

THE FUTURE OF THE PAST

How to give your digital
archives a fighting chance

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Preservati Partners

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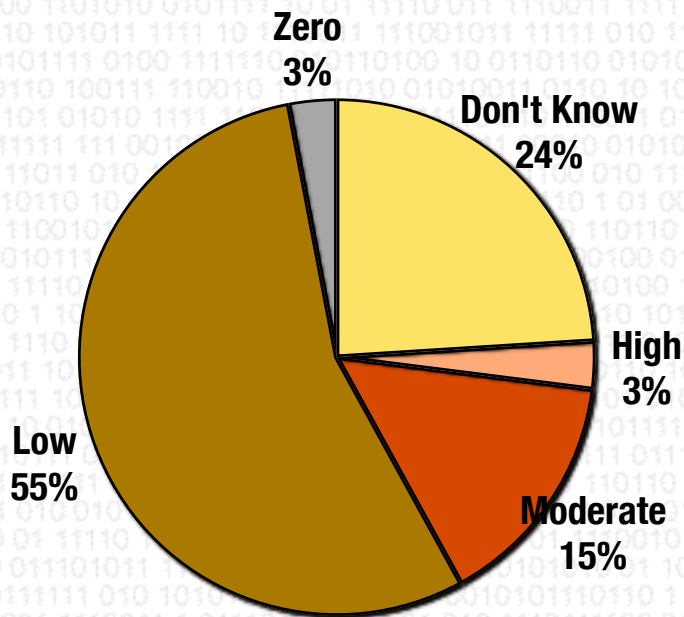
Victoria McCargar | Peter Johnson

What if you're not LoC?

‘There is a growing realization that the answer to [issues of digital loss] calls for coordinated approaches on both the national and international level. Digital preservation is too big an issue for individual institutions or even sectors to address on their own. The required effort is simply not feasible...’

Test your knowhow

2005 News Archives Survey



✓ Low level of familiarity with preservation issues

✓ < 20% high or moderate level

Attention, Chicken Little

- A significant digitization project quietly starts collecting pristine paper backups
- Explosion in metadata ‘standards’ -- calls for a moratorium
- Off the record, many digital preservationists concede big losses are inevitable

