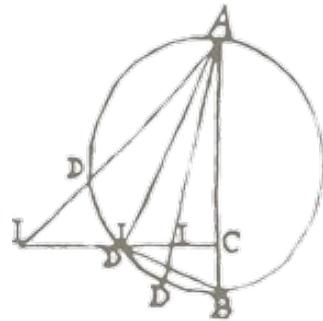


# SemCMD: An Arches Instance to Support the Implementation of the Parthenos Model

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Takin.solutions  
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58th CIDOC CRM SIG  
21st March, 2024 Paris, France



# Brief Overview

1. SemCMD: Motivation
2. Parthenos Entities Model (SemCMD / PDLM)
3. Arches Overview
4. Resources

# SemCMD: Motivation

Research Institutes generate huge volumes (often highly specialized) data which they would like to **share** between departments, between institutions and with the public

We want to **bring** relevant data **together** to **learn more** things from **across** different projects and even research **domains**

We want to **facilitate** an enriching of **knowledge transfer** that offers important data from one project to another

We want to **surface** previously **hidden**, siloed **information** so that it becomes known and a potential asset for research and thought in ways that we can't even imagine ourselves

We aim to **highlight** our **assets** and intellectual **offer**

# SemCMD: Motivation



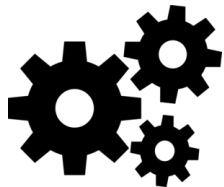
**Goal:** create a knowledge network database which builds a picture of the data world that one is interested in managing

**Supports:** Documenting Projects, Datasets, Software, Services as well as Groups, Individuals and Teams

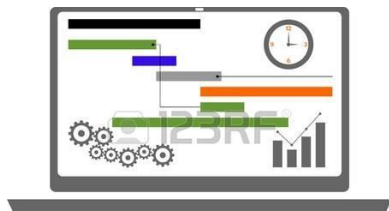
**Built on:** Arches Platform

**Implements:** Parthenos Entities Ontology (a subset of the CIDOC CRM standard) & Standardized Modelling (PDLM) created with Max Planck History of Science Institute

# Before Integration we need a picture of the world to be integrated



**Services**



**Projects**



**Datasets**



**Software**



**Actors**



**Research Infrastructures**

An adequate Data or Conceptual Model for RIs should provide a framework for describing and mapping basic relations that hold between:

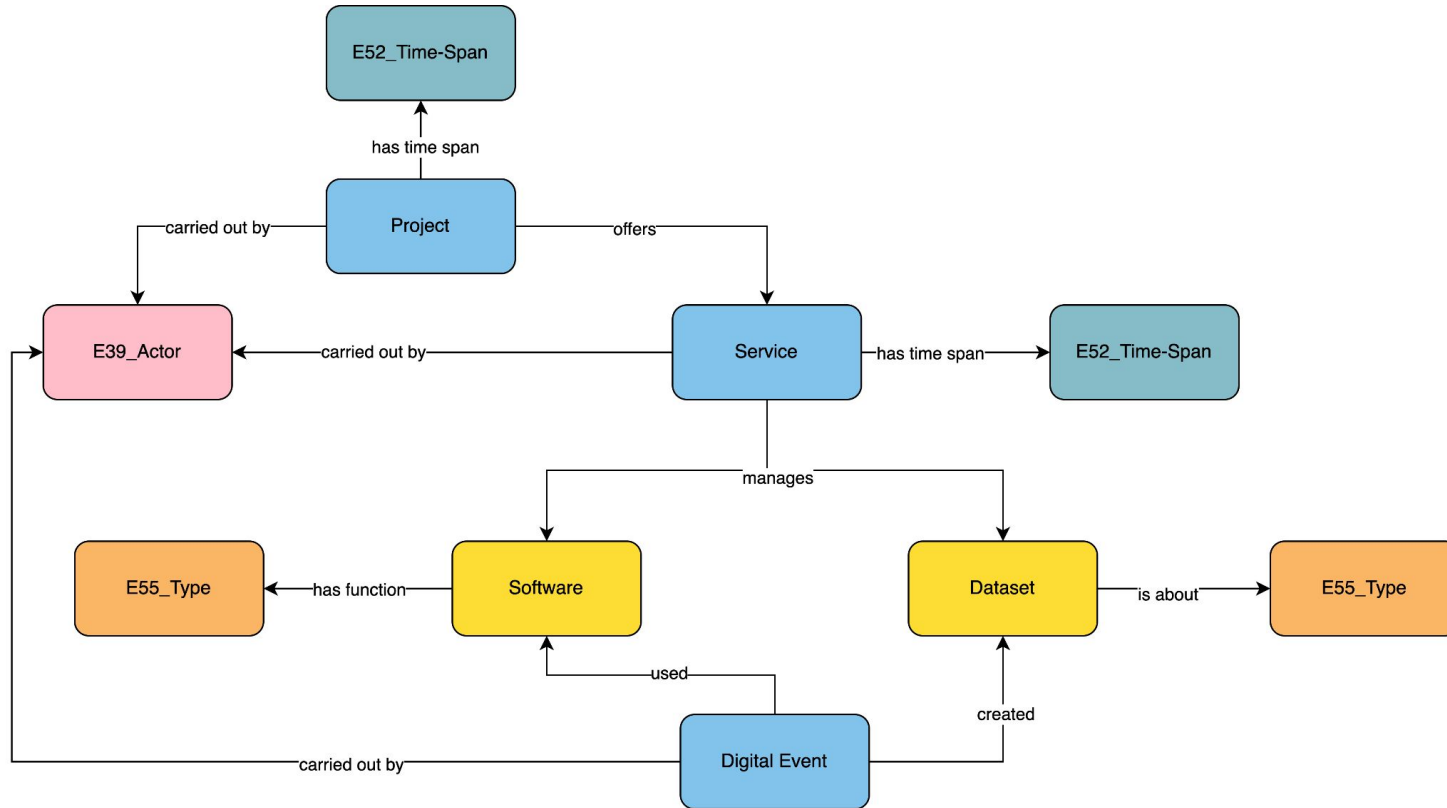
Services, Actors, Projects, Datasets, Software, Research Infrastructures

