pictures stored in a bunch of different places. This is good! That is, as long as you've got a system for keeping track of them.

How many copies? Well, more is certainly better, but the main things you want to do are make multiple copies; store them on different kinds of storage media (CDs, DVDs, USB flash drives, external hard drives or online storage); and store them as geographically dispersed from each other as possible.

I have a copy of my photo on my current laptop (having outlived four previous computers) and on online storage that I've maintained for more than seven years. Still, I could probably use another back-up just to be safe.

You should check your photos and storage media at least yearly to make sure that you can still get at them and to mitigate against hardware or software obsolescence.

I.D.O.M. – the easy way to save your stuff!

Mission Possible: An Easy Way to Add Descriptions to Digital Photos

MIKE ASHENFELDER

"I just want to use it; I don't want to know how it works." – Unknown

My Signal colleagues and I give out digital-preservation advice based on our research, our experiences and our understanding of best practices. We also pay attention to questions from the general public, with whom we interact at events such as the National Book Festival, Personal Archiving Day at the Library of Congress and the Smithsonian's Saving Our African American Treasures. By far, most of the questions we get asked are about digital photos and we expertly answer almost every question.

Almost.

Our main concern is for everyone to back up and care for their digital photos. But we're also eager to explain the innards of digital photos. We talk about file formats and the effects of compression. We explain photo metadata and show EXIF examples. We've made an informational video about photo metadata, written about our NDIIPP project with the Stock Artists Alliance, and, as part of that project, interviewed photo metadata evangelist David Riecks.

Aside from encouraging people to back up their digital photos, we also push for them to add descriptions. That part is tricky.

We make the analogy that adding a description to a digital photo is like writing on the back of a paper photo. Honestly, writing on the back of a paper photo is a breeze by comparison. There is a simple question people ask us to which we don't have a simple answer: "How?" Because it's not easy. In fact, it's much more difficult than it should be.

Photography professionals routinely use photo-editing software to add photo metadata to their digital photos for copyright and business reasons. To them, the process is simple, mainly because they've mastered it. As the saying goes, "The obvious is already known." However, the process is challenging for a newcomer.

The steps are usually a variation on: starting the software, opening the photo, selecting the menu options File > Get Info and typing text into fields. To complicate matters though, the field names and terminology are maddeningly similar and possibly different from program to program. Is "caption" the same as "description"? Which fields should I use? Which fields equate to writing on the back of a paper photo? To further complicate the process, depending on the software, a description added to a photo might not actually get embedded into the photo file; it might be visible only with the software you used to embed the description. Our goal is to embed the description

so that it always remains stored in the photo file, no matter where the photo goes or what you view the photo on or with.

The larger problem is not so much with the photo-editing software. The problem is requiring people to use photo-editing software at all to add descriptions.

Given the choice, most of us would not bother. Or we would put that chore at the end of our long list of chores. Library staff found from interactions with the public that it's common for people to leave their photos on their smart phones or on SD cards, so requiring people to struggle with photo-editing software in order to add descriptions is not realistic.

The encouraging news is that it shouldn't take much technologically to simplify the process, to maybe have a button on the camera that says, "Add Description." Or a smart-phone app that has the same function. Click a button, display a Description field for the photo, type in text and you're done.

David Riecks said that the idea is not new. "I raised this same argument at the first International Photo Metadata Conference in 2007," said Riecks. Nothing came of it though, even though there were a group of engineers from major camera manufacturers in attendance. Riecks said that, still, it is up to the manufacturers to add this feature and make it interoperable with the current metadata schemas.

And if you send a digital photo to me into which you've added a description, I should be able to see that description as easily as I can see the title of a song playing on my smart phone. It's just text embedded into a file.

Duraspace's Michelle Kimpton made a somewhat-related point about how consumers will accept a new technology – in this case cloud storage – when technologists make it easy to use. She said, "These (cloud storage) technologies will become simple to use. And…when people see the value of cloud technology and that it's drop-dead easy, then it will take off."

The same could be said for an "Add Description" feature. People might be more inclined to add descriptions if it just takes the push of a button and a moment of typing. Of course, not everyone will add descriptions, just as not everyone writes descriptions on paper photos. But it's nice to have the option.

The idea of enabling camera users to add descriptions via the camera is not new. Almost 100 years ago, a major camera manufacturer included an autographic feature on special cameras, enabling users to write captions on film. For whatever reason, that feature never became popular. Maybe because it was easier to write on the paper photo. But at least the company did develop the feature in response to a need.

Riecks points out that manufacturers react to what people voice and what the market expects, and manufacturers seek out suggestions for future improvements. He encourages people to consider contacting their camera's manufacturer and simply asking for the feature. He has that contact

information, and more, listed on the photometadata.org blog.

At the Library of Congress, we encourage people to add descriptions to photo files as a good archival practice and we hope that camera manufactures will implement this feature soon so that all photo takers can easily add descriptions to their photos. As consumers and institutions accumulate photos and pass them along to others, those who receive the photos will appreciate the embedded information.

Modern digital cameras are amazing and getting better all the time.

Asking people to add descriptions to their digital photos is like asking them to write descriptions on back of their paper photos. Doing so (writing on paper photos) is a good practice but most people don't do it, including me. It's time consuming, you have to wait for the ink to dry until you can stack the photos and so on. But someday these descriptions may help jog your memory or help other viewers understand the content of the photos. ("Oh, that's grandma when she was a teenager.") Similarly, adding descriptions to digital photos – photo metadata – is a good practice but it is also a chore.

Mike Wash, the CIO of NARA, was an Kodak engineer for about 30 years. While at Kodak, Wash was responsible for many of the automated developments that we take granted on cameras today, like autofocus, automatic light adjustment and technical metadata recording (such as the date and time the photo was taken and the light and shutter-speed settings).

I asked him if it was possible to have a feature on a digital camera that would enable users to easily add metadata. Wash said, "I think that nearly everyone would agree that some sort of data associated with an image is valuable. But the hardest part is going to be dealing with the variable nature of what type of information you would use. Creating an "all things to all people" type of one-touch metadata entry is going to be pretty hard."

Wash added, though, that "documenting information about the photo" is one of the features his team of engineers at Kodak had on their list of unmet consumer needs. However, people will not want to allocate any time to the task of adding metadata; for example, typing a description into a camera or a smart phone would be awkward, time consuming and unappealing. "It has to be automatic," Wash said. "Beyond easy."

The idea that makes the most "beyond easy" sense is also a bit daring: voice-to-text software. With the photo displayed on your camera, you click a button or open an app, speak a few words about the photo into the device and the text of your words gets embedded into the photo file. Both Mike Wash and David Riecks support the idea.

Wash said, "Voice technology has improved a lot over the past few years. And that would easily translate into a low-cost feature." Wash stressed that the cost threshold is crucial to public acceptance. He mentioned a feature of the Kodak Advantix system that didn't get developed because the

budget to put it into a camera, at .25¢, was too much. Wash said, "You're aiming for tenths of pennies here and there because all of that equates into less margin or too high a price to dissuade a consumer from buying your product."

So we have the technological capability to add a voice-to-text photo metadata function to digital cameras, and we have a need to embed descriptions to our digital photos, but – for practical and economic reasons – it must be cost effective for manufactures to develop it. It is likely that once consumers know that it is possible and easy to do, and they see the value of added descriptions in helping organize and find their photos, the market will favor the camera manufacturers who make that feature available. In a short time it could become a standard feature.

One more word about Mike Wash's support of adding descriptive information to photos. It's not just an interesting "cocktail conversation" idea for him. He actually has two vintage 100-year-old Autographic cameras. One sits on his desk. Kodak built the Autographic to enable users to write descriptions onto photographic film. After you take a picture (using special Autographic film) you open a little door in the camera back and you can write a note that would come out between frames. Wash said, "You just hold the camera with the little window up to a bright light for five or ten seconds and close the door. And it actually exposes your metadata onto the film between the negatives. It's pretty cool."

Note: The original blog post featured a visual experiment involving the location of a description for a digital photograph. You are invited to do the experiment yourself by clicking on the title above, which takes you to the blog post.

Photo Sharing Sites as Digital Preservation Tools

BARRY WHEELER

The numbers are staggering – an estimated 2.5 billion people in the world have digital cameras! They take perhaps 3.75 billion pictures each year. We love to share those pictures – hundreds of millions of pictures are uploaded to photo sharing sites each day! In addition to sharing, many people may wish to preserve their photographs for commercial, artistic, future family uses. We know that we should keep multiple copies of any photographs we wish to preserve, including at least one copy in an offsite location. So the question naturally arises – if we have uploaded those pictures can they be considered part of our digital preservation strategy?

We can't recommend specific commercial products here, but in general, using a photo sharing site as a preservation copy repository has a lot of pluses. We may be selective uploading only our favorite images, and we may crop and process those images as we please. Online sites frequently have a variety of tools to name, describe and tag each picture. Previous chapters and the Library's Personal Archiving page provide much advice that seems perfect for uploading images to a well-documented site. But, at least 3 major "ifs" are hurdles that must be overcome first. The following are some key issues to consider before choosing an online photo sharing site:

Is the online business stable, with a viable financial future?

This is a judgment call. No one can predict the future of an internet site. But at least two online photo sharing sites have gone out of business and a third changed its business model. In these three cases, many photographers lost all access to their images. They had from one to 14 days to retrieve their images – such brief periods that many photographers were unaware of the problem before the site was gone. The photographers then have no recourse; all online sites appear to include a Disclaimer of Warranty in their terms and conditions text. These companies then bear no responsibility for lost images and data if they go out of business or if their storage infrastructure fails. The photographer bears all risks!

Does the online site retain (and back up) the photographer's images for a very long time period?

> In some cases, the user may be unaware that during the ingest process, the online site downsizes the images and strips all embedded metadata. The site may then discard the original images, which saves storage space and speeds online presentation. But the images the owner and site users view and download may be of significantly lower quality than the images originally uploaded. Even if the original image is saved, there are numerous additional problems with

> retention. What is the retention policy if the online site decides a user has violated the site terms and conditions? If another user lodges a complaint? If a user site becomes inactive and isn't accessed for a period of time? If any site fees are not paid in a timely fashion?

Can designated people retrieve the photographs – with identifying captions, tags and descriptions – easily?

> A subsequent chapter will describe how users should save and pass on usernames and passwords to sites so designated individuals may retrieve images at a later date. But most site applications only support one-at-a-time image retrieval. "Harvesting" all or a significant portion of a site may be difficult or impossible. Often there are third-party applications that may be used to harvest a site – if the site terms and conditions allow this. But what does the application retrieve? Will it include the captions and tags? Will it be easy to use? Will the download application be available and functional in the future?

If a site passes the business risks hurdle, we might find answers to the retention and risk hurdles by studying the online site terms and conditions, the site help files and perhaps searching user group threads. We may need to experiment by uploading, describing and retrieving some sample images. We may want to obtain a harvest application for testing – and note the time required to retrieve an image set. Downloading a particularly large image set from cloud storage can take weeks! Much research is needed to determine if a site might fit a user's preservation requirements.

Digital Preservation-Friendly File Formats for Scanned Images

BILL LEFURGY

From a preservation standpoint, some digital file formats are better than others. The basic issue is how readable a format remains over the course of time and successive waves of technological change. The ideal format will convey its content accurately regardless of advances in hardware, software and other aspects of information technology.

Over the last several years, the Library has developed a web resource to help guide preservation-optimal choices in selecting file formats. Sustainability of Digital Formats Planning for the Library of Congress Collections outlines a number of sustainability factors that have a bearing on how effective formats are expected to be with regard to long-term preservation.

The factors are listed below, in brief.

- Disclosure - Degree to which complete specifications and tools for validating technical integrity exist and are accessible to those creating and sustaining digital content.
- Adoption - Extent of acceptance by the primary creators, disseminators or users of information resources.
- Transparency - Openness to direct analysis with basic and non-propriety tools.
- Self-documentation–Inclusion of metadata needed to render the data as usable information or understand its context.
- External dependencies - Degree to which a particular format depends on particular hardware, operating system, or software for rendering or use and the predicted complexity of dealing with those dependencies in future technical environments.
- Impact of patents–Extent that licenses may inhibit the ability of archival institutions to sustain content.
- Technical protection mechanisms - Embedded capabilities to restrict use in order to protect the intellectual property.

Application of these factors to current format choices has led to identification of different flavors of TIFF and JPEG 2000 as preferred choices for scanned digital images. Also in the mix is PDF/A-1, PDF for Long-term Preservation.

The Library is also working with the Federal Agencies Digitization Guidelines Initiative to define common guidelines, methods and practices to digitize historical content in a sustainable manner. The Federal Agencies Still Image Digitization Working Group, a subsection of the larger initiative, is concentrating its efforts on image content such as books, manuscripts, maps

and photographic prints and negatives.

Archiving Cell Phone Text Messages

MIKE ASHENFELDER

As choppy and terse as cell-phone texting is, it is still correspondence. Since we value and save other text correspondence – such as letters and email – it seems natural that we might want to save text messages too. The problem is that saving text messages off a cell phone is not quite easy or convenient.

