Radiam - Helping Researchers Keep Track of Data

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What Is Radiam

A platform and a suite of applications that work together to catalog research data, allowing rich metadata entry and logical grouping of data, and then exporting of metadata in preparation for publishing.

Public web site: https://www.radiam.ca
Radiam In Operation

Research Data → Agent

Metadata → Index

Radiam Service

Research Data → Agent

Metadata
Technology

- Django REST
- React
- Postgres
- Elasticsearch
- Memcached
- Nginx
- Electron
- Docker Swarm
- Docker Registry
- Ansible

Diagram:

- Agent
- API
- GUI
- Cache
- Webserver
- Database
- Index

Docker
Progress Update

- **API**
  - All REST endpoints working
  - OpenAPI specification and documentation

- **Web Interface**
  - Create account, log in, reset password
  - Manage users, groups, projects and datasets
  - View and search indexed metadata

- **Agent**
  - Built and running on Windows, Mac, Linux
  - Index data for multiple projects with one agent
  - Metadata extraction for some file types

- **Portal Integrations**
  - OSF: auth, indexing
  - HubZero: auth, indexing
Web Interface
Web Interface
Web Interface

Edit Additional Metadata

Location Information

Leaflet | Tiles © Esri — National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, IPC
Web Interface

Configure Additional Metadata
Choose Metadata Schemas
- Datacite 4.2

Choose Metadata Fields
- On DC 4.2 Identifier
- Off DC 4.2 Creators
- Off DC 4.2 Creator
- Off DC 4.2 Creator Name
- Off DC 4.2 Name Type
- Off DC 4.2 Given Name
- Off DC 4.2 Family Name
- Off DC 4.2 Name Identifier
- Off DC 4.2 Scheme URI
- Off DC 4.2 Name Identifier Scheme
- Off DC 4.2 Titles
- Off DC 4.2 Title

Default Value
- Required
- Visible

UPDATE  RESET TO PARENT  CANCEL
API

Radium API

Radium API documentation

datacollectionmethod

list

GET /api/datacollectionmethod/

API endpoint that allows the editing of data collection methods.

Query Parameters

The following parameters should be included as part of a URL query string.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>page</td>
<td>A page number within the paginated result set.</td>
</tr>
<tr>
<td>label</td>
<td></td>
</tr>
</tbody>
</table>

create

POST /api/datacollectionmethod/

API endpoint that allows the editing of data collection methods.

Request Body

The request body should be a "application/json" encoded object, containing the following items.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>label</td>
<td>Data collection method label</td>
</tr>
</tbody>
</table>

read

GET /api/datacollectionmethod/{id}/

API endpoint that allows the editing of data collection methods.

Path Parameters

# Install the command line client
$ pip install coreapi-cli

# Load the schema document
$ curl http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod list -p page=-1 -p label=-1

# Load the schema document
$ curl http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod create -p label=-1

# Load the schema document
$ curl http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod read -p id=-1 -p label=-1
Agent

Built and running on 3 platforms
Open Source

https://github.com/usask-rc/radiam
Future

- Source code to all components of Radiam are published under the MIT open source license.
- The open architecture of Radiam allows its components to be upgraded or rewritten to keep up with integration points.
- API specification and developer documentation together allows research groups to write custom applications that work with Radiam.
- Published on CANARIE Research Software Portal: https://science.canarie.ca/
Project Members

- **PI**: Kevin Schneider, University of Saskatchewan
- **Co-PI**: Dugan O’Neil, Simon Fraser University
- **Project Lead**: Jason Hlady, University of Saskatchewan
- **Project Team**:  
  - CARL/Portage: Lee Wilson
  - SFU: Alex Garnett, Jonathan Loewen, Jin Zhang, Yang Zhou
  - USask: Adam McKenzie, Joel Farthing, Justin Pointer, Mike Winter, Rama Periasamy, Sergiy Stepanenko, Todd Trann