This picture serves the function of determining what has been integrated, where and by who and gives the ability to plan and managed the continuous activity of multiple integrations for different purposes

SRDM/Linked.Art:

“Reference Model Methodology”

# Parthenos Entities and PDLM

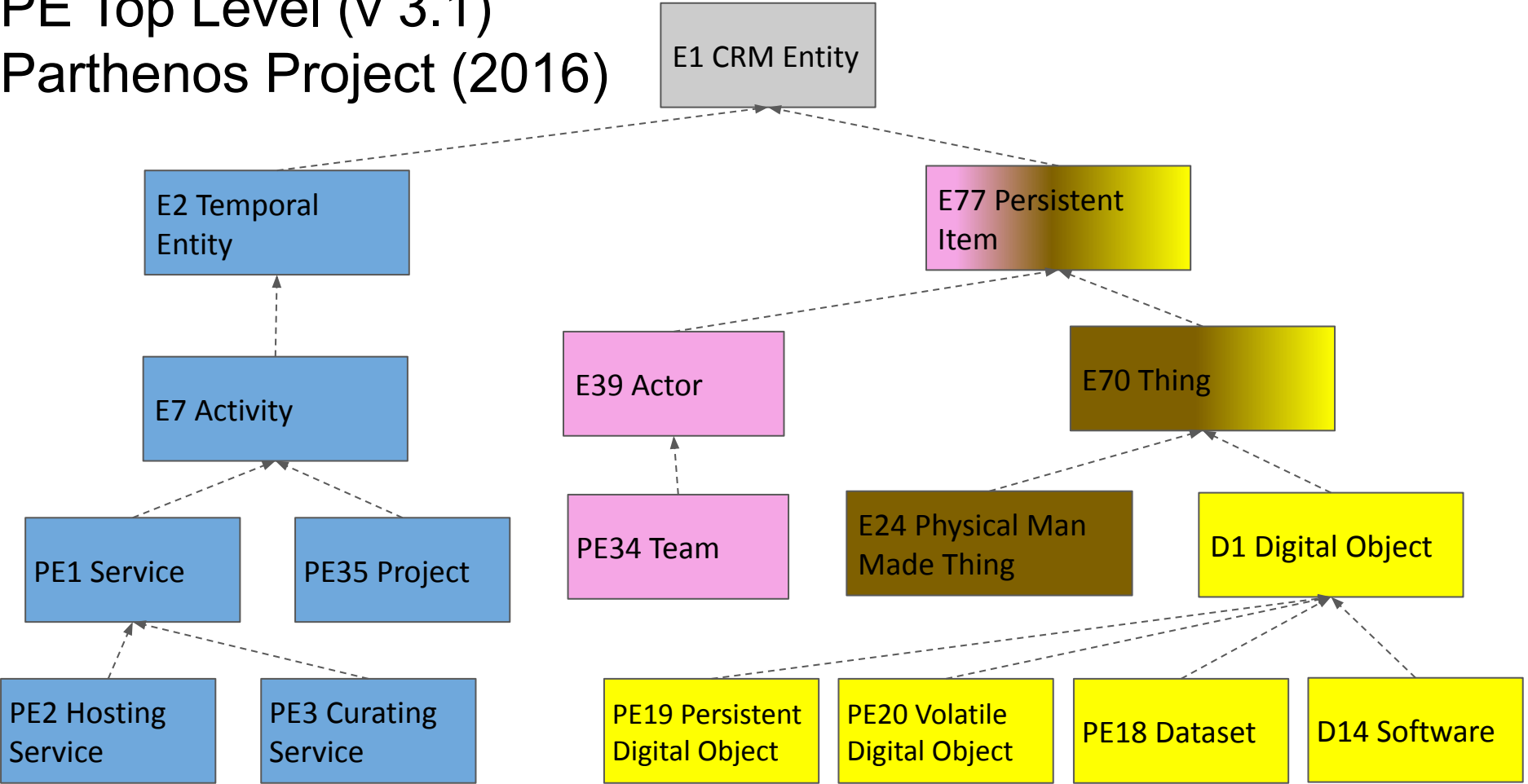


A semantic data model to trace the whole data lifecycle through research

PDLM provides a description of how to apply it in practical application

# PE Top Level (v 3.1)

## Parthenos Project (2016)



# PE2 Hosting Service: Airtable

airtable.com/appvuAky34UsMF5Xb/tbIT7JOMJAtWbQYMC/viwNrkdXmdDn4RKNs?blocks=hide

Go home ID Model Base Data Automations Interfaces

3 Field 2 Collection Model Model\_Fields ConceptSet Vocabulary Category CRM Class Actors Institution NameSpace Extensions Tools

Views SemCMD.1\_Project\_Team 24 hidden fields Filtered by Model Grouped by 1 field Sort Color Share and sync

Find a view

- SemCMD.1\_Project\_Team
- SemCMD.2\_Group
- SemCMD.3\_Person

Create...

- Grid
- Calendar
- Gallery
- Kanban
- Timeline
- List
- Gantt
- New section

ID	Description	Mod...	Field_CRM_Path	Field_Expected_V...
MODEL_SPECIFIC_CAT_ORDER (Empty) Count 16				
1	SemCMDM.1_LAF.6_name_content	to record the string e attributed to the ...	PE34 Team ->p1->E33_E41[4_1]->p190->rdf:literal	String
2	SemCMDM.1_LAF.5_name_type	to record the type btributed to the ...	PE34 Team ->p1->E33_41[4_1]->p2->E55[5_1]	Concept
3	SemCMDM.1_LAF.7_name_language	to record the name attributed to ...	PE34 Team ->p1->E33_E41[4_1]->p72->E56[7_1]	Concept
4	SemCMDM.1_LAF.4_name_label	to record the string hine readable label...	PE34 Team ->p1->E33_41[4_1]->rdfs:label->rdf:literal	String
5	SemCMDM.1_LAF.10_identifier_content	to record an ted to the ...	PE34 Team ->p1->E42[8_1]->p190->rdf:literal	String
6	SemCMDM.1_LAF.9_identifier_type	to record the type attributed to the ...	PE34 Team ->p1->E42[8_1]->p2->E55[9_1]	Concept
7	SemCMDM.1_LAF.8_identifier_label	to record the string	PE34 Team ->p1->E42[8_1]->rdfs:label->rdf:literal	String