Cell – or mobile – phones could be loosely divided into two types: "basic" and "smart." Both types store text, contacts and other information either on a drive or a detachable SIM card. If you want to save text/SMS messages, you have to transfer them off the phone and onto whatever storage medium you put your personal digital stuff.

Saving text messages is more difficult for basic phones. You have to open the phone, remove its SIM card and display the card's contents through a SIM card reader. A reader is an inexpensive device into which you pop the SIM card, plug the reader into the USB port on your computer, display the SIM card contents and copy the text messages over. The "Text" – or TXT – format of the text messages is one of the least complex of all the computer file formats, so you can display the contents of a text message file with a basic text editor. You can even display it through a browser; text files get along well with several different programs.

Smart phones give you more control over text messages. You can either transfer the files over a cell-phone cable into a computer or transfer the files wirelessly via Bluetooth. You can find special software to access, view and manipulate the files. I have a nice $1.99 app for my smart phone that displays the text messages from my phone and gives me the option to save them all off the phone as a single file (with a choice from a few different formats) on my computer.

The app displays the contents of the SMS file organized into four categories: ADDRESS, the screen name of the person with whom I am exchanging texts; DIR, the direction the text in the conversation is going, whether it is coming in to me or going out to the ADDRESS; DATE, the date and time the text was sent; and TEXT, the body of the text itself.

Some cell phone text message software will enable you to recover texts you thought were deleted from your cell phone. This is possible because when you delete a text message, the text message doesn't actually get erased. Though the phone tells you that the text is deleted, in reality the phone keeps the text for a while in a ghost-like state and makes the space that the text inhabits vacant and available to new text.

If new text comes along and it needs the space that your so-called "deleted" text inhabits, the new text will overwrite the old text (which is still squatting in the "available" space). If new text comes along and finds a space to park

and doesn't need the "deleted" message's available space, the deleted message will continue to exist, out of sight, until something eventually comes along, overwrites the deleted text and takes over its space.

Which means that some deleted text may still be recoverable. There is a big market for text recovery and text recovery software, especially for snooping. That is why, if you search online for cell phone text message recovery software, you will see many listings for commercial data-recovery products whose target audience is law enforcement, security, private investigation and other legal work.

If you are considering approaching your cell phone service provider to request a copy of your cell phone messages, expect to encounter legal obstacles; your provider will not just turn over your text message files to you, no matter how much ID you provide. There are strict laws governing access to your phone files, including the 2006 Consumer Telephone Records Protection Act, and the laws vary in complexity and severity from state to state. You can ask your local law enforcement agency for advice but ultimately you will probably need a court order to get the files.

It's better, going forward, to plan for archiving your text messages. If you want to preserve them, get in the habit of not deleting your text messages from your phone, especially if a particular conversation is precious to you and back them up frequently.

It would be ideal if, every time I connect my cell phone to the computer to recharge it, software checks my cell phone for text messages that are new since I last plugged in, then automatically transfers the new files to my computer and archives them. Even better, it would be nice if the software simultaneously uploaded a copy to a cloud backup service. But until affordable, easy-to-use autosave software comes along, save your texts every time you recharge your phone.

Smart phone users, look into the appropriate text-message-saving apps or software for your phone. Those of you that have simple phones, look into SIM card readers but be sure before you make a purchase that this method works for your particular phone. You might want to ask for a demonstration in the electronics store, using the SIM card from your phone.

As a temporary solution, you can always email text messages to yourself and save them, one by one, on your computer. That method can quickly get tedious though. Ideally, technology should take care of text-message archiving in the background without bothering you to perform petty tasks.

What Image Resolution Should I Use?

BARRY WHEELER

What is resolution?

What resolution should I look for when I buy a scanner?

What resolution should I use when using my scanner?

These are questions we hear frequently when speaking to people about their digital conversion projects. Unfortunately, the questions are hard to answer. The material can get very technical and can be difficult to apply. So I'll try to answer the first question now and the second two questions in a bit.

Here's a sample scenario: You're in the store looking at a scanner and the box contains perhaps the cheapest legal sized desktop scanner available. In big print the manufacturer claims, "2400 x 4800 dpi". So, you have a very inexpensive scanner with very high resolution. This is just what everyone wants. But is this the only consideration?

Remember this – resolution is important but it is only one measure of scanner quality. Other measures are also as important but won't be discussed in this series of posts. For example, two other important characteristics are: the range and accuracy of different colors the scanner can capture and the ability of the scanner to capture details in shadows and highlights.

If color accuracy and fine image detail are important, you have to consider much more than simple resolution.

Now, to begin to answer the first question – what is resolution? Let's take a look at how a scanner works. A hidden stepper motor and gear train pull the light and sensor assembly along a geared track. As it moves, a light shines into the light guide and is focused up toward the page. The motor moves the assembly along in very small steps – the manufacturer specifies a rate of up to 4800 steps for each inch the capture line is pulled across the document.

The stepper motor and gears are shown along with a portion of the light guide. The light guide is an optical plastic rod that spans the page width. The LED lights shine into the guide from one end; the baffles and mirrors guide the light onto the page and back onto the sensor.

The sensor is a row of 2400 light-sensitive diodes per inch. Each time the motor moves the scanning head a single step, the light along a row is bounced off the page and onto this line of tiny light-capturing elements.

Now we can understand the manufacturer's claimed resolution. Since with each step, the reflection is measured along the row, the manufacturer claims a maximum resolution of 4800 rows per inch. Since there are 2400 sensors per inch in the row and each sensor measures the reflected light at one dot on the page, the manufacturer claims a maximum resolution of 2400 dots per inch

in each row. Thus, the manufacturer claims a maximum resolution of 4800 dots per inch x 2400 dots per inch.

But the International Standards Organization (ISO) does not accept this claim.

With each step, each of the diodes attempts to measure the reflected light at one point. Technically, each diode measures a sample of the reflected light at each point. So, the ISO claims a maximum sampling rate of 4800 dots per inch x 2400 dots per inch.

Does this make a difference? Aren't the terms "resolution" and "sampling rate" just different words for the same thing?

No. These words make a huge difference – believe the numbers and you may be very disappointed.

Manufacturers claim "resolution" is based on the number of steps per inch a small motor moves the scanner assembly (the rows) and the number of tiny sensors per inch the manufacturer puts on the assembly (the columns). But the International Standards Organization does not consider this the scanner's resolution. The ISO defines the steps and sensors as the "sampling" rate because the sensors can only attempt to measure (sample) the brightness at each point. The ISO defines "resolution" as the actual result on the screen, not the number of sensors and steps that attempt to read each point.

We can think of the primary difference between measuring each point and actually resolving each point as "efficiency." Some of these differences come about because the light may scatter and miss the sensor, the motor step may not be sufficiently precise, or the collected value may be inaccurate. Inside every scanner or camera, between the sensor and the screen is a small, highly specialized computer called a digital signal processor. This processor must work very hard to link a dot on the page to a dot on the screen. Unfortunately, sometimes a manufacturer attempts to compensate for scanner inefficiencies by over-processing the image data, introducing new problems.

The Library follows the ISO standards and scans a "target." Then computer software applies sophisticated ISO specified formulas to measure the actual resolution. Targets and technology are necessary in a production environment, but you can do the same using your own images and your own software – your brain – to evaluate the resolution of an image. The targets used by the Library include figures to visually evaluate a scan. I've enlarged the central region of our target in the images that follow. By showing you how we examine this region, I hope to help you learn how to evaluate the resolution of your own scans.

Any numbers are only approximate but the analysis will show you if the resolution is sufficient for your own needs. By experimenting with the scanner software controls – and carefully examining the results – a much improved scan was produced.

Now we can answer the question, "What resolution should I use?"

Assuming you will look at, or print, the image at the same size as the original (enlargements and film scanning will require another blog post), begin with a scan resolution of 300 dpi or 400 dpi. Choose a document to scan with some areas of fine lines and detail. Examples might be eyelashes, eyebrows, hair, small tree branches, perhaps detail in clothes, or many small windows in a building. Examine the resulting scan carefully. Look for clean solid lines, distortion, poor contrast between lines, false color, edge and halo artifacts around text. Then change the resolution, or the contrast, or the "sharpening" – change any one control and run another scan. Repeat several times. With practice, pick the scan you find best.

That's it!

Personal Archiving in the Cloud

MIKE ASHENFELDER

Over the past few years I have been organizing my family's digital videos and digitizing our old videocassettes. All along I have tried to follow the personal digital archiving advice that my colleagues and I publish about organizing and backing up your personal collections. Now that I have collected, organized and stored our videos on hard drives, I have a new challenge: backing the files up.

So far I have filled three 1 TB drives with all of our documents, photos, music and video files and I am working on a fourth drive, which means that I should buy four more 1 TB drives to back up the four I already have. Currently, the price of a 1 TB drive averages around $100, though the price will head lower..

Despite the reasonable price, and that it will be easy to backup our content onto four new drives, we still have to decide if the purchase of new drives fits into our budget. New hard drives are a lower priority for us than a lot of other things we budget for. So with each passing month our much-needed backup drives slip further down our list of priorities and our risk of losing our digital stuff slowly increases. I know we should upgrade and replace all of our drives in about five years or so; the clock is ticking as our current drives whir toward obsolescence.

Online backup storage is an attractive option, especially since a) data should be backed up in different geographic locations anyway and b) with online backup I don't have to worry about periodic hardware upgrades. So I have been shopping for an online service.

Newcomers to online (cloud) backup have a lot to learn and many conditions to consider. What about the initial transfer when I upload all of our files to the cloud? Depending on web traffic, the speed of our network and the reliability and bandwidth of our cable provider and other factors, it might take a long time to upload my 3 or 4 TB of files to the cloud. Days, in fact.

What if the connection gets dropped during the file upload? Do I have to start over again? Are there limits to my file sizes? An hour of home video, a single uncompressed file, can be about 12 GB. Some services limit the size of the files they will accept to less than half of that. Does that mean I have to split all my video files in half?

Does the cloud service have tools available for upload and backup maintenance? Can the tools or services be configured for periodic automated backup? Can I access my cloud-stored stuff from any Internet connection, anywhere?

Costs and pricing plans vary. Some services charge per volume of data. For

example, one service charges $25 a month for 250 GB of storage or $100 per TB per month…almost $400 per month for me to host my 3+ TB (and growing) of digital content. Other services have flat – and much, much lower – rates with no data-size limitations. That seems to be a more reasonable approach.

It takes a lot of research and feature comparison to find a reasonably priced online service to fit your needs. It might also take some trial and error, so it is important not to get locked into a long-term plan before you are certain that you are satisfied with the service. Some services allow you to pay month-to-month and some require yearly subscriptions.

The two essential elements you should research before you decide on an online backup service are 1) cost and 2) ease of use. Consumer cloud storage is still in its infancy and business models are still being invented, so take your time and make an informed decision before you open your wallet or start uploading your precious stuff. Ask your friends, relatives, neighbors and co-workers about their experiences and recommendations.

The saying "Don't put all your eggs in one basket" applies to personal archiving and not storing your digital collection in only one place. No digital storage medium is 100 percent guaranteed. Cloud storage is only one of several possible options. Storage diversity is important and I still eventually need to replace my four 1 TB drives. For now, cloud storage as a backup gives me a little more security.

Family History and Digital Preservation

MIKE ASHENFELDER

The popularity of genealogy websites and TV shows is rapidly growing, mainly because the Internet has made it so convenient to access family history information. Almost everything can be done through the computer now. Before the digital age, genealogical research was not only laborious and time consuming, it also resulted in boxes of documents: photos, charts, letters, copies of records and more. Online genealogy has replaced all that paper with digital files. But the trade-off for the ease of finding and gathering the stuff is the challenge of preserving it.

The current spike in genealogical activity is significant. David Rencher, chief genealogical officer of the Church of Jesus Christ of the Latter-day Saints, acknowledged the increase but said that the appeal of family history research itself is not new. Rencher said, "Genealogy represents the interconnectivity of human relationships. It also helps us understand the heritage we came from and that many of our ancestors went through similar trials and tribulations that we go through. It can add an element of meaning to our lives."

Brian Lambkin, founding director of the Centre for Migration Studies at the Ulster-American Folk Park in Northern Ireland, interprets part of the modern genealogy phenomenon – from his professional standpoint – as a continuation of the Irish Diaspora. Lambkin, co-author of Migration in Irish History 1607-2007, said that emigration is part of a larger, ongoing family story. "There are branches of families that have become separated," he said. "But now the people doing the family history are making connections, coming back to Ireland and knocking on doors, saying, 'I'm possibly related to you. Do you mind if I come in and have a cup of tea?' Relationships are being re-established."

And "relationships" is the key word in digital genealogy because relational databases are its engines.

Databases are programmed to find and display relations within a mass of data, which in digital genealogy, of course, means familial relations. Increasingly, census and registry information is loaded into databases and made available online where users can search birth and death records, marriage records, social security information and more in seconds, and follow branching information related to their initial search. Often they can download a genealogy database file – which may contain accumulated research that someone else has done – and add that information to their own personal database.

