NOTE: This document is now closed for editing -

the new source for the profile is here

And the compiled version is here

Language Data Commons RO-Crate Profile DRAFT

Audience

About this profile

Structural metadata

Access control and licensing When to choose collection-as-crate ("bundled") vs collection-in-multiple crates ("fragmented") Collection (#Collection) Objects (#Object) Files PrimaryMaterial DerivedMaterial

Identifiers

Languages Places How to record people's contributions Collection events such as "Sessions"

Describing the columns in CSV or other tabular data Footer

EXAMPLES
PrimaryMaterial as a contextual entity
PARADISEC Item
Example: Sydney Speaks

This document is a DRAFT RO-Crate profile for Language Data resources. The profile specifies the contents of an RO-Crate Metadata Document and gives guidance on how to structure language data collections both at the RO-Crate package level and in a repository containing multiple packages.

This profile assumes that the principles and standards set out in the Arkisto platform, or similar compatible approaches are being used.

The core metadata vocabularies for this profile are:

- RO-Crate recommendations for data packaging and basic discoverability metadata which is mostly Schema.org terms with a handful of additions. Following RO-Crate practice, basic metadata terms such as "who, what, where" and bibliographic-style descriptions are chosen from schema.org (in preference to other vocabularies such as Dublin Core or FOAF) where possible with domain specific vocabularies used for things which are not common across domains (such as types of language).
- An updated version of the Open Language Archives community (OLAC) vocabularies <u>http://www.language-archives.org;</u> originally expressed as XML schemas. The new vocabulary is under development under here: <u>https://purl.archive.org/language-data-commons/terms</u>

Audience

This document is primarily for use by tool developers, data scientists and metadata specialists developing scripts or systems for user communities; this document is not intended for use by non-specialists.

About this profile

This profile covers various kinds of crate metadata:

- Structural RO-Crate metadata how does the root dataset link to files, and what is
 the abstract structure of nested collections (eg collections/corpora or other curated
 datasets) and objects or study; linguistic Items, Sessions or Texts). This profile
 assumes that a repository (for example, an OCFL storage root, with an API for
 accessing it) exists and that it can at a minimum support (a) listing all items of the
 repository and returning their RO-Crate metadata, and (b) retrieving an item given its
 ID. See <u>Appendix 1: Building and index or map of a repository that follows the
 specifications here</u>.
- Types of language data is this resource a dialogue? A written text? A transcript etc which file has which kind of data in it? What is inside CSV and other structured files?
- **Contextual metadata** how to link people who had speaking, authoring, collection roles, places, subjects.

Just as we would not expect repository users to type in DublinCore metadata in XML format by hand we do not expect our users to have to deal directly with the JSON-LD presented here, this document is for tool developers to build systems that crosswalk data from existing systems, or allow for user-friendly data entry.

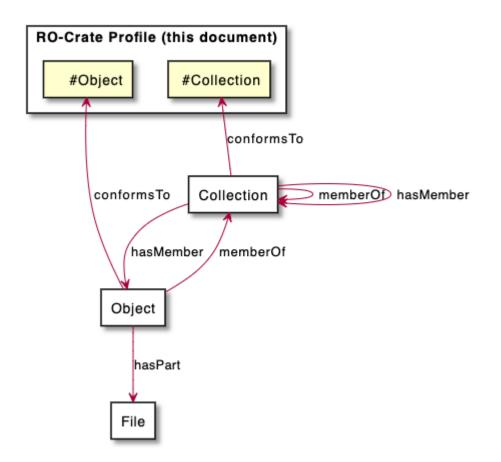
Structural metadata

The structural elements of a Text Commons RO-Crate are:

- A Collection / Object hierarchy to allow language data to be grouped for example a corpus with sub-corpora, or collections of items from a region or collection for data collected in the field.
- Dataset and File entities (as per RO-Crate). Files may be referenced locally or via URI eg from an API. If an RO-Crate contains files they MUST be linked to the root dataset using hasPart relationships as per the RO-Crate specification.

NOTE: The terms Collection and Object are used here for brevity - these are encoded in RO-Crate metadata using RepositoryCollection and RepositoryObject types respectively. These in turn are re-named versions of the Portland Common Data Model types, <u>pcdm:Collection</u> and <u>pcdm:Object</u>.

