Schema documentation for CDE_schema.xsd

april 10, 2020

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Schema(s)

Main schema `CDE_schema.xsd`

Element(s)
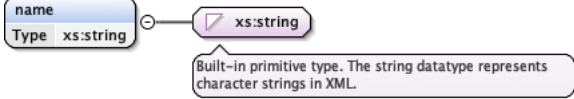
Element `data_element_set`

Diagram	
Model	id , name , description , version , references{0,1} , index_codes{0,1} , images{0,1} , modality* , biological_sex{0,1} , age_range{0,1} , authors{0,1} , event* , specialty+ , elements

Instance	```xml
	<data_element_set>
	  <id>{1,1}</id>
	  <name>{1,1}</name>
	  <description>{1,1}</description>
	  <version>{1,1}</version>
	  <references>{0,1}</references>
	  <index_codes>{0,1}</index_codes>
	  <images>{0,1}</images>
	  <modality>{0,unbounded}</modality>
	  <biological_sex>{0,1}</biological_sex>
	  <age_range>{0,1}</age_range>
	  <authors>{0,1}</authors>
	  <event>{0,unbounded}</event>
	  <specialty>{1,unbounded}</specialty>
	  <elements>{1,1}</elements>
	</data_element_set>
	``
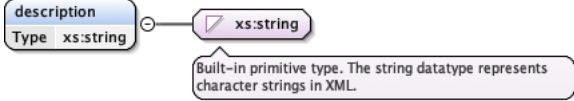
Element `data_element_set / id`

Annotations	Each set has a unique identifier of the format "RDES[0-9]+" (e.g., "RDES42") and a textual name.
Diagram	
Type	restriction of xs:string
Facets	pattern RDES\d+
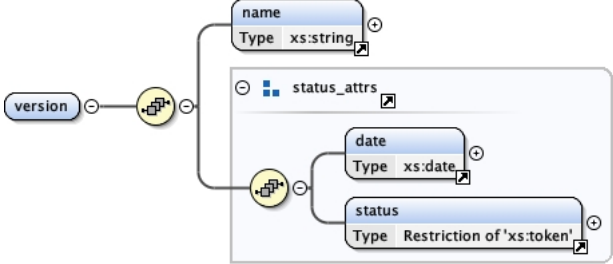
Element `name`

Diagram	
Type	xs:string
Used by	Elements data_element_set, element, organization, person, specialty, value_set/value, version
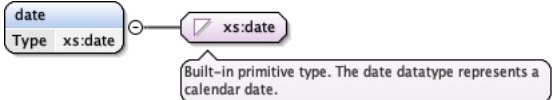
Element `description`

Diagram	
Type	xs:string
Used by	Element data_element_set

Element `version`

Diagram	
Used by	Elements data_element_set, element
Model	name , date , status

Instance	`<version>`
	  `<name>`{1,1}`</name>`
	  `<date>`{1,1}`</date>`
	  `<status>`{1,1}`</status>`
	`</version>`
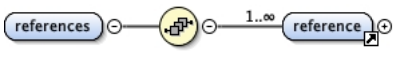
Element `date`

Diagram	
Type	xs:date
Used by	Element Group status_attrs
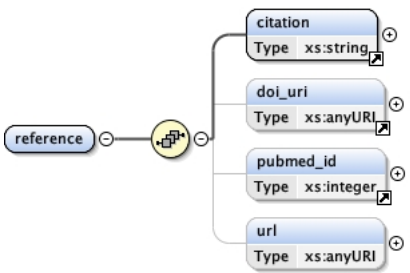
Element `status`

Diagram	
Type	restriction of xs:token
Facets	enumeration `proposed`
	enumeration `published`
	enumeration `retired`
Used by	Element Group status_attrs
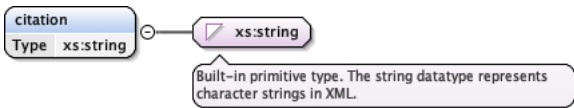
Element `references`

Diagram	
Used by	Elements data_element_set, element, image, value_set/value
Model	reference+

