The Alexandria Archive Institute

The Alexandria Archive Institute works to build an open, Internet-based, knowledge commons of world cultural heritage. We are an independent "501(c)(3)" non-profit organization.

- We work as a consulting organization to help researchers and institutions implement powerful database systems to bring digital cultural heritage to the Internet. In partnership with the University of Chicago's OCHPE project (formerly XSTAR) we help collect and pool the digital record of the past to enable online searches and long-term durability.

- We focus on primary documentation of archaeological and related research, including: reports, observations, maps, plans, analyses, digital files and images of excavations and surveys. Conventional publication does not meet this need. Our services help secure this irreplaceable record of human experience.

- Our initiatives and services encourage the community to build open resources of scholarly and authoritative knowledge. By removing barriers to information, the AAI fosters innovative research and encourages people from all walks of life to explore the past and think creatively and critically about its relevance to the present.

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Why Field Projects and Collections?

• New Research Opportunities
  – Encourage use and reuse of primary evidence
  – Enable broad scale, analytically rigorous investigations

• Reduce costs and enhance effectiveness of preservation & access
  – Informal estimates: 15-27% of research ever gets published1,2, often in inaccessible formats

1 James H. Ottaway, Jr. “Publish or Be Damned”, a lecture presented for the University of Cincinnati Classics Department, 5/2001.

Why Primary Research Content?

• Bumpus (1898) House Sparrow Data
  – Carey Bumpus published all of his raw data along with his syntheses

• 10 subsequent groundbreaking papers reanalyzed these data
  – Invaluable dataset used for instruction
  – Key Point: Dataset becomes 10X more valuable with dissemination!
Digital Archives: Mixed Incentives

• Scholars demand open access but resist providing it! ¹
• Hoarding Incentives
  – Little reward to share raw data
  – Pressures to publish synthetic articles
  – Raw data may be used by rivals
  – FUNDAMENTAL concern for information access!!

Welcome to Open Context, a free, open access resource for the electronic publication of primary field research from archaeology and related disciplines. Open Context provides an integrated framework for users to search, explore, analyze, compare and tag items from diverse field projects and collections.

To begin immediately, click on “Explore Open Context”, or on one of the projects and collections mapped above. Or, browse around this web site to learn more about how Open Context works.

- Instructions on how to search the Open Context database
- Guidelines for tagging your search results for other users to view
- Information about contributing data to Open Context
- Details on the legal terms and conditions of using Open Context

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Open Context Basic Search

Enter a Search Term

[canis cranium]

Search Open Context

Tag Search

Advanced Search

Developed by the Alexandria Archive Institute
## Selection Results

Your current selection includes 8 items.

<table>
<thead>
<tr>
<th>Class</th>
<th>Item</th>
<th>Project Name</th>
<th>Context</th>
<th>Tags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Bone</td>
<td>DT99-2781</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 2533</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT99-4125</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 2546</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT99-4231</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 2568</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT99-4230</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 2590</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT99-1463</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 2707</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT02-0000</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 3155</td>
<td>Domuztepe dogs</td>
</tr>
<tr>
<td>Animal Bone</td>
<td>DT02-0196</td>
<td>Domuztepe Excavations</td>
<td>Turkey / Domuztepe / Lot 3155</td>
<td>Domuztepe dogs</td>
</tr>
</tbody>
</table>
Database driven, data from multiple projects can be queried (with Boolean algebra), and results pooled together.
Incentives & Scholarly Practice

• Challenge of integrating scholarly practice and needs with primary data resources

• Potential of incentive problems. Rewarded for published papers, not databases!!!

• Exploring licensing and contractual mechanisms to create incentives, reinforce social norms of “fairness”

“Surely you were aware when you accepted the position, Professor, that it was publish or perish.”
Ownership in Open Context

Citation information with stable URL direct to the item being cited.
Copyright ownership and Creative Commons license information, including RDF metadata.
**Getting data into Open Context**

*Alpha version. Try it out!*

You are logged in as: ahrashb

### Project: Lizard morphology and behavior

You may now explore and edit data uploaded to your project. Once you are satisfied that your contribution is properly organized and complete, you can finalize publication of your project.

