Class Model

**Package in package 'Evans Straw MVF MetaModel'**

Evan's MVF MetaModel diagram

Class diagram in package 'Class Model'

Draft of a metamodel for the Multiple Vocabulary Facility.

Figure 1: Evan's MVF MetaModel

MVF Datatypes diagram

Class diagram in package 'Class Model'

MVF Datatypes

Evan's MVF MetaModel

Version 1.0

ewallace created on 7/14/2017. Last modified 7/21/2017

MVF Datatypes

Version 1.0

ewallace created on 7/19/2017. Last modified 7/19/2017
Figure 2: MVF Datatypes

**ChangeManagementData**

*Class in package 'Class Model'*

Data related to the authorship or updating of the material in question.

---

**Attributes**

- **creator**: String  Public
dc:creator

  [Is static False. Containment is Not Specified.]

- **created**: DateTime  Public
dc:created

  [Is static False. Containment is Not Specified.]

- **modified**: DateTime  Public
  
  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )

  Most recent date of modification. dct:modified

  [Is static False. Containment is Not Specified.]

- **modifier**: String  Public
  
  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )

  Most recent entity responsible for a modification of the resource.

  [Is static False. Containment is Not Specified.]
ATTRIBUTES

- **version**: String  Public  
  Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  
  [ Is static False. Containment is Not Specified. ]

- **contributor**: String  Public  
  Multiplicity: ( [0..*], Allow duplicates: 0, Is ordered: False )

  dct:contributor  
  [ Is static False. Containment is Not Specified. ]

Context

*Class in package 'Class Model'*

Something giving scope for a term or vocabulary. The scope may include the speech community targeted.

Definition

*Class in package 'Class Model'*

A description representing a notion or thing that differentiates it from other words or things. (paraphrased from ISO 1087)

OUTGOING STRUCTURAL RELATIONSHIPS

- **Aggregation from Definition to MVFEntry**  
  [ Direction is 'Source -> Destination'. ]

ATTRIBUTES
### ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Type</th>
<th>Visibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>URI</td>
<td>Public</td>
</tr>
<tr>
<td>language</td>
<td>NaturalLanguage</td>
<td>Public</td>
</tr>
<tr>
<td>source</td>
<td>Source</td>
<td>Public</td>
</tr>
<tr>
<td>changeInformation</td>
<td>ChangeManagementData</td>
<td>Public</td>
</tr>
</tbody>
</table>

- **ID**: URI (Public)  
  - Is static: False. Containment is Not Specified.

- **language**: NaturalLanguage (Public)  
  - The natural language used for this definition.
  - Derived from the naturalLanguage for the owning Vocabulary.

- **source**: Source (Public)  
  - Multiplicity: (0..1, Allow duplicates: 0, Is ordered: False)
  - The source from which the definition was taken, if any.

- **changeInformation**: ChangeManagementData (Public)  
  - Information on latest changes to this element.

---

**Designation**

*Class in package 'Class Model'*

A symbol for a notion or thing and metadata associated with that symbol.

---

### OUTGOING STRUCTURAL RELATIONSHIPS

- Aggregation from Designation to Vocabulary

  - Direction is 'Source -> Destination'.

---

### ATTRIBUTES

- **ID**: URI (Public)  
  - Is static: False. Containment is Not Specified.

- **term**: String (Public)  
  - The text used to designate the notion or thing.

- **abbreviation**: String (Public)
<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>An acronym, initialism, or other kind of abbreviation that can be used in place of the Term to designate a notion or thing.</strong> [ Is static False. Containment is Not Specified. ]</td>
<td></td>
</tr>
<tr>
<td><strong>termRating : TermRating Public</strong></td>
<td>A rating given to the term used for this Designation that tells users of the vocabulary which term is preferred or supported for the designated notion or thing. [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>synonyms : Designation Public</strong></td>
<td>Other Designations that identify the same notion or thing as this Designation. Derived from the designations for the MVFEntry that ‘owns’ this designation. [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>context : Context Public</strong></td>
<td>A description of the area or situation in which this Designation applies. [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>language : NaturalLanguage Public</strong></td>
<td>The natural language used for this Designation. Derived from the naturalLanguage for the owning Vocabulary. [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>Source : Source Public</strong></td>
<td>Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False ) [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>example : String Public</strong></td>
<td>An example of the Designation used in a sentence. [ Is static False. Containment is Not Specified. ]</td>
</tr>
<tr>
<td><strong>changeInformation : ChangeManagementData Public</strong></td>
<td>Information on latest changes to this element. [ Is static False. Containment is Not Specified. ]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ASSOCIATIONS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Association (direction: Unspecified)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Source: Public (Class) MVFEntry</strong></td>
<td><strong>Target: Public designation (Class) Designation</strong></td>
</tr>
<tr>
<td>Cardinality: [1]</td>
<td>Cardinality: [1..*]</td>
</tr>
</tbody>
</table>
### ASSOCIATIONS

