Welcome! Intro to the Arches Platform Part 3 of 4 – Data Technology Concepts

Thursday, January 21, 2021



Webinar Presenter and Q&A Moderators





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Intro to the Arches Platform Webinars



Capabilities



Data Management Tools



Data Technology Concepts



Information Architecture



Webinar Repository – www.archesproject.org/videos

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About - Documentation - Development - Getting Started - Community - O

Arches Videos

The following are videos that feature Arches. If you have put together a video about Arches and would like it included here (with attribution, of course), please let us know via email (contact@archesproject.org) or via our Discussion Forum.

Webinars

These are videos that are related to Arches Webinars. When available, transcripts and slide decks will be included.



Arches Developer Meeting: Project Presentations by Arches Community (December 2020)

View Full Transcript (PDF),



Arches Community Webinar: Documentation by Adam Cox (November 2020)

View Full Transcript (PDF).



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Arches Version 5.0 Demo + Q&A by the Arches Team (August 2020)

View Full Transcript (PDF).

View Slide Deck (PDF).

Webinar Outline

- About Arches
- Arches Platform: Data Technology Concepts
 - What is data modeling in Arches?
 - Data modeling goals & concepts
 - Data modeling documentation and resources
- Q&A Session



About Arches

Arches is an **open-source** software platform for cultural heritage **data management**, originally developed by the Getty Conservation Institute in partnership with World Monuments Fund.



About Arches (cont'd)

- Open Source and free no licensing fees and unlimited users.
- Enterprise-level software hosted on a server
- Independent deployment by an organization or institution
- Supported by a growing community of heritage conservation and technology professionals





A comprehensive information and task management platform for heritage institutions archesproject.org





What is data modeling in Arches?

Creation of **Resource Models** (data models) using Arches Designer to define:

- database structure
- data entry interface
- overall organization of information in your Arches implementation.



Why does Arches include advanced data modeling capabilities?

To give implementers the ability to ensure that their DATA is:

- complete
- high quality
- discoverable

- shareable
- persistent



Modeling for COMPLETE DATA...

Resource Models encompass all project requirements, defining what data is managed in Arches.



ID	Name	Туре	Description
00001	Mark Twain (pen name); Samuel Clemens (birth name)	Writer	Samuel Clemens (November 30, 1835 – April 21, 1910), known by his pen name Mark Twain, was an American writer, humorist, entrepreneur, publisher, and lecturer. (WIKIPEDIA)
00002	Frank Lloyd Wright	Architect	Frank Lloyd Wright (June 8, 1867 – April 9, 1959) was an American architect, designer, writer, and educator. (WIKIPEDIA)
00003	Elizabeth II; Elizabeth Alexandra Mary Windsor (full name)	Monarch	Elizabeth II (born 21 April 1926) is Queen of the United Kingdom and 15 other Commonwealth realms. (WIKIPEDIA)
00004	Vincent Van Gogh	Artist	Vincent Willem van Gogh (30 March 1853 – 29 July 1890) was a Dutch post-impressionist painter who posthumously became one of the most famous and influential figures in the history of Western art. (WIKIPEDIA)

Multiple Names for Person

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WIKIPEDIA URL LINKS

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LIFE SPAN?

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Simple Resource Model for Person



Graphical Representation:





Simple Resource Model for Person



Graphical Representation:





Simple Resource Model for Person



Sophisticated Resource Model for Person

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Modeling for COMPLETE DATA...

Resource Models may correspond to a data content standard, such as:

- MIDAS Heritage
- International Core Data Standard for Archaeological and Architectural Heritage
- US SHPO requirements
- Dublin Core



Modeling for HIGH QUALITY DATA...

Resource Models define the data parameters, such as:

- Number of entries
- Data types
- Terminology used i.e. controlled vocabularies



Data Type Examples

- **String** (short or long alphanumeric text)
- Number
- Boolean
- Date
- **EDTF** (Extended Date Time Format)
- Geo-json feature collection (geospatial data)
- **Concept** (references controlled vocabulary)
- **Resource-instance** (references another Resource Model)
- File-list (for upload of digital files)
- Annotation (supports image annotations using a IIIF manifest)



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Original Date Data	Standardized Date Data
Built Date	Built Date
5 million BCE	
1745 - 1753	1749
Autumn 1825	1825
Definitely 1753, likely June 1753	1753
March 22, 1751	1751

Original Date Data
Built Date
5 million BCE
1745 - 1753
Autumn 1825
Definitely 1753, likely June 1753
March 22, 1751

Standardized Date Data
Built Date
1749
1825
1753
1751

EDTF (Extended Date Time Format) Date Data

Built Date
Y-5000000
1745/1753
1825-23
1753-?06
1751-03-22

Data Type Setting in Arches Designer

Data	a type		
da	ate	•	
Date	e Format		
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	Expose to Advanced Search Activate to use this node in Advanced Search.		
	Expose to Advanced Search Activate to use this node in Advanced Search.		
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III The Henry Ford Museum and Greenfield Village			1		Service 3			
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Search: EDTF Date Format

Fuzzy Date for construction of Tomb of Nefertari (QV 66): approximately 1279 BCE to approximate 1212 BCE

Date expressed using EDTF: -1279~/-1212~



Fuzzy Date for construction of Tomb of Nefertari (QV 66): approximately 1279 BCE to approximate 1212 BCE

Date expressed using EDTF: -1279~/-1212~



Q Search						Welcome,	admin		?
Find a resource	♥ Map Filter		P Related	O Details				я	*
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Search: EDTF Date Format

Modeling for DISCOVERABLE DATA...

Resource Models optimize search by employing:

- normalized structures
- controlled vocabularies to standardize terminology.



