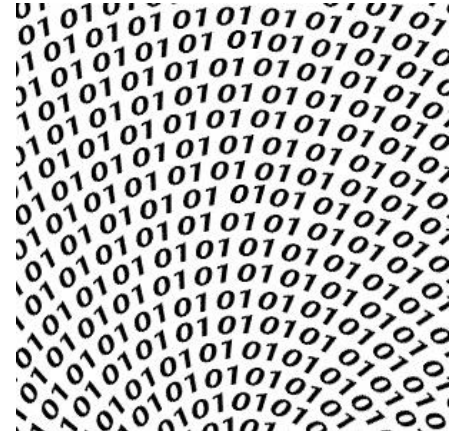# File Management in Focus:

Storage & Filenaming for Digital Images

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Note >>>

- Storage media do not last forever

- Bringing collections into a centralized setting makes organization easier

- Online marketplaces like Amazon and eBay are useful for finding missing parts
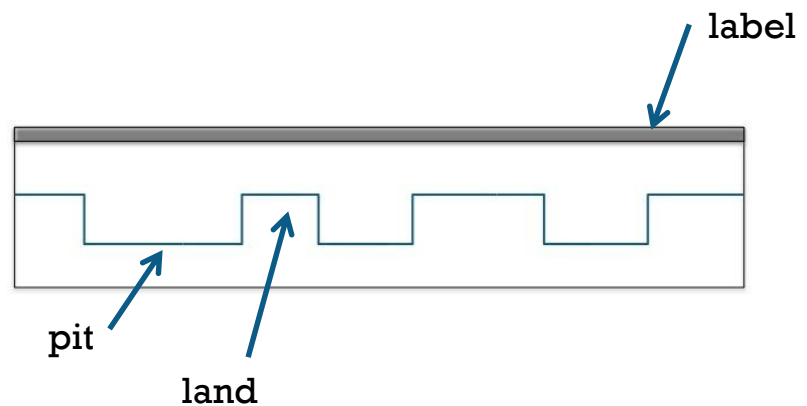
+ Floppy disks

- Strengths
  - Removable
  - Easy to share

- Weaknesses
  - Obsolete
  - Sensitive to magnetic interference

tracks

sector

Image by George Chernilevsky, public domain via Wikimedia Commons
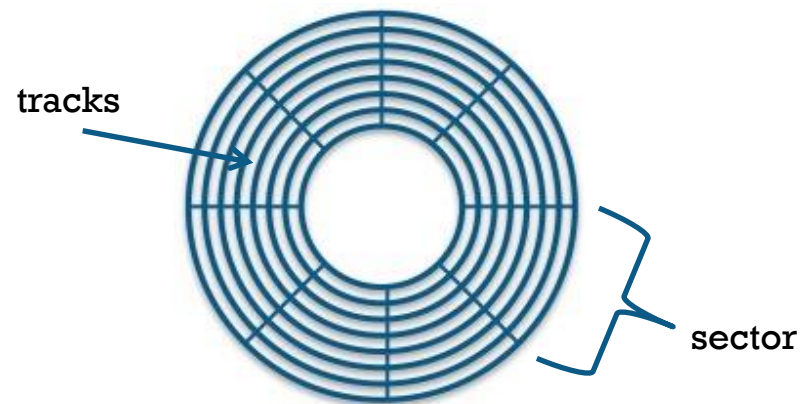
+ Optical discs

- Strengths
  - Removable
  - Easy to share

- Weaknesses
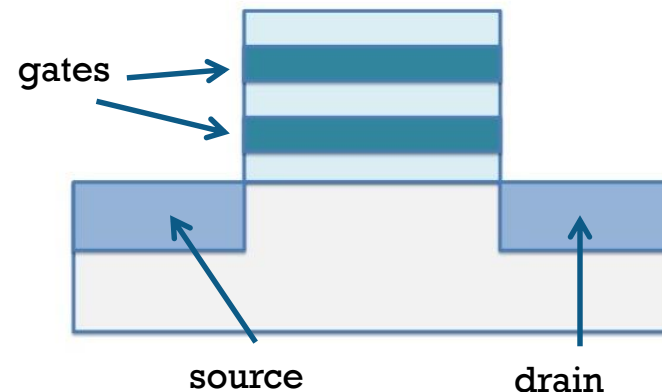 - Susceptible to poor handling and environment conditions
  - Breakdown of dyes