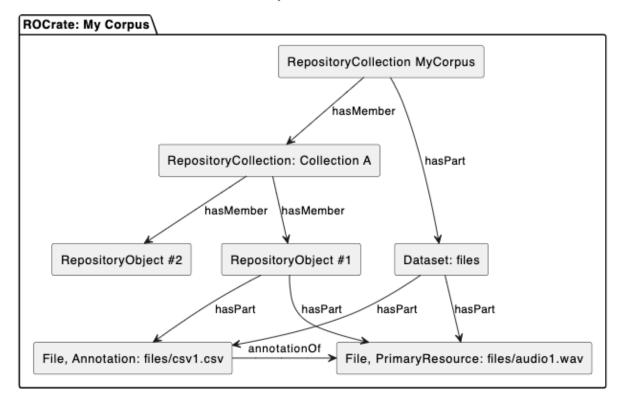
- Conformant Text Commons Crates MUST describe either an Object or a Collection.
- An RO-Crate which conforms to this profile may contain at its top level root dataset that conformsTo one of the following: <u>https://purl.archive.org/language-data-commons/profile#Collection</u> or <u>https://purl.archive.org/language-data-commons/profile#Object</u>



A collection such as a corpus may be stored in a repository or transmitted either as

- A **distributed** collection: a set of individual RO-Crates which reference separate collection records with ONE Object and one Collection per crate
- A **bundled** single crate which contains all the Collection and Object data.

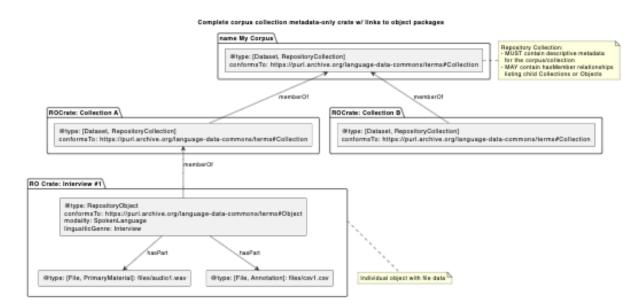
Distributed Collections MAY reference member collections or Objects in hasMember property but SHOULD NOT include descriptions of Objects that are stored elsewhere in the repository.



Self contained corpus crate with all resources

Objects MUST be linked to collections using memberOf and MAY additionally be linked to collections using hasMember references.

Which linking strategy is used is an implementation choice for repository developers.



Access control and licensing

Repositories MAY implement access control in whatever way is required for their operations but this profile aims to specify a standard way to specify licenses that is independent of the implementation of an access control system.

Both Object and Collections SHOULD have an open license OR a <u>DataReuseLicense</u> linked via the license property.

Prop	Value	Must?	Notes
@id	A URI	MUST	 An identifier which can be used to match with an authorization system.
@type	["File", "DataReuseLicense"]	MUST	

A DataReuseLicense SHOULD describe a document which is included in the Crate and specify:

- Indicate whether the metadata for the item may be made openly available
- Indicate whether the item may be full-text indexed (or otherwise indexed) for discovery.

When to choose collection-as-crate ("bundled") vs collection-in-multiple crates ("distributed")

- Choose to use a single bundled crate for a collection when:
 - The collection final and is expected to be stable, ie here is negligible chance of having to withdraw any of its contents or files
 - The collection and all its files can easily be transferred in a single transaction
 say 20Gb total
 - All the material in the corpus shares the same license for reuse
- Split a collection into fragmented RepositoryCollection and RepositoryObject crates with one crate per repository object when:
 - The collection is not yet stable
 - New items being added or changed.
 - There is a chance that some data may have to be taken down or withdrawn at the request of participants.
 - The total size of the collection will present challenges for data transfer.
 - There is more than one data reuse license applicable.

Collection (#Collection)

A collection is a group of related Objects. Examples of collections include corpora, and sub-corpora, as well as aggregations of cultural objects such as PARADISEC collections which bring together items collected in a region or on a session with informants. This follows the Alveo usage:

Items [*Objects* in this model] are grouped into collections which might correspond to curated corpora such as ACE or informal collections such as a sample of documents from the AustLit archive (<u>http://www.austlit.edu.au/</u>).

When an RO-Crate is used to package a collection which is part of another Collection it MUST have a memberOf property which references a resolvable ID (within the context of a repository or service) of the parent Collection. The Collection MAY list its members in a hasMember property, but this is not required.

