Global Intelligent Content Semantic Model

IRI:
http://www.cngl.ie/ontologies/gicup#

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Other visualisation:
Ontology source

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Abstract

The model is expressed in OWL2-RL encoded as Turtle/RDF with embedded definitions describing the concepts and relationships that make up the model.

Table of Content

Introduction

This semantic model is designed to address the content processing interoperability problems of enterprises operating in content value chains that target global markets and aspire to personalised, interactive content delivery. The specific interoperability problems addressed are: (1) To enable organisations with content processing operations to dynamically and adaptively react to rapidly changing external context and consumer needs. (2) To address existing problems of cost, complexity and inflexibility in current content production, delivery and management processes. (3) To enable organisational decision-makers to dynamically and cheaply configure content processing chains to their changing needs, where the components, services and users that make up these chains may operate and/or have been developed in separate, independent organisations.

The semantic model should exhibit the following characteristics:

(a) It should be deterministically mapped into all the relevant Interoperability Models used by content processing components envisaged for Global Intelligent Content. By Interoperability Model refer to any interoperability specification subject to consensus agreement by a community of potential implementers and defined and maintained by an organisation representing that community.

(b) It should enable to reliable and consistent exchange of relevant meta-data between content processing components across any portion of a content processing chain.

(c) It should enable the dynamic assembly of a coherent end-to-end model of operations that enables the performance of the end-to-end processing chain in delivering the intended business goals (including the individual role played in that by individual components) to be monitored and analysed.

(d) It should be minimal, i.e. it should only capture concepts and relationships that are necessary for supporting interoperability across the breadth of content processing chains and between components envisaged for Global Intelligent Content.

(e) It should, where possible, reuse existing concepts, concept relationship and concept attributes.

Classes

AnalysedText ComponentFactory ComponentGenerationActivity Content ContentProcessingActivity ContentProcessingComponent Data Extraction InformationResource Mapping Merging Person Policy

Project QualityAssessment QualityReview Resource ReviseTranslation schema:strString Segment Segmentation Service SourceUnit Term Terminology Identification TextAnalysis Translate Translation TranslationRevision

AnalysedText[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#AnalysedText

a string identified by some text analysis process as possessing some common semantic and/or lexical characteristics.

has super-classes

Content[C]

ComponentFactory[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#ComponentFactory

A specialised Agent that uses Information Resources (typically training corpora) to generate Content Processing Components.

has super-classes

Resource[C]

prov:Agent[C]

ComponentGenerationActivity[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#ComponentGenerationActivity

This activity is associated with a specialised Agent called a Component Factory and uses Information Resources (typically training corpora) to generate Content Processing Components.

has super-classes

prov:Activity[C]

Content[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Content

A Resource created by an agent with the purpose of it being consumed by people. May overlap with data.

has super-classes

InformationResource[c]

content:Content[c]

has sub-classes

AnalysedText[c], Segment[c], SourceUnit[c], Term[c], Translation[c], TranslationRevision[c], schema:strString[c]

is in domain of

wasAssessmentOf[op], wasTranslatedFrom[op]

ContentProcessingActivity[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#ContentProcessingActivity

Any activity that involves processing of content, so it both uses Information Resources and Information Resources are generated by it. More specifically the activity involves the use of a Service that is offered by the Content Processing Component.

has super-classes

prov:Activity[c]

has sub-classes

Extraction[c], QualityReview[c], ReviseTranslation[c], Segmentation[c], Terminology Identification[c], TextAnalysis[c], Translate[c]

is in domain of

contentConsumed[op], usedService[op]

is in range of

contentGenerated[op]

ContentProcessingComponent[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#ContentProcessingComponent

A Content Processing Component is a system that adds value to Global Intelligent Content or that allows other content processing components to improve the value they provide. It may consist of human elements, automated elements and/or other Content Processing Components in any combination.

has super-classes

Resource[c]

prov:Agent[c]

is in range of

offeredBy[op]