# PE3 Curating Service: Zelij (Takin.solutions)

**SARI Documentation**

Project Home

Reference Data Models ▼

Instruction

Person

Artwork

Group

Built Work

Event

Digital Object

Bibliographic item

Place

Archival Unit

Photograph >

Image

Information Carrier

Modelling Examples >

Ontology Extension >

**Preferred Name**

Identifier	Name	Function / Description	CRM Path
fie_5_Name	Name	This field is used to record the main name attributed to the documented entity.	--> P1 --> E33_E41[5_1] --> P190 --> rdfs:Literal   --> P1 --> E33_E41[5_1] --> P2 --> E55[5_2] {preferred terms}
fie_6_Name Language	Name Language	This field is used to record the language of the main name attributed to the documented entity.	--> P1 --> E33_E41[5_1] --> P72 --> E56[6_1]
fie_7_Name Part	Name Part	This field is used to record a specific part of the name attributed to the documented entity.	--> P1 --> E33_E41[5_1] --> P106 --> E41[7_1] --> rdfs:label --> rdfs:Literal
fie_8_Name Part Type	Name Part Type	This field is used to record the type of the specific part of the name attributed to the documented entity.	--> P1 --> E33_E41[5_1] --> P106 --> E33_E41[7_1] --> P2 --> E55[8_1]
