Digital Curation and Digital Forensics at UNC SILS – Recent Activities

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BitCurator Access

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The BitCurator Access project is developing tools to assist collecting institutions (libraries, archives, and museums) in providing web-based and local access to born-digital materials held on disk images. BitCurator Access focuses on software that simplifies access to raw and forensically-packaged disk images, allowing collecting institutions to incorporate these objects into access environments in a manner that reflects the original order and relevant environmental context.

BitCurator Access

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Main Page

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Research and Development Areas

The BitCurator Access project is exploring four areas of interest related to accessing born-digital collections:

- Web-based access to raw and forensically packaged disk images
- Transforming and using digital forensics metadata in collecting environments
- Redaction of file items, metadata and hidden data from disk images
- OS and executable virtualization for legacy disk images

Browsing Disk Images on the Web

The bca-webtools software is a Flask application that demonstrates the feasibility of providing direct access to the contents of raw and forensically packaged disk images within a web browser. The application can parse raw and E01-packaged images containing FAT16, FAT32, NTFS, HFS+, and EXT 2/3/4 file systems, and allows users to navigate the file system contents, download individual files, and search the contents within a simple web interface.

For more information on the design of the application, along with instructions on how to obtain and build the software, see the BitCurator Access Webtools page.

Redaction

Identifying comprehensive, easy to use strategies for born-digital materials is an important concern for many archives, libraries, and museums. Digital media acquisitions often contain data that may be classified as private, sensitive, or individually identifying, and the complexity and volume of information being collected demands automation to ensure that risks of inadvertent disclosure are minimized.

Downloads

BCA Webtools Source (GitHub)
Current and past releases

Community

BitCurator User Group Get support and discuss issues with the community.

Support BitCurator

Ongoing development of the BitCurator environment depends on the support of BitCurator Consortium members. Find out more about becoming a member.

Licenses

The source in our GitHub repository is GPL v3 licensed. This wiki, documentation, and other materials generated

bca.ils.unc.edu:8080

BCA Webtools

Home

The bca-webtools application provides access to forensically-packaged (.E01 and .AFF) disk images. Supported file systems include FAT16, FAT32, NTFS, HFS+, and EXT2/3/4. Click on 'Browse' to navigate through the file system(s) within the disk image, or 'Download' to download the complete disk image.

Image Name	Info	Browse	Download
nps-2010-emails.E01	🔍	💾	💿
nps-2013-canon1.E01	🔍	💾	💿
charlie-work-usb-2009-12-11.E01	🔍	💾	💿
terry-work-usb-2009-12-11.E01	🔍	💾	💿

Select an option below to search available disk images by filename or file contents. (Currently indexing all filenames, contents of .doc, .odt, .pdf, and .txt)

○ Search by filename
● Search by content

[   ] Search

Note: This software is in beta. You must populate the DFXML database and generate a search index prior to searching.

Visit the "Admin" link and select "Build DFXML Table" to enable search by filename. Select "Generate Index" to build the primary content search index.

Admin

BCA Webtools

Browse directories and download files. Items marked "r" in the first column are regular files. Items marked "d" are directories.

d/r	Filename	Size	Last Modified	Deleted?
r	$AttrDef	2560	2009-11-20T17:38:09Z	No
r	$BadClus	0	2009-11-20T17:38:09Z	No
r	$Bitmap	32320	2009-11-20T17:38:09Z	No
r	$Boot	8192	2009-11-20T17:38:09Z	No
d	$Extend	552	2009-11-20T17:38:09Z	No
r	$LogFile	7405568	2009-11-20T17:38:09Z	No
r	$MFT	262144	2009-11-20T17:38:09Z	No
r	$MFTMirr	4096	2009-11-20T17:38:09Z	No
r	$Secure	0	2009-11-20T17:38:09Z	No
r	$UpCase	131072	2009-11-20T17:38:09Z	No
r	$Volume	0	2009-11-20T17:38:09Z	No
d	.	56	2009-12-03T21:17:01Z	No
r	01.zip	108438	2009-11-24T21:21:16Z	No
r	astronaut.jpg	713418	2009-11-24T21:33:33Z	No
r	astronaut1.jpg	722717	2009-11-24T21:43:42Z	No
d	Email	56	2009-12-10T22:27:55Z	No
d	Immortality	56	2009-11-24T21:55:45Z	No
r	invsecr2.exe	1291720	2009-11-19T18:42:25Z	No
r	microscope.jpg	136274	2009-11-24T21:27:51Z	No
r	microscope1.jpg	136274	2009-11-24T22:19:21Z	No

Core BitCurator Access Team

- **Cal Lee**, PI
- **Kam Woods**, Co-PI / Technical Lead
- **Alex Chassanoff**, Project Manager
- **Sunitha Misra**, Software Developer (UNC)
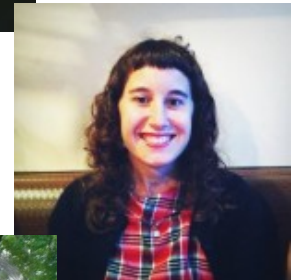
BitCurator (Access) Developments Since the Last OPF General Meeting

