Building domain specific vocabularies for packaging and archiving research and cultural data

Peter Sefton & Mike Lynch



THE UNIVERSITY OF QUEENSLAND



CREATE CHANGE

AUSTRALIA





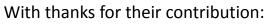














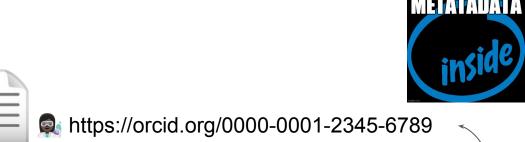




The Language Data Commons of Australia (LDaCA) and Australian Text Analytics Platform (ATAP) projects received investment (https://doi.org/10.47486/DP768 and https://doi.org/10.47486/PL074) from the Australian Research Data Commons (ARDC). The ARDC is funded by the National Collaborative Research Infrastructure Strategy (NCRIS).

Why, when the [Linked Data] technology and standards can easily solve the problem, do we remain unable to leverage these critical assets?







ID? Title? Description?



👰 🗣 Who created this data?



What parts does it have?



When?



What is it about?



How can it be reused?



As part of which project?



Who funded it?



How was it made?



https://example.com/my-microscope

Addressable resources

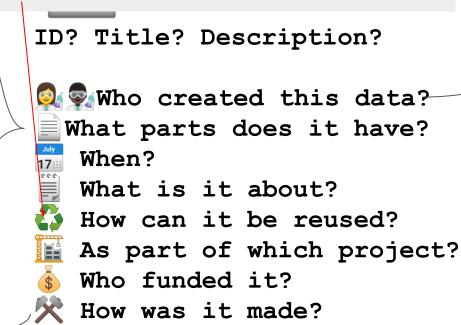
CARE and FAIR principles inform all this work, and we have implemented systems, but that's another presentation



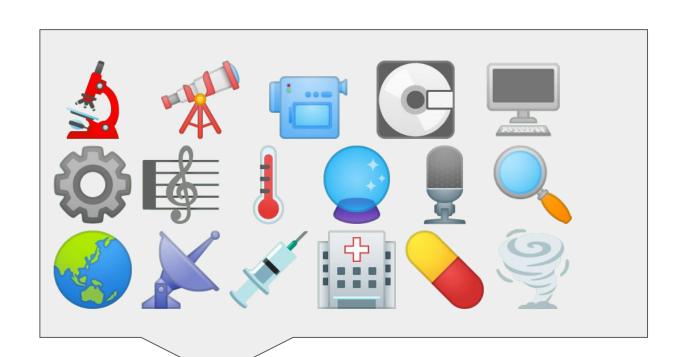
5-6789



Local Data



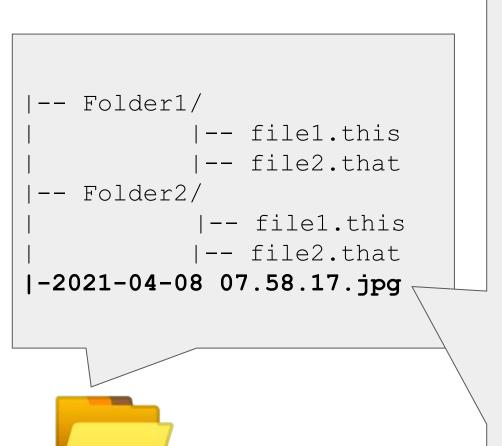
https://example.com/my-microscope

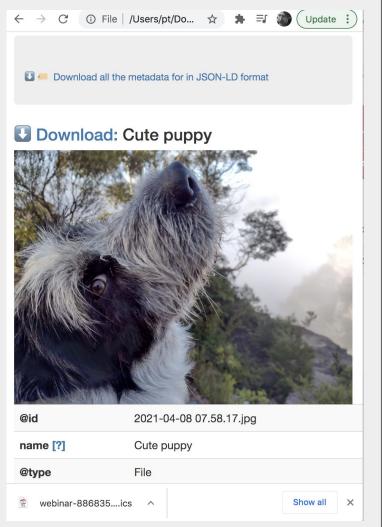






```
"@id": "2021-04-08 07.58.17.jpg",
     "@type": "File",
     "contentSize": 3271409,
     "dateModified": "2021-04-08T07:58:17+10:00",
     "description": "",
     "encodingFormat": [
         "@id":
"https://www.nationalarchives.gov.uk/PRONOM/x-fmt/391"
       "image/jpeg"
      "name": "Cute puppy"
   },
```





eMelbourne - The Encyclopedia of Melbourne Online

Melbournehistoryheritage

eMelbourne

educationfine arts

encyclopediaarchitecture

Download all the metadata for eMelbourne - The Encyclopedia of Melbourne Online in JSON-LD format Check this crate