fie_9_Name Part Language	Name Part Language	This field is used to record the language of the part of the name attributed to the documented entity.	--> P1 --> E33_E41[5_1] --> P106 --> E33_E41[7_1] --> P72 --> E56[9_1]

```

@prefix crm: <http://www.cidoc-crm.org/cidoc-crm/> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .

<http://www.srdm.org/object/E1> a crm:E1_CRM_Entity ;
  crm:P1_is_identified_by <https://example.org/name/fie_5_1> .

<http://vocab.getty.edu/aat/300404670> a crm:E55_Type ;
  rdfs:label "preferred terms" .

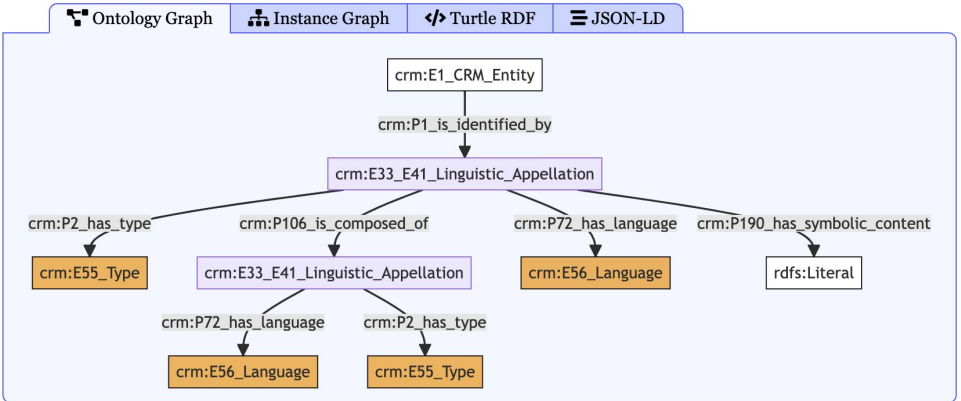
<https://example.org/name/fie_5_1> a
  crm:E33_E41_Linguistic_Appellation ;
  crm:P106_is_composed_of <https://example.org/name/fie_7_1> ;
  crm:P190_has_symbolic_content "content" ;
  crm:P2_has_type <http://vocab.getty.edu/aat/300404670> ;
  crm:P72_has_language <https://example.org/name/fie_6_1> .

<https://example.org/name/fie_6_1> a crm:E56_Language .

<https://example.org/name/fie_7_1> a
  crm:E33_E41_Linguistic_Appellation ;
  rdfs:label "content" ;
  crm:P2_has_type <https://example.org/type/fie_8_1> ;
  crm:P72_has_language <https://example.org/type/fie_9_1> .

<https://example.org/type/fie_8_1> a crm:E55_Type .

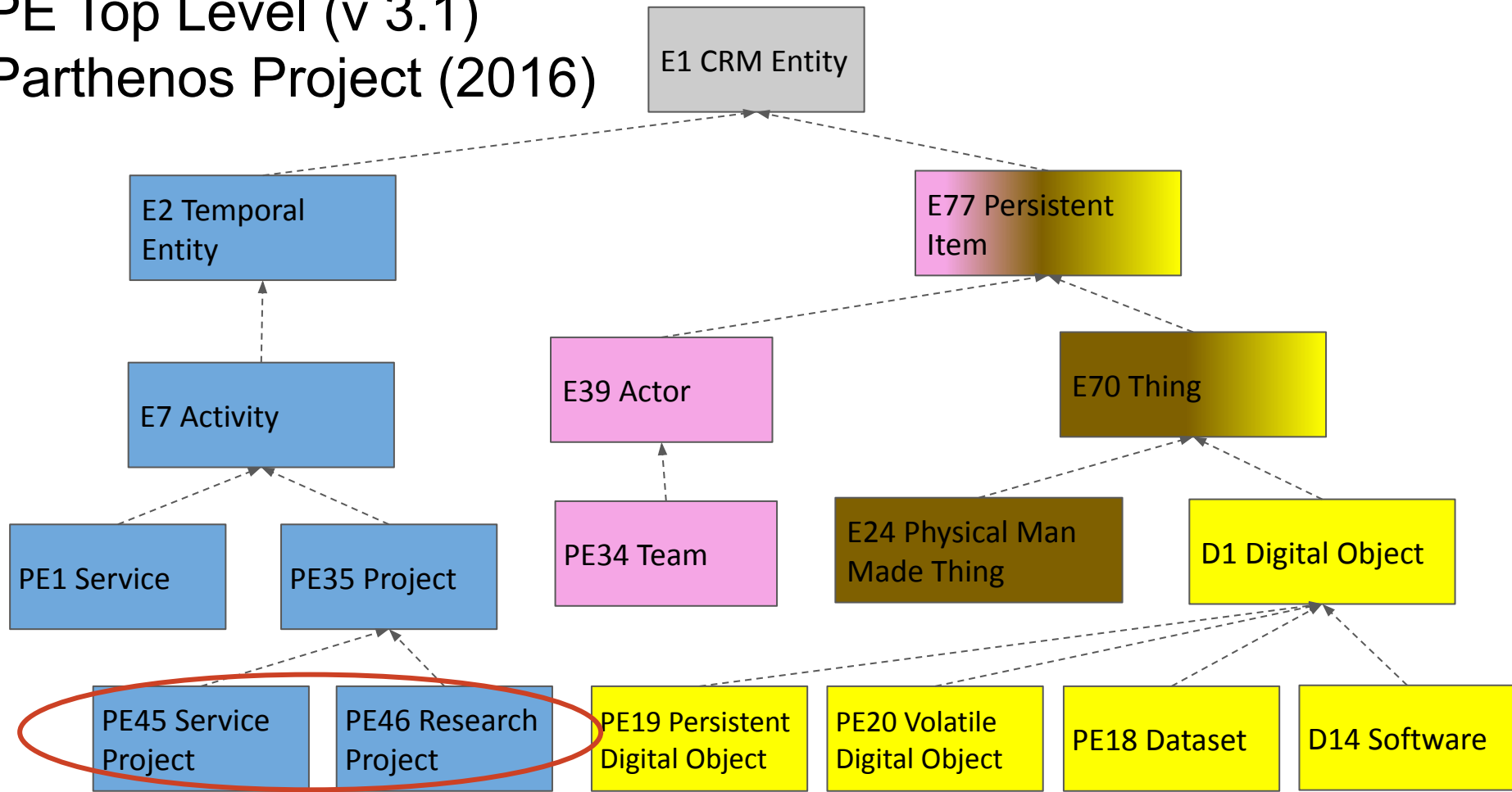
<https://example.org/type/fie_9_1> a crm:E56_Language .
  