Any story about genealogy has to include the LDS Church. They have been gathering genealogical information since 1894, microfilming international family history records since 1938 and digitizing the microfilmed records

since 1999. They estimate they have records for over 5 billion people, a lot of which is available online from their familysearch.org site.

In 1984, the LDS church developed the GEDCom (pronounced "jed-com") specification as a means of exchanging genealogical data. Though different genealogy programs have their own databases, GEDCom is now the international standard format. David Rencher said, "That means I can download my file electronically, send it to you and it doesn't matter what your program is. You can upload the file and add the data to the data in your file."

This standardization enables some exciting possibilities for genealogical research, especially when different organizations collaborate and configure their databases to interact with other databases.

Relational databases are the engines that drive digital genealogy. Databases make it possible to quickly search through enormous quantities of records, find the person you're looking for and discover related people and events. When institutions collaborate and share databases, statistical information becomes enriched.

For example, the Centre for Migration Studies in Northern Ireland collaborated with the Irish Family History Foundation, linking the Centre for Migration Studies' database of ships' passenger lists with Irish Family History Foundation's database of Irish church registries. So, from one conjoined resource you can find birth and marriage information about an individual and the ship he or she emigrated on.

The Centre for Migration Studies also collaborated with Queen's University Belfast to join three databases of differing content to create Documenting Ireland: Parliament, People and Migration. While most genealogical databases contain only text and maybe image scans of paper documents, some are beginning to enhance records with audio and video recordings. On Documenting Ireland, for example, you can listen to people talk about their lives and experiences. Similarly, you can enjoy audio and video oral history interviews on the Minnesota Historical Society website. If you are related to any of these people, just download and add all the juicy photos and recordings to your genealogy collection. Audio and video breathe life into genealogical data.

The collaborative LDS Church project Community Trees also includes some audio recordings but the LDS Church uses audio selectively. David Rencher of the LDS Church is cautious about adding multimedia. He said, "Multimedia is going to become expensive to store and preserve. We would rather come up with ways that we can help you preserve it."

There are many more types of data and files – aside from scans, photos, audio and video – that we can associate with genealogical records. For example, GPS information, accessible from most smart phones and digital cameras, can be used to mark significant places related to a person, such as former residences or the location of his or her tombstone.

With genetic genealogy, you could link a DNA profile to a record. When relatives add their DNA profiles to a familial database, it can reveal genetic patterns. Reagan Moore is RENCI chief scientist for the DICE center at the University of North Carolina Chapel Hill; he is also a lifelong genealogist. He said, "If you get a genealogy map of the entire family you can see who's at risk for certain inherited problem traits." According to Moore, such work is going on in Scotland but naturally the practice requires discretion and data security.

So why would modern genealogists want to gather all this data? Brian Lambkin, director of the Centre for Migration Studies, said that adding multimedia, geospatial data and more, enriches the biographical information about a person. "Potentially there's a biography to be written about every single individual," said Lambkin.

Amassing a collection of digital files raises the issue of how to store and preserve that collection. Digital genealogy could result in a heap of text files (such as GEDCom files), image scans (most sites enable you to save an image in either JPEG, TIFF or PDF formats), audio files and video files. It's best to follow the Library of Congress's personal archiving advice, which is basically to: 1) organize everything within one collection folder, 2) backup your collection onto several storage media in several different places and 3) migrate your collection every five years or so to new storage media.

Don't trust that a third-party genealogy service will always remain in business and keep your stuff safe forever. You should have your own copy handy and another copy backed up somewhere else.

For its part, the LDS church is committed to ongoing preservation and access of its records. It expects to store more than 100 PB of data on tape in its Granite Mountain records vault, with a copy replicated somewhere else.

Online genealogical data will continue to grow exponentially as more and more people – lured by the ease and personal reward of discovering family history – get involved and add to the information pool. There will be more history to savor and more content to fill out our collections.

It helps that genealogical researchers and family historians are being invited to contribute information, not just by genealogical institutions but also by collaborative community sites like Glenelly, Our Home, which encourages people to contribute their memories and photos of a place and identify unknown people in other photos (which can then be downloaded and added to genealogy collections).

Randy Olsen, director of libraries in the LDS Church history department, is encouraged by this emergence of citizen archivists. He said, "If we allow members of the community to build and populate their own databases they will feel a sense of ownership. And the degree to which people participate and build (genealogical) databases will pay great dividends down the road."

The Big Digital Sleep

JEFFERSON BAILEY

Here on The Signal we often talk about the importance of preserving your personal digital materials and we provide a variety of resources offering guidance on what actions to take. One aspect we have spoken of less often, however, is what happens to your digital assets after you have "shuffled off this mortal coil," to use Shakespeare's exquisite phrase. Mike Ashenfelder will discuss this more in the next chapter.

But with the recent release of an app for a popular social media site that allows users to create a final, farewell video or text that is posted upon confirmation of their passing, as well as an upcoming SXSW panel "You're Dead, Your Data Isn't: What Happens Now?" covering the "legal frameworks and standards" for management of legacy data, it seems time to revisit the issue of digital estate planning.

The Problem.

It is by now a trite observation to note the extent to which our lives are lived "online" and that our personal materials and data exist largely in digital form, are housed in increasingly dispersed locations and are often held on third-party or "cloud" servers. At the same time, the ubiquity and accessibility of those digital artifacts of our lives – our electronic correspondence, our online journals and diaries, our camera phone pictures, all the digital "evidence of us," – lends them a familiarity that often masks the legal and managerial complexity of that arrangement.

That same accessibility also gives those items a misleading sheen of permanence that defies the realities of what we euphemistically call our "human obsolescence." As more of our valued "heirlooms" are created, shared and stored online, and with one popularly-cited statistic (which we can neither verify nor source) claiming that over 285,000 social media account holders pass away each year, digital estate planning is becoming an essential part of overall estate management.

The Legal Landscape.

Our digital assets are generally considered our physical or intellectual property; however, the legal permutations of that fact are still poorly defined. One early, notorious legal case contesting digital estate issues involved Justin Ellsworth, a U.S. Marine killed while on duty in Iraq in 2004. Citing terms-of-service agreement language that forbid account transfers and terminated rights to content upon death, Justin's email service originally denied his family's attempt to recover his correspondence – a decision later overturned by a Michigan court.

Since that case, five states have enacted laws covering "digital assets" as part

of estate planning, with Connecticut passing the first law in 2005 and the most recent being Idaho, which allows a "conservator of the estate" to "[t]ake control of, conduct, continue or terminate any accounts of the protected person on any social networking website, any microblogging or short message service website or any e-mail service website."

Service Providers Approach.

Most major content or service provides have specific policies for how accounts can be managed or accessed after an account owner has passed away. While the processes for handling the accounts of deceased members may differ, most of these companies will have specific resources available in either their help sections or their terms of service detailing the steps that need to be followed.

For instance, there can be information on how to memorialize an account and how to access a deceased person's mail or microblog. Alternately, some companies have specific areas, such as Section 27 of this Terms of Service agreement detailing account rights post-mortem. Knowing these policies will help you plan accordingly.

Personal Digital Estate Planning.

There are a surfeit of online resources, articles, as well as conference proceedings and a burgeoning industry offering online tools and services to help manage estate planning for your digital assets. As well, our resources for preserving your personal digital archive will be useful when organizing your digital estate.

Similar to our advice on personal archiving, digital estate planning is organized around key activities. These include the need to identify all the online accounts, tools and services which are part of your digital legacy. This includes obvious entities such as financial and merchant accounts, online businesses, email, blogs and social media but also online storage accounts, web hosting information, domain names owned, online gaming information and any other online activity or service that merits inclusion in your digital estate.

Web bookmarks are a good way to identify potential sites to be included in your planning. You will also need to locate your digital assets, which live not only online, but also on your personal devices. Create a thorough list of all the computers, external drives and other hardware devices that may contain materials you want preserved. Describing the location of your digital assets will help your heirs manage the full range of your digital legacy.

You will also need to document all URLs, usernames, passwords, and, if necessary, specific devices, directories or specific file folders you want preserved or bequeathed. Documenting the means of access is required for your digital executor to manage your digital assets. This information can be consolidated in a password protected spreadsheet or document and periodically delivered to a trusted beneficiary or preserved in a safe, secure offline location such as a safe-deposit box.

Documenting your digital estate also includes providing detailed instructions for how you want your digital archive managed. Should some items or accounts be preserved, deleted, bequeathed, or donated? Which items should be delivered to which trustee, friend or loved one? Can your heirs consider donation of your digital legacy to a local archive?

Lastly, the key step in digital estate planning is to authorize your digital executor in your legal will. You can grant this power to your overall estate executor or identify a separate digital executor to handle your digital affairs. If composing a legal will is too onerous, there are online forms providing sample language and forms for granting authority to a digital executor.

Digital estate planning should be an essential part of any personal archiving effort. Our legacies and memories are now inextricably tied to the digital world and are subject to the ephemerality and custodial complexity that world entails. Effective digital estate planning can ensure the preservation of your cherished assets long after you are gone.

When I Go Away: Getting Your Digital Affairs in Order

MIKE ASHENFELDER

Nowadays when we prepare a will, we have the added responsibility of leaving instructions to our loved ones about what to do with our online things after we die. Bequeathing has grown more complicated.

Much of our online content consists of our writings – email, text, tweets, blogs, wikis and more – and our loved ones would surely cherish some of it just as surely as we cherish special old cards and letters. The same goes for our online photos, videos, artwork and other things we've created.

All of this content exists in a situation unique to the digital age: it resides in cyberspace and, as such, some of it will continue to reside there long after we die while some of it will get deleted by their hosts after a period of time. But between hosting servers and online services, the content is held by third parties and is beyond our immediate control.

A few helpful advocacy groups are spreading awareness of this so-called "digital afterlife," and an industry of commercial services is growing for online memorials, digital estate planning, post-mortem email notifications and more. As messy and mysterious as the process of getting your digital affairs in order might seem, it actually breaks down into a few steps

The first step is to inventory everything about your online life, such as your email accounts, Facebook, Twitter…everything. Use a speadsheet or create a table in a word-processing document. For each website, list the name, URL, your username and password. Include any additional information someone might need to access each account. Or indicate if you want an account deleted.

Note if there is any money at stake in an account or if there are any business implications.

The second step is to research any rights issues that may impede your heirs from accessing your accounts. When you create an account on most sites you agree to its policies or terms of service. Check each site for their policy on deceased members and the access rights of heirs. Determine what authorization you may have to supply, if any, and jot that information down on your inventory.

Some sites allow users to be memorialized after they die. Would you like that? Some sites permit account access to heirs and some don't; those that don't may offer instead the option for heirs to download the deceased user's content. Some sites delete an account if it remains inactive for a period of time or if a due payment is not received, so note on your inventory if a site has time-related conditions. The Digital Beyond, an online resource for digital legacy information, compares policies for several of the top email and

social media sites. When dealing with third parties, such as the sites that host your accounts, know your rights.

It may help to designate a digital executor, someone who is Internet savvy, can carry out your instructions and, if necessary, work with the legal executors of your will. Attorneys know what they know and geeks know what they know; get the right person for the job.

The third step is notification. Tell your heirs about your intentions for your digital content. You don't have to share usernames and passwords yet, just let them know that you've created a document with detailed information about your digital possessions and tell them where you will keep that document once you print it out. A logical place for it would be with your will or other important papers.

Also, leave instructions about who to email about your death. Your email contact list could be lengthy, so it may be wise to print the list and cross out the names of the people you don't want contacted.

One additional option to consider is downloading all of your online digital possessions and backing them up with your personal archives. This can be time consuming and, since online content changes constantly, you'll need to repeat the download periodically. But it will be less of a hassle for your heirs to find and access your digital belongings.

Above all, do your research. There are many digital-legacy services emerging; some might interest you and some might not. Do you want to designate an online memorial or grieving site on which your loved ones can commemorate you? Do you want to build an online avatar-ish digital replica of yourself that may continue to exist after you die? Do you want to arrange posthumous email messages from you to be sent out? Maybe you can find a digital estate planning service that will take care of everything. Search online for phrases like "digital legacy," "digital executor," "digital afterlife" and similar wording.

Planning is tedious but crucial and your heirs will appreciate your considerate forethought.

Personal Reflections on Personal Digital Archiving

Confessions of an Imperfect Personal Digital Archivist

BILL LEFURGY

I keep lots of digital photographs. Hundreds – thousands? – of family members, colleagues and others reside in my collection and are, as Susan Sontag said, "illuminated by a flash, fixed forever."

As forever as I can manage, that is. Digital photos, like all computer files, are disturbingly prone to corruption and loss. As someone long involved with digital preservation, I worry about things like bit rot, failed hard drives, obsolete media and other technological risks. Sobering threats all, but they aren't the biggest problem facing my personal digital files.

Frankly, I am the major issue. Risk correlates directly to the time and attention I allocate to manage the collection. Time to record metadata – significant details about the who, what and where – for each picture; attention to organize files into meaningful categories. The work is seductively easy to defer. It's easy to assume that all the important details remain safe in my head.

There will always be time in the future, right?