<table>
<thead>
<tr>
<th>Association (direction: Unspecified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Public (Class) MVFEntry</td>
</tr>
<tr>
<td>Target: Public preferredDesignation (Class) Designation</td>
</tr>
<tr>
<td>Cardinality: [1]</td>
</tr>
<tr>
<td>Relations to the preferred or primary terms associated with this MVFEntry.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Association (direction: Unspecified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Public (Class) MVFEntry</td>
</tr>
<tr>
<td>Target: Public admittedDesignation (Class) Designation</td>
</tr>
<tr>
<td>Cardinality: [0..*]</td>
</tr>
<tr>
<td>Relations to the secondary or admitted terms associated with this MVFEntry.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Association (direction: Unspecified)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source: Public (Class) MVFEntry</td>
</tr>
<tr>
<td>Target: Public deprecatedDesignation (Class) Designation</td>
</tr>
<tr>
<td>Cardinality: [0..*]</td>
</tr>
<tr>
<td>Relation to designations no longer to be used for this MVFEntry.</td>
</tr>
</tbody>
</table>

### Element

*Class in package 'Class Model'*

An element in a model based on OMG technologies.

---

**OUTGOING STRUCTURAL RELATIONSHIPS**

<table>
<thead>
<tr>
<th>Aggregation from Element to Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ Direction is 'Source -&gt; Destination'. ]</td>
</tr>
</tbody>
</table>

**ASSOCIATIONS**

<table>
<thead>
<tr>
<th>Association (direction: Unspecified)</th>
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</thead>
<tbody>
<tr>
<td>Source: Public (Class) Element</td>
</tr>
<tr>
<td>Target: Public (Class) MVFEntry</td>
</tr>
</tbody>
</table>
MVFEntry

Class in package 'Class Model'

Entity corresponding to a notion or thing for which a definition and one or more terms should be associated.

OUTGOING STRUCTURAL RELATIONSHIPS

lesai aggregation from MVFEntry to Vocabulary

INCOMING STRUCTURAL RELATIONSHIPS

-> Aggregation from Definition to MVFEntry

ATTRIBUTES

ID : URI Public

LocalName : String Public

notation : String Public

commonMVFEntryID : URI Public

context : Context Public

externalReference : URI Public

MVFEntry

Version 1.0  Phase 1.0  Proposed

ewallace created on 7/14/2017. Last modified 7/14/2017
### ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute</th>
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<th>Is ordered</th>
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<tr>
<td>note</td>
<td>0..*</td>
<td>0</td>
<td>False</td>
<td>False. Containment is Not Specified.</td>
</tr>
<tr>
<td>source</td>
<td>0..1</td>
<td>0</td>
<td>False</td>
<td>False. Containment is Not Specified.</td>
</tr>
<tr>
<td>changeInformation</td>
<td></td>
<td></td>
<td></td>
<td>False. Containment is Not Specified.</td>
</tr>
</tbody>
</table>

### ASSOCIATIONS

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<tr>
<th>Association</th>
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<th>Cardinality Target</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>MVFEntry</td>
<td>Designation</td>
<td>[1]</td>
<td>[1..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MVFEntry</td>
<td>preferredDesignation</td>
<td>[1]</td>
<td>[1..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MVFEntry</td>
<td>admittedDesignation</td>
<td>[1]</td>
<td>[0..*]</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MVFEntry</td>
<td>correspondingMVFEntries</td>
<td>[0..*]</td>
<td></td>
</tr>
</tbody>
</table>

Relations to the preferred or primary terms associated with this MVFEntry.

Relations to the secondary or admitted terms associated with this MVFEntry.

MVFEntries from corresponding vocabularies that are a skos:exactMatch to this MVFEntry (i.e. the MVFEntries are for the same notion or thing by design).
ASSOCIATIONS

Source: Public broader (Class) MVFEntry  
Cardinality: [0..*]  
Roughly representing something more general

Target: Public narrower (Class) MVFEntry  
Cardinality: [0..*]  
Roughly representing something more specific or specialized

Association (direction: Unspecified)

Source: Public (Class) MVFEntry  
Cardinality: [1]  
Target: Public deprecatedDesignation (Class) Designation  
Cardinality: [0..*]  
Relation to designations no longer to be used for this MVFEntry.