```



<https://swissartresearch.net/>

# PE Top Level (v 3.1)

## Parthenos Project (2016)



# SemCMD Reference Models

SemCMD.0 Digital Machine Event

SemCMD.1 Project Team

SemCMD.2 Group

SemCMD.3 Person

SemCMD.4 Volatile Dataset

SemCMD.6 Volatile Software

SemCMD. 5 Persistent Dataset

SemCMD.7 Persistent Software

SemCMD.8 Schema

SemCMD.9 Service

PDLM.9.1 Digital Hosting Subservice

PDLM.9.2 Digital Curating Subservice

SemCMD.10 Service Project

SemCMD.11 Research Project



# Arches



- Open Source
- Supports Born Semantic Data
- Active community
- Good data management and search / exploration features
- Built in Vocabulary manager

A screenshot of the Arches web application interface. The browser address bar shows the URL 'thesemantictakin.com:8011/search?paging-filter=1&amp;tiles=true'. The page features a search bar at the top left with the text 'Search'. Below it, there are filters for 'QA Type' and 'Resource Type'. The search results section shows 'Results: 34' and a list of three items: 'British International Research Institutes', 'Digital Humanities Institute', and 'British School at Athens'. Each item has a 'Details' link, an 'Edit' link, and a 'Map' link. To the right of the search results is a map of Europe with several red circular markers indicating the locations of the search results. The map includes a search bar for addresses and various navigation controls like zoom in/out and a full-screen button. The interface also includes a user profile section at the top right with the name 'Welcome, admin' and a notification bell icon.