Browse files eMelbourne - The Encyclopedia of Melbourne Online

| @id | J |
|-------------------|--|
| name [?] | eMelbourne - The Encyclopedia of Melbourne Online |
| @type | Dataset |
| description [?] | eMelbourne is a biographical, bibliographical and archival database about Melbourne, Victoria, Australia, with links to related articles and images. |
| datePublished [?] | 2017-10-26T00:00:00.000Z |
| keywords [?] | Victoria |

eMelbourne - The Encyclopedia of Melbourne Online

Download all the metadata for eMelbourne - The Encyclopedia of Melbourne Online in JSON-LD format

Check this crate

Browse files eMelbourne - The Encyclopedia of Melbourne Online

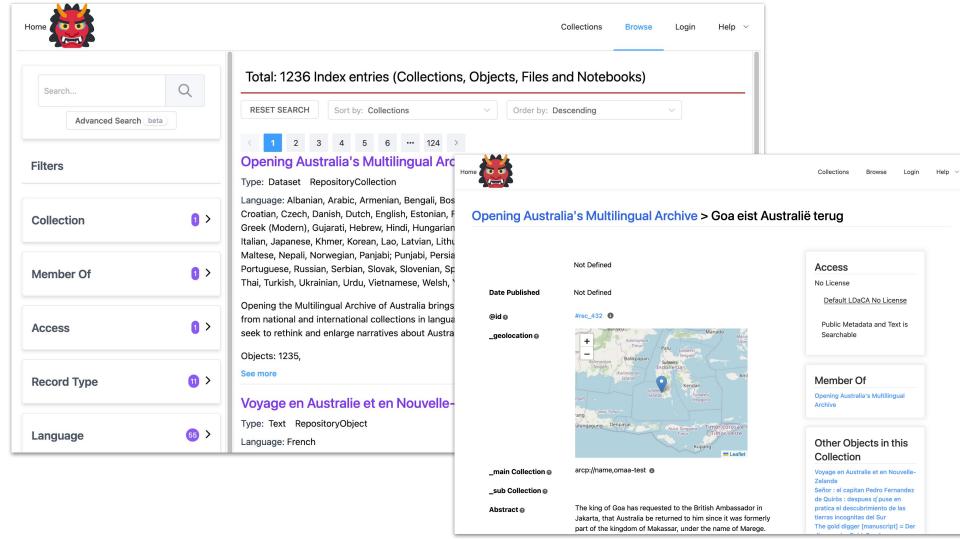
| @id | J |
|-------------------|--|
| name [?] | eMelbourne - The Encyclopedia of Melbourne Online |
| @type | Dataset |
| description [?] | eMelbourne is a biographical, bibliographical and archival database about Melbourne, Victoria, Australia, with links to related articles and images. |
| datePublished [?] | 2017-10-26T00:00:00.000Z |
| keywords [?] | Victoria Melbourne history heritage eMelbourne encyclopedia architecture education fine arts |

eMelbourne - The Encyclopedia of Melbourne Online

Download all the metadata for eMelbourne - The Encyclopedia of Melbourne Online in JSON-LD form Check this crate

Download: objects/images/ca000187.jpg







Person

A Schema.org Type

Thing > Person

A person (alive, dead, undead, or fictional).

