SIMDM 1.1

2018 Nov 08

Theory Interest Group

Northern Autumn Interop College Park

Why?

Four reasons (at least):

- Correct typos

- Remove outdated parts if any ☺

- Update persistent URIs to… persistent location! (cf. Franck's talk)

- Re-generate SimDM from VO-DML representation (cf. Gerard's talk)

  Thanks to:

  - Kristin Riebe : typos, multiplicity of InputDataset

  - Gerard Lemson : VO-DML

  - Franck Le Petit (previous talk), David Languignon, Nicolas Moreau : URI, purl-ich stuff

InputDataset

- http://www.ivoa.net/documents/SimDM/20120503/html/SimDM.html

- SimDM:/resource/experiment/InputDataset.object
  - Description: Collection of object associations that identify explicitly which objects from a collection of objects are used as input data in an experiment.
  - Cardinality 0..1 must be 0..*

- Change in accompanying documents

3.15 InputDataset

Many experiments require pre-existing data sets for their execution. This class represents such an association for its parent SimDM/Experiment. It is assumed to contain 1 or more objects of a specified SimDM/InputDataObjectType defined on the SimDM/Protocol used by the container SimDM/Experiment. In those cases where the actual input data set is represented by a SimDM/OutputDataset, for example in a SimDB, we can represent the input data by a corresponding reference. Whereas that would be optimal, it may not always be practical. In cases where this is not so, this reference is replaced with an accessURL attribute on this class. This would allow a user to find out whether a product exists in the database with that same url, make the link indirect but arguably more correct.

Object Type/Class	SimDM:/resource/experiment/InputDataset	
Package	experiment	
Container	Experiment [SimDM:/resource/experiment/InputDataset.CONTAINER]	
Attributes		
name	**feature**	**value**
description	type	string
	utype(s)	SimDM:/resource/experiment/InputDataset.description
	cardinality	0..1
	description	Describes the role that the input data set plays in the experiment.
url	type	anyURI
	utype(s)	SimDM:/resource/experiment/InputDataset.url
	cardinality	0..1
	description	URL by which the input data set can be obtained.
References		
name	**feature**	**value**
product	type	OutputDataset
	utype(s)	SimDM:/resource/experiment/InputDataset.product
	cardinality	0..1
	description	The SimDM/OutputDataset produced by an earlier SimDM/Experiment that is used as input data for the current one.
type	type	InputDataObjectType
	utype(s)	SimDM:/resource/experiment/InputDataset.type
	cardinality	1
	description	Reference to the type definition for this SimDM/InputDataset. This must refer to a SimDM/InputDataObjectType defined on the SimDM/Protocol according to which the SimDM/Experiment is performed.
Collections		
name	**feature**	**value**
object	type	InputDataObject
	utype(s)	SimDM:/resource/experiment/InputDataset.object
	cardinality	0..1
	description	Collection of object associations that identify explicitly which objects from a collection of objects are used as input data in an experiment.

Remaining TODOs

- http://www.ivoa.net/documents/SimDM/20120503/html/SimDM.html

- SimDM:/resource/experiment/DataObject.collection

- SimDM:/resource/experiment/DataObject.property

- SimDM:/resource/experiment/DataObject.reference

- SimDM:/resource/experiment/ObjectCollection.collection

- SimDM:/resource/experiment/OutputDataset.object

- Change in accompanying documents

Remaining TODOs

Object Type/Class	SimDM:/resource/experiment/OutputDataset		
Package	experiment		
Container	Experiment [SimDM:/resource/experiment/OutputDataset.CONTAINER]		
Referrers	InputDataset ObjectCollection		
Attributes			
name	feature	value	
numberOfObjects	type	integer	
	utype(s)	SimDM:/resource/experiment/OutputDataset.numberOfObjects	
	cardinality	1	
	description	Gives the number of objects in this SimDM/OutputDataset	
accessURL	type	anyURI	
	utype(s)	SimDM:/resource/experiment/OutputDataset.accessURL	
	cardinality	0..1	
	description	Represents an optional reference to a URL from which the SimDM/OutputDataset can be obtained. No statement is made on whether this should represent a simple file for download, or a link to a web page with information how to obtain it.	
References			
name	feature	value	
objectType	type	ObjectType	
	utype(s)	SimDM:/resource/experiment/OutputDataset.objectType	
	cardinality	1	
	description	This reference to SimDM/DataObjectType indicates the type of data object stored in this collection.	
Collections			
name	feature	value	
characterisation	type	StatisticalSummary	
	utype(s)	SimDM:/resource/experiment/OutputDataset.characterisation	
	cardinality	0..*	
	description	This collection contains the SimDM/StatisticalSummary of the different SimDM/Property-s of the objects in the parent's SimDM/OutputDataset.	
object	type	DataObject	
	utype(s)	SimDM:/resource/experiment/OutputDataset.object	
	cardinality	0..*	
	description	TODO : Missing description : please, update your UML model asap.	