Data[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Data

The quantities, characters, or symbols on which operations are performed by services or components for the purpose of content processing. May overlap with content.

has super-classes

InformationResource[c]

has sub-classes

Mapping[c], Policy[c]

Extraction[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Extraction

The process of extracting translatable text from some source content for the purposes of translation.

has super-classes

ContentProcessingActivity[c]

InformationResource[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#InformationResource

Something that can be identified by a URI and which can be entirely transmitted in electronic form, such as a document.

has super-classes

Resource[c]

has sub-classes

Content[c], Data[c]

is in domain of

contentGenerated[op]

is in range of

annotatedBy[op], contentConsumed[op]

Mapping[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Mapping

A set of verified correspondences between formal models to enable interoperability. For example a set of correspondences between a GLOBIC model of content and associated meta-data and an XLIFF/ITS2.0 representation of the same content and meta-data.

has super-classes

Data[c]

is in domain of

hasRepresentation[op]

Merging[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Merging

Merging is the integration of translated content into a completed target language document format.

has super-classes

prov:Activity[c]

Person[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Person

A person in the real world that interacts with global intelligent content.

has super-classes

prov:Agent[c]

Policy[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Policy

Policies are operating rules that can be referred to as a way to maintain system order, security, consistency, or otherwise for a goal or use case. They are often expressed as Event-Condition-Action rules.

has super-classes

Data[c]

Project[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Project

Project is the representation of a localisation project within an organisational domain. It is annotated with the details and resources typically found in a TIPP manifest, including the project meta-data expressed in a Linport descriptor.

has super-classes

prov:Entity[c]

QualityAssessment[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#QualityAssessment

For the assessing the quality of localised content

has super-classes

lt:localisationQualityIssue[c]

is in range of

wasAssessmentOf[op]

QualityReview[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#QualityReview

The assessment of the linguistic quality of a translation considering both the translation, revised translation or source. Its may also be applied to any of the source content.

has super-classes

ContentProcessingActivity[c]

Resource[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Resource

A global intelligent content resource. Something that can be identified by a URI.

has super-classes

prov:Entity[c]

has sub-classes

ComponentFactory[c], ContentProcessingComponent[c], InformationResource[c], Service[c]

is in domain of

annotatedBy[op], domain[dp], identifiedBy[dp], refersTo[op]

is in range of

refersTo[op]

ReviseTranslation[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#ReviseTranslation

The change of a translation after consideration of the translation and the corresponding source content.

has super-classes

ContentProcessingActivity[C]

schema:strString[C]

back to ToC or Class ToC

IRI: http://nlp2rdf.lod2.eu/schema/strString

has super-classes

Content[C]

Segment[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Segment

A string resulting from subdividing source content to a granularity designed to ease translation. Typically this is a sentence, but may also be text from a heading cell or a table.

has super-classes

Content[C]

Segmentation[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Segmentation

The subdividing source content to a granularity designed to ease translation.

has super-classes

ContentProcessingActivity[C]

Service[C]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Service

A mechanism to enable access to one or more capabilities, where the access is provided using a prescribed interface and is exercised consistent with constraints and policies as specified by the service description (OASIS).

has super-classes

Resource[C]

is in domain of

offeredBy[op]

is in range of

usedService[op]

SourceUnit[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#SourceUnit

a string extracted from a source document for the purposes of translating the text it contains.

has super-classes

Content[c]

Term[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Term

A string that is subject to terminology management with the intention of supporting consistent source content and the consistent translation the source term.

has super-classes

Content[c]

Terminology Identification[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#TerminologyIdentification

The identification of Terms that should be subject to consistent translation, derived from Word or Phrases service by Text Analysis or directly from Segments or Source Units.

has super-classes

ContentProcessingActivity[c]

TextAnalysis[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#TextAnalysis

Text analysis involves information retrieval, lexical analysis to study word frequency distributions, pattern recognition, tagging/annotation, information extraction, data mining techniques including link and association analysis, visualization, and predictive analytics. The overarching goal is, essentially, to turn text into data for analysis, via application of natural language processing (NLP) and analytical methods (Wikipedia).