| Property | Expected Type | Description |
|---------------------------|--|---|
| Properties from Person | | |
| additionalName | Text | An additional name for a Person, can be used for a middle name. |
| address | PostalAddress or Text | Physical address of the item. |
| affiliation | Organization | An organization that this person is affiliated with. For example, a school/university, a club, or a team. |
| agentInteractionStatistic | InteractionCounter | The number of completed interactions for this entity, in a particular role (the 'agent'), in a particular action (indicated in the statistic), and in a particular context (i.e. interactionService). |
| alumniOf | EducationalOrganization or Organization | An organization that the person is an alumni of. Inverse property: alumni |
| award | Text | An award won by or for this item. Supersedes awards. |
| birthDate | Date | Date of birth. |
| birthPlace | Place | The place where the person was born. |
| brand | Brand or Organization | The brand(s) associated with a product or service, or the brand(s) maintained by an organization or business person. |
| callSign | Text | A callsign, as used in broadcasting and radio communications to identify people, radio and TV stations, or vehicles. |
| children | Person | A child of the person. |
| colleague | Person or URL | A colleague of the person. Supersedes colleagues. |
| contactPoint | ContactPoint | A contact point for a person or organization. Supersedes contactPoints. |
| deathDate | Date | Date of death. |
| deathPlace | Place | The place where the person died. |
| duns | Text | The Dun & Bradstreet DUNS number for identifying an organization or business person. |
| email | Text | Email address. |
| familyName | Text | Family name. In the U.S., the last name of a Person. |
| faxNumber | Text | The fax number. |
| follows | Person | The most generic uni-directional social relation. |
| funder | Organization or Person | A person or organization that supports (sponsors) something through some kind of financial contribution. |
| funding | Grant | A Grant that directly or indirectly provide funding or sponsorship for this item. See also ownershipFundingInfo. Inverse property: fundedItem |
| gender | GenderType or Text | Gender of something, typically a Person, but possibly also fictional character animals, etc. While https://schema.org/Male and https://schema.org/enale may be used, text strings are also acceptable for people who do not identify a binary gender. The gender property can also be used in an extended sense to cover e.g. the gender of sports teams. As with the gender of individuals, wdo not try to enumerate all possibilities. A mixed-gender SportsTeam can be indicated with a text value of "Mixed". |
| givenName | Text | Given name. In the U.S., the first name of a Person. |
| globalLocationNumber | Text | The Global Location Number (GLN, sometimes also referred to as Internation Location Number or ILN) of the respective organization, person, or place. The GLN is a 13-digit number used to identify parties and physical locations. |
| hasCredential | EducationalOccupationalCredential | A credential awarded to the Person or Organization. |
| hasOccupation | Occupation | The Person's occupation. For past professions, use Role for expressing date |
| hasOfferCatalog | OfferCatalog | Indicates an OfferCatalog listing for this Organization, Person, or Service. |
| hasPOS | Place | Points-of-Sales operated by the organization or person. |

[more...]

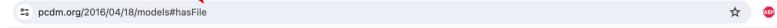
Which resolves to this Page, this might be the token we're looking for

Colleagues sent us this

```
→ C  3 w3.org/2001/XMLSchema#token
 Y NOTICE CLICCTON DOSC - NOTE CLICK >
    <xs:whiteSpace value="replace" id="normalizedString.whiteSpace"/>
  </xs:restriction>
 </xs:simpleType>
▼<xs:simpleType name="token" id="token">
 ▼<xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/xmlschema-2/#token"/>
   </xs:annotation>
   xs:restriction base="xs:normalizedString">
    <xs:whiteSpace value="collapse" id="token.whiteSpace"/>
   </xs:restriction>
 </xs:simpleType>
▼<xs:simpleType name="language" id="language">
 ▼<xs:annotation>
    <xs:documentation source="http://www.w3.org/TR/xmlschema-2/#language"/>
  </xs:annotation>
 ▼<xs:restriction base="xs:token">
   v<xs:pattern value="[a-zA-Z]{1,8}(-[a-zA-Z0-9]{1,8})*" id="language.pattern">
       <xs:documentation source="http://www.ietf.org/rfc/rfc3066.txt"> pattern specifies the content of section 2.12 of XML 1.0e2 and RFC
       </xs:documentation>
     </xs:annotation>
    </xs:pattern>
  </xs:restriction>
 </xs:simpleType>
▼<xs:simpleType name="IDREFS" id="IDREFS">
 ▼<xs:annotation>
   ▼<xs:appinfo>
     <hfp:hasFacet name="length"/>
     <hfp:hasFacet name="minLength"/>
     <hfp:hasFacet name="maxLength"/>
     <hfp:hasFacet name="enumeration"/>
     <hfp:hasFacet name="whiteSpace"/>
     <hfp:hasFacet name="pattern"/>
     <hfp:hasProperty name="ordered" value="false"/>
     <hfp:hasProperty name="bounded" value="false"/>
     <hfp:hasProperty name="cardinality" value="countably infinite"/>
     <hfp:hasProperty name="numeric" value="false"/>
    <xs:documentation source="http://www.w3.org/TR/xmlschema-2/#IDREFS"/>
  </xs:annotation>
 ▼<xs:restriction>
   ▼<xs:simpleType>
```