The root dataset must have at least these @type values: ["Dataset", "RepositoryCollection"]

Prop	Value	Must?	Notes	IN Valid ator ?
@id	A URI	MUST		x
@type	["Dataset", "RepositoryCollection"] or if part of a bundled collection "RepositoryCollection"	MUST		x
name	A string that contains a unique name that can be displayed in a search interface	MUST		x
description	A string which is longer than its name property providing more information about what is in the collection	MUST		x
author compiler creator	There A list of at least one Person or Organization item Person items SHOULD have an ID which is an ORCID but another URI or locally unique # URI MAY be used.	MAY		TOD O

Collections

which has approved this work for distribution (subject to license conditions) with an @id property which is a URL MUST datePublished A date that parses as ISO-8869 to the level of at least a year e.g., 2000 or 2000-10 or 2000-10-0 timecode+timezone MUST x conformsTo A reference to https://putl.archive.org/language-data.com mons/rofilet/Collection (MAY also have other conforms-to values) MUST (as a collection record is just metadata, it can default to a CC licence) x license MUST should be an DataReuseLicense - this may be used by repository software for retrieval of a resource MAY (as a collection record is just metadata, it can default to a CC licence) x license A reference to an DataDepositLicense - this may be used by repository software to authorize deposit to this collection MAY (This can be aggregated from member objects and ther files so is not required here) x linguisticGenre One or the text-commons LinguisticGenre values, https://putl.archive.org/language-data-com mons/terms#ModalityTerms (This can be aggregated from members) MAY (This can be aggregated from member objects and their files so is not required here) x linguisticGenre One or more references to Collection or Object items - MAY (This can be aggregated from member objects and their files so is not required here) x language One or more references to Language items (This can be aggregated from members)					-
of at least a year e.g., 2000 or 2000-10 or 2000-10 or 2000-10-01 timecode+timezone MUST x conformsTo A reference to https://ourl archive.org/language-data-com mons/profile#Collection (MAY also have other conforms-to values) MUST (as a collection record is just metadata, it can default to a CC licence) x license MUST have a license with an @id which is a URL this SHOULD reference a CreativeWork which MAY be a DataReuseLicense – this may be used by repository software for retrieval of a resource MUST (as a collection record is just metadata, it can default to a CC licence) x license A reference to an DataDepositLicense – this may be used by repository software to authorize deposit to this collection MAY (This can be aggregated from members) x modality At least one term from the language-data-commons/mode values - https://ourl archive.org/language-data-commons/terms#ModalityTerms MAY (This can be aggregated from members) x linguisticGenre One of the text-commons LinguisticGenre values, or another defined term. MAY (This can be aggregated from members) x hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members) x language One or more references to Language items (This can be aggregated from members) MAY (This can be aggregated from members) x	publisher	which has approved this work for distribution (subject to license conditions)	MUST		
https://putl.archive.org/language-data-com mons/profile#Collection (MAY also have other conforms-to values) MUST (as a collection record is just metadata, it can default to a CC licence) x license MUST have a license with an @id which is OreativeWork which MAY be a DataReuseLicense – this may be used by repository software for retrieval of a resource MUST (as a collection record is just metadata, it can default to a CC licence) x license A reference to an DataDepositLicense – this may be used by repository software to authorize deposit to this collection MAY (This can be aggregated from member objects and their files so is not required here) x modality At least one term from the language-data-commons mode values - https://putl.archive.org/language-data-com mons/terms#ModalityTerms MAY (This can be aggregated from member objects and their files so is not required here) x linguisticGenre One of the text-commons LinguisticGenre values, https://putl.archive.org/language-data-com mons/terms#LinguisticGenreValues or another defined term. MAY (This can be aggregated from member objects and their files so is not required here) x hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members members so is not required here) x	datePublished	of at least a year e.g., 2000 or 2000-10 or	MUST		x
a URL this SHOULD reference a CreativeWork which MAY be a DataReuseLicense – this may be used by repository software for retrieval of a resource just metadata, it can default to a CC licence) license A reference to an DataDepositLicense – this may be used by repository software to authorize deposit to this collection MAY modality At least one term from the language-data-commons mode values - https://purl.archive.org/language-data-com mons/terms#ModalityTerms MAY (This can be aggregated from member objects and their files so is not required here) x linguisticGenre One of the text-commons LinguisticGenre values, inttps://purl.archive.org/language-data-com mons/terms#InguisticGenreValues or another defined term. MAY (This can be aggregated from member objects and their files so is not required here) x hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members so is not required here) x language One or more references to Language items (This can be aggregated from members) MAY (This can be aggregated from members so is not required here) x	conformsTo	https://purl.archive.org/language-data-com mons/profile#Collection (MAY also have	MUST		x
This may be used by repository software to authorize deposit to this collection MAY (This can be aggregated from member objects and their files so is not required here) x modality At least one term from the language-data-commons mode values - https://purl.archive.org/language-data-com mons/terms#ModalityTerms MAY (This can be aggregated from member objects and their files so is not required here) x linguisticGenre One of the text-commons LinguisticGenre values, https://purl.archive.org/language-data-com mons/terms#LinguisticGenreValues or another defined term. MAY (This can be aggregated from member objects and their files so is not required here) x hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members members so is not required here) x language One or more references to Language items (This can be aggregated from members) MAY (This can be aggregated from members so is not required here) x	license	a URL this SHOULD reference a CreativeWork which MAY be a DataReuseLicense – this may be used by repository software for retrieval of a	MUST	just metadata, it can	x
Ianguage-data-commons mode values - https://purl.archive.org/language-data-com mons/terms#ModalityTerms from member objects and their files so is not required here) IinguisticGenre One of the text-commons LinguisticGenre values, https://purl.archive.org/language-data-com mons/terms#LinguisticGenreValues or another defined term. MAY (This can be aggregated from member objects and their files so is not required here) x hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members members so is not required here) x language One or more references to Language items (This can be aggregated from members) MAY (This can be aggregated from members members so is not required here) x	license	this may be used by repository software	MAY		
values, https://purl.archive.org/language-data-com mons/terms#LinguisticGenreValues or another defined term. from member objects and their files so is not required here) hasMember One or more references to Collection or Object items - MAY (This can be aggregated from members members so is not required here) x language One or more references to Language items (This can be aggregated from members) MAY (This can be aggregated here) x	modality	language-data-commons mode values - https://purl.archive.org/language-data-com mons/terms#ModalityTerms	MAY	from member objects and their files so is not required	x
Object items - from members members so is not required here) language One or more references to Language items (This can be aggregated from members) MAY Image: Comparison of the aggregated from members)	linguisticGenre	values, https://purl.archive.org/language-data-com mons/terms#LinguisticGenreValues or	MAY	from member objects and their files so is not required	x
(This can be aggregated from members)	hasMember		MAY	from members members so	×
memberOf A single RepositoryCollection MAY A top level collection by	language		MAY		
	memberOf	A single RepositoryCollection	MAY	A top level collection by	