I do some things fairly well. I have a specific directory on my computer for all photos, and the directory is duplicated using a web-based file hosting service. There are sub-directories arranged by year, and within them are additional categories arranged by subject. This basic level of control arrived some years after I shot the first digital photo or scanned the first 35mm slide, however.

For a long time I had unselected and uncorrelated batches of photos stored in separate directories on separate computers, storage devices and online services. My approach was to get the images off the camera and work on them later. Later was, well, always later. Every so often anxiety about losing an especially valuable group of pictures would compel me to copy them among devices. That left me with many duplicate images within the corpus as a whole. Things were getting progressively more disorganized as time passed. Motivation for change came when I started thinking about estate planning. "How," I was forced to ask myself, "can I pass this photo mess on to my kids?"

The prospect of bequeathing a patrimony of regret focuses the mind.

The heart of the matter was that most of my photos were essentially opaque. It was hard for me to know exactly what I had and really hard to find a specific item. In considering my mortality, I knew that it would be extremely hard for anyone else to use these disorganized and unidentified photos, even though they document important family memories. I couldn't even be sure the pictures would be found at all postmortem.

It took me days to track down all my stray photographs on my multiple computers, external hard drives and social networking sites. Organizing files by year and then by subject took a while longer, after which many duplicate images were revealed. I meticulously compared the duplicates to find the best shot with the highest resolution and ruthlessly trashed the others. I then change file designations such as "DSC_0045.JPG" to a descriptive title for each photo, while also adding metadata about the people, places and other significant things pictured.

My next step was, as our very own digitalpreservation.gov personal archiving guidance says, to make copies and store them in different places. I copied the centralized photo directory from my home computer to an external hard drive, which I stored in a remote location. I then used a web-based file hosting service to create exact copies on two home computers and a cloud server. Finally, I printed out a written list of all the photos as they are organized, along with details about where they are stored; that went into my safety deposit box.

To be completely honest, I still have lots of work to do making my photos easier to find and use, especially by adding metadata. But, with everything centralized and securely backed-up, it is possible to devote a few minutes of spare time each week slouching toward better descriptions. Having a basic organizational scheme in place also helps me categorize and store the steady flow of new pictures.

Generalizing from my own experience let me offer some conclusions. First, people other than you probably care deeply about your personal digital photographs, and it's a great investment of your time to make those photographs as useful as possible. Second, start where you are and aim for incremental improvement, while ignoring the burden of expecting immediate perfection.

To put it another way: personal digital archivists of the world unite! You have nothing to lose but your opacity!

One Family's Personal Digital Archives Project

MIKE ASHENFELDER

In 1958, Vernon James was an adventurous young man from Colorado who landed a job teaching in Germany for the Department of Defense. During his 16-year stint there, he travelled extensively throughout Europe – including several visits behind the Iron Curtain into West Berlin – and he took lots and lots of photos.

Decades came and went and in 2005 Mr. James – who was retired by then – decided to scan his European slides along with the other slides and photos he had accumulated over the years. "I was ignorant of scanning when I started this project," said James. "I had heard about scanners and bought a scanner with a slide attachment and I started scanning all of my slides."

The scanner did just what Mr. James wanted it to do: it scanned. When he finished the slides he started on photos: from his wife's year teaching in Ethiopia, from his wedding and more…a lifetime of personal photos. "After that we started scanning everything I had in the house," said Mr. James. "I scanned everything from my birth certificate to things from my early childhood and little clippings in the local newspaper," Mr. James said.

"I had a brother, Bob, who died in a Japanese prison camp in 1942 and my mother had saved the letters and memorabilia from him and I scanned all of those.

"I scanned letters my wife had written when she was overseas. And it kept on mushrooming. I kept finding more and more letters and documents. My wife has kept a diary starting from back in 1965 and I think I have 35 years of diaries scanned." Vernon had built up momentum and was being productive. What could go wrong?

Mr. James's son, Stan, a game designer and Internet startup founder, was visiting his parents during a summer break from grad school, when Mr. James offhandedly told Stan about his project. "I was excited that he had done this on his own," said Stan. "And being the tech guy, I looked his project over."

Stan saw right away that the resolution was set way too low and the photos were in a virtual heap. In fact, one of Mr. James's challenges in his project had always been organization. He said, "I didn't have a system. It was just a hodgepodge." Stan said, "I helped him put the scans into folders by year. And then shortly after that we had to separate by side of the family."

After resetting the scan resolution and organizing the files, Stan bought his father a hard drive on which to store and preserve his stuff. From then on Stan was involved with the project, out of personal and professional interest.

It's not that Mr. James did anything horribly wrong. In fact, he's a smart man who he did the best he could with the little information he had. The

problem was more a scarcity of consumer-friendly personal archiving information that clearly addressed what Mr. James and millions of others were trying to do – create a digital archive of their personal stuff. Stan knew that if he and his dad were to work together, Stan had to keep his suggestions and information simple in order to avoid overwhelming his father.

From the early days of the project, Mr. James had diligently typed comments into his photos. Stan was shocked to find that the software Mr. James was using, the software that came with the scanner, was actually engraving the captions right into the photo image, not adding the captions into the back end of the file, as it should've. Hundreds of photos were marred with captions. Stan said, "It was almost as if you were to take a Sharpie pen and write on top of a print.

The James's found great personal value in adding captions and tags to describe the contents of each photo. Stan said, "I and other family members were starting to ask dad questions, like 'Who is that person in the picture?' and 'Where was that taken?'."

In fact, captions and tags became so essential to the project that, when Mr. James had surgery on one of his fingers and couldn't type well, Stan got him speech-to-text software and a headset. "My dad would sit in front of the computer with a little headset and just talk about the pictures as they went by," said Stan. "My mom would laugh that her husband spent all day in the office talking to himself about the past."

Mr. James's relatives helped him identify names and places in the photos. Stan said, "Sometimes my dad will grab some relative and say, 'Hey, look at this picture. Who is that guy in the background?'. Eventually I wrote some software to share our photos online, where family members could contribute captions and tag people, no matter where they are." It's sort of like "kin crowdsourcing."

The tags not only helped the James family organize and find photos, it helped other people discover them online. Stan said, "A few weeks ago I got a call out of the blue, this guy with a thick German accent, saying that he had found the pictures that my dad took of a base in Germany where he had lived. I'm sure the guy was just Googling 'Nellingen Barracks' and found the captions that my dad typed in. And this guy was sort of an archivist for this military installation and he was asking permission to take some of those photos to put on the website he had set up for that base. That was a good feeling that my dad's work wasn't only for our family but it could also help the wider community too."

Stan is frustrated that he can't easily advise people on how to do a personal archiving project themselves, let alone share one online with other contributors. He said that most of the necessary tools still are not easy enough to use. Stan said, "And on the scanning side, you need to know about file systems and setting up folders and things like that, which is far too complex for most people. And frankly, they don't need to know about that

level."

Photos, which stimulate memories more than any other medium, have brought the James clan a little closer as they dig up more photos and scrutinize the content. Sharing the photos online helps preserve them (in addition to Mr. James backed-up originals) by spreading copies around.

Even after digitizing well over 20,000 items, Vernon and Stan James are far from finished. They say there is always more to digitize and there are more people and places to identify. Stan said, "The one thing that we've learn from this project is that it's never done."

My Weekend Project

ERIN ENGLE

I bought a new computer this summer. I immediately copied all of my digital files from my old computer to my new one and to an external hard drive.

Now I had three copies of my digital content on three different devices. Now, if something happens to one of those media, I've got two others that have all my files saved (and safe). Great, right?

Well…

The hard drive on my old computer was failing, which is why I got a new one. My digital files on that drive aren't exactly safe even though they are saved for the time being. Copies of my files on my new computer and my external hard drive are relatively safe (crossing fingers that those media don't fail). Not to mention, I had two copies of ALL of my digital files, of which I had a general idea about what they were. But I certainly didn't care about all of them.

This wasn't a great start to creating my own digital archive. I know exactly the advice and steps to follow, so why wasn't I doing it?

Because, I was being lazy. I am by no means as vigilant about archiving and backing up my personal files as some of my colleagues here at the Library. I've never experienced personal data loss (knock on wood) and I've never had enough digital files I've truly cared to save long-term.

Until now…

I started taking digital photos when I bought a camera about seven years ago. I first purchased digital music files around the same time. I wrote tons of papers for grad school. I completed my Federal and State taxes electronically. I created or saved all of these digital files on my old computer.

My digital photos and documents hold personal value, and my music files, most of which I've purchased, are valuable literally. I truly care about saving and preserving these materials. Time to create that archive.

Comparing what I've done so far with NDIIPP personal digital archiving guidance, I'm not in bad shape. I'll admit I'm just barely performing the steps of this guidance. I could (and probably should) be more cognizant of the file formats and software programs used to access my files, for example. But this is the level of effort I choose to devote to save my digital information of personal value. Hopefully it's enough for right now and for a few years down the road.

Given I don't have a large amount of digital content as compared to other people I know, I should be able to finish my archive this weekend.

So, let's see where I stand against the guidance.

Identify where you have digital content of personal value – CHECK. (Although I have a few flash drives from grad school and I have no idea what's on them.)

Decide which of that content are important and which digital files should be saved – CHECK. (I think… for the most part.)

Organize the digital files with meaning file names and a logical directory structure – NOPE. (I haven't even starting thinking about this step yet.)

Make at least two copies of the organized digital files and store them in different locations – CHECK. (I keep my external hard drive at my family's house, who live in the area. +1 for me – I've got step 4 down!)

Personal Archiving – Year End Boot Camp

BARRY WHEELER

With the large size and amount of my personal digital archives, my archiving problem may be a bit extreme, but I think a description of my archiving system may be helpful to many people who want to save and preserve their digital files. I am a photographer and I have tens of thousands of pictures, including both professional and personal work, to archive each year. Add in my routine papers, spreadsheets, and data files and I often have over 500 GBs of digital files to preserve at the end of the each year.

I do maintain backups – but in my system, backups cannot be considered part of my archive. Backups preserve current work. Over the years, as drives fill up or I change computers, old files are removed from the primary drive on my main computer. I want to preserve all these files that are no longer part of my backups. My backups are also compressed and maintained by proprietary software. I'd prefer to have my archive in common standard formats that will be readable in the future – or at least will be easy to convert to an accessible format. Therefore I have developed a system of yearly archiving. Again, this system is mainly for those with above average amounts of digital material. For others, do not be discouraged by this! I've provided a simpler version for those with less material.

I prepared for my archiving task well in advance. All my content files are stored in directories by broad general topic, then in subdirectories named by date and specific subject. (All of my data subdirectories begin with the date in YYYYMMDD format so they sort automatically most recent to oldest). Once the files are organized, I follow these six steps in my end-of-the-year archive processing:

First, I purchase a new external hard disk drive each year. I name the new drive – physically with a tape labeler and electronically in my drive properties tool. Thus, this years' drive is ARCHIVE11. I also name a top-level directory "archive11".

Second, I copy all documents for the past year to the new drive into the "archive11" directory. This should take about 33% of the drive space.

Third, I setup a powered USB hub connected to my primary computer and connect each of my yearly archive drives to the hub – each drive should appear on my computer desktop as ARCHIVEXX.

Fourth, I check the available space on last years' drive. If I used approximately 33% of the space last year I should have enough space, so I create another top-level directory named "archive11". Again, I copy all documents for the past year into this "archive11" directory. I now have two copies of my past years' documents, each on a separate drive. As part of my

archive plan, I also keep a copy of my very best images on a remote, "cloud" site, but that's another blog.

Fifth, I use a disk utility to check (and repair if necessary) the integrity of each external drive. Then I check file permissions with repair on each external archive drive. I also randomly select and open a number of files from each drive and each archive directory.

Finally, I import both the new archive directories into my cataloging database (again, perhaps a suitable subject for another blog) and then power down and store each drive with its' power supply until next year. At this point I can delete all archived files I do not intend to work with immediately from my working drive. My yearly archiving processing is now done!

As promised, this process can be simplified and used by anyone who wants to archive their most important digital documents. The basic process a user can follow is:

Gather all your important data files into one master directory.

Arrange them by year – especially if you archive tax files.

Make copies of the files. If the total directory size fits on a CD (i.e. less than 600 MBs), then make separate copies on two archival gold CDs. The life expectancy of an inexpensive or standard CD is uncertain so I think the archival gold CDs are worth the extra expense.

Continue copying each year, on two new gold CDs.

Check all CDs yearly. If your document collection is too big for CDs, use external hard disk drives – and be even more vigilant in checking the drives!

This year I went an extra step – I added all the files saved in my CD-ROM archive over the past 16 years to my external hard disk drive archive. This second step is the subject of this blog post – that is, facing the reality, on a personal level, of all the issues archivists have discussed for years.

The transfer of content from one digital media type to a different type is called "format conversion", or simply "reformatting", and is similar to microfilming books and paper materials. This process is critical in the digital world – can any of us in 2012 easily read content from the 8" and 5 ¼" floppy disks so common in the 1980s? As I discovered, even though we still have the equipment to read CDs, other issues make the conversion necessary ASAP for those who want to archive their personal materials.