- objects/images/ca000187.jpg
- objects/thumbs/tn_ca000187.jpg



| pcdm:hasFile | | |
|--------------|---|--|
| URI | http://pcdm.org/models#hasFile | |
| Label | has file | |
| Description | Links to a File contained by this Object. | |
| Туре | rdf:Property | |
| Domain | pcdm:Object | |
| Range | pcdm:File | |

| pcdm:hasMember | | |
|----------------|--|--|
| URI | http://pcdm.org/models#hasMember | |
| Label | has member | |
| Description | Links to a subsidiary Object or Collection. Typically used to link to component parts, such as a book linking to a page. Note on transitivity: hasMember is not defined as transitive, but applications may treat it as transitive as local needs dictate. | |
| Туре | rdf:Property | |
| Domain | ore:Aggregation | |
| Range | <u>ore:Aggregation</u> | |

pcdm:hasRelatedObject

https://purl.archive.org/language-data-commons/terms*

Language Data Commons Schema Terms @

This is a language data Schema, in the style of the Schema.org schema. It is based on OLAC terms for use in the ATAP and LDaCA projects and is published at https://purl.archive.org/language-data-commons/terms. This schema builds on schema.org and is intended to be used with the Language Data Commons RO-Crate profile: https://purl.archive.org/language-data-commons RO-Crate profile: https://purl.archive.org/language-data-commons RO-Crate profile:

data-commons/profile

Classes ∂

<u>Annotation | CollectionEvent | CollectionProtocol | DataDepositLice PrimaryMaterial | DataReuseLicense</u>

Properties *∂*

Defined Term: SignedLanguage *∂*

The resource contains data for which the medium of interaction was signing.

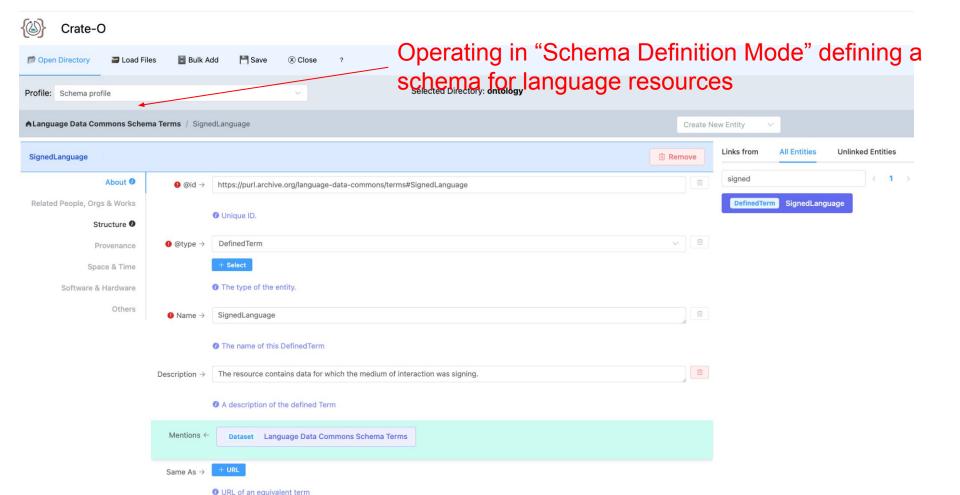
Is an expected value for the following property $\operatorname{\mathscr{D}}$