Objects (#Object)

An Object is a single unit linked to tightly related files for example - a dialogue or session in a speech study, a work (document) in a written corpus. This is based on work in Alveo which used the term *Item*:

The data model that we have developed for the storage of language resources is built around the concept of an item which corresponds (loosely) to a record of a single communication event. An item is often associated with a single text, audio or video resource but could include a number of resources, for example the different channels of audio recording or an audio recording and associated textual transcript. Items are grouped into collections which might correspond to curated corpora such as ACE or informal collections such as a sample of documents from the AustLit archive (http://www.austlit.edu.au/).

https://www.researchonline.mq.edu.au/vital/access/services/Download/mq:37347/DS 01

The definition of an object is necessarily loose and needs to reflect what data owners have chosen to do with their collections in the past.

If an RO-Crate contains a single Object the Root Dataset must have a @type property of (at least) "Dataset" and "RepositoryObject" with a conformsTo property pointing to the language-data-commons Object profile (this document).

{

{

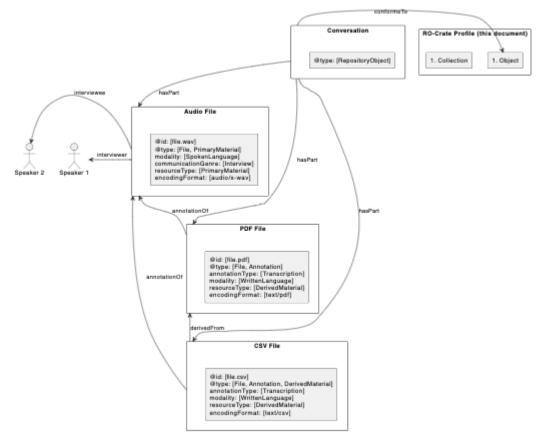
"@id": "arcp://name,some-corpus/item/1-001",
 "@type": ["Dataset","RepositoryObject"],
 "name": "Text 1-001",
 "conformsTo": { "@id": "https://purl.archive.org/language-data-commons/profile#Object"}
},