First, a stark summary – as a digital professional, I have 4 CD-ROM drives on MS Windows XP, MS Windows 7, Apple OSX 9.7 and Apple OSX 9.6. I have 62 CD-ROMs dating back to 1998. Of these CDs, one data disc looked OK but could not be read on any drive. Later I discovered a broken program disc. There were also two files (on different discs) that could not be read or copied, as well as 252 files that could be copied to the external archive drive but which were reported as "not readable."

These results represent all the common problems of digital reformatting in general, and of CD-ROMs in particular. Interoperability was an issue for early generations of CD-ROMs , and I found that I needed 3 different CD-ROM drives to read my 62 discs. CD-ROM deterioration was another issue – particularly with inexpensive discs created on home machines. I could read all of my commercially created discs – all my "read" problems were on inexpensive discs I created myself. Unfortunately, I had not purchased any expensive gold "archival" CD discs – and I certainly should have used those.

The 252 files that were not readable represent the problems of proprietary software and software obsolescence. Several old video formats were not recognized but were readable when I manually associated the video file with newer video software. A multi-file interactive instructional lesson was not recognized – and I have yet to find a copy of the proprietary program used to create and play back the program.

What's worse, my old federal income tax records from 1999 through 2006 were not readable! I did not have a software program on my computer that could recognize the proprietary file type used to store those records since I changed from one tax preparation program to another in 2007. To read the files I had to retrieve my original tax preparation program discs – a different program for each tax year and load them onto my computer. But I discovered the disc for one year was broken into pieces – the disk was stored in a standard 3-ring binder of standard CD-ROM sleeves. I don't know how the disc was broken!

Luckily, when I loaded the 2006 tax preparation software version it was able to read all previous data. For now I'm retaining the program disks – sometime I'll experiment to determine if I can copy the 2006 program CD of the tax preparation software, which was designed to run on Windows XP, to my external archive hard disks and then install the program to my current Windows 7 computer. In the meantime, I've created and saved, on my external disk archive, a simple text file that documents the problem and the location of the original program disk.

These challenges illustrate some common difficulties in retrieving older personal digital records.

"It's Dead, Jim": Resurrecting an Obsolete File

MIKE ASHENFELDER

While clearing out some personal clutter recently, I came across an old CD-ROM, published in 1989, that I always assumed was of great cultural value. Of course, when I tried to play it I got nothing but error messages and I set about finding a way to make it work.

The CD-ROM is the Electronic Whole Earth Catalog, which consists of content from the Whole Earth Catalog, a so-called "counterculture" print publication filled with practical tools, ideas and information not usually found in mainstream media. Its effect on our culture – our awareness of how we live and how we can better our lives – has been quietly pervasive. Steve Jobs acknowledged its influence in his 2005 commencement speech at Stanford University by touting the Whole Earth Catalog and using its philosophy as a rallying cry.

So it was a significant milestone back in 1989 when the catalog was converted into an interactive CD-ROM. The Electronic Whole Earth Catalog contained 2,500 reviews, 4,000 pictures, 2,000 text excerpts and – a novelty at the time – 500 sounds, mostly music (linked to music reviews) and bird calls (linked to Audubon Society bird information). Everything was smartly organized and hyperlinked for users to explore.

I figured that my copy of the Electronic Whole Earth Catalog was the digital equivalent of a rare book, a cultural artifact from a pivotal intersection of culture and technology. An object of value. Even though the disk was over 20 years old, surely I could find something online that would enable me to play it.

The problem was not with the CD-ROM; after all it's only the container in which the application resides. The problem was running the Hypercard application – or "stack" – that the Electronic Whole Earth Catalog was created in. (Hypercard enabled linking between metaphorical "cards" or screens and is arguably a forerunner of web browsers.) What the stack needs to run, according to the systems requirements, is a Mac Plus/SE/II with 1 megabyte of memory, Mac system software 4.2 and HyperCard 1.2. I had none of these and my 2009-era computer couldn't accommodate the antiquated technology.

I had only a few options. I could track down and buy an old Mac with the appropriate operating system but that was impractical since I really had no use for it aside from looking at this and a few other old stacks. Instead I tried to find some website or software that could convert or emulate – mimic – the old Hypercard software and Macintosh operating system. I searched and searched but couldn't find a simple tool to convert or run the application and the few tools did find required a bit of techno-jiggering that I didn't have the

time or patience for.

After mucking around online for far too long, I came across some screen shots of the Electronic Whole Earth Catalog as well as a working emulation of an old promotional music Hypercard stack by the group They Might Be Giants… and that's when my enthusiasm for the project quickly faded.

The look and feel of the Electronic Whole Earth Catalog seemed dated, plain and unappealing. Big-pixel jagged black-and-white graphics. Click a button and display a card; click another button and play a sound. That's it.

In the years since the Electronic Whole Earth Catalog's release, the cells of high-tech innovation have rapidly divided and subdivided, one innovation begetting another, and our standards of "gee whiz" wonderment have evolved a lot. Just about any app on my smart phone is much cooler and more engaging than the Whole Earth CD-ROM. Which raised a few questions: If the catalog is available in book and PDF formats, why bother hacking this Hypercard stack? What's the point of making it usable again aside from curiosity?

The same question could be asked of any other outdated software. Modern rendering engines are better than older ones, modern graphics are more lifelike, modern game response is faster and it'll all keep evolving. Who really cares about reviving old applications?

For a while I considered throwing the CD-ROM away. After all, maybe it really was just a useless relic from some bygone era, one more thing that I was hanging onto for nostalgic reasons. Maybe, in the spirit of weeding out my possessions, it was time to let go and toss it. Eventually, out of frustration, I questioned its value and wondered who actually cared about outdated software. So I consulted some colleagues.

It turns out that some gamers care, especially those who are fanatical about the original look and feel of favorite old games. Many are dedicated enough to build their own emulators in order to continue playing the games.

And some cultural historians care. Geoffrey Brown, professor of computer science at Indiana University, says that cultural historians with technological interests may want to access old CD-ROMs to study the design decisions.

For example, the Library of Congress's American Memory was initially created for Hypercard. Carl Fleischhauer, digital initiatives project manager at the Library of Congress, worked on American Memory from its inception. Fleischhauer said, "American Memory was put onto CD-ROM between 1990 to 1994. Then theMosaic browser came out and it became possible – and better – to put it all onto the web. We migrated all the content; nothing was lost. But even though the original disks still reside here in the Library, we can't play them to see examples of our own original work."

Brown has worked extensively with vintage CD-ROMs and he said, "Technology isn't the problem, just lack of demand." Indeed, just as

a cylinder recording circa 1900 will still play on a cylinder player, the Hypercard application will play on the appropriate hardware and software. But lack of demand makes it difficult for the average person to find free or low-cost resources.

Some institutions have created labs comprised of vintage technology, which they use for research. The Maryland Institute for Technology in the Humanities at the University of Maryland, for example, has collected hardware and software that date back to the early 1980s.

MITH's preservation services are not open to the general public – it mostly serves the university and funded projects – but some outside researchers can find help there. Matthew Kirschenbaum, associate director of MITH, said he recently helped an out-of-state artist who wanted to restore some of his old digital artwork because he – the artist – valued its original appearance.

The Archeological Media Lab at the University of Colorado at Boulder serves a similar function as MITH. Such labs are becoming increasingly necessary as institutions acquire collections that contain digital media, diskettes, CD-ROMs and even whole computers. Emory University is the recipient of such a collection, the Salman Rushdie archive, which includes the author's personal computer resources.

In this video, Emory staff discuss the uniqueness of the collection for recreating Rushdie's writing environment, such as Rushdie's penchant for desktop sticky notes and the way his pages fit his computer screen (suggesting that the screen size may have influenced some of his composition decisions).

The Rushdie collection demonstrates the value of preserving vintage technology to support versions of artist's digital work. It's similar to preserving paper drafts of an author's work to compare with the finished version, such as the drafts of Langston Hughes's poem "Ballad of Booker T." or Beethoven's manuscript of Opus 109.

Geoffrey Brown notes that preservation of electronic games still has not improved and in time our modern games will, too, become inaccessible because of hardware and software dependence. "Look at today's game platforms," Brown said. "It's virtually impossible to emulate them."

Leslie Johnston, manager of technical architecture initiatives in at the Library of Congress, said that even our precious smart phone apps are destined for the same fate. "An app isn't any better than a Hypercard stack," said Johnston. "Because an app, twenty years from now isn't going to run easily in the same way that a Hypercard stack isn't. That app requires a certain operating system and certain hardware to operate."

So the app, the game, the interactive CD-ROM…all eventually become museum pieces. That's exactly where the salvation for curating and preserving vintage technology is likely to come from: museums, libraries and archives such as MITH, the Archeological Media Lab and Emory's Rushdie archives.

Kirschenbaum defends the preservation of vintage technology in select cases, if only for the primary experience itself (as opposed to simulating it with modern emulation methods). He said, "What you risk missing out on, even with emulation, is the entirety of experiencing the work in its original environment. Sometimes the complete physical platform, the hardware, the original technology is important and it is integral to what that thing is…Even if the graphics don't look great by today's standards, that particular look that we associate with a certain moment in computing – the pixels and the jagged appearance, the 8-bit graphics and tinny sound effects – that's important for that work and for a lot of people it has a lot of emotional power behind it." Or an appreciation by younger audiences for creations from the past.

Those of us considering what to do with our old software or hardware may face difficult appraisal decisions.

How about the stuff you created? Artwork? Documents? Kirschenbaum said, "If your personal data is important to you then you should become a preservation activist and know about the steps you can take to get it back."

A lot depends on formats, of course. A twenty-year-old GIF file should be easy to open in a modern graphics program but a text document might be more difficult depending on the word processing program you initially used. Of course, once you restore your files, if they have personal value you should back them up on modern media. If they don't have personal value – if it's old homework, for example – delete them.

Commercial software and hardware are different. They have broad appeal, since many people enjoyed them at one time and, by dint of their widespread usage, they are true cultural artifacts.

One archiving solution is to donate them. If you can upload your software, the Internet Archive has a software archive that accepts donations. The Computer History Museum in Mountain View, California, accepts software and hardware donations. They have an online checklist of what they want and what they don't. The Computer History Museum is open to the public, so generations of visitors may be able to appreciate your donation.

And that's what I decided to do with my CD-ROM of the Electronic Whole Earth Catalog: donate it. Better to have it curated by professionals and enjoyed by the public then neglected in my basement.

The Results of One Scholar's Survey: What Are Your Plans for Your Personal Digital Archives?

SARAH KIM

Between June 2010 and December 2011, I interviewed 20 people about how they manage and preserve their digital documents and I asked about their long-term plans for their digital stuff. The interviewees were from varied backgrounds, including a policeman, a cartoonist, a restaurant owner, a lawyer, an artist, a designer, a librarian, graduate students, retired professors, a social worker, government employees and a software developer.

During each interview, I asked the participants what they plan for or expect to happen to their digital documents that they leave behind. I got a range of answers that I've organized into six categories:

- Delete everything
- Near the end of my life, create a condensed collection with selected documents
- Sort and distribute documents to people and entities, such as family documents to individual family members and work-related documents to colleagues
- No particular plan at this moment but will eventually leave instructions in a will for disposal or access
- Allow caretakers or others to manage, select and keep things they want
- Expect materials to be lost or deleted eventually

People have different plans for different materials. One participant said that he would like to delete everything before he dies. But he wants to leave certain documents to his daughter, especially digital photos of her – including her ultrasound pictures – that he has been diligently preserving.

One participant said that she wants to create a condensed collection near the end of her life. She wants to be remembered by her family and friends but she also thinks that her documents might be useful for other people, say, for understanding family history or studying how people live in the 21th century. But she has concerns for her privacy and feels uncomfortable about other people looking through her personal files.

Another participant sees sorting out her digital files as an opportunity to review her life. She also prefers to do it herself: "I don't want to give others a burden of managing my files."

Some participants will allow caretakers to manage their documents because of either the potential usefulness of personal documents for other people or a wish to be remembered by family and friends. They would also rather let

others handle the task because it is difficult to predict what may be useful for others and they are not concerned what happens after their death. Said one participant, "I don't mind [people looking at my files], if I am dead."

Here are some reasons that might affect the deletion or preservation of personal digital documents.

Reasons for preservation:

- Potential usefulness for other people, such as family history or other research
- Wish to be remembered by family and friends
- Sentimental attachment to certain documents, photos, recordings, video or other digital things

Reasons for deletion:

- Desire not to leave any trace behind
- Concerns for privacy
- Personal nature of documents (e.g., "My documents are just for me")
- Belief in future disinterest in my documents

Overall, consideration for future generations in their family or potential audiences seems to be one of the main deciding factors for preservation. Most participants want to either actively or passively pass on at least some personal digital documents after they die. From the archives perspective, this is one of the moments when personal digital documents transform from "evidence of me" into "evidence of us," as Australian archivist, Sue McKemmish observed.

What they want to pass along is not so much about themselves but more about things that can be useful for others. To many participants, the idea of passing belongings along to others seems supported by their own appreciation of having documents passed along to them from previous generations in their family, documents they considered valuable for learning about others more deeply, to explore family history and genealogy, and thus to understand who "I" am.