label

pit

land

Flash memory

- Strengths
  - No moving parts
  - Removable
  - Easy to share
  - Cheap*

- Weaknesses
  - Cells can degrade with repeated use
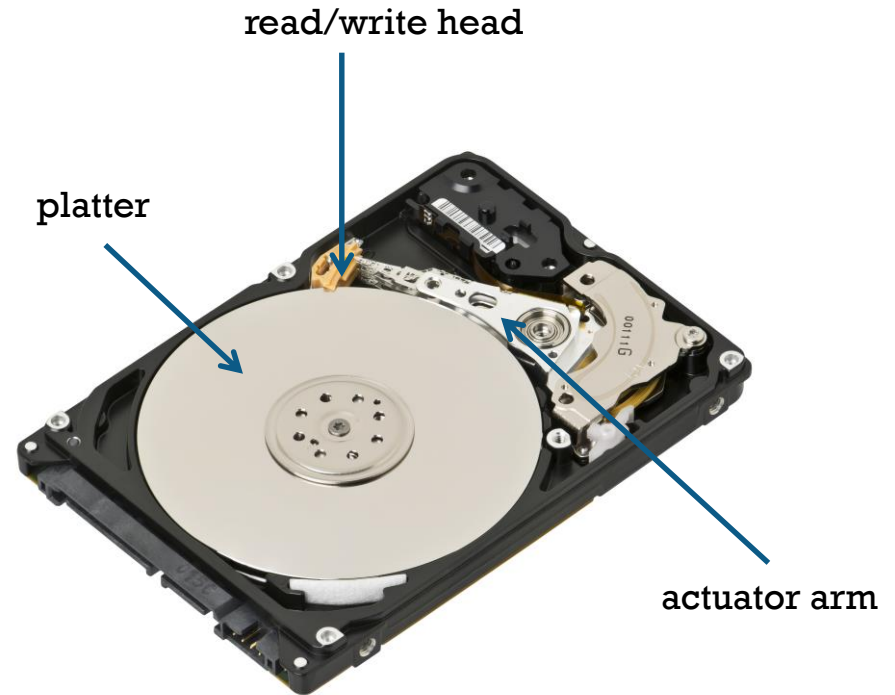 - Quality control issues

gates

source   drain

Image by Andreas, CC-BY-SA 2.0 via Flickr

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Note >>>

- Floppy disks,

- Optical discs,

- Memory cards…

- Intended more for temporary storage and sharing rather than long term storage

# Hard drives

- Strengths
  - High storage capacity
  - Cheap*

- Weaknesses
  - Moving parts
  - Susceptible to dirt and dust

read/write head

platter

actuator arm

Image by Evan-Amos, CC-BY-SA 3.0 via Wikimedia Commons

Servers, cloud storage, etc.
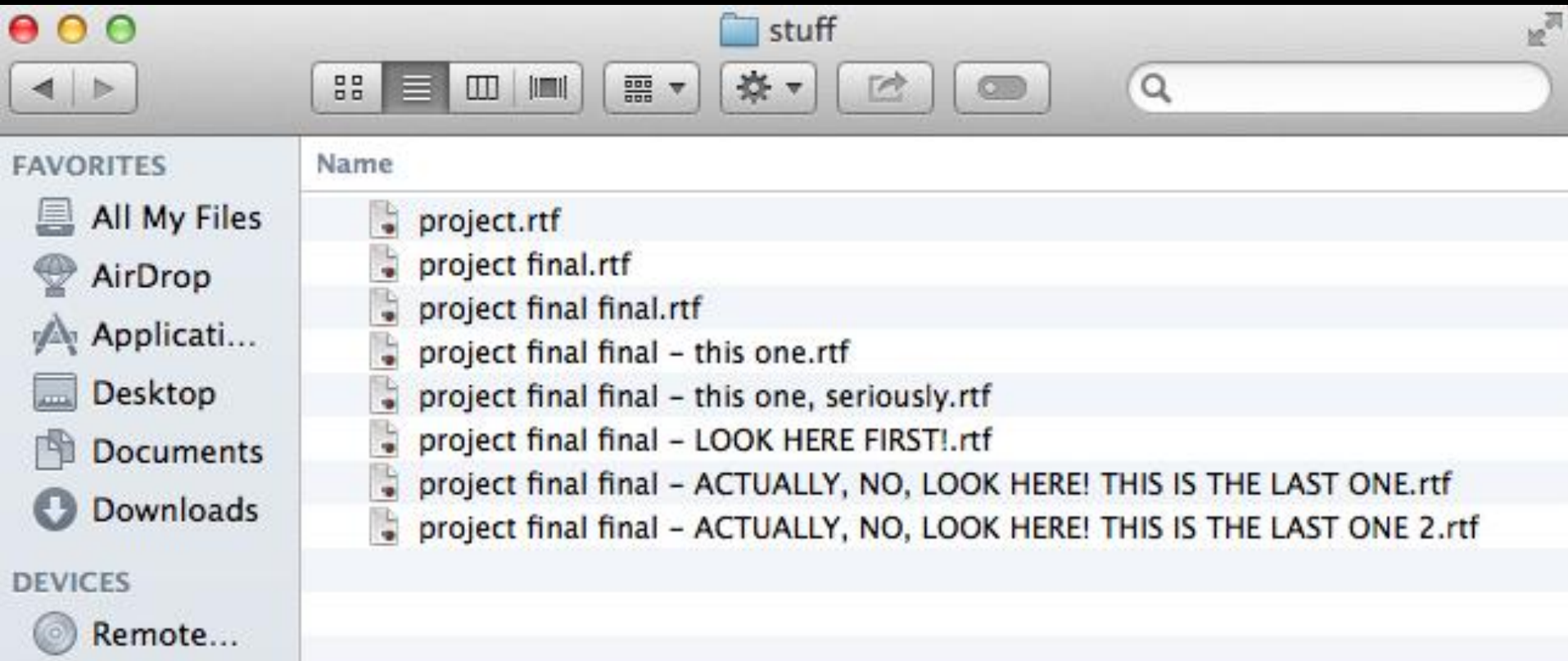
- Strengths
  - High storage capacity
  - Wide range of costs