communicationMode] |

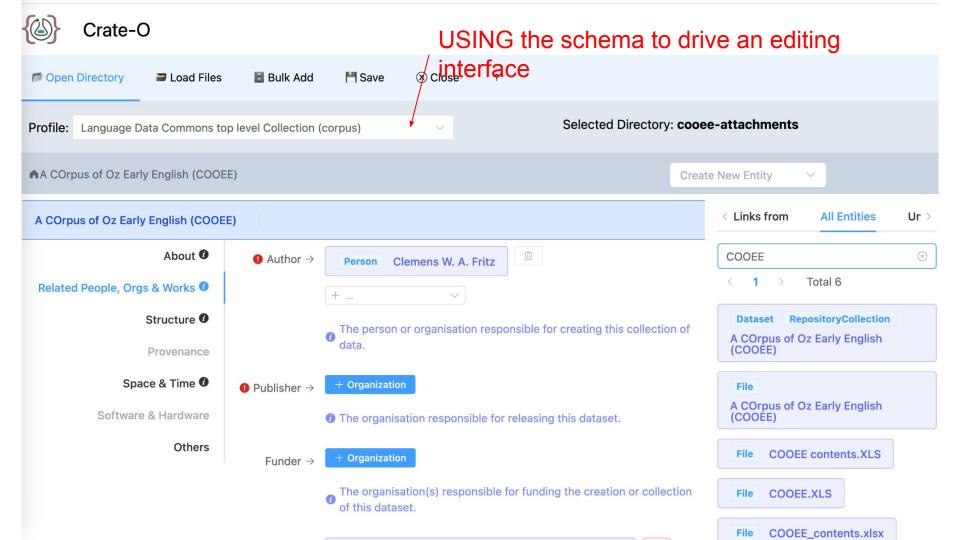
accessControlList | annotationOf | annotationType | annotator | author | author | authorizationWorkflow | channels | collectionEventType | collectionProtocolType | compiler | consultant | dataInputter | depositor | derivationOf | developer | doi | editor | geoJSON | hasAnnotation | hasCollectionProtocol | hasDerivation | illustrator | indexableText | interpreter | interviewee | interviewer | isDeldentified | subjectLanguage | modality | openAccessIndex | participant | performer | person | photographer | recorder | register | researchParticipant | researcher | responder | signer | speaker | sponsor | transcriber | translator | access | reviewDate

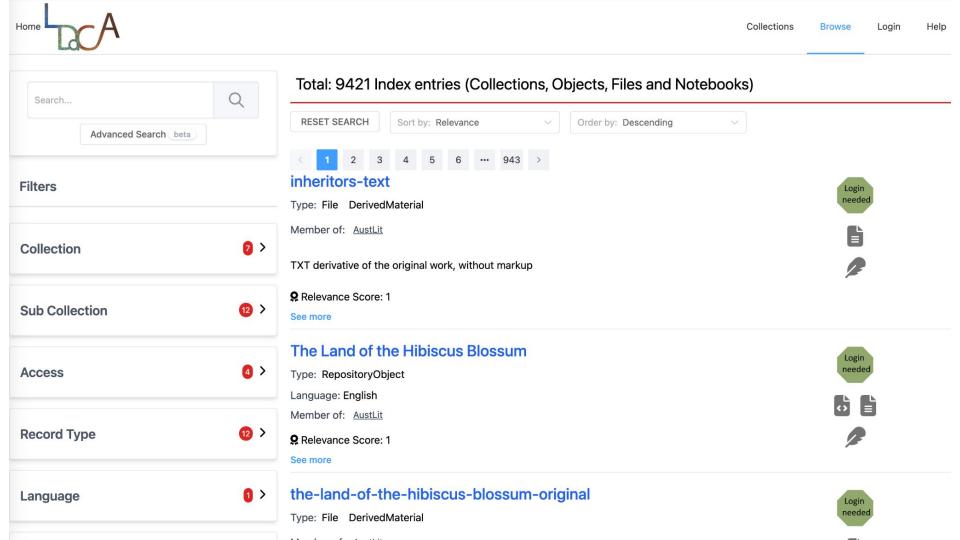
DefinedTerms *∂*

Coded | Dialogue | Drama | ElicitationTask | Formulaic | Gesture | Handwritten | Informational | Interview | Lexicon | Ludic |



```
"@id": "https://purl.archive.org/language-data-commons/terms#SignedLanguage",
     "@type": "DefinedTerm",
     "name": "SignedLanguage",
     "description": "The resource contains data for which the medium of
                     interaction was signing.",
     "inDefinedTermSet": {
       "@id":
"https://purl.archive.org/language-data-commons/terms#CommunicationModeTerms"
   },
```