has super-classes

ContentProcessingActivity[c]

Translate[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Translate

The translation of any source content, including Source Unit, Segment, Term, Word or Phrase into a target language.

has super-classes

ContentProcessingActivity[c]

Translation[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#Translation

A string that was produced by translating another string from its source language into a specified target language

has super-classes

Content[c]

is in range of

wasTranslatedFrom[op]

TranslationRevision[c]

back to ToC or Class ToC

IRI: http://www.cngl.ie/ontologies/gicup#TranslationRevision

the revision of a string that was originally a Translation

has super-classes

Content[c]

Object Properties

annotatedBy contentConsumed contentGenerated hasRepresentation offeredBy refersTo usedService wasAssessmentOf wasTranslatedFrom

annotatedBy[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#annotatedBy

An annotation is a type of refersTo relationship between Resources and Information Resources.

has super-properties

refersTo[op]

has domain

Resource[c]

has range

InformationResource[c]

contentConsumed[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#contentConsumed

A relation between a content processing activity and the content types it consumes.

has super-properties

prov:Used[op]

has domain

ContentProcessingActivity[c]

has range

InformationResource[c]

contentGenerated[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#contentGenerated

A relation between a content processing activity and the content types it generates.

has super-properties

prov:wasDerivedBy[op]

has domain

InformationResource[c]

has range

ContentProcessingActivity[c]

hasRepresentation[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#hasRepresentation

Each mapping may have multiple represetations such as a SPARQLCONSTRUCT query or an Align API file.

has super-properties

refersTo[op]

has domain

Mapping[c]

offeredBy[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#offerBy

Relation between a Content Processing Component and the service it offers.

has super-properties

prov:wasAttributedTo[op]

has domain

Service[c]

has range

ContentProcessingComponent[c]

refersTo[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#refersTo

A relationship between two resources. The exact nature of the relationship is undefined it could be composition or reference by URI, or something else.

has sub-properties

annotatedBy[op], hasRepresentation[op]

has domain

Resource[c]

has range

Resource[c]

usedService[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#usedService

Use of a service offered by a Content Processing Component.

has super-properties

prov:used[op]

has domain

ContentProcessingActivity[c]

has range

Service[c]

wasAssessmentOf[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#wasAssessmentOf

Links some Content to a Quality Assessment.

has super-properties

prov:wasDerivedFrom[op]

has domain

Content[c]

has range

QualityAssessment[c]

wasTranslatedFrom[op]

back to ToC or Object Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#wasTranslatedFrom

Links a gic:Translation (as range) to the corresponding source text.

has super-properties

prov:wasDerivedFrom[op]

has domain

Content[c]

has range

Translation[c]

Data Properties

domain identifiedBy

domain[dp]

back to ToC or Data Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#domain

An unstructured description of the problem or knowledge domain of a gic:Resource.

has domain

Resource[c]

has range

xsd:string

identifiedBy[dp]

back to ToC or Data Property ToC

IRI: http://www.cngl.ie/ontologies/gicup#identifiedBy

A relationship between a resource and a URI used to indentify it.

has domain

Resource[c]

has range

xsd:anyURI

Namespace Declarations

back to ToC

default namespace

http://www.cngl.ie/ontologies/gicup#

content

http://www.w3.org/2011/content#

dc

http://purl.org/dc/elements/1.1/

lt

http://www.w3.org/International/multilingualweb/lt#

owl

http://www.w3.org/2002/07/owl#

prov

http://www.w3.org/ns/prov#

rdf

http://www.w3.org/1999/02/22-rdf-syntax-ns#

rdfs

http://www.w3.org/2000/01/rdf-schema#

schema

http://nlp2rdf.lod2.eu/schema/

xsd

http://www.w3.org/2001/XMLSchema#

This HTML document was obtained by processing the OWL ontology source code through LODE, *Live OWL Documentation Environment*, developed by Silvio Peroni.