LexEVS 6.1 Design Document - Detailed Design - Loader - OWL2

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Document Information

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Revision History

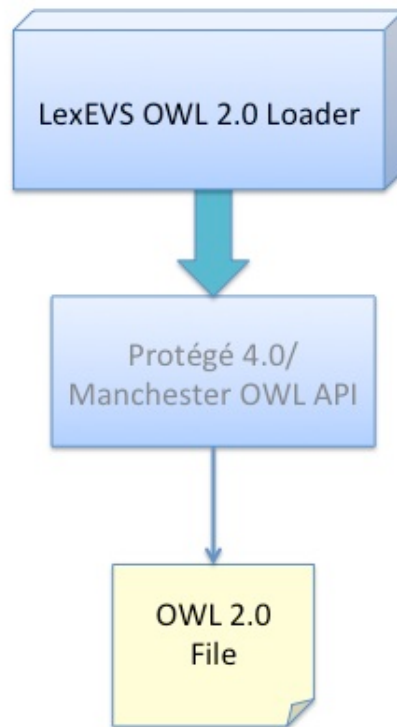| Version	Date	Description of Changes	Author
1.0	2013/03/05	Initial Version	Kanjamala, Pradip

OWL 2 Support (Loader) Oeverview

The current LexEVS owl loader loads OWL 1.1 content into LexEVS. With the release of OWL 2.0 and the availability of authoring tools for OWL 2.0 ontologies, there is a need to be able to load OWL content authored using OWL 2.0 syntax. NCI is also exploring the possibility of authoring the NCI Thesaurus using OWL 2.0.

OWL 2 Support (Loader) Design Considerations:

The current LexEVS OWL loader that supports loading of OWL 1.1 content makes use of the Protege 3.1 API to parse the OWL content and create a Protege Knowledge base which is then used to transform the named classes to concepts within LexEVS. Unfortunately Protege 3.1 doesn't support OWL 2.0 and so LexEVS implementation of the OWL loader would need to be rewritten using a different API for parsing the OWL 2.0 content.

Fortunately, Protege 4.0 which uses the Machester OWL API, supports OWL 2.0. The new OWL loader for LexEVS would make use of the Manchester OWL API to parse the OWL file. It would then leverage the Manchester OWL API to convert the Named classes to LexEVS concepts.

In the table that follows, find the broad mapping from OWL to LexEVS:

OWL	LexGrid
Class	concept
Thing	concept - @@
Nothing	concept - @@
equivalentClass	association
disjointWith	association
sameAs	association
differentFrom	association
AllDifferent	anonymous concept
distinctMembers	anonymous concept
unionOf	anonymous concept
intersectionOf	anonymous concept
complementOf	anonymous concept
oneOf	anonymous concept
Restriction	association qualifier

onProperty	anonymous concept
allValuesFrom	anonymous concept
hasValue	anonymous concept
someValuesFrom	anonymous concept
minCardinality	association
maxCardinality	association
cardinality	association
ObjectProperty	Association
DatatypeProperty	AssociationData
inverseOf	Association- inverse
TransitiveProperty	association.isTransitive
SymmetricProperty	association.isSymmetric
FunctionalProperty	association.isFunctional
InverseFunctionalProperty	
AnnotationProperty	Presentation/Property
Ontology	codingscheme
OntologyProperty	codingscheme.property
imports	supported coding scheme flag (isImported)
versionInfo	codingscheme.representsVersion
priorVersion	codingscheme.property?
backwardCompatibleWith	codingscheme.property?
incompatibleWith	?
DeprecatedClass	concept.isActive=false
DeprecatedProperty	?
DataRange	