Design principles

- **A DOMAIN ONTOLOGY**
  It will cover the whole domain of archival description. When implementing it, no need to borrow any class or property from other existing ontologies. Will not reuse classes and properties defined elsewhere > autonomous

- **USEFUL/USABLE**
  - for expressing in RDF the data contained in existing archival finding aids, authority records and vocabularies, in a clear and consistent way, without losing any descriptive data, including partially implicit information
  - for authoring directly new RDF triples

- **FUNCTIONAL**
  - providing the key features for enabling the discovery of information about the records described and their contexts (querying, retrieving, gathering and displaying it) ; for enabling users to make inferences from the data (to create new triples from existing ones)

- **FLEXIBLE**
  - providing several methods for expressing some facts, vague categories along with very accurate ones ; direct and short paths and more complex ones

- **EXTENSIBLE**
  - it should be easy to adapt the ontology
  - it must also be referenced from, or even partially reusable, in other contexts > mappings with other ontologies ; consistent hierarchies of classes and properties, with high level abstract objects ; ‘hooks’ enabling connexions (with, for example, SKOS vocabularies); modularity...
How We Build RIC-O: Principles

MAPPINGS (FOR A BETTER INTEGRATION OF OUR DATA TO LINKED DATA)

The archival domain is linked to (or part of) many other ones. It is very important that our concepts (classes or properties) be compared with, and when appliable, aligned, with concepts defined in other ontologies:

- ontologies for other domains of cultural heritage:
  - CIDOC-CRM (www.cidoc-crm.org/official_release_cidoc.html)
  - FRBRoo (http://www.cidoc-crm.org/frbr_inro.html)
- ontologies for describing entities or events somewhat close or linked to the archival one:
  - The PROV Ontology (PROV-O) (http://www.w3.org/TR/prov-o/)
  - The Organization ontology (http://www.w3.org/TR/vocab-org/)
  - Open Archives Initiative-Object Reuse and Exchange (OAI-ORE) (https://www.openarchives.org/ore/)
- generic, widely used, ontologies:
  - FOAF (Friend of a Friend) (http://xmlns.com/foaf/spec/)
  - Dublin Core Metadata Initiative Terms (dcterms) (http://dublincore.org/documents/dcim-terms/)
  - LODE: An ontology for Linking Open Descriptions of Events (http://linkedevents.org/ontology/)
The ontology files

- Created using Protégé software (see https://protege.stanford.edu/)
- Stored in a Git repository
- For now, two files:
  - the main one contains everything ... apart from a vocabulary (using SKOS/RDF) for record set types

- Namespace URI: http://www.ica.org/standards/RiC/ontology#

- Documentation in English (some information on the ontology itself; labels for classes and properties; definitions) is a work in progress
The ontology files as they will probably be seen (when released) by a human reader

International Council on Archives Records in Contexts Ontology (ICA RiC-O)

IRI: http://www.ica.org/standards/RiC/ontology

Current version:
This version is an incomplete version. Current limits: - top level system of classes and properties to be reviewed, checked and enhanced - formal constraints not complete - documentation is partial - no alignments made yet - not yet fully tested (though first tests, within a French project involving the ANF, the BnF and the ministry of Culture, are almost finished)

Imported Ontologies:
http://www.ica.org/standards/RiC/vocabularies/recordDatatypes (visualise it with LOE)
http://www.w3.org/2000/10/swap/core (visualise it with LOE)

Other visualisation:
Ontology source

Abstract

Main characteristics:
- domain ontology: aims to provide classes and properties needed for describing archival records of any kind. Does not borrow any part from other ontologies - except that it uses SKOS ontology for defining some concepts will be aligned with other ontologies
- conforms to RiC-CM version 1; any entity, property or relation defined in RiC-CM is represented and formally defined in RiC-O. Plus other entities and properties, and hierarchies of classes and properties
- comes with several SKOS vocabularies

Principles:
- useful: either for expressing in RDF, the data contained in existing archival finding aids, authority records and vocabularies, without losing any data, structural or 'semi-implicit' information, or for enabling to create directly RDF triples
- functional: ability to query, retrieve and display the RDF data conforming to it, for some target audiences including archivists, records managers, researchers and users of records - ability to make some inferences, ability to connect the triples to other ones (individuals proven to be the same, or to be engaged into a relation)
- flexible (as any format defined for archival description, granularity and accuracy can vary; shortcuts and nary relations)
- open: extensibility (possibility to add quite easily some new subclasses and properties, inheriting the formal constraints of the upper levels); hooks (SKOS concepts usable for some classes; upper generic classes designed according to DOLCE main principles, with a broader scope than the archival domain): interoperability (classes and properties aligned with those of other ontologies)

Technical documentation and guidelines used:
- every relations (SRL, to be added)
- Linked Data Patterns (J демо)
- SKOS specification
- OWL2
- books ...

Sources of inspiration / possible targets for alignments:
- DOLCE
- CIDOC-CRM, FRBRoo, FRBR/LIM
- The Organization Ontology
- PRO-V
- DA-OORE and EIDM ....

Table of Content
1. Classes
2. Object Properties
3. Data Properties
4. Named Individuals
A Partial overview of the Current Status of the Ontology
Some issues on which we have worked or are working

- The upper level of the hierarchies of classes and properties
- Modelling both a high-level and practical representation of agents
- Modelling names and name parts
- Providing ways for categorizing things, using external SKOS vocabularies if wanted
- An accurate hierarchy of n-ary relations
- Representing sequences within record sets
- Naming conventions
- etc.
A specific part of RiC-O: the system of n-ary relations
Testing the ontology now! A proof of concept in France

• An ongoing project (will be finished by the end of 2017)

• Tasks:
  Converting to RDF three archival metadata sets (EAD 2002 finding aids and EAC-CPF authority records) coming from three institutions, interlinking and graphically displaying the RDF triples

• The reference model used is the current version of RiC-O

RDF triples : high level of accuracy, a lot of (though not all) RiC-O components used

> Using RiC-O for processing existing metadata is possible 😊

• Once the project is finished, we will:
  - publish online the web application allowing to query and display the resulting graph;
  - release the scripts written for converting the metadata files
  - prepare and publish a detailed report on the targets, methods and results, including discussing lessons and perspectives
From one EAC-CPF file describing one person

... to several different interconnected RDF resources of different kinds
From one EAC-CPF file describing one person

... to several different interconnected RDF resources of different kinds
Jean-Noël Jeanneney vu dans les univers archivistiques de la BnF et des AN
A screenshot from the current version of the prototype interface
Other projects that will probably soon use RiC-O

- At least for aligning their ontology with RiC-O

  • The Swiss Federal Archives (and other institutions) project
    A second phase after a proof of concept (see http://www.alod.ch/)

  • The SAEM (Système d’Archivage Électronique Mutualisé) of the
    Département de la Gironde, the city of Bordeaux et Bordeaux
    métropole (France)

- And most probably for using directly the whole ontology (or a part of
  it), the SNAC Cooperative (http://snaccooperative.org/)
Thank You!