Association (direction: Unspecified)

Source: Public (Class) Element  
Target: Public (Class) MVFEntry

Association (direction: Source -> Destination)

Source: Public (Class) MVFEntry  
Target: Public correspondingMVFEntries (Class) MVFEntry  
Cardinality: [0..*]  
MVFEntries from corresponding vocabularies that are a skos:exactMatch to this MVFEntry (i.e. the MVFEntries are for the same notion or thing by design).

Association (direction: Unspecified)

Source: Public broader (Class) MVFEntry  
Cardinality: [0..*]  
Roughly representing something more general

Target: Public narrower (Class) MVFEntry  
Cardinality: [0..*]  
Roughly representing something more specific or specialized

MVFRepository

Class in package 'Class Model'

A container for a set of vocabularies for  
- choosing a vocabulary for a given model  
- creating a new vocabulary that reuses elements from another?  
- containing interrelations among vocabulary elements?
### INCOMING STRUCTURAL RELATIONSHIPS

- Aggregation from Vocabulary to MVFRepository  
  
  [ Direction is 'Source -> Destination'. ]

---

**NaturalLanguage**  
*Class in package 'Class Model'*

Name and codes to identify a language and its area of use.

#### ATTRIBUTES

- **languageName**: String  
  - Public  
  - [ Is static False. Containment is Not Specified. ]

- **languageId**: CodeElement  
  - Public  
  - ID of the language in which this vocabulary was expressed.  
  - [ Is static False. Containment is Not Specified. ]

- **regionID**: CodeElement  
  - Public  
  - Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  
  - [ Is static False. Containment is Not Specified. ]

- **countryName**: String  
  - Public  
  - Multiplicity: ( [0..1], Allow duplicates: 0, Is ordered: False )  
  - [ Is static False. Containment is Not Specified. ]

- **subdivisionID**: CodeElement  
  - Public  
  - Multiplicity: ( [0..*], Allow duplicates: 0, Is ordered: False )  
  - [ Is static False. Containment is Not Specified. ]

---

**Package**  
*Class in package 'Class Model'*

---

**INCOMING STRUCTURAL RELATIONSHIPS**
INCOMING STRUCTURAL RELATIONSHIPS

Aggregation from Element to Package

[ Direction is 'Source -> Destination'. ]

PublicationData

Class in package 'Class Model'

Information related to the publication and conditions of use of the resource.

PublicationData

Version 1.0  Phase 1.0  Proposed

ewallace created on 7/18/2017. Last modified 7/18/2017

ATTRIBUTES

- description : String  Public
  dc:description
  [ Is static False. Containment is Not Specified. ]

- publisher : String  Public
  dc:publisher
  [ Is static False. Containment is Not Specified. ]

- rights : String  Public
  dc:rights
  [ Is static False. Containment is Not Specified. ]

Source

Class in package 'Class Model'

The reference from which the term, definition, or MVFEntry was taken.

Source

Version 1.0  Phase 1.0  Proposed

ewallace created on 7/18/2017. Last modified 7/18/2017

ATTRIBUTES

- name : String  Public
  Name of the source reference for this resource.
  [ Is static False. Containment is Not Specified. ]

- sourceURI : URI  Public
### ATTRIBUTES

<table>
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<th>Attribute</th>
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<tr>
<td>URI</td>
<td>String</td>
<td>[0..1]</td>
<td>0</td>
<td>False</td>
<td>True</td>
<td>Not Specified</td>
</tr>
<tr>
<td>ID</td>
<td>URI</td>
<td>[0..1]</td>
<td>0</td>
<td>False</td>
<td>True</td>
<td>Not Specified</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>[0..1]</td>
<td>0</td>
<td>False</td>
<td>True</td>
<td>Not Specified</td>
</tr>
<tr>
<td>commonVocabID</td>
<td>URI</td>
<td>[0..1]</td>
<td>0</td>
<td>False</td>
<td>True</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

Universal Resource Identifier of the source.

Version of the source if it has one.

#### Vocabulary

*Class in package 'Class Model'*

A collection of terms and definitions in a single natural language.