- Weaknesses
  - Vulnerable to security and privacy issues
  - May require IT support

Image by Amber Case, CC BY-NC 2.0 via Flickr

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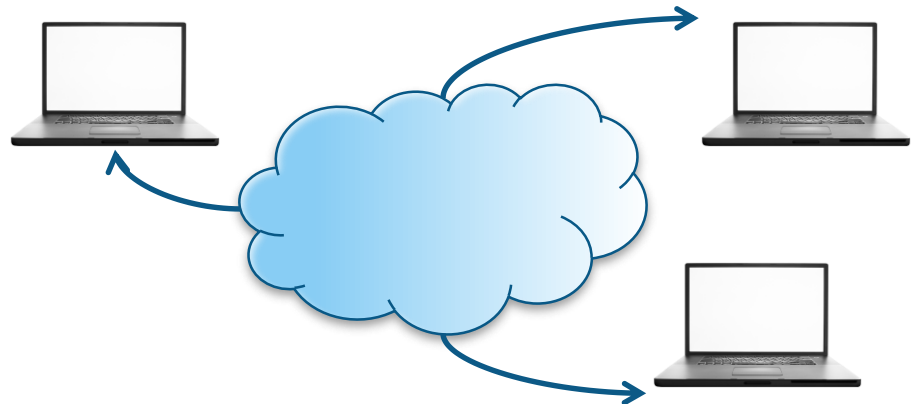
"3-2-1 Rule" >>>

- Strategize…

  - Make **3** copies…
  - on at least **2** different types of storage…
  - with at least **1** in a different location from the others.

Filenaming

- Questions to consider:
  - Who are the files organized for?
    - Do filenames need to make sense to others outside the organization?
  - Do files need to match other related files?
  - What are the most significant data points to capture?
    - How are these ranked?
  - Do humans need to be able to understand the filenames?
  - Do filenames need to match physical locations?
  - Do filenames need to be extensible?

+ Useful conventions

- Leading zeros

1	01	001
2	02	002
...	...	...
10	10	010
...	...	...
100	100	100

- Standardized dates

Feb. 3, 2017 >	20170203
	170203
	2017-02-03
	2017-02

- Largest unit > smallest unit

Institution >
Collection >
...
Subunits >
...
Items >
Parts (recto, verso, etc.)

+ Conventions to avoid

- Special characters

\ / : * ? " < >
| [ ] & $, .

- Lengthy names

Pasadena_rose_parade_float_1938_accession_no_185603_hi_rez_600dpi_175.tiff

- Spaces

Los angeles photo 01.jpg
Los angeles photo 02.jpg

- Subjective descriptions

Pasadena_rose_parade_float_with_large_fluffy_dog_in_car_1938.jpg

Filenaming Policy (sample)

Guiding principles

Be consistent

Exceptions may fall outside the scope of the policy, and choices will need to be made about the organization of filenames such as where to include the date, what abbreviations to use, etc. Regardless of the decision, filenaming is only effective if patterns are followed consistently.

Order from largest to smallest units

Where possible, order filenaming elements from largest to smallest in terms of parts-to-whole.

Rules
- Special characters such as \ / : * ? " < > | [ ] & $, .
    - o Replace with underscores
- Spaces
    - o Replace with underscores
- Numbering
    - o Add leading zeros with best guess as to how many levels needed
- Dates
    - o Format dates to follow yyyymmdd
- Letter case
    - o Replace upper case lettering with lower case

Filenaming for Collection XYZ (sample)

1) Begin with institution initials followed by an underscore.

   csun_

2) Add collection ID followed by an underscore.

   csun_xyz_

3) Add item ID. Include leading zeros where appropriate.

   csun_xyz_0001
   csun_xyz_0060

4) Add recto or verso (with a preceding underscore) where appropriate.

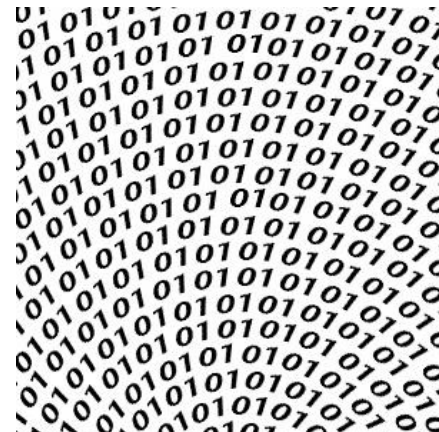   csun_xyz_0001_recto
   csun_xyz_0060_verso

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Tips >>>

- Documentation!
  - Construct a policy or guide with examples

- Practice

- Practice again (and have your colleagues try it, too)

- Stay consistent

- Use a file renaming tool
  - Use regular expressions (regexes) for advanced search & replace features

Thank you!

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