If an RO-Crate contains an entire collection then each Object SHOULD have "RepositoryObject" as one of its @type values and conformsTo property referencing this document. For example:

"@id": "arcp://name,some-corpus/corpus", "@type": ["Dataset","RepositoryObject"], "name": "Text 1-001", "conformsTo": { "@id":
"<u>https://purl.archive.org/language-data-commons/profile#Collection</u>"}
},

Objects SHOULD have files (which may be included in an RO-Crate for the object, or as part of a collection crate).

In this example the Object in question is an interview from a speech corpus with three files the diagram shows the relationships between the object and its files (and the contextual metadata of a Person who takes the role of the speaker/informant (discussed in more detail below).



There are a number of terms that can be used to characterize resources - these use the schema.org mechanism of DefinedTerm and DefinedTermSet.

Prop	Value	Must?
@id	A URI	MUST
@type	"RepositoryObject"	MUST
conformsTo	A reference to	MUST

	https://purl.archive.org/language-data-com mons/profile#Object	
name	A string that contains a unique name that can be displayed in a search interface	MUST
language	A list of languages (this is optional because each actual File in the RO-Crate MUST have a language property)	MAY
license	Either a reference to an open license which may or may not be included in the Object or to a [File, DataReuseLicense] which MUST be included	MUST
license	A reference to an DataDepositLicense	MAY
modality	At least one term from the language-data-commons mode values - <u>https://purl.archive.org/language-data-com</u> <u>mons/terms#ModalityValues</u>	SHOULD
linguisticGenre	One of the text-commons LinguisticGenre values, https://purl.archive.org/language-data-com mons/terms#LinguisticGenreValues or another defined term.	SHOULD
hasPart	One or more references to file items or CreativeWork items	SHOULD reference a ["File", "PrimaryMaterial"] or a contextual entity standing in for it such as a ["Book". "PrimaryMaterial"] MAY reference ["File", "DerivedMaterial"] and ["File", "Annotation" and other "File" items.
indexableText	A reference to text file(s) that best represent the content of this object. May be multiples and the files may be in different languages.	SHOULD
Contribution properties – including any of the following or other contributor properties from schema.org:	A schema:Person or txc:PersonSnapshot	

author compiler consultant dataInputter depositor developer editor illustrator interpreter interviewee interviewer participant performer photographer recorder researchParticipant researcher responder signer singer speaker sponsor transcriber translator

Files

There are three important @types of files (or references to other works) that may be included - PrimaryMaterial - which is a recording or original text, or a citation of or proxy for it, DerivedMaterial which has been generated from a PrimaryMaterial by a process such as format conversion or digitization, and Annotation, which contains any kind of analysis of the PrimaryMaterial or DerivedMaterial.

PrimaryMaterial

PrimaryMaterial MAY be a video or audio file if it is available (see <u>example</u>) or MAY be a ContextualEntity referencing a primary text such as a book (see <u>example</u>).

Prop	Value	Must?
@id	A URI - a path relative to the the root of the RO-Crate in a storage system	MUST
@type	["RepositoryObject", "PrimaryMaterial"]	MUST
language	A list of languages - referencing Language items	MUST
name	A string that contains a unique name that can be displayed in a search interface	SHOULD

modality	At least one term from the language-data-commons modality expected values - https://purl.archive.org/lang uage-data-commons/terms #modality or another defined term	SHOULD
linguisticGenre	One of the text-commons linguisticGenre expected values, <u>https://purl.archive.org/lang</u> <u>uage-data-commons/terms</u> <u>#linguisticGenre</u> or another defined term.	SHOULD
Contribution properties – including any of the following or other contributor properties from schema.org: author compiler consultant dataInputter depositor developer editor illustrator interpreter interviewee interviewer participant performer photographer recorder researchParticipant researcher responder signer singer speaker sponsor transcriber translator	A schema:Person or txc:PersonSnapshot	

Languages

Every File item which also has a type of PrimaryMaterial MUST have one or more values in its

language property which references on or more items of type "Language".

