Access, Use/Reuse, and Preservation of Data and Information Using tDAR (the Digital Archaeological Record)

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Digital Antiquity and tDAR: A Brief History

The Center for Digital Antiquity (Digital Antiquity)
– An academic center at ASU with an independent multi-institutional and local broad-based Board of Directors
– Executive Director and small full-time staff

tDAR – the Digital Archaeological Record
– Digital Repository - Data and Software

History
– NSF – Human Social Dynamics, Archaeology, & CISE
– Planning began in 1999, initial funding 2004
– Since 2010 tDAR has been a public digital repository

Current and Long Term Business Model
– Financial independence via digital curation fees and services (no access free for using information in tDAR)
– Diverse clients: DoD, USAF, CoE, BLM, BRec, USCBS, more
– ASU Libraries safety net

The Center for Digital Antiquity & tDAR (the Digital Archaeological Record)

• DA – A not-for-profit organization (part of Arizona State University) devoted to enhancing preservation of and access to data and information about archaeological and other cultural heritage resources for: resource management, public outreach, research, and other.
• tDAR – A digital repository for data and information about archaeological and other cultural heritage resources, monuments, resources, and sites.
  – Provides innovative ways of finding, using, managing, & preserving archaeological data and information.
  – Software and user interface are designed so that clients are able to document & manage their own content; or Digital Antiquity data curators can provide this service for clients.
  – Software designed to keep staffing costs low & scalability high (e.g., DIY/self service” digital curation or “full-service”).
To be reliable, findable, accessible, usable, and reusable, data must be curated.

Expert Digital Preservation Services

Digital Antiquity data curators and managers:
- Recommend data management approaches, methods, and techniques
- Check files on upload and regularly when in repository
- Draft and/or check metadata for uploaded files
- Store rich descriptive metadata with files
- Maintain files in open & common formats
- Maintain a robust backup schedule with off-site storage
- Employ multiple, redundant security measures
- Migrate files to new standards as these develop

“Preservation is more than putting data on a CD stored in a climate-controlled stable environment or in the cloud.”

“Discovery, data access, and use require more than a website.”

To Ignore Digital Curation is to Risk Losing Important Data

- files that won’t open
- software that cannot “read” old files
Examples of Digital Antiquity
Clients, Partners, & Users

- DoD: USAF, USACE, Army, Navy, Marine Corps
- Other Federal: BLM, BRec, NPS
- State: AZ State Parks, Delaware DoT, Texas DoT, SC State Archaeologist, NC State Archaeologist
- Grants from: Andrew W. Mellon Foundation, NEH, NSF, Center for Library and Information Resources (CLIR)

Case Study: DoD Legacy Data
Maryland & Virginia Curation Facilities

Summary of the project available at:

Case Study: DoD Legacy Data
Maryland Archaeological Conservation Lab

Digital Records Submitted to the MAC Lab 1995-2012
Final report can be found at:
https://core.tdar.org/collection/23945/maryland-archaeological-conservation-laboratory

Full-Service Digital Curation Workflow

1. Organization of digital and paper files:
   - Create a list
   - Identify key metadata
   - Concert several actions

2. DA & Client consultation:
   - Consider administrative and other terms to use for metadata categories.
   - Decide about scanning of paper records.
   - Create metadata style guide.
   - Consider redaction & confidentiality needs.

3. DA receives files:
   - Send digital files.
   - Send paper copies, DA digitizes; Or, scan locally, then send.

4. Files checked by DA Curators and tDAR software.

5. DA Curators Procedures:
   - Files processed and uploaded.
   - Files marked "confidential," as needed.
   - Metadata records drafted for files.
   - Redactions, if needed, made.
   - Access permissions added.

6. Review by client staff.

7. Corrections made & final review

8. Review of project:
   - "Draft" resources are changed to "Active" and available in tDAR.
   - Client staff ensure that future investigations include documents and data to be archived in tDAR.
   - Report on project provided by DA.

Recommended approach in future: tDAR as the digital repository for physical collection-related digital files. Three procedural options for moving the associated digital files to tDAR.
Using tDAR to Meet DoD Cultural Heritage Needs

Evaluating a Cooperative Approach to the Management of Digital Archaeological Records (ECAMoAR)

Background:

The goal of the ECAMoAR project is to create a sustainable digital archive for DoD records. The project will focus on digitizing and managing archaeological data generated by DoD activities, including excavations, surveys, and other fieldwork.

Benefits:

- Improved access to DoD archaeological records
- Enhanced data management and preservation
- Increased collaboration and sharing of resources among DoD facilities

Objective:

The objective of the ECAMoAR project is to establish a cooperative approach to the management of DoD archaeological records.