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Residential-Single Family, House

< Thesauri

Tools Tools	Residential-Single Family, House (en-US) (Concept)	Manage 🗸
	Labels	Add label
Arches	© Residential-Single Family, House (preferred, en-US)	
Candidates	O House (alternate, en-US)	
	maison (preferred, fr)	
Additional Schemes	O Haus (preferred, de)	
ODDUANC Arches	o home (alternate, en)	
ORPHANS - Arches	Gradidarse (alternate, en)	
ORPHANS - ORPHANS - Arches	oresidence (alternate, en)	
	Notes	Add note
	Broader/Narrower Concepts Arches Heritage Resource Type Residential-Single Family	
	Related Concepts	Add related concept
	Values	Add value
	Images	Add images
	ldentifiers Arches ID: 6927ebf1-6de3-4a92-b9dd-cef0ae67c640 http://www.archesproject.org/6927ebf1-6de3-4a92-b9dd-cef0ae67c640	

RDM and Search: Controlled Vocabularies

Modeling for SHAREABLE and PERSISTENT DATA...

Resource Models enable data that is interoperable and help to ensure data longevity by encoding semantic metadata.

Semantic metadata corresponds to a semantic ontology or standard, such as the CIDOC-CRM.





ARCHES RESOURCE MODEL





A person (E21) is identified by (P1) a name (E41) which has a type (P2) name type (E55)

E21 Person



A person (E21) is identified by (P1) a HANDLE (E41) which has a type (P2) HANDLE type (E55)



Manage	?	Person (Resource Model)			Welcome, admin		٩	?
Find a l	Resource Me	odel/Branch 👻				•	uit Desig	ner
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Arches Designer: Embedding Semantic Metadata

Arches Resource Models

- Data models created in Arches Designer
- Define the data structure and general organization of information in Arches implementation
- Generate the data entry forms for end users



Arches Resource Models enable...

- Data that is complete, high quality, discoverable, shareable and persistent
- A data management platform that is tailored to your use case and end users



Data Modeling requires...

- In-depth knowledge of your data and use case
- Experience or training in knowledge organization



Arches Resource Model Documentation and Resources



Arches Resource Model Working Group (ARM-WG)

- Working group of Arches community members with expertise in data modeling with the aim of generating and managing:
 - Arches Package Library, including Resource Models
 - Arches Modeling Documentation w/suggested methodology
 - Modeling discussion in Arches community

Arches Package Library

- **Package:** a configuration bundle that can be loaded into Arches. Includes **resource models**, branches, vocabularies, ontologies, sample data, and other configuration settings.
- Library: web page resource with links to and information on submitted packages that can be used and adapted by anyone in the Arches community

@arches

Arches Package Library

The Arches Package Library is a resource for Arches implementers who are looking for entire packages (or their constituent branches and resource models) to help to form the foundation for their own Arches instance.

It is a work-in-progress and is currently being managed by the Arches Resource Model Working Group.

What is a package?

Each package included in this library is a bundle of information and core components critical to an Arches instance. A package can include any combination of branches and resource models, thesauri and collection files, business data, html files and other files that configure an Arches instance. The goal behind making these packages available is to offer a means of inspecting resource models that already exist in an Arches instance and providing a starting point for creating a package for your instance.

How to use this library

Below, you will find links to the information pages for the available Arches packages in this library. Each page includes information on what's included in each package and the required Arches version. Each page also includes a link to the Arches instance that the package was initially created for as well, if applicable, as well as a link to the GitHub repository where the package can be cloned or downloaded. These packages can be used as-is or can be modified and adapted to fit your own data requirements.

For information on how to load a package, click here.

List of Available Packages

Arches v5 Demo Site

The complete branch and resource model diagrams and downloads for the Arches Project v5 Demo site (released 2020).

Access the demo here: http://v5demo.archesproject.org/

v5 Demo Package

Arches Package Library: www.archesproject.org/package-library

Arches Modeling Documentation

- Foundational information on structured data and data modeling
- Suggested Arches modeling methodology
- Additional modeling resources

Marches.

Arches Modeling Documentation

The following documentation presents information, compiled by the Arches Resource Model Working Group, on using and creating Arches Resource Models and Branches for use in Arches implementations. Each guide will help Arches users to understand the basic concepts behind modeling in Arches, the ARM WG methodology for Arches Resource Models, and the benefits of adopting the ARM WG methodology, as well as other resources for more information.

This documentation is a WORK-IN-PROGRESS, and content will be continually added. Last update: November 17, 2020.



Arches Modeling Documentation: www.archesproject.org/arm-wg-documentation

Community Involvement

- Community-based discussion around modeling in Arches
- Contributions to the package library
- Participation in enhancing the modeling documentation

Coming Next!



Intro to the Arches Platform Upcoming Webinars

Part 1

Capabilities

- Data Management
- Data Discovery & Visualization

Part 2

Data Management Tools

- Arches Collector Mobile App
- Resource Manager
- Arches Designer
- Reference Data
 Manager

Part 3

Data Technology Concepts

- Data Standards
- Semantics/ Ontologies (incl. CIDOC CRM)
- Controlled
 Vocabularies
- Fuzzy Dates



Information Architecture

- Software Stack
- Software Standards



Arches Q&A







Annabel Lee Enriquez

Getty

Conservation Institute David Myers

Dennis Wuthrich

Getty Conservation Institute Farallon Geographics Inc



- Thank you -

Share your feedback: contact@archesproject.org

Community Support - Arches Forum: <u>www.groups.google.com/archesproject</u> Webinar repository – <u>www.archesproject.org/videos</u>