Prop	Value	Must?	validator
------	-------	-------	-----------

@id	Either a Glottolog or AIATSIS URI, starting with either: 1. https://collection.aiat sis.gov.au/austlang/l anguage/ 2. https://glottolog.org/r esource/	MUST	x
@Туре	Language	MUST	
name	The primary name of the language from AIATSIS or Glotolog (as applicable)	MUST	
geo	A GeoCoordinates item	MAY	

Every item with @type Language MUST have an @id which starts with either:

Examples (copied from terminal - this is not JSON)

```
{
  '@id': 'https://glottolog.org/resource/languoid/id/aust1315',
  '@type': 'Language',
  languageCode: 'aust1315',
  name: 'Australian Vernacular English',
  source: 'Glottolog',
  sameAs: [],
  alternateName: []
}
```

Places

TODO: Paradisec example

Where a

Note that contributor roles SHOULD be applied to the PrimaryMaterial item and SHOULD be applied to on DerivedMaterial and Annotation items (as a DerivedMaterial or Annotation may

be on an excerpt of a PrimaryMaterial and it needs to be made clear which participants are present in which except or annotation).

Examples of PrimaryMaterial:

- PrimaryMaterial as a contextual entity in COOEE
- PARADISEC Item

DerivedMaterial

DerivedMaterial MAY be a down-sampled or excepted video or audio file (see <u>example</u>) or MAY be a ContextualEntity referencing a primary text such as a book (see <u>example</u>).

Prop	Value	Must?
@id	A URI - a path relative to the the	MUST
@type	["File", "DerivedMaterial"]	MUST
language	A list of languages - referencing	MUST
name	A string that contains a unique name that can be displayed in a search interface	SHOULD
modality	At least one term from the language-data-commons mode values - https://purl.archive.org/lang uage-data-commons/terms #ModalityValues	SHOULD
derivedFrom	A [File, PrimaryMaterial] or [File, DerivedMaterial]	MAY
Contribution properties that apply to this derived text (see PrimaryMaterial)	A schema:Person or txc:PersonSnapshot	MAY (These SHOULD be on the Primary Text)

Identifiers

Identifiers for Objects and Collections MUST be URIs - HTTP URIS SHOULD be used but if that is not possible ARCP identifiers SHOULD be used.

Internally, identifiers for all entities that do not have their own URIs MAY use the arcp scheme - which allows for a DNS-like namespacing of identifiers. For example for the Sydney Speaks corpus the top level collection would have the ID:

arcp://name,http://www.dynamicsoflanguage.edu.au/sydney-speaks/corpus/

A sub-corpus (collection) would have an ID like:

arcp://name,<u>http://www.dynamicsoflanguage.edu.au/sydney-speaks/corpus/collection/</u>SSP (TODO PROPER URI)

An object:

arcp://name,http://www.dynamicsoflanguage.edu.au/sydney-speaks/corpus/object/331(TODO PROPER URI)

A person:

arcp://name,http://www.dynamicsoflanguage.edu.au/sydney-speaks/corpus/person/TODO

Optionally, an arcp:// may have a version parameter ?version=2

How to record people's contributions

Some corpora express ages and other demographics of participants - this presents a modeling challenge as age and some other variables change over time so if the same person appears over time then we need to have a base Person with DoB etc and then time-based instances of the person with an age, social status, gender etc AT THAT TIME.

There are three levels at which contributions to an object can be modeled:

- Include one or more Person items as context in a crate and reference them with properties such as schema:creator or the language-data-commons contribution properties such as txc:compiler or txc:depositor. The @id of the person MUST be a URI and SHOULD be re-used where the same person appears in multiple objects in a collection or repository.
- For longitudinal studies where it is important to record changing demographic information for a Person, or where precision is required in listing contributions to a work use txc:ContributingPerson (new Class being proposed by Peter Sefton). See the example in SydneySpeaks (TODO).
- If it is important to record lots of contributions to a work (eg in analysis of a joint work) use schema: Action If more precision is required in describing the provenance of items eg this work on <u>The declaration of the rights of man and of the citizen</u> (Lorber-Kasunic & Sweetapple), showing contributions over time such as edits, then we can use Actions this approach is used by preservation systems to keep track of

contributions over time - it can help to describe how a resource has been created and updated in a series of events.

NOTE: if this approach is used special care will have to be taken in developing user interfaces and/or training communities to use this way of modelling metadata - the user need not see the underlying structure. This profile does not give advice about how to do this as we have not seen a use case that requires it.