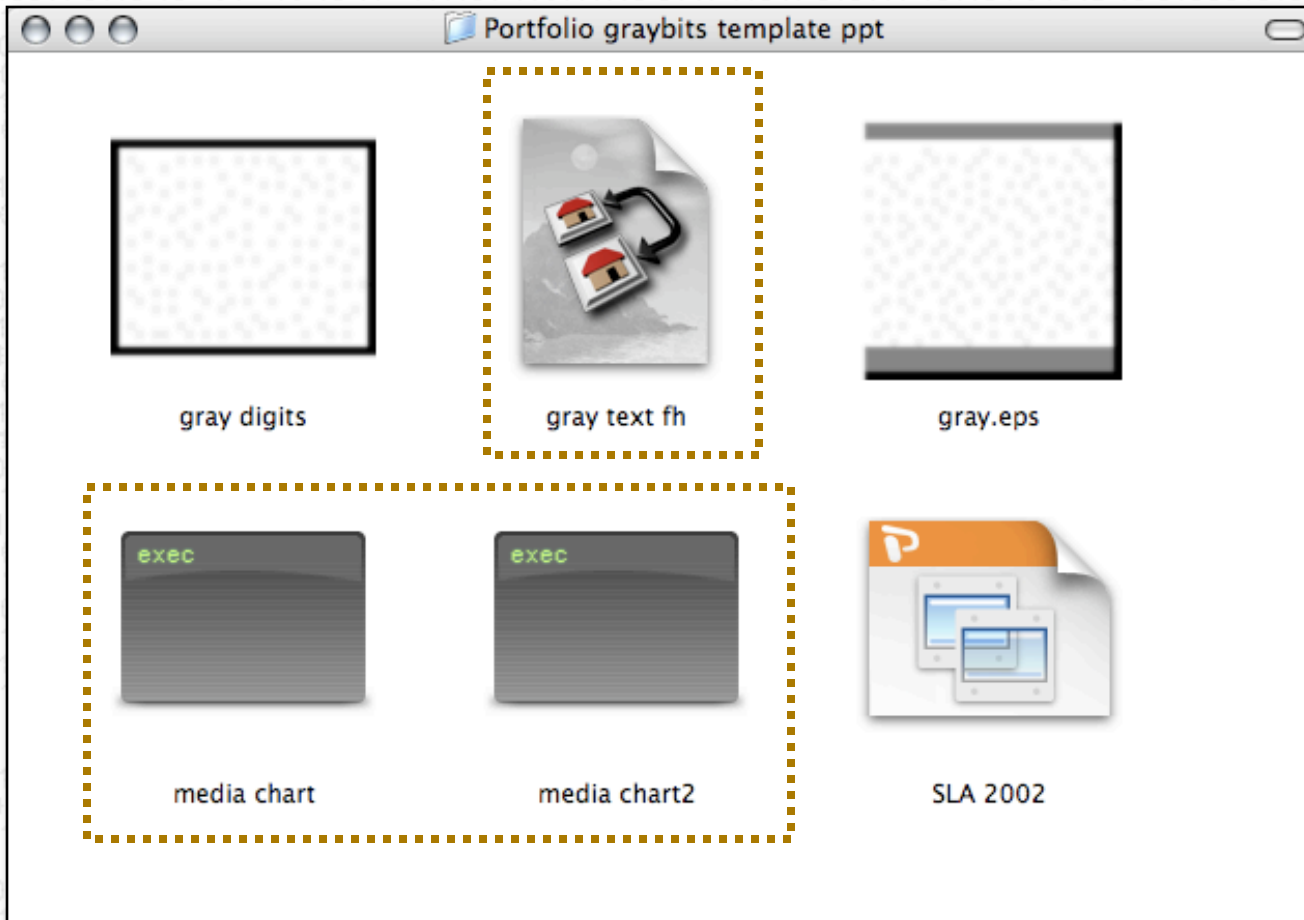
Attention, Chicken Little

- Mature DAM systems show signs of trouble
 - Scanning projects left out OCR
 - No contingencies for disposal or migration of obsolete formats
 - File corruption and data loss are going unnoticed
- Librarians/archivists undervalued

Attention, Chicken Little

- Small collections, personal papers, non-monetized assets are especially at risk

Objects become unreadable



'Readable' objects aren't



... or 'safe' files get corrupted



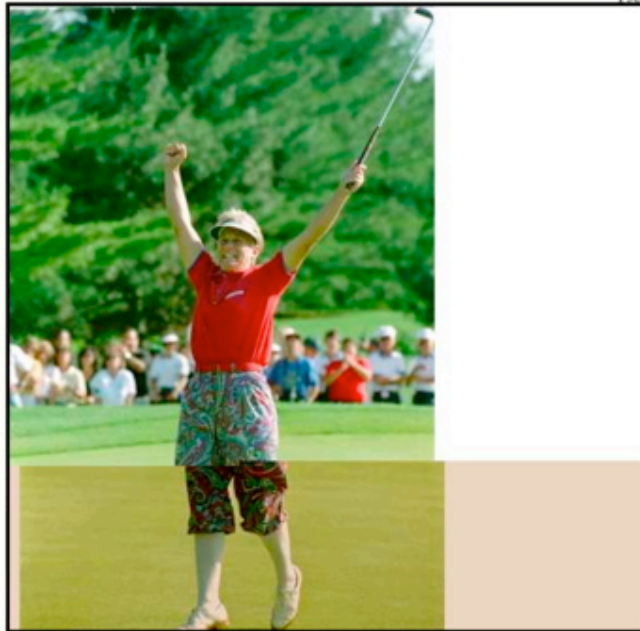
Fl.Orange Tree.#2.TG.4-29 120 Year old Navel Orange tree.Photo Tom Gorman

