In the Service of Art:
Metadata for Preservation of Interactive Digital Artworks

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ALCTS-PARS Preservation Metadata Interest Group
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(very brief) Background : PAFDAO

- Interactive new media art preservation
- NEH funded project R&D (2013-2015)
  - user survey
  - disk imaging
  - metadata
  - emulation
  - ingest
  - more...

https://confluence.cornell.edu/display/pafdao/
PAFDAO Deposit Structure

*Simplified diagram for demonstration*

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Descriptive Metadata

MARCXML
- legacy bibliographic records
- first-pass technical & artistic understanding

- <marc:datafield tag="538" ind1=" " ind2=" ">
  <marc:subfield code="a">System requirements (MS Windows 95 or higher): IBM-compatible PC, 80486; 8 MB RAM (16 MB recommended); 256-colour VGA (640x480); CD-ROM drive (8x).</marc:subfield></marc:datafield>
DFXML
- derived from command line utilities
- concern: HFS-specific information

- <mods:note type="HFS_entry_type">
- <mods:note type="HFS_filetype_creator">
- <mods:note type="HFS_resource_fork_size">

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Preservation Metadata

GUYMAGER ACQUISITION INFO FILE

GUYMAGER

Version
0.7.4-1
Compilation timestamp
2014-09-11-18.35.59
Compiled with
gcc 4.7.2
Library version
2.0.7
Host name
ubuntu
Domain name
(none)
System
Linux ubuntu 3.13.0-40-generic #69-Ubuntu SMP Thu Nov 13 17:53:56 UTC 2014 x86_64

Device information

Command executed: bash -c "searche" basename /dev/sr2' H . t P .......d A . a de......d" & echo "No kernel HPA messages for /dev/sr2"
Information returned:

No kernel HPA messages for /dev/sr2

Command executed: bash -c "smartctl -s on /dev/sr2 ; smartctl -a /dev/sr2"
Information returned:

smartctl 6.2 2012-07-26 r3341 (x86_64-linux-3.13.0-48-generic) (local build)
Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org

--- START OF ENABLE/DISABLE COMMANDS SECTION ---

Unable to fetch IEC (SMART) node page [unsupported field in smart command]
A mandatory SMART command failed: exiting. To continue, add one or more "-I verbose" options.
smartctl 6.2 2012-07-26 r3341 (x86_64-linux-3.13.0-48-generic) (local build)
Copyright (C) 2002-13, Bruce Allen, Christian Franke, www.smartmontools.org

--- START OF INFORMATIVE SECTION ---

Vendor: PLEXTOR
Product: CD-R PX-M2418A
Revision: 1.04
User Capacity: 558,977,536 bytes [558 MB]
Logical block size: 2048 bytes
Device type:
CD/DVD
Local Time:
Tue Nov 25 11:54:39 2014 EST
SMART Support is: Unavailable - device lacks SMART capability

--- START OF READ SMART DATA SECTION ---

No bad sectors encountered during acquisition.
No bad sectors encountered during verification.
Status: Finish successfully

MD5 hash: 0130337521fa35961e9e2aef292cc1e16c
MD5 hash verified source: 0130337521fa35961e9e2aef292cc1e16c
MD5 hash verified image: 0130337521fa35961e9e2aef292cc1e16c
MD5 hash verified source: 0130337521fa35961e9e2aef292cc1e16c
MD5 hash verified image: 0130337521fa35961e9e2aef292cc1e16c
SHA1 hash: e96d191e61776d71f78f45b022128c12b18a9b43
SHA1 hash verified source: e96d191e61776d71f78f45b022128c12b18a9b43
SHA1 hash verified image: e96d191e61776d71f78f45b022128c12b18a9b43
SHA256 hash: 71c25934f1f3e86b34b2e9f772ace965a4c2343bd956855135e697b56db1949e37f
SHA256 hash verified source: 71c25934f1f3e86b34b2e9f772ace965a4c2343bd956855135e697b56db1949e37f
SHA256 hash verified image: 71c25934f1f3e86b34b2e9f772ace965a4c2343bd956855135e697b56db1949e37f

Source verification OK. The device delivered the same data during acquisition and verification.
Image verification OK. The image contains exactly the data that was written.
Preservation Metadata

PREMIS
- Script pull from Guymager Info file
- References to classifications

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Unstructured Metadata - Narratives

- Emulator Documentation
- Sector Notes Documentation

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Next plans

- White paper
- Review PREMIS v.3

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PAFDAO team:

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Advisory Board: Ben Fino-Radin, Jean Gagnon, Rebecca Guenther, Matthew Kirschenbaum, Jon Ippolito, Norie Neumark, Christiane Paul, Richard Rinehart, Simeon Warner

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