The theme of "for others" is also quite clear regarding what some participants do not want to leave behind, materials that they consider private. Moreover, the most passive cases, where participants simply expect their digital documents will eventually be lost, is also based on the idea that personal documents are "just for me," thus "no one will be interested in them."

Many participants, who have no plans at the moment but hope caretakers will handle their documents, talked about the potential usefulness of their digital documents for other people, not only just for their family and friends but also possibly for unknown people. They would rather let others decide what is useful for them.

I expect that the participants' thoughts will change as their lives move forward, so I intend to follow them over the next ten or twelve years.

What I learned from the participants is quite simple and by no means surprising: people see their digital documents as having potential value for others. They want their digital documents be useful for other people in the long run.

As several participants commented, managing digital documents can be burdensome work. I wonder, however, if consideration for the virtual presence of "others" – family member, friends, colleagues and unknown people – can make everyday digital record-keeping a more meaningful and enjoyable practice. I think it can.

Have Obsolete Digital Media, Will Travel

KERI A. MYERS

I never planned to have obsolete digital storage media as a traveling companion. It just kind of happened… and I'm an archivist with lots of experience working with digital materials!

This summer I relocated to the Washington, DC, area after spending the last six years living and working as an archivist in London, England. It is good to be back in the country of my birth and I return with some good experiences under my belt.

My first job in the UK was as a project manager for the Trades Union Congress Library Collections at London Metropolitan University. I managed The Workers' War: Home Front Recalled and Winning Equal Pay: the value of women's work.

The task was to digitize a substantial part of the collections and create two websites to make those resources available. I oversaw the digitization process of photographs, posters, letters, pamphlets and other ephemera. I created archival data copies, added all the metadata to the collections management software and prepared and converted oral history and video clips for uploading to websites.

My work experience at the TUC Library six years ago really sparked an interest not only in digitization but the issues surrounding digital preservation.

Another part of the job which I really enjoyed was working on outreach and education. Together with our project partners, I built a mock factory which was a traveling exhibit highlighting the work experiences of those in Britain during the Second World War. Taking place in year of the sixtieth anniversary of WWII, we toured the country at commemorative events, culminating in the great celebration in London's Hyde Park.

My next stint of employment was at the Vaughan Williams Memorial Library at the English Folk Dance and Song Society. As the organization's first ever archivist I had my work cut out for me. I was in charge of developing an archival program to accession and catalog the organization's rich history focusing primarily on the manuscript collections but also was left to tackle the organization's rich film and audio collections.

I focused on creating condition reports for manuscript collections to be digitized, which lead to Take 6, a searchable database of manuscripts from six folk song collectors, as well as the digitization of Cecil Sharp's diaries from his collecting trips in the Appalachian Mountains.

So as I find myself in a new city looking for new opportunities I have started volunteering at the Library of Congress with NDIIPP to further my

understanding and interest in personal archives management and digital preservation.

And just like NDIIPP, my interest is in the personal as well as professional. My parents were elated with my return to the US–it meant I could finally claim all my boxes in their attic. Now I am working on processing my personal collection of papers and finally tackling my digital assets as well.

I am ashamed to admit that I've traveled with obsolete media from the U.S. to Europe and back again. I have set myself a goal to finally organize my papers and do a bit of personal digital archiving to rediscover what I dumped on those Zip disks all those years ago. Meanwhile, I'm looking forward to testing NDIIPP's personal digital archiving advice.

Forestalling Personal Digital Doom

TESS WEBRE

Even though I'm relatively new to the professional library world, I've long known that digital preservation on a personal level is a daunting task laced with threats of doom. It requires great amounts of time, energy and consideration with very few visible benefits from day to day.

Like organizing a closet, or rearranging a kitchen cabinet, personal digital archiving is easy to put off, easy to forget and easy to make excuses for avoiding. It is tempting to look at disorganized files and pantries and shrug them off by saying "I'll work on this tomorrow." How quickly we realize the error of our ways.

As soon as a disaster occurs and we find ourselves surrounded in disarray and must pick up the pieces. Just as kitchen cabinets need to be organized after a bag of rice spills on the floor, we start thinking about digital archiving after we can't find a file, or access a piece of software.

Who among us has not lost a piece of valuable digital information? Our data can go out with a bang of a laptop being dropped or the whimper of scratch on a CD. We can lose our data with the excitement of graduation or the mourning of a funeral. Personal files can be lost with the closing of a company or the changing of a leader.

For reasons as diverse as natural disasters to software obsolescence, accessing our data can be impossible. We can discover the inaccessibility of the data immediately, months or even years after it occurs and feel the same paralyzing inability to do anything about it. Is there anything more frustrating than this?

It seems to me that there are two paths following the loss of data. Option one: consider this to be a fluke, and continue on with day to day life without making any of the necessary changes to preserve data. By ignoring the greater implications, the data loss will be repeated. It is just a matter of time before more and more data becomes lost. It will start as a trickle, and become a flood. Until responsibility is taken, this will become a cycle.

Option two: learn the implications of this data loss: if one piece of digital data can easily become inaccessible then any piece of data can become inaccessible. This puts every photograph, every email, every home video, every e-filing and every other bit of memory in your digital history on the proverbial chopping block. That is a terrifying possibility, but not an inevitability as long as steps are taken to actively preserve digital data.

However, taking the next step can be difficult. With the relative newness of digital preservation and the plethora of different storage facilities and types, one can easy get lost in a technical jargon, and ambiguity. It can lead to

more questions than answers.

What exactly is metadata and how do I make sure I have enough? Is it better to preserve material in the cloud or aphysical storage media? As the questions mount, so does the frustration. It becomes easy to just give up on trying to preserve personal data for the future, to continue to put off the necessary steps until the next disaster occurs, thus starting the whole process over again.

One of the things I've learned during my internship is just how useful the NDIIPP personal digital archiving information is for helping people do the right thing with personal files. Written in a clear and relaxed tone (and, really, I'm not trying to curry favor!) I've found the website, as well as blog posts by Mike Ashenfelder and others to answer all kinds of questions.

I wish I could testify that the NDIIPP information has totally dispelled my fear of impending digital doom. It hasn't. But it has inspired me with ideas and insights I can apply to push my personal digital threat level back to a safer place.

Remember When We had Photographs?

LESLIE JOHNSTON

On a recent trip I visited a funky vintage store to see if anything caught my eye. While I was easily able to keep myself from buying any jewelry or taxidermy, I came across a number of displays of family photographs available for sale.

Not only were there bowls of loose photos, there was a dis-bound photo album from an African-American family that seemed to be from the 1920s and 1930s, where everyone and every place was identified.

This saddened me and led me to think about my own experiences in trying to make family photos more preservable.

I have recently undertaken an effort to deal with the archive of photos that I have in my possession. Some are older family photos from the nineteenth and early twentieth century. I have my father's baby book from the 1920s. Some are from my parents, and include slides taken by my father in Asia in the 1940s-50s. I have my photo albums from my teenage years when I had my first camera. Most – except the slides – are labeled with names and dates.

When I switched to digital, I put my images on flickr, and tagged them with some degree of regularity. Dates from file headers, some places, some names.

Then there are my own photo albums from the 1980s through the 2000s. They are chronological, but not labeled. I have discovered that I have no idea where some were taken, or who they depict. Last year I digitized a number of photos and slides for a friend who had lost her photo collections. The digitization was easy. The metadata was hard. Keeping the metadata with the files was even harder. I resorted to file naming conventions (event_details_year) where I could, and created a spreadsheet with as much metadata as I could supply, such as people or places, and more granular dates such as birthdays or holidays.

So, getting back to those photos in a bowl at a vintage store. There are two topics to consider:

What will your friends and family do with photographs that have no accompanying labels, written on the back or in albums? Will they be of enough value to retain, or will they end up at a garage sale or antique store?

What will your friends and family do with digital image files with no metadata?

So the advice is:

Record what you can about photos or digital images as soon as you can.

Keep the metadata and descriptions with the files and photos. Name the files with understandable names, and label the backs of photos with soft lead pencil (not ink). If you have photo albums, write out captions. If you upload to online services, caption and tag them.

If I can't remember who is in a photo that I took only a few years ago, it's likely that no one else will, either. If no one knows what the photos are, no one will value them enough to preserve them.

When Data Loss is Personal

LESLIE JOHNSTON

On November 12, 2012, my home was broken into and robbed. I lost jewelry, some vintage tech (my beloved 1993 Mac Duo 230 laptop), and, more importantly, my netbook that I use for all my personal computing.

I have learned a lot of lessons from that experience.

First, I am very glad that I have a password app on my cell phone that has a record of all my logins and passwords. My laptop was password protected of course, but not encrypted. Because I love the convenience of saved passwords in my browser, I had to immediately change all of my login passwords. Because a file was on my laptop had the ability to connect to online accounts, I needed to immediately contact financial institutions. I also called in a Fraud Alert to a credit service with which I already had an account.

I had the serial number and receipt for my current laptop, but not for my vintage laptop. Record serials numbers and scan receipts and keep them somewhere that is NOT your laptop.

I back my data up onto a network attached storage device, so I am good with that (although I hadn't done a full backup in 2 months so I lost a few files). But when I needed to access those files before I replaced my laptop, I didn't have a machine in the house that could access it. So, I also need to additionally get myself an external drive that is more easily portable with a USB connection that I can hook up to any machine, anywhere. Of course, they could have taken my NAS, too, and I would have been out of luck. Except for my pre-2008 files which I also have on CD-ROMs because that's how I migrated them then.

I do have copies of some things in the cloud, like photos and my recent email. But not my full email archive, which is on my NAS, and requires an application that I cannot install on my temporary machine because it's not supported on that OS.

And I could not get my temporary machine to recognize my wireless printer. How many documents you need to print is not something you think about when planning for an emergency.

So…what lessons did I learn?

- Keep an encrypted file of logins and passwords (and account numbers) on some other type of device altogether. But also print out a copy somewhere.
- Have two local copies of your files, one of which is easily portable to another location and other type of hardware in an emergency and an additional cloud copy is not a bad idea (but it's a bad idea for that to be your only copy).
- Of course retain data that runs only in specific applications, but try to export/create copies that are application neutral.
- Scan printed receipts and key documents. Print vital e-only documents. Keep your print copies and your e-versions someplace secure, and keep the e-versions in more than one place.

Personal Digital Archiving Outreach

Hey Libraries and Archives: Personal Digital Archiving Kit Now Available

KERI A. MYERS

Let's face it: most of us fall short of perfection when it comes to managing our personal digital materials. We do things like download personal photos to our computers and promise ourselves that we will come back later and give them meaningful file names, tags and other important metadata. Since I began volunteering here at NDIIPP I have increasingly been aware of my personal digital archiving habits and the challenges they pose.

A big part of the problem is that there are few sources of advice for people to learn about personal digital archiving. Local libraries and archives are in the perfect position to fill this gap.

That's why my colleague Erin Engle and I have been constructing a resource kit to help local institutions provide links to information about personal digital archiving. The kit also provides resources to support a local "Personal Digital Archiving Day" to connect directly with patrons.

The kit is aimed at libraries, archives and other cultural intuitions staff and gives basic guidance on how to organize an event. It includes some tips for organizing an event, as well as free handouts, videos and web resources that staff can use. Also provided is a list of additional resources, including some format-specific advice.

The kit highlights various NDIIPP resources and handouts providing a perfect introduction for informing the general public on important tips and strategies for preserving their digital files, photos, videos, emails and social media accounts.

We're hoping you'll help spread the word about digital preservation and host a Personal Digital Archiving Day event during ALA's Preservation Week activities.

So grab a download of the kit and get organizing a local event.

Pass it On: Library of Congress Events for Preservation Week 2012

JEFFERSON BAILEY

"MR Ballard left home bound for Oxford. I had been Sick with the Collic. mrs Savage went home. mrs foster Came at Evening. it snowd a little."

So begins the diary of Martha Ballard on January 1, 1785. Martha was a midwife and prolific diarist who wrote in her diary almost every day for the next 27 years until her death in 1812. There are nearly 10,000 entries in the diary; though often brief, they provide a unique, invaluable insight into the politics, economics, family dynamics and daily life of her era. As one of the only written accounts of female life in early rural New England, Martha's diary offers us a window into a forgotten and seldom-accessible past and is indicative of the kind of "history from below" that counterbalances the monolithic, overbearing narratives of the rich and powerful that can sometimes dominate historical discourse.

"The problem is not that the diary is trivial but that it introduces more stories than can easily be recovered and absorbed… Martha's diary reaches to the marrow of eighteenth-century life," wrote Laurel Ulrich in her 1991 Pulitzer Prize winning book about Martha's diary, A Midwife's Tale, parts of which, along with the full diary, are available online.

How, you may ask, did this at-first-glance-unremarkable woman's diary end up recognized as an invaluable historical resource that led to a prize-winning work of history almost 200 years later? The diary was passed down through generations of the Ballard family until it was donated in 1930, 118 years after Martha's death, by her great-great-granddaughter to the Maine State Library.