Collection events such as "Sessions"

Where data is collected from participants in a speech study with elicitation tasks such as "sessions" (see this <u>IMDI document</u>) or field interviews this can be recorded in metadata via the CollectionEvent class.

TODO:

Elicitation tasks and collection protocols

To specify the protocol for collecting data

collectionProtocolType: Elicitation Task, CorpusCriteria (eg how documents were selected TODO: make a set of DefinedTerms for these.

Describing the columns in CSV or other tabular data

CSV or similar tabular files are often used to represent transcribed speech or sign language data, sometimes also with time codes. To enable automated location of which column is which, use a <u>frictionless Table Schema</u>:

For example a file called art_schema.json:

```
{
    "fields": [
        {
            "name": "Person",
            "type": "string",
```

```
"format": "default",
           "rdfType": "http://schema.org/Person"
       },
       {
           "name": "Speech",
           "type": "string",
           "format": "default",
           "rdfType":
"https://purl.archive.org/language-data-commons/terms#Orthography",
           "description": "This column contains transcribed speech"
       },
       {
           "name": "events",
           "type": "any",
           "format": "default"
       }
   ],
   "missingValues": [
       ....
   ]
}
```

The schema should be included in every Object stored in a repository, whether the Collection is being stored as a bundled crate, in which case there need only be one copy of the schema file or a fragmented crate where there will be one per repository object.

A csv file that uses this profile MUST reference a Contextual Entity for the schema (TODO: paste in actual examples from ART here.



{
 "@id": "conversation1.csv",
 "@type" :["File"],
 "encodingFormat": "text/csv",
 "name": "Transcript of conversation 1".
 "conformsTo": {"@id" : "arcp://name,ausnc.ary/csv_schema")

```
}
{
    "@id": "arcp://name,ausnc.ary/csv_schema", ← REPOSITORY-UNIQUE NAME
    "Type": "CreativeWork",
    "Name": "Frictionless Table Schema for CSV transcription files in the ART corpus"
    "sameAs": "art_schema.json". ← Reference to the schema file above TODO: is this the best
link?
    "conformsTo": {"@id": "https://specs.frictionlessdata.io/table-schema/")
}
{
    "@id": "art_schema.json",
    "@type" :["File"],
    "encodingFormat": "text/csv",
    "name": "Frictionless Table Schema file for CSV transcription files in the ART corpus".
    "conformsTo": {"@id": "https://specs.frictionlessdata.io/table-schema/")
```

}

The indirection in this conforms-to relationship is to allow multiple objects to have a conformsTo property which indicates that they conform to the *same* schema while having a local copy of the schema, as per RO-Crate best practice of having all local context to use a data packages in the package where possible.

References

Himmelmann, Nikolaus P. 2012. Linguistic data types and the interface between language documentation and description. *Language documentation & conservation*. University of Hawai'i Press 6. 187–207.

Paterson, Hugh Joseph. 2021. *Language Archive Records: Interoperability of Referencing Practices and Metadata Models*. United States -- North Dakota: The University of North Dakota M.A.

https://www.proquest.com/docview/2550236802/abstract/22686A0E508D4E5CPQ/1 (3 May, 2022).

EXAMPLES

PrimaryMaterial as a contextual entity

This example comes from COOEE, where the primary text

```
{
 '@type' :[ 'CreativeWork', "PrimaryMaterial"],
 partOf: { '@id': 'arcp://name,cooee-corpus/work/Hale1950' },
 name: 'Hale, 1950',
 '@id': 'arcp://name,cooee-corpus/work/Hale1950p120-27',
 pageStart: '120',
 pageEnd: '127'
},
{
 '@type': 'CreativeWork',
 author: 'Hale, John,',
 datePublished: '1950',
 name: 'Settlers: Being Extracts from the Journals and letters of early colonists in Canada, Australia, South Africa and
New Zealand,',
 publisher: 'London: Faber & Faber.',
 wordCount: '17,598',
 '@id': 'arcp://name,cooee-corpus/work/Hale1950'
}
```