Resources in tDAR

- Avon Park Air Force Range, FL: 43 resources
- Shaw Air Force Base, SC: 81 resources
- Dyess Air Force Base, TX: 17 resources

Total Known CR Digital Resources:

- Travis, CA: 24 resources
- Vandenberg, CA: 1,031 resources
- Joint Base San Antonio, TX: Greater than 3,500 resources
- Kaena Point, HI: 23 resources
- Bellows Air Force Station, HI: 180 resources
- Hickam Air Force Base, HI: 53 resources
- Kolekole Air Force Station, HI: N/A

Current in tDAR:

- Travis, CA: 14 resources
- Vandenberg, CA: 45 resources
- Joint Base San Antonio, TX: 1,205 resources
- Kaena Point, HI: 3 resources
- Bellows Air Force Station, HI: 147 resources
- Hickam Air Force Base, HI: 53 resources
- Kolekole Air Force Station, HI: N/A

USAF tDAR Collection

USAF tDAR Case Study: USAF Base Archives in tDAR

- Avon Park Air Force Range, FL: 43 resources completed
- Shaw Air Force Base, SC: 81 resources completed
- Dyess Air Force Base, TX: 17 resources completed

USAF tDAR Collection

USAF tDAR Collection
Managing Access

- Metadata records with information about files in tDAR and their content are public.
- Access to the files themselves is available, but controlled at different levels through a variety of means.

Controlling Access and Administration
Digital Data Curation Take-away

“Managing digital data isn’t a job that can be left to chance … Managing data is a full-time responsibility, and one that is so complex that it can’t be done effectively in an *ad hoc* manner.”

Digital Antiquity and tDAR: Q & A

For more details:

- [www.tdar.org](http://www.tdar.org)
- [www.digitalantiquity.org](http://www.digitalantiquity.org)
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End of US Army Reserve Presentation

End of 6 November presentation slides.

Slides below include additional information for reference.
The Center for Digital Antiquity - Mission

A not-for profit organization (part of Arizona State University) ... devoted to enhancing preservation of and access to data and information about archaeological and other kinds of cultural heritage resources for multiple purposes:

• Develop and apply economical and effective means of managing cultural heritage data for discovery, access, use/reuse, and preservation.

• Manage, preserve, protect cultural heritage resources.

• Provide for education, outreach, public interpretation, and historic and scientific research.

• TDA - the Digital Archaeological Record

• A domain digital repository for data and information about archaeological and other cultural heritage resources, monuments, resources, and sites.

• Provides innovative ways of finding, using, managing, or preserving archaeological data and information.

• TDA contents are searchable using geographical location, words, or text.

• Software and user interface are designed so that contributors are able to document & manage their content; or Digital Antiquity data curators can provide this service for clients.

• Software designed to keep staffing costs low & scalability high (e.g., DIY/self service digital curation or "full service").

THOUSANDS of reports COVERING the entire United States

More than 100,000 reports from all 50 states, covering 100% of the reports from more than 1,000 sources. You can search these searchable archives using geographical location, words, or text.

Software and user interface are designed so that contributors are able to document & manage their content; or Digital Antiquity data curators can provide this service for clients.

Software designed to keep staffing costs low & scalability high (e.g., DIY/self service digital curation or "full service").
### Project Planning

Curator identified problem preserving & providing access to digital materials

- Approached a digital repository
- Worked together to identify materials for preservation, organize and ingest the materials

### The Digital Curation Process

- Organization of documents, images, etc. and create lists
- DA & USAF CRM consultation
  - Complete administration and other terms
  - Add context to metadata
- Organization & continuity needs
- DA receives files
  - Send digital files;
  - Send paper copies, DA digitizes; OR,
  - Digitize locally, then send
- Files checked by DA Curators and tDAR software
- Files processed, then uploaded & curated
- Review by USAF CRM staff
- Corrections made & final review
- 'Draft' resources changed to 'Active'
Workflow Planning: Challenges

What to Keep?
- Multiple versions & copies
- Extraneous Materials (Images of bicycles)

Outdated Formats
- Migrate to newer/archival file formats
- Unable to open same files

Organization & Description
- Poorly organized
- Limited descriptive information (metadata)

Organization & Description
Poorly organized
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Efficiency and Organization
Security and Expertise
Public Outreach
tDAR for USAF

Efficiency and Organization
- tDAR has tools to neatly organize digital cultural materials
- Rich, searchable metadata
- Standard archaeological and CRM file types

Security and Expertise
- Your files and information are secure
- Digital Antiquity staff are experts in digital preservation
- Our staff members include trained archaeologists capable of creating metadata and performing redactions and other services

Public Outreach
- Discoverability and variety of uses
- A range of audiences and users