Now ask yourself, if one of your parents handed you his or her diary on a 5 1⁄4" floppy disk from 15 years ago, would you even be able to read it?

We talk a lot on this blog about personal archiving, but stories like Martha Ballard's remind us of the importance of preserving and passing on our personal archives. However, contemporary storage media and even file formats can be outdated and inaccessible in just a handful of years. Due to the fragility of digital information, preserving our personal digital materials requires a level of management that wasn't previously necessary for paper.

We are excited to announce that, in conjunction with ALA's Preservation Week (April 22-28, 2012), we hosted a number of events throughout the Washington, DC, area to provide in-person guidance and help to those interested in preserving their digital collections.

A full list of our Preservation Week activities, including descriptions of each program, can be found on our website and on the Library's official press

release.

And for those readers at institutions considering hosting a Personal Digital Archiving event, consider using our Personal Archiving Day Kit and our online resources.

Librarians Helping Their Communities with Personal Digital Archiving

MIKE ASHENFELDER

During Preservation Week 2012, April 22-28, librarians nationwide held events on saving personal digital possessions. These events are evidence of how librarians are stepping up and taking on the responsibility of helping their communities understand digital preservation.

Julie Mosbo, chair of the Preservation Week Working Group and preservation librarian at Southern Illinois University at Carbondale, said, "Libraries and librarians, as places and keepers of knowledge and information, have a great opportunity to promote digital archiving to the public. I think (librarians) are the perfect group to teach it but I'm not sure the public is aware that librarians/libraries can help them with that kind of service. I think to many folks we are still seen as 'book' people. Our desire to help and educate are natural opportunities to provide information on preserving digital items."

Some of the Preservation Week presentations included:

- Michigan – the Kalamazoo Public Library presented "Digital Photos 101" and the Ann Arbor District Library presented "Preserving Your Digital Photos with Archivist Lance Stuchell."
- Indiana – the Westchester Public Library presented "Managing Your Digital Photos."
- Maryland – the National Library of Medicine presented "Digital Memories: Preserving Your Personal Digital Photos, Documents and Videos."
- Virginia – the Big Island Library presented, "Computer Skills: Digital Photos 101."
- Colorado – staff from the Denver Public Library helped people digitize their personal items as part of the "Creating Your Community" oral history project.

Note the dominant theme of preserving digital photos. Though all digital files need to be properly preserved, cell phone cameras have helped raise the digital-preservation stakes by generating tens of millions of photos daily, photos that many people may not know how to preserve. Digital photos are everyone's top personal archiving concern.

Staff at the University of California San Diego held an afternoon event titled, "Personal Digital Archiving Day Event to Provide Tips on Preserving Your Stuff." Like the Denver Public Library's event, UCSD digitized things for

people as part of their "how to" demonstrations, expert consultations and information presentations.

The UCSD event was ambitious partly because it included a lot of hardware for the demonstrations, which involved schlepping it all around, setting it all up, making sure it worked properly during the demonstration and moving everything back to the labs afterward. But demonstrations convey a lot of information ("Show me how to do it") and make an educational impact. The UCSD demonstration hardware included scanners and workstations for digitizing 16mm film, slides and audio (for LP records).

Roger Smith, head of the UCSD Preservation and Digital Library, said the staff had plenty of in-house digital-preservation expertise among them and didn't need outside resources, though they would consider showcasing commercial vendors in future events. "We have folks that work regularly in those areas so it really wasn't hard to come up with information," said Smith. "Within a couple of planning meetings, everyone had good ideas and it all flowed organically. And we knew the audience we were preparing for, so we understood not to get too technical. We knew it would be more effective to stay at an overview level."

The audience was demographically mixed, old and young, UCSD people and members of the community. Smith expressed pleasure that the event sparked an enthusiastic dialog among UCSD staff in the audience, who shared experience and ideas on the various approaches to reformatting and digital preservation.

In New York, the New York Public Library presented "Archiving and Storage of Personal Media and Digital Files," which offered advice on how to preserve what the presenters called "machine-readable memories."

One of the presenters, Nick Szydlowski, IMLS preservation administration fellow at NYPL, said that the combination of material and digital presentations worked well and made an impact on the audience. He said the audience was diverse, both in demographic makeup ("Though it skewed older," Szydlowski said) and in technological understanding. There were also some people from smaller institutions in the area who were interested in the topic and were considering creating their own archives. They were coming at it from a more professional and technologically savvy perspective.

Like Smith at UCSD, Szydlowski was careful to not be too technical. "One of the big challenges of talking about this to the general public is figuring out how technical to be," Szydlowski said. "How much to give technical information and how much to just give recommendations without much background." He said he would definitely do it again and maybe next time include more information about the threats to digital files.

Activist Archivists, of which New York University professor Howard Besser is a founding member, held an event at NYU's Michelson Theatre. Activist Archivists are encouraging members of the Occupy movement to record and

archive their activities. As part of their efforts, Activist Archivists distribute digital preservation information to Occupy participants, such as "7 Tips to Ensure Your Video Is Usable in the Long Term" and "Best Practices for Video Activists."

The Library of Congress hosted several presentations during Preservation Week, both on campus and at the Arlington County Public Library and the Martin Luther King Jr. Memorial DC Public Library. A month earlier, I gave a presentation at the library in Fredericksburg, VA, and in February I gave a keynote speech titled, "Communicating Personal Digital Archiving to the General Public" at Personal Digital Archiving 2012.

During Preservation Week, the Library of Congress presentation with the greatest national reach was Bill LeFurgy's webinar titled "Preserving Your Personal Digital Photographs," which was viewed by over 570 people. Most of the nationwide events listed on the Preservation Week event finder include public viewings of LeFurgy's presentation.

During the year, staff from the Library gave presentations at South by Southwest, Save Our African American Treasures and the National Book Festival. This is an opportunity for us to not only share information but also to listen to people's questions and get a better understanding of their information needs.

Audience questions often raise issues that we had not considered before and we respond by publishing information such as "How to Transfer Video from Tape, DVD or Camera to Your Computer" and "How to Transfer Photos from Your Camera to Your Computer." More and more we try to not make assumptions about the level of technological expertise and comfort of our audience.

If you are considering putting on a personal digital archiving event, please peruse the Library of Congress personal digital archiving resources. If you are considering an all-day event, please look over the ALA resources and our own Personal Archiving Day Kit.

Preserving Your Personal Digital Photographs: Library of Congress Presents Online Session

BILL LEFURGY

Do you wonder if cloud storage is a good option for your personal digital photographs? Do you have questions about metadata and file formats? Are you uneasy about the prospects of keeping your digital photos available for yourself and your family into the future?

If so, you have lots of company.

On April 26, 2012 over 570 people participated in a web-based presentation about preserving digital photographs. I had the pleasure of giving the session on behalf of the American Library Association's Association for Library Collections and Technical Services as part of Preservation Week. A recording of the session and a copy of the slides are available on the ALCTS website.

The presentation discussed how to identify the different places where personal photographs might lurk, as well as how to decide which images are most important and ways to organize your collection. I talked about the importance of making copies and storing the copies in separate places. I also touched on metadata, file formats and storage media options.

The talk had a dual purpose. The major intent was to give basic tips about what people can do to preserve their personal digital photo collection. Digital photography has grown phenomenally popular in the just the last few years, and there is a shortage of practical information about how to manage personal images. The National Digital Information Infrastructure and Preservation Program has provided personal digital archiving guidance for several years, and the presentation drew from information on the program website.

My second goal was to encourage librarians, archivists and other information professionals to get involved in providing similar advice within their communities. I made the point that the need for personal digital archiving advice is going to keep growing and that librarians are exactly the right people to help meet this need.

I was grateful for – and amazed by – the many dozens of questions submitted by listeners. I could only address a few of them in the time I had, but it's clear that this is a topic that many people need more information about. This evidence will help spur us on in our efforts to raise awareness and spread information.

ALCTS, PLA and Library of Congress Collaborate on Personal Digital Archiving Campaign

MIKE ASHENFELDER

The Library of Congress, the ALA Association for Library Collections and Technical Services and the Public Library Association have joined forces to spread information about personal digital archiving, using public libraries as information resources for local communities.

Barbara A. Macikas, executive director of the PLA (a division of the American Library Association), said that the shared mission of the Library of Congress, the ALCTS and the PLA will help fulfill the mission of the IMLS-funded Digital Learning Resource project, to develop a collection of digital literacy resources that will be accessible to libraries, patrons and other community-based organizations. Bill LeFurgy, digital initiatives program manager at the Library of Congress, joined the DLR project at the ALA Midwinter conference 2013.

Charles Wilt, executive director of the ALCTS, invited staff from the Library of Congress to present two webinars before and during Preservation Week 2013.

The first webinar, on March 20, is directed at librarians who are considering hosting a personal digital archiving day event. The webinar explains the issues around personal digital archiving and reviews the resources the Library of Congress has made available for the public and for librarians to present to their communities (such as the Personal Digital Archiving Day kit).

The second webinar, on April 24, is directed at the general public and it will be a comprehensive overview of the issues that are at stake and what average people can do about preserving their stuff simply and properly.

Both webinars are intended to help audiences understand the nature of our common digital files – such as digital photos, recordings, video and documents – and learn what it takes to preserve them as well as we might preserve our physical possessions. Technology changes rapidly and without proper care of our files, we could lose access to them.

ALCTS, PLA and the Library of Congress share the conviction that the local public library is a natural resource from which the community can get information about personal digital archiving. The Library of Congress has conducted outreach events at public libraries close to Washington, DC, and has honed its outreach message for clarity and simplicity. At these events, Library of Congress staff was enthusiastically received by both the librarians and members of the community. Everyone was grateful for the expert information and guidance. The audience's follow-up questions helped shape and tighten the Library's subsequent presentations.

The PLA will offer ongoing information about Library of Congress personal archiving resources through its electronic newsletter, Facebook site, website and Public Libraries Online. The mutual, long-term goal of both institutions is to keep up the steady drumbeat of communication until eventually the message reaches everyone and good personal digital archiving practices become second-nature.

We Talked and Talked About Personal Digital Archiving

ERIN ENGLE

A man wanted to migrate his dissertation from punch cards.

A young girl held a floppy disk for the first time and expressed wonder that it had anything to do with digital information.

A woman–the family archivist–wanted to pass her digital collection to the next generation.

These are some of personal stories I heard at the 2011 National Book Festival on the National Mall in Washington, DC.

For the second year in a row, NDIIPP participated in the festival, providing personal digital archiving advice to all comers. My colleagues and I had a fantastic time at our table in the Library of Congress Pavilion.

We enjoyed talking with hundreds of people who stopped by. We had the chance to hear directly about hopes, dreams and fears about saving personal digital information. Even more importantly, we spoke with lots of people who hadn't given much thought to the issue.

Over the two day festival, we passed out handouts providing high-level personal digital archiving tips (based on information from our website), answered questions about how to save digital photos and other forms of digital information, and talked to people about how technology has changed over time.

Computer storage media and other technology changes very quickly, a fact that we demonstrated with a display of obsolete equipment. This is an effective way of reminding people that what they create and save today may not be accessible just a few years later.

We had an array of older storage and computer technology on display. These relics from the past really engaged the public walking past our table. Someone even described it as a "walk down memory lane." We had examples of punch cards, 8-inch and 3.5 inch floppy disks, zip disks, hard drives, laser discs and even an Apple PowerBook Duo 270c from 1992. Talk about a relic!

I was pleased to see such a positive response from people who stopped to talk to us, told us their personal stories of the family memory projects they're working on or just stopped by to say, "I remember floppy disks, I still have some lying around." Our engagement with people at the book festival is one of highlights of the year!

Thanks to everyone who visited us at this year's book festival.

Save Our African American Treasures: Houston and Dallas

ERIN ENGLE

Recently, I participated in the Save Our African American Treasures Program at the Houston Public Library. The Treasures Program is a collections and education initiative of the Smithsonian's National Museum of African American History and Culture.

For the past few years, NMAAHC's dedicated team has traveled around the country providing one-on-one professional consultation to the public on how to care for family memorabilia, whether the objects are photographs, clothing or other personal treasures. The program also provides an educational opportunity for the local community to learn about the new museum (set to open on the National Mall in 2015) and to raise awareness about the importance of preserving important family heirlooms for future generations.

This is the third time I've had the pleasure of joining the program, speaking about preserving personal digital information. In Houston, my talk gave an overview of the personal digital archiving guidance we developed here at the Library. I focused on preserving digital photos (PDF). The audience asked some really great questions, some of which my colleagues and I have been asked at other public events, like the 2011 National Book Festival and Personal Archiving Day.

Lately we've been thinking about how to expand our personal digital archiving guidance based on the questions and feedback we receive at these events. We recently added new resources to our web site How to Scan Your Personal Collections (PDF) and How Long Will Digital Storage Media Last? (PDF). We find one of the best ways to connect with individuals has been through this blog.

Frequently on The Signal we talk about our personal experience saving our own digital photos, talk about the importance of adding descriptive information to our photos and even look more in-depth at descriptive metadata for photos.

In Houston, I was asked many questions about transferring old family movies on film or VHS tape to the DVD or CD format. The biggest questions: can I do this and where do I start?