Instance	`<references>`
	  `<reference>`{1,unbounded}`</reference>`
	`</references>`
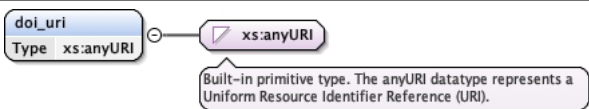
Element `reference`

Diagram	
Used by	Element references
Model	citation , doi_uri{0,1} , pubmed_id{0,1} , url{0,1}

Instance	`<reference>`
	  `<citation>`{1,1}`</citation>`
	  `<doi_uri>`{0,1}`</doi_uri>`
	  `<pubmed_id>`{0,1}`</pubmed_id>`
	  `<url>`{0,1}`</url>`
	`</reference>`

Element `citation`

Diagram	
Type	xs:string
Used by	Element reference

Element `doi_uri`

Diagram	
Type	xs:anyURI

Used by		
	Element	reference

Element `pubmed_id`

Diagram	
Type	xs:integer
Used by	Element reference

Element `reference / url`

Diagram	
Type	xs:anyURI

Element `index_codes`

Diagram	
Used by	Elements data_element_set, element, value_set/value
Model	index_code+

Instance	`<index_codes>`
	  `<index_code>`{1,unbounded}`</index_code>`
	`</index_codes>`

Element `index_code`

Diagram	
Used by	Element index_codes
Model	system , code , url{0,1} , display{0,1}

Instance	`<index_code>`
	  `<system>`{1,1}`</system>`
	  `<code>`{1,1}`</code>`
	  `<url>`{0,1}`</url>`
	  `<display>`{0,1}`</display>`
	`</index_code>`

Element `index_code / system`

Diagram		
Type	restriction of xs:token	
Facets	enumeration	RADLEX
	enumeration	SNOMEDCT
	enumeration	LOINC

Element `index_code / code`

Diagram	
Diagram	**code** — Type xs:normalizedString — xs:normalizedString Built-in derived type. The normalizedString datatype represents white space normalized strings. The base type of...
Type	xs:normalizedString

Element `index_code / url`

Diagram	
Diagram	**url** — Type xs:anyURI — xs:anyURI Built-in primitive type. The anyURI datatype represents a Uniform Resource Identifier Reference (URI).
Type	xs:anyURI

Element `display`

Diagram	
Diagram	**display** — Type xs:string — xs:string Built-in primitive type. The string datatype represents character strings in XML.
Type	xs:string
Used by	Element index_code

Element `images`
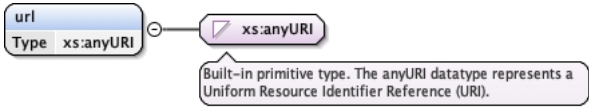
Diagram	
Diagram	images — 1..∞ image
Used by	Elements data_element_set, element, value_set/value
Model	image+

Instance	`<images>`
	  `<image>{1,unbounded}</image>`
	`</images>`

Element `image`
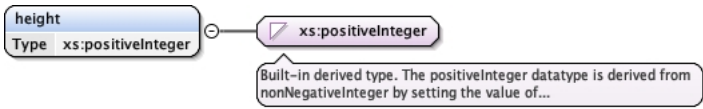
Diagram	
Diagram	image — 0..∞ — **url** Type xs:anyURI / **height** Type xs:positiveInteger / **width** Type xs:positiveInteger / **caption** Type xs:string / **rights** Type xs:string / **authors** / **references**
Used by	Element images
Model	url | height | width | caption | rights | authors | references

Instance	`<image>`
	  `<url>{1,1}</url>`
	  `<height>{1,1}</height>`
	  `<width>{1,1}</width>`
	  `<caption>{1,1}</caption>`
	  `<rights>{1,1}</rights>`
	  `<authors>{1,1}</authors>`

```
        <references>{1,1}</references>
</image>
```
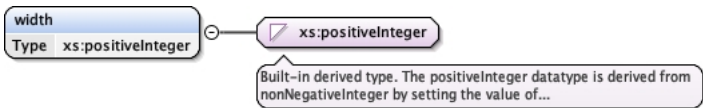
Element `image / url`

