# THE LEVELS OF DIGITAL PRESERVATION
## An NDSA Project

http://www.digitalpreservation.gov/ndsa/activities/levels.html
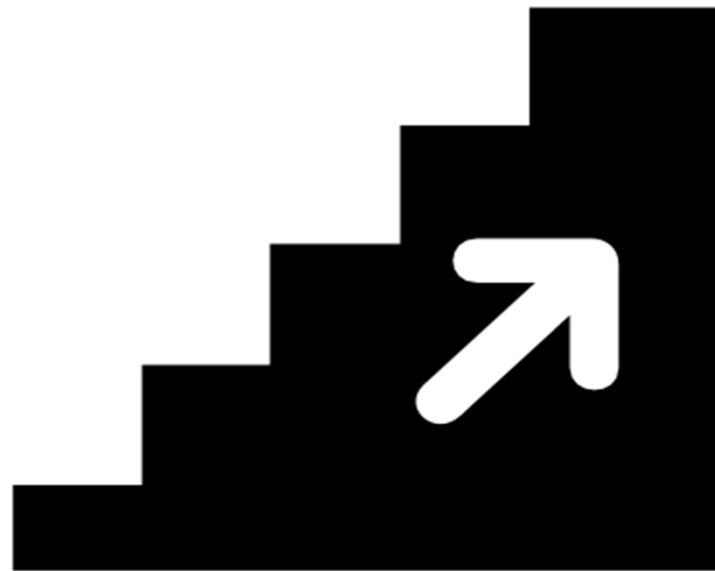
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# GOALS

- Simple guidance to help institutions of any type and size mitigate the risks to digital content

- Jargon-free and non-technical

- Descriptive not proscriptive

- Content and resource agnostic

- Evolving document of community-accepted minimums for digital stewardship

# STRUCTURE

- FOUR LEVELS
  - Level 1 – Protect your data
  - Level 2 – Know your data
  - Level 3 – Monitor your data
  - Level 4 – Repair your data

- FIVE ACTIVITY AREAS
  - Storage & Geographic Location
  - File Fixity & Data Integrity
  - Information Security
  - Metadata
  - File Formats

- From Bit-level Preservation to Long-term Stewardship

|  | Level 1 (Protect your data) | Level 2 (Know your data) | Level 3 (Monitor your data) | Level 4 (Repair your data) |
|---|---|---|---|---|
| **Storage and Geographic Location** | - Two complete copies that are not collocated<br><br>- For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system | - At least three complete copies<br><br>- At least one copy in a different geographic location<br><br>- Document your storage system(s) and storage media and what you need to use them | - At least one copy in a geographic location with a different disaster threat<br><br>- Obsolescence monitoring process for your storage system(s) and media | - At least three copies in geographic locations with different disaster threats<br><br>- Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems |
| **File Fixity and Data Integrity** | - Check file fixity on ingest if it has been provided with the content<br><br>- Create fixity info if it wasn't provided with the content | - Check fixity on all ingests<br><br>- Use write-blockers when working with original media<br><br>- Virus-check high risk content | - Check fixity of content at fixed intervals<br><br>- Maintain logs of fixity info; supply audit on demand<br><br>- Ability to detect corrupt data<br><br>- Virus-check all content | - Check fixity of all content in response to specific events or activities<br><br>- Ability to replace/repair corrupted data<br><br>- Ensure no one person has write access to all copies |
| **Information Security** | - Identify who has read, write, move and delete authorization to individual files<br><br>- Restrict who has those authorizations to individual files | - Document access restrictions for content | - Maintain logs of who performed what actions on files, including deletions and preservation actions | - Perform audit of logs |
| **Metadata** | - Inventory of content and its storage location<br><br>- Ensure backup and non-collocation of inventory | - Store administrative metadata<br><br>- Store transformative metadata and log events | - Store standard technical and descriptive metadata | - Store standard preservation metadata |
| **File Formats** | - When you can give input into the creation of digital files encourage use of a limited set of known open formats and codecs | - Inventory of file formats in use | - Monitor file format obsolescence issues | - Perform format migrations, emulation and similar activities as needed |

# Uses

- Program planning: a starting point & roadmap

- Self-assessment & strategic planning

- Institutional advocacy

- Communication with content creators

# Self-assessment example

■ = satisfied with implementation

■ = will be satisfied with implementation after current enhancement project

■ = implemented but could be improved

■ = not implemented

| | Level One | Level Two | Level Three | Level Four |
|---|---|---|---|---|
| Storage & Geographic Location | ■ | ■ | ■ | ■ |
| File Fixity and Data Integrity | ■ | ■ | ■ | ■ |
| Information Security | ■ | ■ | ■ | ■ |
| Metadata | ■ | ■ | ■ | ■ |
| File Formats | ■ | ■ | ■ | ■ |