Matterhorn RDF Datamodel

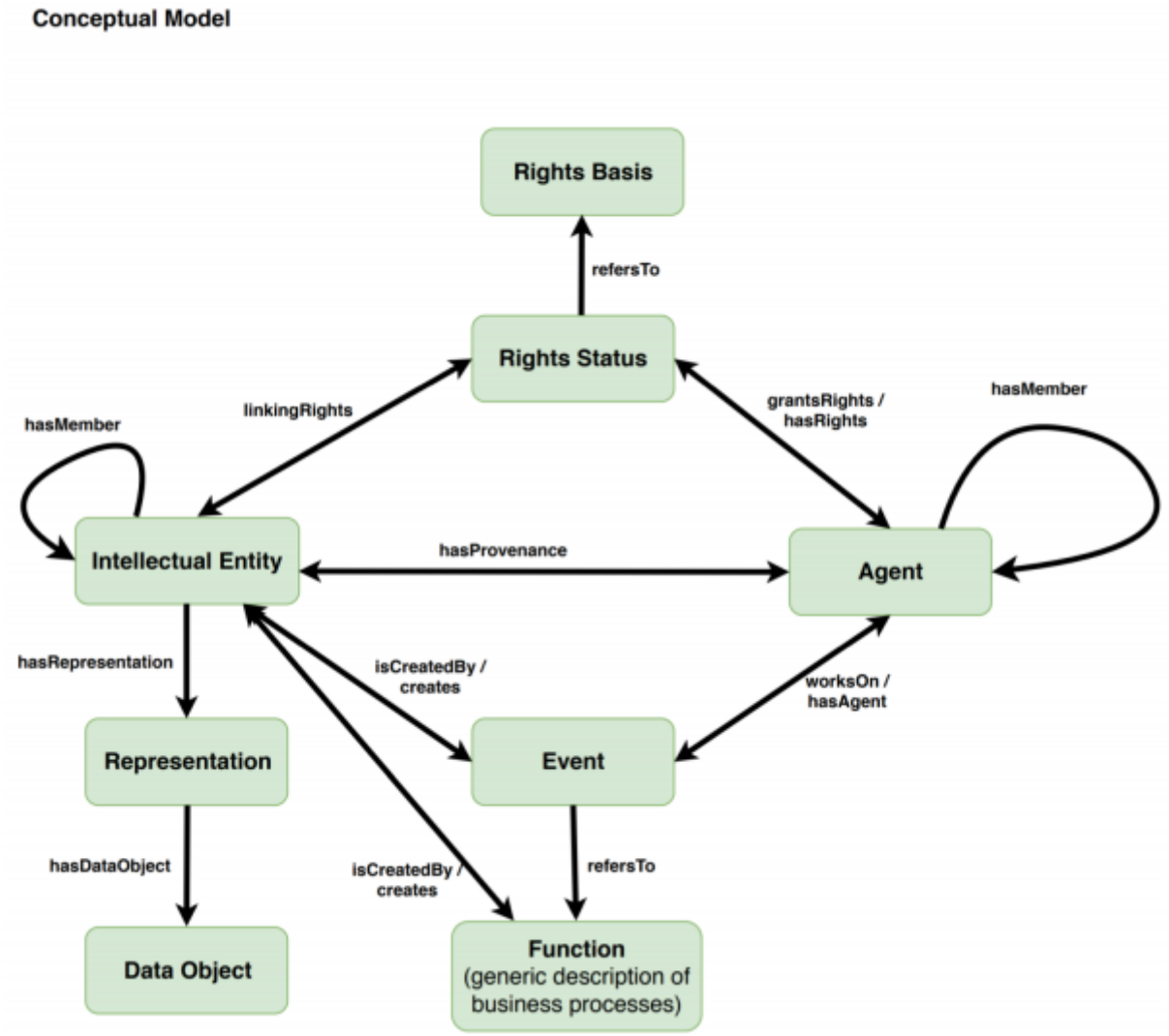
The Matterhorn RDF Datamodel is developped by the State Archives Canton of Wallis and docuteam. It is based both on the ICA-standards for descriptive metadata (now ISAD/ISAAR/ISDF, in the future Records in Context (RiC)) and the OAIS Information Model. There are currently two different approaches to implement the RiC conceptual model:

- **EGAD‘s nongeneric approach:** Developing an RDF standard specific to archives, with gateways to library and museum standards. The development of Records in Context Ontology (RiC-O) is a very slow process due to EGADs lacking ressources. In december 2018 the EGAD opened a "RiC-O Call for reviewers, which is open until April 2019. It is important to give the EGAD the feedback it is looking for!
- **The Matterhorn RDF Data Model‘s generic approach:** The RiC conceptual model and the OAIS Information Model are implemented with existing ontologies, nothing new is being created. The basis for our implementation is the PREMIS3-ontology.

The Matterhorn RDF Data Model follows the best practices propagated by the W3C: «It is best practice to use or extend an existing vocabulary before creating a new vocabulary.» Matterhorn RDF is based on ontologies that are popular and have a large user base, that are maintained and have versioning policies. All vocabularies are attached to organizations, institutions or committees that ensure continuity over the long run.

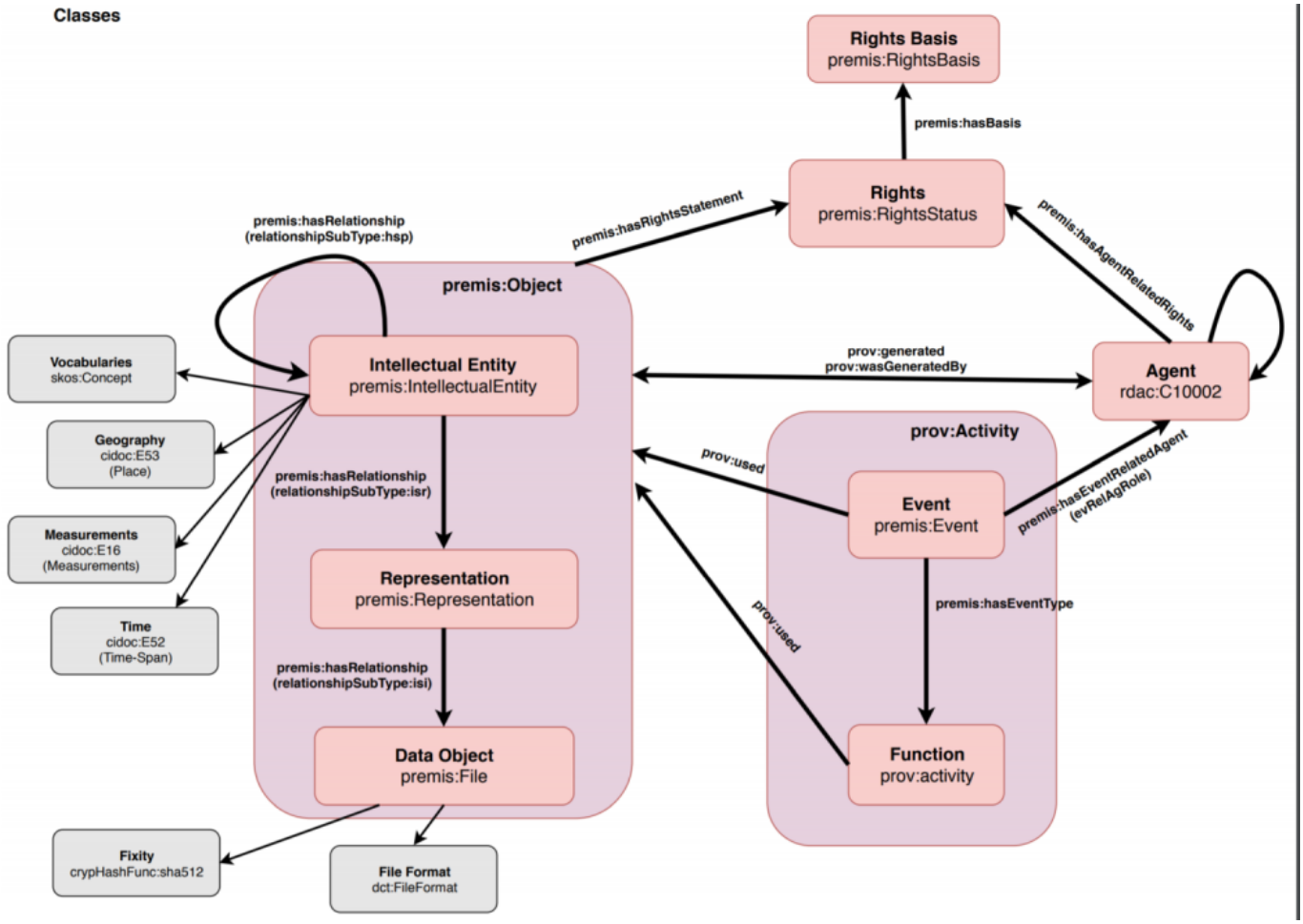
Conceptual Model

The conceptual model describes the main entities of the Matterhorn RDF Datamodel and the relationships between the entities. The naming both of the entities and relationships is for better illustration and has nothing to do with the actual implementation.



Classes

The class model of Matterhorn RDF is mainly based on the Premis 3 ontology and the library standard RDA (but not the FRBR data model). The Premis-Classes are enriched with attributes from other ontologies (mainly DC and RDA) to be able to model descriptive metadata.



Namespaces

Name	Prefix	URI
Business Process Model and Notation	bpmn	http://dkm.fbk.eu/index.php/BPMN_Ontology#
CIDOC Conceptual Reference Model	cidoc	http://www.cidoc-crm.org/cidoc-crm/