Diagram	
Type	xs:anyURI
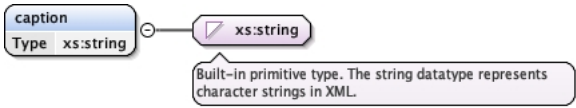
Element `height`

Diagram	
Type	xs:positiveInteger
Used by	Element image
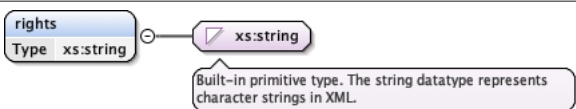
Element `width`

Diagram	
Type	xs:positiveInteger
Used by	Element image

Element `caption`

Diagram	
Type	xs:string
Used by	Element image

Element `rights`

Diagram	
Type	xs:string
Used by	Element image

Element `authors`

Diagram	
Used by	Elements data_element_set, element, image
Model	person* , organization*

Instance	`<authors>`
	  `<person>`{0,unbounded}`</person>`
	  `<organization>`{0,unbounded}`</organization>`
	`</authors>`

Element `person`

Diagram	
Diagram	

Used by	
Used by	Element authors

Model	
Model	name , (orcid_id | twitter_handle | url | role)

Instance	

Instance	`<person>`
	  `<name>`{1,1}`</name>`
	  `<orcid_id>`{1,1}`</orcid_id>`
	  `<twitter_handle>`{1,1}`</twitter_handle>`
	  `<url>`{1,1}`</url>`
	  `<role>`{1,1}`</role>`
	`</person>`

Element `orcid_id`

Diagram	
Diagram	

Type	xs:string

Used by	
Used by	Element person

Element `twitter_handle`

Diagram	
Diagram	

Type	xs:string

Used by	
Used by	Element person

Element `person / url`

Diagram	
Diagram	

Type	xs:string

Element `person / role`

Diagram	
Diagram	

Type	restriction of xs:token

Facets		
Facets	enumeration	author
	enumeration	editor
	enumeration	translator

enumeration	`reviewer`
enumeration	`contributor`

Element `organization`

Diagram	
Used by	Element authors
Model	name | abbreviation | url | comment | role

Instance	`<organization>`
	  `<name>`{1,1}`</name>`
	  `<abbreviation>`{1,1}`</abbreviation>`
	  `<url>`{1,1}`</url>`
	  `<comment>`{1,1}`</comment>`
	  `<role>`{1,1}`</role>`
	`</organization>`

Element `organization / abbreviation`

Diagram	
Type	xs:string

Element `organization / url`

Diagram	
Type	xs:anyURI

Element `comment`

Diagram	
Type	xs:string
Used by	Element organization

Element `organization / role`

Diagram	
Type	restriction of xs:token
Facets	enumeration `contributor` enumeration `sponsor`

enumeration	translator	
enumeration	reviewer	
enumeration	author	

Element `modality`

Diagram	
Used by	Elements data_element_set, element
Model	system , code , url

Instance	`<modality>`
	  `<system>`{1,1}`</system>`
	  `<code>`{1,1}`</code>`
	  `<url>`{1,1}`</url>`
	`</modality>`

Element `modality / system`

Diagram	
Type	restriction of xs:token
Facets	enumeration DICOM
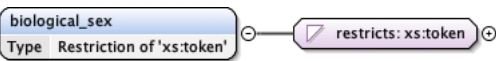
Element `modality / code`

Diagram		
Type	restriction of xs:token	
Facets	enumeration	CR
	enumeration	CT
	enumeration	DX
	enumeration	IVUS
	enumeration	MG
	enumeration	MR
	enumeration	NM
	enumeration	PT
	enumeration	RF
	enumeration	RG
	enumeration	US
	enumeration	XA
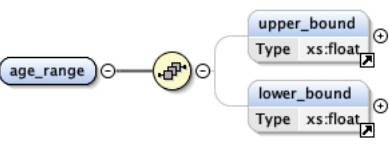
Element `modality / url`