User Support and Engagement

- Documentation and guidance (e.g. http://access.bitcurator.net/)
- Conference papers, presentations, posters, demos, workshops, tutorials, webinars, including:
- **[OPF Workshop: "From the Toolbox: BitCurator Digital Forensics workshop"](#)** May 29, 2015 at the AIT Austrian Institute of Technology in Vienna
- bitcurator-users mailing list
- Web site, wiki, social media
- Continuing professional education offerings:
  - Two-day class for Digital Archives Specialist (DAS) curriculum of Society of American Archivists (SAA) – Cal Lee and Kam Woods
  - Course variations tuned to individual institutions

Sustainability

- BitCurator Consortium (hosted by Educopia)

- Members of Consortium pay an annual fee, which entitles them to member benefits such as:
  - Access to dedicated personnel who can assist with integration of BitCurator into their institutions' particular workflows
  - Ability to submit development requests
  - Priority notification of new code releases
  - BitCurator online training events
- https://www.bitcuratorconsortium.net/

BitCurator
CONSORTIUM

Search

About Us ▾   Why Digital Forensics ▾   Using BitCurator ▾   Get Involved ▾   Events

Acquire. Analyze. Report.

The BitCurator Consortium (BCC) is the user community and development base for the BitCurator open source forensics tools and environment.

Our Mission >

Membership is open to libraries, archives, museums, and other institutions worldwide that seek a collaborative community within which they may explore and apply forensics approaches and solutions to their digital collections.

Become a member now >

How to Use BitCurator

- Acquire and process digital collections.
- Maintain the original order of digital materials.
- Survey the extent and composition of digital collections.

Member Benefits

- Use of the members-only BCC mailing list and help desk
- Access to the members-only videos and documentation
- Prioritized requests for BitCurator feature development

Members

McMaster University

University of Virginia

University of Melbourne Library

Duke University

Yale University

Harvard University

Texas State Libraries
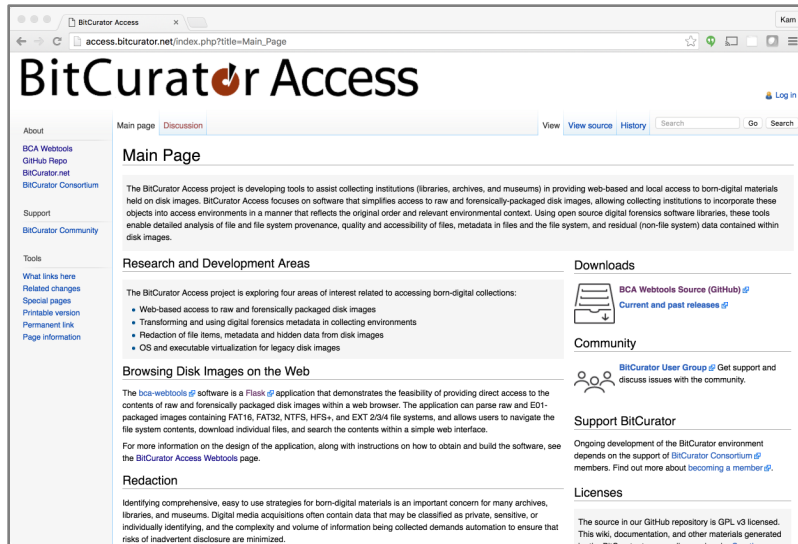
Get the software
Documentation and technical specifications
Screencasts
Google Group
http://access.bitcurator.net/
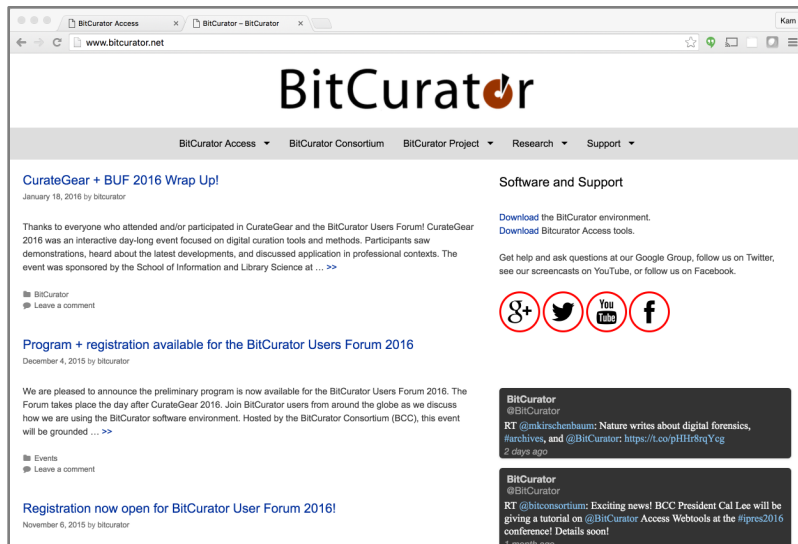
People
Project overview
Publications
News
http://www.bitcurator.net/

Twitter: @bitcurator