Cryptographic Hash Functions	crypHashFunc	http://id.loc.gov/vocabulary/preservation/cryptographicHashFunctions/
Dublin Core	dc	http://purl.org/dc/elements/1.1/
DC Terms	dct	http://purl.org/dc/terms/
LoC Event Relations Agent Role	evRelAgRole	http://id.loc.gov/vocabulary/preservation/linkingAgentRoleEvent/
LoC Event Type	evType	http://id.loc.gov/vocabulary/preservation/eventType/
Ebucore	ebucore	http://www.ebu.ch/metadata/ontologies/ebucore/ebucore#
OWL	owl	http://www.w3.org/2002/07/owl#
Pronom	pronom	http://www.nationalarchives.gov.uk/pronom/
Provenance-Family PROV	prov	http://www.w3.org/ns/prov#
Premis	premis	http://id.loc.gov/vocabulary/preservation
RDA Unconstrained properties	rdau	http://rdaregistry.info/Elements/u/

Name	Prefix	URI
RDA Class hierarchies	rdac	http://rdaregistry.info/Elements/c/
RDF	rdf	http://www.w3.org/1999/02/22-rdf-syntax-ns#
LoC Relations Sub Type LOC	relSubType	http://id.loc.gov/vocabulary/preservation/relationshipSubType/
SKOS Simple Knowledge Organization System	skos	http://www.w3.org/2004/02/skos/core#
Time Ontology in OWL	time	http://www.w3.org/2006/time#

(Searching for namespaces? Go to http://prefix.cc)

Classes

Intellectual Concept	Class
Activity	prov:Activity
Agent	rdac:C10002
Event (Subclass of prov:Activity)	premis:Event
File Format	dct:FileFormat
Fixity Information	premis:fixity
Data Object (Subclass of premis:Object)	premis:File
Intellectual Entity (Subclass of premis:Object)	premis:IntellectualEntity
Representation (Subclass of premis:Object)	premis:Representation
Rights	premis:RightsStatus
Rights Basis	premis:RightsBasis

Activity

An activity is a generic term for work that a person or an organization performs. An activity can be atomic or non-atomic (compound). The types of activities that are a part of a Process Model are: Process, Sub-Process, and Task.