# Documenting Institutions

Find a card...

+ Expand - Collapse

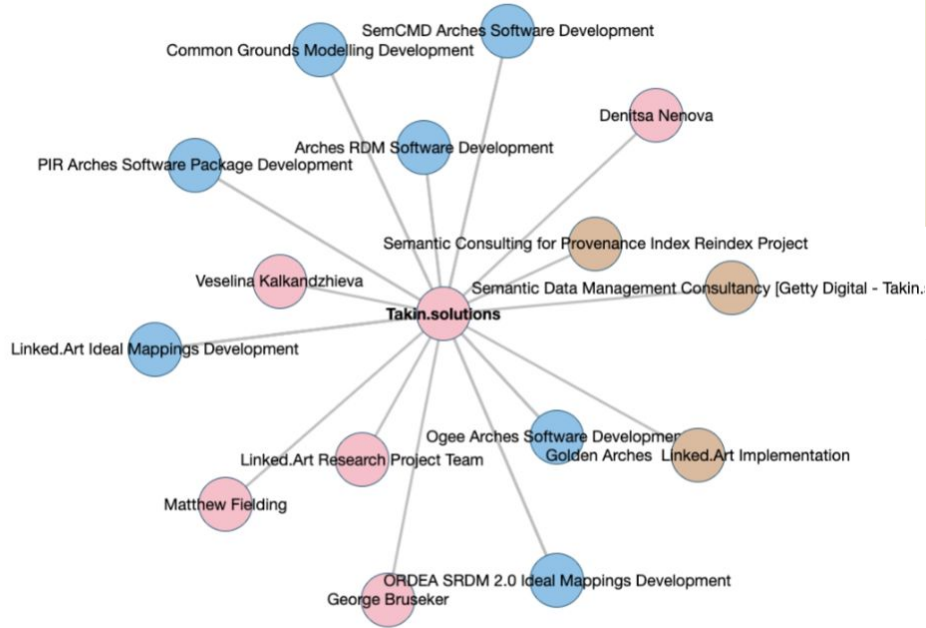
New Resource (Group)

- </> Group Name +
- Identifier
- Type
- </> Description
- Group Membership
- Group Joining
- Group Leaving
- Location
- Logo
- Digital Reference

Field	Description	Type
Name	The organization name	String +Types
Type	Kind of Organization	Controlled List
Description	Free text description of organization	String +Types
Group Membership	A link to an organization of which this organization is a member	Link to Other Institution
Location	A geo coordinate for your organization	Street address
Logo	A file with organization logo	Image file
Digital Reference	A web link for the organization	Web link

<http://www.thesemantictakin.com:8011/add-resource/aab80f51-1f0b-11ee-9071-214dbb482912>

# Institution Example



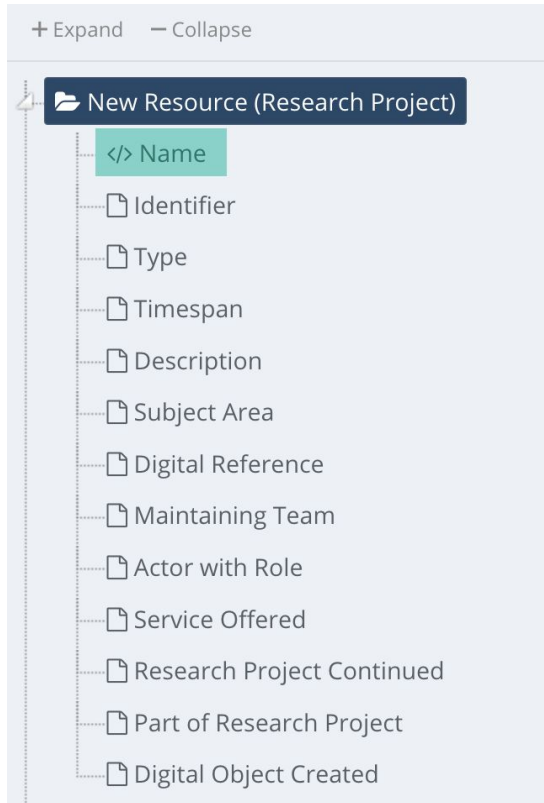
Group - Takin.solutions Report Date: February 23, 2024  
Hide Null Values