Vocabulary

Version 1.0  Phase 1.0  Proposed
eWallace created on 7/14/2017.  Last modified 7/19/2017

#### OUTGOING STRUCTURAL RELATIONSHIPS

- Aggregation from Vocabulary to MVFRepository

#### INCOMING STRUCTURAL RELATIONSHIPS

- Aggregation from Designation to Vocabulary
- Aggregation from MVFEntry to Vocabulary

#### ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute</th>
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<th>Static</th>
<th>Containment</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
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<td>Not Specified</td>
</tr>
<tr>
<td>name</td>
<td>String</td>
<td>True</td>
<td>Not Specified</td>
</tr>
<tr>
<td>commonVocabID</td>
<td>URI</td>
<td>True</td>
<td>Not Specified</td>
</tr>
</tbody>
</table>

A persistent unique ID shared by all vocabularies that correspond (that is, those that include MVFEntries for the same set of notions or things for a particular target context but include Designations and Definitions in different natural languages).
### ATTRIBUTES

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>naturalLanguage</code></td>
<td>The natural language in which the terms and definitions of this vocabulary are expressed.</td>
</tr>
<tr>
<td><code>constraints</code></td>
<td>Constraints that should apply to this vocabulary.</td>
</tr>
<tr>
<td><code>changeInformation</code></td>
<td>Information about the area that this vocabulary addresses (i.e. its intended context of use). This identifies the target speech community for this vocabulary.</td>
</tr>
</tbody>
</table>

### ASSOCIATIONS

<table>
<thead>
<tr>
<th>Association</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>Source: Public (Class) Vocabulary</code></td>
<td><code>Target: Public correspondingVocabularies (Class)</code></td>
</tr>
<tr>
<td><code>Cardinality: [0..*]</code></td>
<td>Vocabularies in the library that have corresponding MVFEntries and terms and definitions for the entries in a different natural language.</td>
</tr>
</tbody>
</table>

---

**CodeElement**
DataType in package 'Class Model'

A type for expressing codes such as for languages and countries.

CodeElement
Version 1.0  Phase 1.0  Proposed
evallace created on 7/17/2017. Last modified 7/17/2017

**DateTime**

*DataType in package 'Class Model'*

Date and Time in 8601 format.

DateTime
Version 1.0  Phase 1.0  Proposed
evallace created on 7/18/2017. Last modified 7/18/2017

String

*DataType in package 'Class Model'*

String
Version 1.0  Phase 1.0  Proposed
evallace created on 7/18/2017. Last modified 7/18/2017

TermRating

*Enumeration in package 'Class Model'*

Indication of the priority of usage of a term for a given concept.

TermRating
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evallace created on 7/14/2017. Last modified 7/14/2017

<table>
<thead>
<tr>
<th>ATTRIBUTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>PreferredTerm: Public</td>
</tr>
<tr>
<td>The term recommended to represent a given concept.</td>
</tr>
<tr>
<td>Stereotype is «enum». Is static False. Containment is Not Specified.</td>
</tr>
</tbody>
</table>

|AdmittedTerm: Public |
|A term that can be used to represent a concept, but is non-preferred. |
|Stereotype is «enum». Is static False. Containment is Not Specified. |

|DeprecatedTerm: Public |
|A term rated as undesired. |
|Stereotype is «enum». Is static False. Containment is Not Specified. |
ATTRIBUTES

- **ObsoleteTerm**: Public
  "A term no longer in common use" (ISO 1087-1)
  [Stereotype is «enum». Is static False. Containment is Not Specified.]

---

**URI**

*DataType in package 'Class Model'*

Universal Resource Identifier

**VocabularyConstraints**

*Enumeration in package 'Class Model'*

Constraints that the authors wish to apply to a vocabulary.

---

ATTRIBUTES

- **NoHomographs**: Public
  A string value for 'term' should not appear more than once in the set of Designations in a vocabulary with this constraint.
  [Stereotype is «enum». Is static False. Containment is Not Specified.]

- **OnlyOnePreferredDesignation**: Public
  An MVFEntry should have exactly one preferredDesignation.
  [Stereotype is «enum». Is static False. Containment is Not Specified.]

- **OnlyOneDesignation**: Public
  There should be exactly one designation for each MVFEntry (i.e. no synonyms).
  [Stereotype is «enum». Is static False. Containment is Not Specified.]

- **OnlyOneBroaderEntry**: Public
  Any MVFEntry should have at most one broader MVFEntry related to it. This constraint is used to build monohierarchical classifications of concepts.
  [Stereotype is «enum». Is static False. Containment is Not Specified.]