Crate-O? ₽



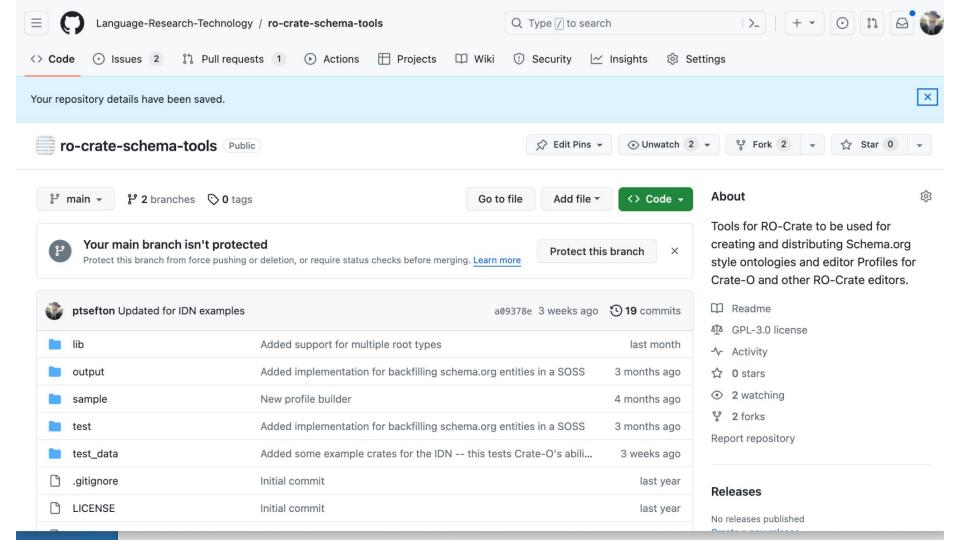
Crate-O is a browser-based editor for Research Object Crates (<u>RO-Crate</u>). RO-Crate is a flexible, developer-friendly approach to linked-data description and packaging. Crate-O is designed to:

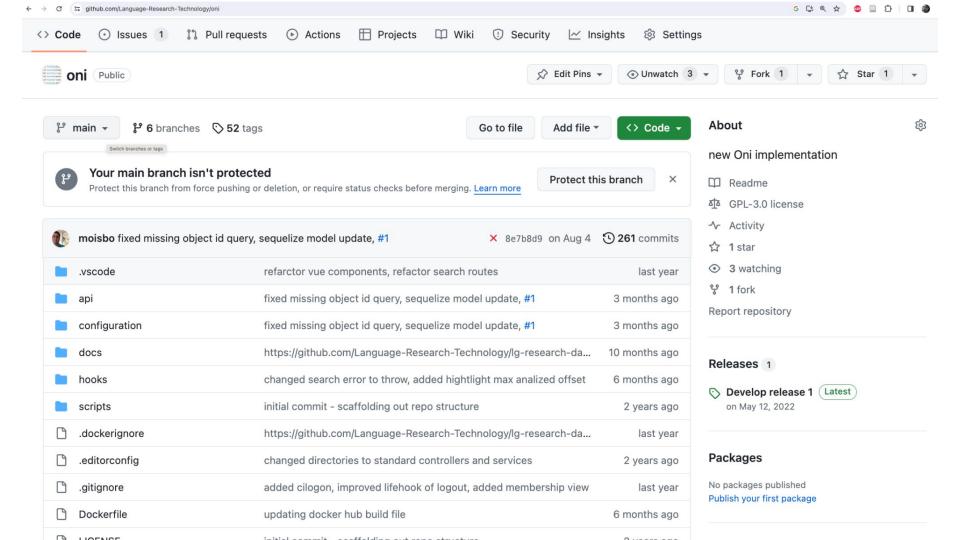
- describe files on a user's computer and to add contextual information about those files
- optionally skip the files and describe abstract contextual entities such as in a Cultural Collection or an encyclopaedia
- · annotate existing resources elsewhere on the web
- import bulk metadata from an Excel spreadsheet

NOTE: Crate-O is for Google Chrome and related browsers ONLY at this stage as it describes files on the users computer, and saves RO-Crate metadata there. We will be releasing a version that can be deployed as part of a service that accesses online resources directly, which will be compatible with other browsers (see the [Roadmap]).

While the current version of Crate-O is designed for editing self-contained RO-Crates (and works fine with crates containing tens of thousands of entities) - our roadmap includes editing fragments of larger linked-data resources, and integration with Arkisto repositories such as the Oni repository, data API & search portal.

Crate-O is currently developed by the Language Data Commons of Australia (<u>LDaCA</u>), under the guidance of Peter Sefton as technical lead. If the tool is adopted in other contexts (we are in talks with a few groups about this) then we aim to establish a steering committee / reference group to help guide development.







Stian Soiland-Reyes (I think) copied from the RO-Crate community meeting minutes

"Find a way to keep it simple enough without being too wrong"