

The Long-Term Preservation of Digital Records & Information



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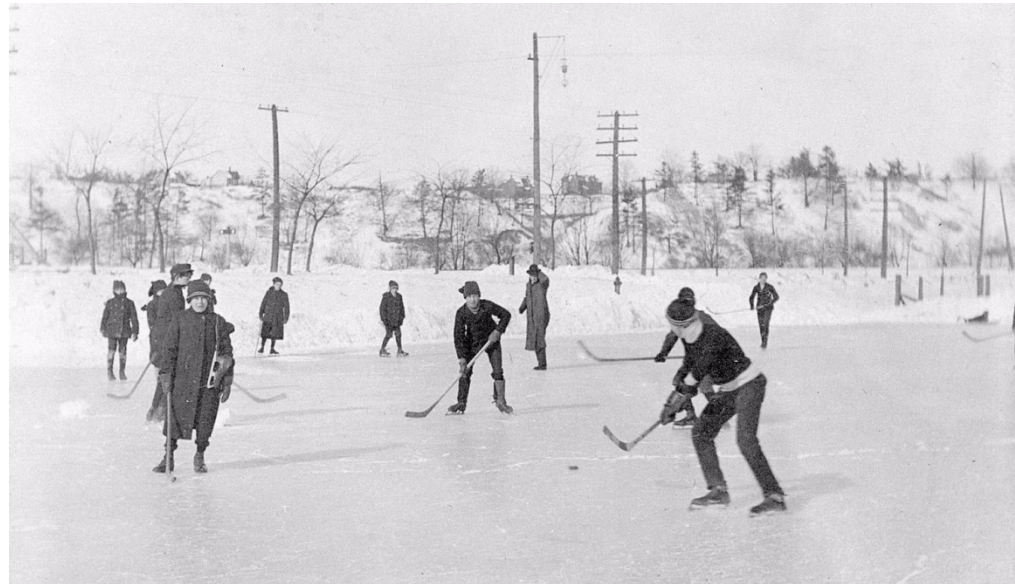
June 11, 2016

Goals

Tell you what digital preservation is, and what concepts are relevant to it

Identify practices to support digital preservation

Think through how all of this is relevant to recordkeeping in medical regulation



Cropped from "Riverdale Park", c. 1900.
Courtesy of the Toronto Public Library

Digital Preservation

Processes and controls to ensure that digital records and information remain **authentic, available and reliable** over time.



Cropped from "Hepatics, bunch in hand,"
1927, City of Toronto Archives, fonds
1266, item 10369

Authenticity

Identity: record is unique and can be distinguished from other records

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Integrity: record is complete and unaltered in all respects

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Authenticity: a record is what it purports to be, and is free from tampering or corruption

Ensuring Authenticity

- Know your records [**identity**]
 - Know the contexts of records
 - Use records schedules and retention rules
 - Keep file listings and inventories
 - Organize digital records systematically
- Protect your records from alteration or corruption [**integrity**]
 - Fixity checksums
 - [checksum for this file on June 9, 11:30 am:
5b4b95d3ba1cb1140850f83f851c93de]
 - [same file, after I added this sentence and hit 'save':
d3e35faffd903443d8225c4c708ecb45]
 - Access and security rules
 - Chain of custody/Audit logs
 - Keep backups

Availability



- Records are easily accessible for ongoing action and reference as required
- Information about records is also available for reference

Mechanics Institute Reference Library, c. 1900. Courtesy of the Toronto Public Library

Ensuring Availability

- Transfer records from unstable storage media (CD-Rs, USB drives) or personal computers to server-supported systems
- Migrate records to preservation-standard formats if necessary – but keep a copy of the original!
- Prevent storage in proprietary or obsolete formats
- Document procedures and methods used to create migrated files
- Keep good metadata about what things are and where they are

Reliability

- Records are **reliable** when they can be trusted as evidence
- Proof of **identity**, **integrity**, **authenticity** is especially important to show reliability in a legal context
- Records can only be relied upon when they are **available**



Cropped from "Brock's Monument, Queenston Heights," c. 1900, City of Toronto Archives, fonds 1568, item 200.

What to Preserve?

- Review schedules and retention
 - Retention periods that involve digital records being kept for 10+ years is a good filter
 - Permanent/archival records
- Review core records of your organization
 - What do you rely on as evidence to protect your organization and the public?
 - What records stand as proof of the key decisions your organization makes?
 - What records would be disastrous to lose?
 - What records occur in low volumes but have high impact?

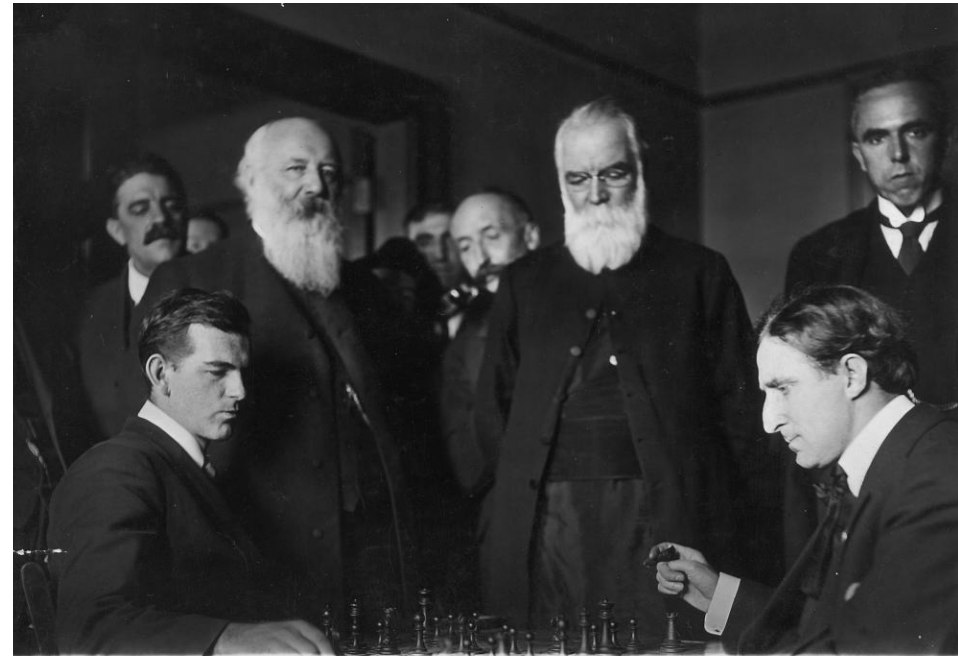
How to Keep it?

[A super quick summary]

- Secure transfer from original source
- Ingest into separated storage place or system
 - Includes fixity check and metadata creation at time of ingest
- File format migration as needed to stable formats
- Ongoing monitoring and maintenance
 - Regular fixity checks and monitoring of format risks

Why it's Hard

- Formats and technologies change quickly
- Preservation requires ongoing maintenance and resources
- Small scale preservation can be done manually; scaling up requires special systems



Cropped from "Chess players," c.1912-1916, City of Toronto Archives, fonds 1244, item 2241.

Questions/Questions?

[For you/for me]

- What aspects relevant to medical regulation require special consideration?
- What support is required in your organization?
- What technical knowledge is needed?