Diagram	
Type	restriction of xs:token

Facets	enumeration `http://dicom.nema.org/`
	`medical/dicom/`
	`current/output/html/`
	`part03.html#sect_C.7.3.1.1.1`
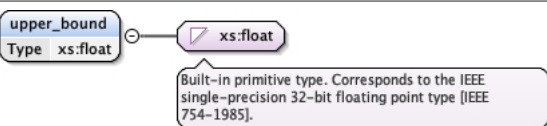
Element `biological_sex`

Diagram	
Type	restriction of xs:token
Facets	enumeration M
	enumeration F
Used by	Elements data_element_set, element
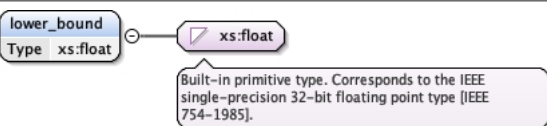
Element `age_range`

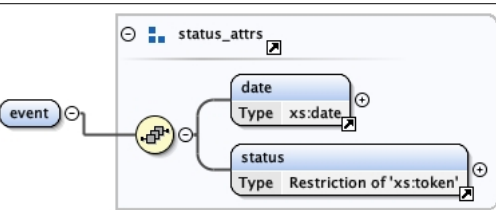| Diagram	
Used by	Elements data_element_set, element
Model	upper_bound{0,1} , lower_bound{0,1}

Instance	`<age_range>`
	  `<upper_bound>`{0,1}`</upper_bound>`
	  `<lower_bound>`{0,1}`</lower_bound>`
	`</age_range>`

Element `upper_bound`

Diagram	
Type	xs:float
Used by	Element age_range

Element `lower_bound`

Diagram	
Type	xs:float
Used by	Element age_range

Element `event`

Diagram	
Used by	Element Group history
Model	date , status

Instance	`<event>`
	  `<date>`{1,1}`</date>`
	  `<status>`{1,1}`</status>`
	`</event>`

Element `specialty`

Diagram	
Used by	Elements data_element_set, element
Model	name , abbreviation

Instance	```<specialty>```
	  ```<name>{1,1}</name>```
	  ```<abbreviation>{1,1}</abbreviation>```
	```</specialty>```

Element `specialty / abbreviation`

Diagram	
Type	restriction of xs:token

Facets		
	enumeration	AB
	enumeration	BR
	enumeration	CA
	enumeration	CH
	enumeration	CT
	enumeration	ER
	enumeration	GI
	enumeration	GU
	enumeration	HN
	enumeration	IR
	enumeration	MI
	enumeration	MK
	enumeration	MR
	enumeration	NM
	enumeration	NR
	enumeration	OB
	enumeration	OI
	enumeration	OT
	enumeration	PD
	enumeration	QI
	enumeration	RS
	enumeration	US
	enumeration	VI

Element `elements`

Diagram	
Used by	Element data_element_set
Model	element+
Instance	```<elements>``` ```<element>{1,unbounded}</element>```