My response is always, "It's great you're thinking about this because that's the first step!" Unless individuals are interested in investing many hours and efforts themselves, I usually tell people to search their favorite web browser for a service that performs "film transfer" or "VHS conversion" that they would feel comfortable using.

For those individuals who are interested in learning more about how these processes work and why it's important, check out Home Movie Day. It has very good information about transfer and preservation information for home film and movies.

It's clear that lots of people want guidance on preserving and digitizing home movies.

Imagine starting something from scratch. A home project, a work project, or maybe you're even baking a cake, from scratch. Now imagine what the dedicated staff of the new National Museum of African American History and Culture are doing – they are building a new museum – literally – from the ground up.

The NMAAHC, part of the Smithsonian Institution, is dedicated to exploring African American culture and history. Even though it's scheduled to open on the National Mall in 2015, curators, research historians, project managers and staff are busy building the collections and creating exhibits.

They are also holding public programs to raise awareness about the new museum, and also to educate the public about preserving important, family items that may be kept in the back of closets or in the bottom of trunks. Save Our African American Treasures is one of these programs, and the Library of Congress (and yours truly) is privileged to be a part of this wonderful initiative.

On June 18-19, 2011, the Dallas Public Library hosted a weekend-long "Treasures" program, featuring one-on-one consultations with expert reviewers about caring for personal items. Informal group preservation presentations also provided tips on saving items from textiles to photographs. This is the third time we've participated in the "Treasures" program; last year, we were part of the presentations in Topeka, Kansas and Detroit, Michigan. In Dallas, I gave a talk on Preserving Your Digital Memories.

Talking to people about saving their digital memories is something I think about often, and I'm trying to find new ways to connect personal collections to the larger concept of digital preservation in a meaningful way. We think about our family memorabilia tucked away in shoeboxes, scrapbooks or photo albums, and it is important to pass them on down through our families. Now, as we're creating more and more memories in digital form, we need to start thinking about ensuring that our digital content – the memories we're making today with our digital photo or video cameras – is also passed down. These memories are just as important as the shoeboxes full of photos, letters, concert tickets and birthday cards that people brought to the "Treasures" program. But we don't have the equivalent storage solution of a "digital shoebox."

In Dallas, I talked to a woman with two small children in tow. I asked her if she took a lot of digital photos and videos of her kids and her face lit up as she

said, "Of course!" She had these memories on her computer, and she's been thinking about backing them up on an external hard drive. As we talked and I gave her some information from NDIIPP's personal archiving guidance, she seemed to understand that backing up your digital content on a hard drive isn't a "digital shoebox." To make sure that you can access the content in the next 5 or 10 years, you need to be vigilant and manage the content on the hard drive as well as the drive itself.

The tips we developed are simple, low-level steps to help non-experts work through the beginning stages of caring for digital files. But to be honest, these tips are not low-effort. Going about saving your digital memories is a project. If you haven't thought about it yet or are just starting to think about it, you may be starting from scratch. NDIIPP staff worry about their own personal collections – and we're surrounded by it everyday! But just like the staff at the NMAAHC who started building a national museum from scratch, it is possible and you can build a meaningful personal digital collection that you can share for years to come.

The "Treasures" program is a fantastic public service, bringing a national collection initiative to local communities. It's also a great opportunity for the Library and NDIIPP to reach out to a wider audience. We're learning to talk to people in engaging ways about how to keep their personal digital memories safe.

Personal Digital Archiving: An Interview with Jordan Fields of the Kansas City Public Library

SUSAN MANUS

Here in the Library's digital preservation program, we have become more and more active in the realm of personal digital archiving, and it's of great interest to us when we hear about other such activities happening in libraries around the country. For example, the Kansas City Public Library had a recent event focused on personal archiving, which included information about digital materials.

Jordan Fields, Digital Library Services Manager at the Kansas City Public Library, will be presenting a talk at this event called "Preserving Digital Images: Caring for Your Photos in the Digital Age". Fields is an enthusiastic advocate, and according to her blog post from last year's event, it looks like the advice they offer is much the same as ours. Before the event, I asked her if she could tell us about their event, and about her experience in the area of personal digital archiving.

Sue: Tell us a little about your upcoming event.

Jordan: The day-long "Preservation Matters" (2012) event will take place at The National Archives at Kansas City and will cover preservation basics for both physical and digital materials. Members of the public can also bring in an item for one-on-one preservation advice. My portion of the seminar will cover preserving digital images.

Sue: What other resources do you point people to?

Jordan: The information should look familiar since I always refer people back to the Library of Congress information (and we thank you, Jordan!). In the past I've referred people to the book Organize Your Digital Life for basic information and for more advanced information I've recommended The DAM Book, both of which are available for patrons to check out at our library.

Sue: Your event addresses physical as well as digital items. How many in your audience are interested in digital materials?

Jordan: Although our seminar covers both physical and digital materials, I can only speak to digital preservation and I would definitely say that interest in the topic is growing. Last year was the first year that we had a digital preservation event for our community, and I look forward to seeing how the audience this year is different.

Sue: What feedback have you gotten from your audience?

Jordan: Most audience members are just grateful to know what they need to do with their digital images. There's not a lot of information out there for the non-professionals. As more and more people realize how much of what they've recorded of their lives exist only in digital formats, or experience some sort of loss due to not taking action to preserve their files, they're starting to seek out advice and are very appreciative for the expertise that librarians and information professionals can offer.

Sue: What do people seem most interested in?

Jordan: Many people are surprised at how fragile digital files are and at the amount of work over time it takes to preserve them. It's much more of a commitment than they expect.

Sue: What do you feel is the most important point to make about personal digital archiving?

Jordan: Take the time to do the work to preserve your memories! Organize what you have now and then set up a system to stay on top of it. You don't have to preserve everything, but if you don't preserve anything, then you risk losing so much.

What Do Teenagers Know About Digital Preservation? Actually, More Than You Think…

BUTCH LAZORCHAK

It's many adults' worst nightmare: how to entertain and (try to) educate thirty 8th graders for an hour? Especially when the subject matter is as potentially complex as how to preserve digital information.

Well, the first thing to do is to try and think like the teenagers who visited the Library on May 13, 2011, from the Imagine Schools South Lake Middle School in Clermont, Fl., as part of a class trip to Washington, DC.

Lucky for us this wasn't the first time we've engaged with students on the subject of digital culture and its preservation. Back in the summer of 2009 we hosted a visiting group of high schoolers from Arlington, Va., a visit that provided the grist for the "Digital Natives Explore Digital Preservation" video.

The insightful video (seriously, go watch it soon) explored teens' knowledge of digital preservation in general, as well as their ideas of what digital items should be saved, who's responsible for saving them and what the challenges are in saving them.

Since then, the National Digital Information Infrastructure and Preservation Program at the Library has participated in outreach events at the National Book Festival and has hosted two Personal Archiving Day events at the Library, all of which helped us understand what digital preservation issues were of concern to the general public.

Still, outreach to adults (and near-adults) is a little different than working with 8th graders, so with input provided by Library Educational Resource Specialist Cheryl Lederle-Ensign, we crafted a program that concentrated on a subject near and dear to the students' hearts: digital photos.

A Pew Internet and American Life Project slide set from June 2010 explodes many of the myths about teen cell phone and social network use, noting that after texting (of course) photo-taking and sharing is the most popular feature on teens' cell phones. Kids aren't alone here: we've noted a significant interest in digital photography issues at our other outreach events, so we know this is an area of interest and concern for many.

With that in mind, we tailored our presentation to help the kids understand how to capture, describe and preserve their own digital photos. We started off by querying the South Lake kids on their photo-taking and saving activities, beginning with the devices they use to take their pictures, then investigating their storage and sharing strategies. Throughout the conversation we shared handy tips they could use at home to help make their pictures last a good, long time.

There was a roughly even split between students who used digital cameras and those who used phones to take their pictures, with one student still using film (!). The split is important, because the primary distribution (and possibly only long-term storage) strategy for many of the phone users was to upload their photos to a social networking site such as Facebook.

We explained some of the issues with using a social network site as a primary storage option (history has shown that those sites don't stick around forever), and talked about how it's best to save your photos across a range of devices (thumb drives, CDs, external hard drives, online storage) and geographies (your house in Florida, your friend's house across town, your grandma's house in Seattle).

And we were pleasantly surprised by the students' degree of knowledge on the issues. Most of them recognized that their digital photos were "at-risk" in some way (one had filled her camera by shooting 800 photos in one day and was worried about how to save them when she ran out of space), and many had perfectly reasonable back-up and replication strategies already in place. Our presentation "teased-out" more detail on these strategies, and got both the students and their parental chaperones to think a little harder about saving their photos with something that resembled a long-term strategy.

Through its public outreach NDIIPP is trying to influence behavior on a number of levels, first and foremost by raising awareness of digital preservation issues and spurring people to take personal action to preserve their own materials in the current absence of comprehensive tools to help them do so. After all, the personal photographs of the students at South Lake could become the valuable cultural heritage materials of tomorrow, but only if the students take care of them first.

We'll talk more about personal archiving tools and strategies in the future, but in the meantime we take our hats off to the students of South Lake and welcome other student groups to come visit us!

From Chaos to Order: Diverse Communities Interested in Personal Digital Archiving Resources

ERIN ENGLE

I've written before about the personal digital archiving talks I've given and about some of our events. So it seems fitting I write about a recent talk I gave at a meeting of the Washington DC Chapter of the National Association of Professional Organizers.

Earlier this week, I attended a NAPO membership meeting to talk about our personal digital archiving guidance related to managing and preserving digital photographs. I was particularly excited to speak to this group, in part, because I'm fan of organizing…anything. I also see many commonalities between this professional community and the librarian and archivist community.

Professional organizers use principles and expertise learned through coursework and experience to enhance the lives of their clients. They design organizing systems and teach organizing or life skills. Generally speaking, as information professionals, librarians and archivists are trained in the organization and management of services or materials. They collect, record and maintain books, files, photographs and other documents for an institution or organization. In a few short words: professional organizers and information professionals turn chaos into order.

Because of the similar nature of the skills required to perform both activities, this opportunity gave me a chance to think about our guidance in a different way: how the small-business community could benefit from our personal digital archiving guidance.

Our guidance is geared toward helping individuals preserve personal digital information. We've also marketed our guidance to librarians and archivists through an awareness campaign. It strikes me that the small business community can also use our advice to excellent advantage.

Just as people are creating, sharing and handing down digital memories, individuals who run their own business have a vested or economic interest in ensuring their digital information is kept safe and preserved for as long as necessary. Our guidance can provide a starting point for these individuals who may have not thought about personal digital preservation, and I'm looking forward to exploring more effective ways to deliver our tips to this community.

The Challenge of Teaching Personal Archiving

ELLYSA STERN CAHOY

"What's in your library?"

I love to ask this question of the college students that I teach, as they are (whether they realize it or not) continually building their own personal libraries on their laptops, their iPads, even their mobile phones.

As online information proliferates, the physical library is receding in importance. Personal libraries – collections of articles, photos, documents, email and other information – are of primary importance now. My job as an academic librarian has been refocused towards helping my users navigate, mine and build their personal information collections.

While today's graduate students (or new faculty members) may not want to hear that they are now also their own personal librarian, they are. Whether you are a student or not, everyone is actively building collections of personal and/or professional information. Increasingly, the job of librarians is to help our users effectively build, search and organize their own personal and scholarly information collections.

In The Long Term Fate of Our Digital Belongings: Toward a Service Model for Personal Archives, Cathy Marshall identified the four greatest user challenges with regard to storing and organizing personal online materials:

- Accumulation (too many copies of too many things).
- Distribution (multiple copies in many places, online and on storage devices).
- Curation (what to save and where to save it).
- Long-term access (the ever-lingering challenge of migrating materials to new formats when old formats expire).

These challenges are significant and impact the lifespan of current knowledge and historical preservation. If we expect our children and future generations to preserve knowledge, sustained education on how to archive personal information collections is essential.

I am working with Pennsylvania public librarians on a grant to develop digital literacies in public library staff. The goal is for all librarians and library staff to feel at ease with the technology that their patrons use, such as iPads, digital cameras and laptops.

Public libraries are a magnet for patron questions about technology, and while many public library staff are technology whizzes, not everyone feels comfortable helping patrons download photos from their camera. Our grant aims to develop that comfort zone with technology, as well as provide food for thought on ways to engage people in telling their personal stories through

technology with photos, video and more.

As I work with public librarians and my own students, I realize that just as central as learning how to use technology is helping people navigate Marshall's user challenges for personal archiving. Here's how can we help people:

- Understand how to better manage their personal collections.
- Manage the accumulation of photos and documents (and duplicate copies).
- Manage the distribution of that collection.
- Decide what to keep and what to purge.
- Move materials to new formats when needed.
- Above all, perhaps, is the importance of printing out and making physical materials, whether for professional or sentimental reasons.

Indeed, we are now all our own librarians. While it is an exciting time, the information cloud leveled so that we all can build our own collections, it is also a weighty challenge and one that I look forward to helping my students and others confront and tackle.

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