... or 'safe' files get corrupted

Published Photos (PreView)

[index](#)

EN1 0614 C SHEEHAN P -- drepjgy



Caption:
Photog./Artist:
Writer:
File Name EN1 0614 C SHEEHAN P
Call Out Name: drepjgy
Publication Date:
Acquired Date: Tuesday May 21 1996

Progress, progress

- Clearer agreement on what ‘preservation’ means (hint: not ‘digitization’)
- A working PREMIS-based ‘dark archives’ model
- New focus on economics of sustainability
- Open source software
- Guidelines for ‘trusted’ repositories

Learning from big repositories

- RLG-CRL certification project
 - Formal audit instrument
 - Now TRAC: Trusted Repositories Audit & Certification
 - <http://www.crl.edu>
- 10 universal criteria for TDRs from four global preservation projects (CRL, DPE, nestor, DCC)

For repositories

1. The repository commits to continuing maintenance of digital objects for identified community/communities.

For the rest of us

- You have signed on to preserve digital objects in perpetuity.
- You know/predict/guess who your future users are and what their likely information needs will be.
- ✓ Who will be looking at your stuff?
- ✓ What will they want to see? How?

For repositories

2. Demonstrates organizational fitness (including financial, staffing structure and processes) to fulfill its commitment.

For the rest of us

- Continuing education for staff
- What happens to your stuff if you go out of business? Have a plan
- What happens if your vendor goes out of business? Have a plan
- Read corporate financials: yours, your vendors'

For repositories

3. Acquires and maintains requisite contractual and legal rights and fulfills responsibilities.

For the rest of us

- Don't ingest anything you don't have clear rights to
- Have a contract to back up whatever you don't own
- Rights should be noted in each object or record
- ✓ What's your tolerance for lawsuits?

For repositories

4. Has an effective and efficient policy framework.

For the rest of us

- Have a policy that spells out what you keep and what you delete and why
 - It's reflected in your systems
 - In writing -- handout, posted message, intranet
- ✓ You use it

For repositories

5. Acquires and ingests digital objects based upon stated criteria that correspond to its commitments and capabilities.

For the rest of us

- Limit the types of files you'll agree to ingest
- Ubiquitous formats are safer than specialized ones -- for now
- Bone up on your industry standards and regulations

For repositories

6. Maintains/ensures the integrity, authenticity and usability of digital objects it holds over time.

File Name: OIL FIELD FIRES
 Authors: A
 Run Date: 2.25.93
 Folder: MOODY; Documents;
 Job: Multi: AAA (no name)
 Job: MOODY
 Key Words: Oil Field; Kuwait
 Events: M14100

Please put in
 Platemakers' box & Tube
 to Editorial Art for
 moody

FIRE

IN THE OIL

The oil fields of Kuwait are ablaze with more than 50 fires, ignited by Iraqi forces in an effort to conceal their troop movements, or by allied bombs raining havoc on enemy positions. Many of the remainder of the country's wells—numbering more than 1,000—are likely to be blown up by Iraqi troops, making good on Saddam Hussein's threat to destroy Kuwait's wells and refineries. Whatever the cause, many of the fires will burn unchecked for the duration of the war. Here is a look at some of the firefighting strategies firefighters will bring to their battle with flame and smoke:



FIREFIGHTING

WATER

- Used to cool tanks that aren't burning.
- A powerful stream of water can blow out a wellhead fire.
- Like a heavy rain, a broad arc of water protects firefighters, sending them in to get near enough to shut off a well or seal an explosive charge.



EXPLOSIVES

An accumulative charge of dynamite is placed near the well. When it explodes, it is like blowing out a birthday candle. Firefighters must be able to get near enough to the wellhead source to place a charge.