PARADISEC Item

```
{
   "@id": "NT1-004-004A.eaf",
   "@type": ["File","Annotation"],
   "contentSize": 115784,
   "dateCreated": "2016-08-01T06:00:06.000Z",
   "dateModified": "2019-04-11T15:04:12.000Z",
   "encodingFormat": "application/xml",
   "name": "NT1-004-004A.eaf",
   "doi": "10.4225/72/579F720F4898C",
   "essenceld": 1100497,
   "annotationOf": [ { "@id": "NT1-004-004A.wav" }]
 },
 {
   "@id": "NT1-004-004A.mp3",
   "@type": ["File", "DerivedMaterial"],
   "bitrate": 128007,
   "contentSize": 45150336,
   "dateCreated": "2012-09-27T10:08:00.000Z",
   "dateModified": "2019-11-29T08:09:15.000Z",
   "duration": 2821.73,
```

```
"encodingFormat": "audio/mpeg",
 "name": "NT1-004-004A.mp3",
 "channels": 2,
 "doi": "10.4225/72/575C6E9CC9B6A",
 "essenceld": 1010232,
 "sampleRate": 44100,
 derivedFrom: [ { @id: NT1-004-004A.wav }]
},
{
 "@id": "NT1-004-004A.wav",
 "@type": ["File", "PrimaryMaterial"],
 "bitrate": 4608000.
 "contentSize": 1625299802,
 "dateCreated": "2012-09-27T10:08:00.000Z",
 "dateModified": "2019-11-29T08:13:31.000Z",
 "duration": 2821.7,
 "encodingFormat": "audio/x-wav",
 "name": "NT1-004-004A.wav",
 "channels": 2.
 "doi": "10.4225/72/575C6EA269CE2",
 "essenceld": 1010233,
 "sampleRate": 96000,
 "hasAnnotation": { "@id": "NT1-004-004A.eaf" }
```

```
},
```

Example: Sydney Speaks

Example: Farms To Freeways

```
{
    "@id":
    "@id":
    "arcp://name,farms-to-freeways/interview-item/arcp://name,farms-to-freeways/collect
ion/transcriptofinterviewwithjuditheastwell",
    "@type": "RepositoryObject",
    "name": "Interview with Judith Eastwell",
    "speaker": {
        "@id": "arcp://name,farms-to-freeways/collection/joywillis"
    },
    "hasPart": [
        {
          "@id": "files/530/original_80ded52c7051eaccb29939c8d829b92b.mp3"
        },
```

```
"@id": "files/430/original_6475a7d80e7124941f0039730e570c04.pdf"
},
{
    "@id": "files/430/original_6475a7d80e7124941f0039730e570c04.csv"
}
```

```
],
"conformsTo": "https://purl.archive.org/language-data-commons/profile#Object",
"dateCreated": "1992-03-05",
```

"interviewer": "Robyn Arrowsmith",

"publisher": "University of Western Sydney",

"license": "Content in the Western Sydney Women's Oral History Project: From farms to freeways collection is licensed under a Creative Commons CC BY 3.0 AU licence (https://creativecommons.org/licenses/by/3.0/au/).",

"contentLocation": {

"@id": "http://omeka.uws.edu.au/farmstofreeways/api/geolocations/10"
},

"description": "Judith Eastwell was born on 14th September, 1945, and lived in Quakers Hill from age 2. Judith's father was the Postmaster at Quakers Hill post office from about 1950 onwards. Judith married and had six children, and eventually took over as Postmistress at Quakers Hill.",

```
"language": {
      "@id": "https://glottolog.org/resource/languoid/id/aust1314"
    },
    "encodingFormat": "audio/MPEG",
    "linguisticGenre": {
      "@id": "txc:Interview"
    },
    "indexableText": {
      "@id": "files/430/original 6475a7d80e7124941f0039730e570c04.csv"
    }
  },
    "@id": "files/430/original 6475a7d80e7124941f0039730e570c04.csv",
    "@type": [
      "File",
      "Annotation"
    1,
    "name": "Transcript of interview with Judith Eastwell full text transcription
(CSV)",
    "encodingFormat": "text/csv",
    "annotationType": [
      {
        "@id": "txc:Transcription"
      },
```

```
{
    "@id": "txc:TimeAligned"
   }
  ],
  "modality": {
   "@id": "txc:Orthography"
 },
 "annotationOf": {
   "@id": "files/530/original_80ded52c7051eaccb29939c8d829b92b.mp3"
 },
 "language": {
   "@id": "https://www.ethnologue.com/language/eng"
 },
 "csvw:tableSchema": {
  "@id": "#dialog schema"
 },
 "size": 58117
},
```

TODO: https://www.mpi.nl/ISLE/documents/docs_frame.html