Preserving and Emulating Digital Art Objects

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**Preservation and Access Framework for Digital Art Objects**

Test bed: 100 born-digital artworks created for CD-ROM, dating back to the early 1990s.
Cultural Heritage at Risk: Preservation challenges

- Media fragility
- Complex technical composition
- Interrelated dependencies
  - Third-party apps and plugins
  - Obsolete Hardware
  - Operating Systems
- Original documentation possibly missing or incorrect
- Lack of established best practices for archival preservation
User Community & Access

“I am worried about context and artistic intent – how do we retain authenticity in the long term?”

“Access to past works are incredibly valuable to me – understanding works not just for their message but also for their technical [aspects that] help new media artist[s] evolve [this] area of practice.”
### Disk Imaging & Visual Documentation

| Acquisition started: 2013-12-03 12:21:17 (ISO format YYYY-MM-DD HH:MM) |
| Verification started: 2013-12-03 12:23:45 |
| Ended: 2013-12-03 12:26:13 (0 hours, 4 minutes and 56 seconds) |
| Acquisition speed: 4.33 MByte/s (0 hours, 2 minutes and 28 seconds) |
| Verification speed: 4.36 MByte/s (0 hours, 2 minutes and 27 seconds) |

- Sector-by-sector copy of disc; retain structure and contents
- Separate data from fragile media
- Provide evidence we have made a trustworthy copy

**Linux device**: /dev/sr0

**Device size**: 67101984 (671.9MB)

**Format**: Linux split dd raw image - file extension

**Image path and file name**: /media/sdb1/datadrive-emulation/mac_system

**Info path and file name**: /media/sdb1/datadrive-emulation/mac_system

**Hash calculation**: MD5, SHA-1 and SHA-256

**Source verification**: on

**Image verification**: on

**No bad sectors**

**No bad sectors** encountered during acquisition.

**State**: Finished successfully

**MD5 hash verified source**: 4ab4234c71f76fd6f90478b5124ece5c7

**MD5 hash verified image**: 4ab4234c71f76fd6f90478b5124ece5c7

**MD5 hash verified Image**: 4ab4234c71f76fd6f90478b5124ece5c7

**SHA1 hash verified source**: 1e00112dc806bc6ff5465bba4c67572efbe8

**SHA1 hash verified Image**: 1e00112dc806bc6ff5465bba4c67572efbe8

**SHA1 hash verified Image**: 1e00112dc806bc6ff5465bba4c67572efbe8

**SHA256 hash verified source**: c1b0c54ca5637dbaa1007d45e307871a548e

**SHA256 hash verified Image**: c1b0c54ca5637dbaa1007d45e307871a548e

**Source verification OK**: During acquisition, the device delivered the same data as that was acquired.

**Image verification OK**: The image contains exactly the data that was acquired.
Analysis & Access
Metadata

• Descriptive Metadata – MARCXML
• Technical Metadata – DFXML
• Preservation Metadata – PREMIS
• Emulation Documentation – Narrative
• Sector Notes Documentation – Narrative
• Artwork Visual Documentation – VRA Core
• Classifications – Narrative
Ingest
(into Cornell University Library Archival Repository)
Questions?
Thank You!
And thank you to the PAFDAO team and advisory board

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Image credits (in order of appearance)

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