Find an address...

mapbox Mapbox © OpenStreetMap Impr

Group Name		Takin.solutions
Name Type		preferred terms
Name Language		English (language)
Type		companies
Description		Takin.solutions is a company that offers ICT solutions for Cultural Heritage, from consultation to full implementation, depending on the needs of its clients. The goal of Takin.solutions is to offer quality, integrated digital solutions in the field of cultural heritage, whether it be for memory institutions, archaeological projects, or within the context of interdisciplinary initiatives. Takin is particularly specialized in the creation and management of semantic data database management and cultural heritage documentation. It focuses on digital documentation throughout the data management life cycle from data acquisition through curation, transformation, presentation, and visualization on the mission of both the research and preservation of cultural heritage.
Location		(*coordinates*:[24.72364216181137,42.1367102288734],*type*:"Point") street addresses

# Documenting Projects



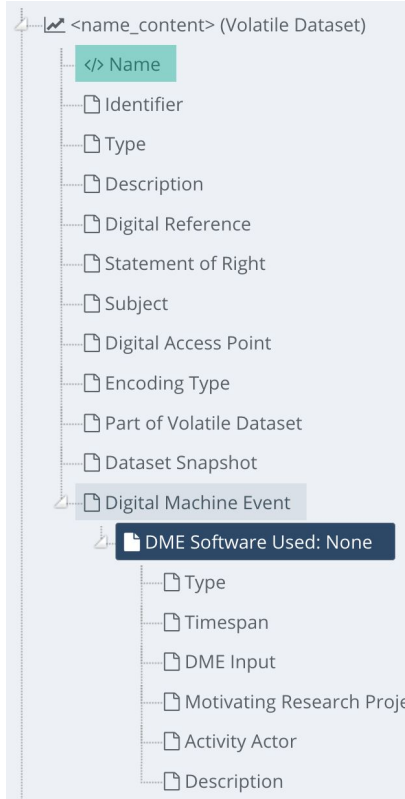
Field	Description	Type
Name	The project name	String +Types
Type	Kind of Organization	Controlled List
Description	Free text description of project	String +Types
TimeSpan	Start and End Dates of Project	Date
Actor with Role	People and their Role in the Project	Link to Person or Group Record +Type
Digital Reference	A web link for the project	Web link

<http://www.these mantictakin.com:8011/add-resource/d60113cb-2215-11ee-a966-bfab10c4cd7b>





# Documenting a Dataset



Field	Description	Type
Name	The dataset name	String +Types
Type	Kind of dataset	Controlled List
Description	Free text description of dataset	String +Types
Digital Access Point	Web Link for the functioning resource	Link +Type
Digital Machine Event - Activity Actor	People or Group and their Role in the Creation of the Dataset	Link to Person or Group Record +Type
Digital Machine Event - Timespan	A timespan for the creation of the dataset	Date

<http://www.thesemantictakin.com:8011/add-resource/d1e4b089-1f0b-11ee-9071-214dbb482912>



# Tools/Resources

Task	Link
Ontological Modelling	<a href="https://ontome.net/namespace/215">https://ontome.net/namespace/215</a>
Distribution and Materials	<a href="https://cidoc-crm.org/Resources/parthenos-entities-research-infrastructure-model">https://cidoc-crm.org/Resources/parthenos-entities-research-infrastructure-model</a>
Implementation	<a href="http://www.thesemantictakin.com:8011/">http://www.thesemantictakin.com:8011/</a>
Partners	<a href="https://www.mpiwg-berlin.mpg.de/de">https://www.mpiwg-berlin.mpg.de/de</a>
Publication	<a href="https://semhdh.github.io/">https://semhdh.github.io/</a>

## Principles

- Open-Source
- Public
- Declarative
- Collaborative