#### Project Containment Tree:

- Population 1 (View)
- Population 2 (View)

#### Your Project Includes the Following Files

<table>
<thead>
<tr>
<th>Filename</th>
<th>Number of Rows</th>
<th>Number of Columns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morphology 2000 AAI.xls</td>
<td>83</td>
<td>52</td>
</tr>
</tbody>
</table>

#### Detail View:

**Item: Population 1**

**Class: Population**

**Descriptive Properties** (None)

**Item Notes**

Indicates the population ID of the lizard. Pop 1 = Malheur NWR (Lat.: 43° 14' 01' N, Long.: 118° 53' 22' W). Pop 2 = Rogue River (Lat.: 42° 39' 02', Long.: 123° 35' 25').

**Item Links & Relationships**

(None) (No linked items)
The author can decide on the extent of the associated metadata and links to other resources, beyond some basic information that is crucial for information storage.
Integration at a General Level

- Speed and ease of mapping content into ArchaeoML systems
  - Significant cost reduction if most contributors can do it themselves
  - Important for small, individual or project generated research

- Enables powerful query and analysis

- Burden on the end-user.
  - Example: Building queries uses a given project’s local recording system (even though several projects can be queried simultaneously and their results pooled)
Making the Ingredients Come Together: Toward Semantically Rich Integration

• General theoretical position that it’s important not to “hard code” specific semantic mappings
  – Relating content from different projects must be contestable
  – Relating data is integral to research, opinions and needs vary

• Two main approaches
  – User developed equivalences and thesauri (discussed by Schloen)
  – User developed “folksonomies” and tags (discussed here)
ArchaeoML lends itself to tagging

- ArchaeoML essentially describes a network of atomic units and their relationships
  - Units and their links typically derived from source data
ArchaeoML lends itself to tagging

- Tags describe new, user-defined links
  - A short word or phrase can be assigned to 1 item or a whole set of items (esp. a query selection set)
  - Express a meaningful link between items
Future Extension

- Extend tagging concept for more structure
  - Users can apply variable/value pairs.
Toward More Structured Tagging

• Make tagging authorship even more explicit
  – How to cite?

• Revised tagging system to be more structured. Tags applied for different applications
  – Differentiate different types of tags (chronology, places, people)
  – Enable tagging with formal taxonomies
Tagging in Open Context

Individual users may “tag” items or groups of items even from different projects. These tags can be kept private or publicly shared with other users.
Tagging in Open Context

Tags can also help users save and share the results of complex queries. The tagging system automatically saves a selection set's search history, making review easy.
Tagging in Open Context

Applications:

1. Way to make “database” content easier to use
2. Identify materials for an instructional use
3. Share queries, analyses with colleagues
4. Save and combine queries
Applicability for Field Research and Collections?

• We work with communities not accustomed to controlled vocabularies or formal taxonomies

• Folksonomies are simple and sometimes effective.
  – Reduce costs by distributing integration efforts and metadata creation across the community

Elaborate ontology wizardry is difficult to implement in large, diverse communities, especially if there are also non-expert participants.
Future Directions

• New features and content
  – Revise tagging system to better recognize authorship and to be more structured
  – Enable custom “branding” and presentation of content
  – Annotate data with methods / recording system descriptions
  – More fully integrate Dojo-AJAX in user interface, simple GIS (OpenLayers API)
  – Distributed architecture (with Texas A&M University Nautical Archaeology)

• Integrate with open science projects

• Explore & better understand social factors incentives, recognition, and intellectual property

Photo by "brent" (Found on Flickr July 1, 2006 http://www.flickr.com/photos/bmh4you/84179796/)