FOAM

A layer spread on top of a wellhead fire, such as one in a storage tank, smothers it. The oil can then be drained from the lower part of the tank.



Source: Los Angeles Times; From oil fields of Kuwait; Engineering News-Record; Oilfield fires; OIL CO. (left)



POTENTIAL PROBLEMS

- The wells are likely to be booby-trapped, endangering crews attempting to extinguish the fires.

The longer the fires burn, the harder they are to extinguish because the wellheads or cokes.

Burning storage tanks are subject to "boil overs," the disastrous result of fiery oil hitting any water that may have pooled at the bottom of the tank. This could spread fire to adjacent tanks. Some of Kuwait's crude oil is known to have a high sulfur content, which could produce toxic fumes when



HOW LONG WILL THEY

- If oil is flowing freely from a natural pressure and then ignites, it could burn for months.

Fire at a low-pressure well, where the oil must be pumped, is easier to control. If the pump is damaged, it can be shut off, and the fire will burn itself out when its supply of surface oil is gone.

- Debris from the oil-bearing sands below the well might plug the well, shutting off the oil.

Since storage tanks contain a limited amount of oil, they themselves will burn out in several days or



FIRES AND THE

- Oil well fires produce soot because they burn inefficiently—as with a Bunsen burner in a chemistry lab.

- Burning storage tanks produce large volumes of smoke, but the fires burn themselves out comparatively quickly.

The massive volumes of smoke pumped into the sky will not be expected to have an effect on global weather. Some scientists agree that the heavy smoke will not soar high enough into the atmosphere to allow it to be spread around the world.

On a national level, though, there are some serious environmental effects. For example, "black rain," a mixture of soot and acid rain, has been reported falling on the Iranian frontier. The runoff can pollute a water resource. Moreover, raindrops from Kuwait city have described an oily, sooty residue covering everything and say that the smoke makes breathing difficult.

METM1007; Los Angeles

For the rest of us

- Know your formats and watch for longevity issues
- Plan your data migrations carefully and test, test, test
- Know what migration paths will sustain necessary functionality
- Know your legal requirements for proving authenticity

For repositories

7. Creates and maintains requisite metadata about actions taken on digital objects during preservation as well as about the relevant production, access support and usage process contexts before preservation.

For the rest of us

- Document what you do to files and objects: migration processes, format changes, upgrades:
.doc --> .pdf
- Note who did it, where, when and under what circumstances

For repositories

8. Fulfills dissemination requirements.

For the rest of us

- You deliver to users what you say you will deliver
- Searches are successful (users can find what they want)
- Objects are useable (they function as you've said they will)
- You quantify and track unsuccessful searches and problems with objects

For repositories

9. Has a strategic program for preservation planning and action.

For the rest of us

- Incorporating ‘all of the above’ -- moving beyond a ‘seat of the pants,’ reactive non-program
 - Policy
 - Education of stakeholders
 - Monitoring formats and lives of objects
 - Enhanced metadata

For repositories

10. Has a technical infrastructure adequate to continuing maintenance and security of its digital objects.

For the rest of us

- Your systems are up to the task, including IT support
- Library-IT cooperation
- Your system and vendors are flexible enough to allow for more and better metadata, smarter search engines
- No point in embedding preservation metadata if you can't use it



Avoiding obstacles

- Fear not the IT priesthood
- Eradicate this sentence: ‘I’m not technical.’
- Mount a campaign to educate stakeholders -- you already know more than they do
- Have a say in purchases of cheap, bottomless memory

Important caveat

‘The key premise underlying the core requirements is that for repositories of all types and sizes preservation activities must be scaled to the needs and means of the defined community or communities.’

Important caveat

- Have you taken on more than you can handle, committed to a role you can't fulfill?
- Could you be undertaking a more sophisticated preservation program?

Over to you!

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