```
    </elements>
```

Element `element`

Annotations	Each data element has a unique identifier of the format "RDE[0-9]+" (e.g., "RDE54") and a textual name.
Diagram	
Used by	Element elements
Model	id , name , definition , version , references{0,1} , index_codes{0,1} , images{0,1} , modality* , biological_sex{0,1} , age_range{0,1} , authors{0,1} , event* , specialty+ , (integer_values | float_values | boolean_values | value_set)
Instance	<pre><element>
<id>{1,1}</id>
<name>{1,1}</name>
<definition>{1,1}</definition>
<version>{1,1}</version>
<references>{0,1}</references>
<index_codes>{0,1}</index_codes>
<images>{0,1}</images>
<modality>{0,unbounded}</modality>
<biological_sex>{0,1}</biological_sex>
<age_range>{0,1}</age_range>
<authors>{0,1}</authors>
<event>{0,unbounded}</event>
<specialty>{1,unbounded}</specialty>
<integer_values>{1,1}</integer_values>
<float_values>{1,1}</float_values>
<boolean_values>{1,1}</boolean_values>
<value_set>{1,1}</value_set>
</element></pre>

Element `element / id`

Diagram	

Type	restriction of xs:string	
Facets	pattern	RDE\d+

Element **definition**

Diagram	
Type	xs:string
Used by	Elements element, value_set/value

Element **integer_values**

Diagram	
Used by	Element element
Model	min{0,1} , max{0,1} , step{0,1} , unit{0,1}

Instance	`<integer_values>`
	  `<min>{0,1}</min>`
	  `<max>{0,1}</max>`
	  `<step>{0,1}</step>`
	  `<unit>{0,1}</unit>`
	`</integer_values>`

Element **integer_values / min**

Diagram	
Type	xs:integer

Element **integer_values / max**
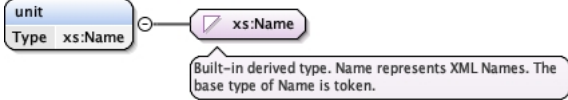
Diagram	
Type	xs:integer

Element **step**
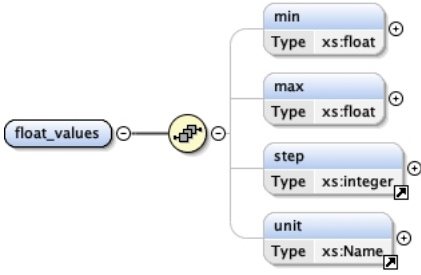
Diagram	

Type	xs:integer	
Used by	Elements	float_values, integer_values
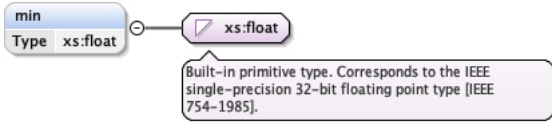
Element **unit**

Diagram	
Type	xs:Name
Used by	Elements float_values, integer_values
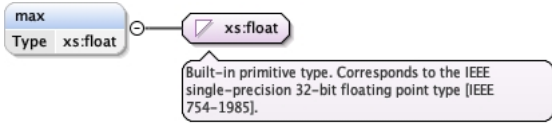
Element **float_values**

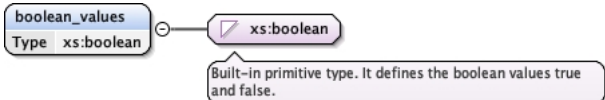| Diagram	
Used by	Element element
Model	min{0,1} , max{0,1} , step{0,1} , unit{0,1}

Instance	`<float_values>`
	  `<min>{0,1}</min>`
	  `<max>{0,1}</max>`
	  `<step>{0,1}</step>`
	  `<unit>{0,1}</unit>`
	`</float_values>`

Element **float_values / min**

Diagram	
Type	xs:float

Element **float_values / max**

Diagram	
Type	xs:float

Element **boolean_values**

Diagram	
Type	xs:boolean

Used by	Element	element

Element `value_set`

Diagram	

Used by	Element	element

Model	min_cardinality{0,1} , max_cardinality{0,1} , value+

Instance	
| | ```xml
<value_set>
  <min_cardinality>{0,1}</min_cardinality>
  <max_cardinality>{0,1}</max_cardinality>
  <value>{1,unbounded}</value>
</value_set>
``` |

Element `min_cardinality`

Diagram	

Type	xs:nonNegativeInteger

Used by	Element	value_set

Element `max_cardinality`

Diagram	

Type	xs:positiveInteger

Used by	Element	value_set

Element `value_set / value`

Diagram	

Model	value , name , definition{0,1} , references{0,1} , images{0,1} , index_codes{0,1}

Instance	
| | ```xml
<value>
  <value>{1,1}</value>
  <name>{1,1}</name>
  <definition>{0,1}</definition>
  <references>{0,1}</references>
  <images>{0,1}</images>
  <index_codes>{0,1}</index_codes>
</value>
``` |

Element `value_set / value / value`

Diagram	
Type	xs:Name

Element Group(s)

Element Group `status_attrs`

Diagram	
Used by	Elements event, version
Model	date , status

Element Group `history`

Diagram	
Used by	Elements data_element_set, element
Model	event*