Vocabulary, persistent URIs

3.2 Algorithm

This class represents numerical algorithms available in a SimDM/Protocol. In Simulators an algorithm may approximate a physical process. Examples from cosmological simulations are different algorithms to implement gravity: direct particle-particle interaction, particle-mesh, or various types of tree based algorithms. In post-processors such as cluster finder this class can represent a partiular cluster definition such as friends-of-friends or spherical overdensity.

Object Type/Class	SimDM:/resource/protocol/Algorithm		
Package	protocol		
Container	Protocol [SimDM:/resource/protocol/Algorithm.CONTAINER]		
Referrers	AppliedAlgorithm		
Attributes			
name	**feature**	**value**	
name	type	string	
	utype(s)	SimDM:/resource/protocol/Algorithm.name	
	cardinality	1	
	description	A common name given to this algorithm.	
description	type	string	
	utype(s)	SimDM:/resource/protocol/Algorithm.description	
	cardinality	0..1	
	description	Short description of this algorithm.	
label	type	anyURI	
	<<skosconcept>>	Broadest SKOS concept: http://purl.org/astronomy/vocab/Algorithms/Algorithm Vocabulary URI: http://purl.org/astronomy/vocab/Algorithms	
	utype(s)	SimDM:/resource/protocol/Algorithm.label	
	cardinality	0..1	
	description	Short name by which this algorithm is known in the SKOS vocabulary of numerical algorithms.	

404 Not Found

nginx/1.6.2

Doesn't work anymore since 2017

Temporary solution

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```xml
▼<rdf:RDF xmlns:skos="http://www.w3.org/2004/02/skos/core#" xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#" xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#">
  ▼<skos:Concept rdf:about="http://purl.obspm.fr/vocab/Algorithms/Algorithm">
    <skos:prefLabel xml:lang="en">Algorithm</skos:prefLabel>
    <skos:prefLabel xml:lang="de">Algorithmus</skos:prefLabel>
    <skos:prefLabel xml:lang="fr">Algorithme</skos:prefLabel>
    <skos:prefLabel xml:lang="es">Algoritmo</skos:prefLabel>
    <skos:definition xml:lang="en">Top concept defined for PoolParty compatibility</skos:definition>
    <skos:inScheme rdf:resource="http://purl.obspm.fr/vocab/Algorithms/Scheme"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/AlternatingDirectionImplicit"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/AdaptiveMeshRefinement"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/CrankNicolson"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/Euler"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/EscapeProbability"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/ExactRadiativeTransferMethod"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/FastMultipoleMethod"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/FiniteVolume"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/FokkerPlanckSolver"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/FourierTechnique"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/Godunov"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/HartreeFock"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/Henyey"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/HartenLaxvanLeer"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/IsochronesSynthesis"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/IterativeMethod"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/KrylovSubspaceMethod"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/LeapFrog"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/LocalThermodynamicEquilibrium"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/LineVelocityGradient"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/MonteCarlo"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/MultiDomainSpectralMethod"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/Multigrid"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/MonotoneUpstreamcenteredSchemesForConservationLaws"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/M1"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/NBody"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/OrbitalElements"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/OrthogonalPolynomialExpansion"/>
    <sko
    <sko
    <sko
    <sko
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/PolynomialExpansion"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/RayTracing"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/RiemannSolver"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/RungeKutta"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/SelfConsistentField"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/SimplecticIntegration"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/SuccessiveOverrelaxation"/>
    <skos:narrower rdf:resource="http://purl.obspm.fr/vocab/Algorithms/SpectralMethod"/>
```

http://purl.obspm.fr/vocab/Algorithms instead of http://purl.org/astronomy/vocab/Algorithms

Definitive solution

- IVOA must endorse persistent URIs

- Change in accompanying documents

SimDM 1.1 TODO list and pathway

- Most of changes in accompanying online documents
  - Initially generated by VO-URP, now VO-DML
  - Only once persistent URI issue is fixed [URGENT]
- Minor changes to the main doc/html/pdf standard
  - Update references to accompanying documents (Sect. 6)
  - Remove outdates sentence (e.g. SimDB in intro ?)
  - Add reference to SimDAL now recommended

- Could we agree to submit a PR two weeks before next INTEROP ?