



# Records Management 5: Electronic Records

University Archives

# What are Electronic Records?

- Informational files or data created, received, maintained, and stored in digitized form through the use of computers and applications software.
- Always machine dependent formats.
- Accessible and readable only with the assistance of digital processors.
- Computer programs and software are not considered electronic records.

# Storage

- Optical discs (floppies, CDs, DVDs)
- Magnetic tape
- Hard drives
- Servers
- Grid computing
- Cloud

# Formats

- Electronic messages, including email, voicemail, and instant messaging.
- Word processing documents and spreadsheets
- Databases
- Webpages
- Digital images
- Video and audio files

# Management of Electronic Records

- University retention guidelines apply to all electronic records regardless of their digital form.
- Failure to properly maintain electronic records may expose the University to legal risks.
- Include a plan for migrating records when operating systems and/or software applications are changed or upgraded).

# Who Is responsible for Electronic Records Maintenance?

- University employees are responsible for maintaining the integrity of electronic records.
  - Includes administration, control, preservation, access and security of records within their custody.
- Compliance with Federal, State, and University policy and retention/disposal of electronic records is the responsibility of the Departments.

# Records are defined as...

- Contemporaneous evidence of a business transaction.
  - Must be accurate and complete capture and preservation of content, context and structure through time.
  - Authentic, reliable, and trustworthy

# Characteristics of Trustworthy Electronic Records

- Reliability – trusted as a full and accurate representation of the transactions, activities, or facts to which it attests.
- Authenticity – proven to be what it purports to be and created or sent by the person who purports to have created and sent it.
- Integrity – has all the information necessary to ensure its usefulness.
- Accessibility – can be located, retrieved, presented, and interpreted.



# Records as Evidence

- Federal Rules of Evidence, Article VIII, Rule 803 (6)- Hearsay exceptions says that a record...
  - Should be dated to prove that it was made near the time of the event
  - Sent or transmitted by someone with knowledge
  - For legal admissibility, records creation must be undertaken in the regular conduct of business
  - Methods of record preparation must be trustworthy.

# What is Metadata?

- Evidence, typically stored electronically that describes the characteristics, origins, usage and validity of other electronic evidence.
- System or embedded metadata includes...
  - Author
  - Date
  - Time of creation
  - Date document was modified

# Challenges of Electronic Records

- Proliferation of electronic records
- Ease of duplication and dissemination raises concerns of authenticity.
- Greater risk for potential security breaches and virus attacks
- Lack of a “physical” presence can make it easy to lose track of records disposition.
- Perceived irrelevance of records managers and archivist

# Challenges of Electronic Records cont.

- “Born-digital” materials are much more complicated and costly to preserve than anticipated
- Software applications can combine graphics, text, and sound into a single record
- Networked systems allow multiple authors to work on a single document.
- There are no permanent storage media.

# Impediments to Access

- Records depend on technology to interpret them.
  - Obsolescence (media & hardware)
  - Bit Rot: Deterioration thru compression, conversion, transmission
  - Storage and ability to retrieve information
  - Proprietary nature of software
  - Increasingly dynamic content
  - Lack of planning

# Organizing Your Electronic Records

An effective approach is to have a filing system that mirrors your paper files (Hybrid Files).

- Create a series of electronic folder and subfolders records
  - Group like files together
- Arrange hierarchically from the general to the specific in a series of directories.
- Standardize file names.

# Challenges in File Naming

- Version Control - which is the “official record” and which are drafts
- Uniqueness
- Persistence over time
- Access and retrieval
- Determining what metadata to collect
- Scalability

# File Naming

- Develop naming conventions that are:
  - Logical
  - Consistent
  - Allow sensible sorting
- Example: Board Minutes
  - Minutes 2005\_07
  - Record series, year, month
  - Files sort in chronological sequence



# Standardize Terminology

The benefits of standardizing the terminology:

- Access files easily and rapidly
- Train new employees in less time
- Avoid the loss of information
- Name files quickly and easily
- Share files more easily
- Identifies the groups of files eligible for disposition at the same time

# Compressing Electronic Files

- Pros: Saves storage space easily transmitted.
- Cons: May result in data loss. Introduces an additional layer of software dependency.
- Three types of loss depending on your course of action:
  - Data (image “lossy” or “lossless”)
  - Appearance (loss of structure, page layout)
  - Relationships (spreadsheet cell formulas, database file fields)

# Long Term Preservation of Files

- Most records are created using specific, proprietary software applications, but there is a risk.
  - Over time, these applications may not be able to read files created with previous version (backward compatibility)
- Non-proprietary formats are ideal for long-term preservation of files, but each has its limitations
  - ASCII or plain text will capture data in the lowest common denominator of formats – loses structure and functions in the process.

## Preservation cont.

- Magnetic tape can develop read-errors.
- Optical storage media can fail completely after only a few years, especially if they are not stored in the proper environment.
- Migrate data periodically to a new software version or system – labor intensive.

# Consult the Archivist for guidance

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