Class: prov:Activity

Property	Values	Standard
bpmn:has_activity_activity_type	Literal (Process, Sub-Process, Task)	ISDF 1.1 Function Type
dc:title	Literal	ISDF 1.2 Name
dct:alternative	Literal	ISDF 1.3 Parallel Name; ISDF 1.4 Other Name

Property	Values	Standard
bpmn:has_BPMN_element_category	Literal	ISDF 1.5 Classification (classify the function according to a classification scheme)
dc:date	Literal	ISDF 2.1 Date (identify the date or range of dates of the function)
dct:issued	Literal	ISDF 2.1 Date of issuance / enactment of the activity
dct:valid	Literal	ISDF 2.1 Date (often a range) of validity of an activity
bpmn:has_BPMN_element_documentation	Literal	ISDF 2.2 Description
rdau:P60491	Literal	ISDF 2.3 History; RDA „has history of the resource“
dct:rights	Literal	ISDF 2.4 Legislation
pcdm:hasRelatedObject	URI of linked bpmn:activity (via its bpmn:has_BPMN_element_id)	ISDF 3.1 Related activity
bpmn:has_BPMN_element_id	Literal	ISDF 4.1 Function Identifier
bpmn:has_activity_performers	Literal or URI of premis:agent	ISDF 4.2 Responsible Agent
dct:conformsTo	Literal	ISDF 4.3 Rules & Conventions
dct:hasVersion	Literal	ISDF 4.4 Status of description (draft, final)
dct:language	Literal	ISDF 4.7 Language of description
dct:source	Literal	ISDF 4.8 Sources consulted for description
dct:modified	Literal	ISDF 4.9 Maintenance notes

Agent

The „Agent“-class of RDA (rdac:C10002) can be divided into the subclasses Person (rdac:C10004), Corporate Body (rdac:C10005) and Family (rdac:C10008), see: https://www.rdaregistry.info/rgAbout/rdaont/ontHierarchies.html. The Matterhorn RDF-model includes only the top class rdac:C10002 and describes it with unconstrained RDAU-properties. It's of course open to the user to divide rdac:C10002 into its subclasses if more granularity is needed.

Class: rdac:C10002

Property	Values	Standard
rdau:P60047	Literal (person, family, organization, software, algorithm, AI)	ISAAR 1.1 Type of entity; RDA „has type of agent“
rdau:P60368	Literal	ISAAR 1.2 Name; RDA „has name of agent“
rdau:P60119	Literal	ISAAR 1.3, 1.5; RDA „has variant name for corporate body“
rdau:P60549	Literal	ISAAR 1.4; RDA „has preferred name for agent“
rdau:P60053	Literal (e.g. UUID)	ISAAR 1.6; RDA „has identifier for agent“
rdau:P60524	Literal	ISAAR 2.1; RDA „has date of establishment“
rdau:P60525	Literal	ISAAR 2.1; RDA „has date of termination“
rdau:P60599	Literal	ISAAR 2.1; RDA „has date of birth“
rdau:P60598	Literal	ISAAR 2.1; RDA „has date of death“
rdau:P60484	Literal	ISAAR 2.2; RDA „has agent history“
rdau:P60325	Literal	ISAAR 2.3; RDA „has place associated with agent“
rdau:P60370	Literal	ISAAR 2.4-2.6; RDA „has other designation associated with agent“
dct:conformsTo	Literal	ISAAR 4.3 Rules & Conventions
dct:hasVersion	Literal	ISAAR 4.4 Status of description (draft, final)
dct:language	Literal	ISAAR 4.7 Language of description
dct:source	Literal	ISAAR 4.8 Sources consulted for description
dct:modified	Literal	ISAAR 4.9 Maintenance notes

Event

Class: premis:Event
The event type is expressed by subclasses of premis:Event, declared at http://id.loc.gov/vocabulary/preservation/eventType

Property	Values	Standard
dc:date	Literal	Timestamp of event
premis:note	Literal	Event detail
premis:outcome		