Schema documentation for CDE_schema.xsd

october 3, 2018

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Schema(s)

Main schema `CDE_schema.xsd`

Element(s)

Element `data_element_set`
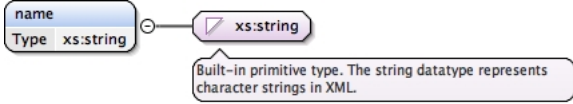
Diagram	
Model	id , name , (url | description | index_codes | modality | biological_sex | age_range | person | organization | (event*)) , elements

Instance	```xml
	<data_element_set>
	  <id>{1,1}</id>
	  <name>{1,1}</name>
	  <url>{1,1}</url>
	  <description>{1,1}</description>
	  <index_codes>{1,1}</index_codes>
	  <modality>{1,1}</modality>
	  <biological_sex>{1,1}</biological_sex>
	  <age_range>{1,1}</age_range>
	  <person>{1,1}</person>
	  <organization>{1,1}</organization>
	  <event>{0,unbounded}</event>
	  <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`

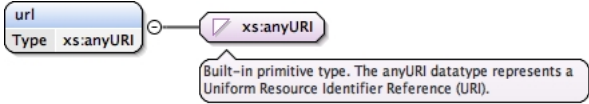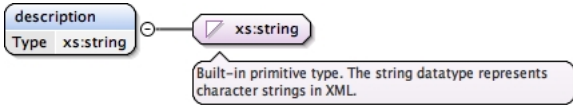| Diagram	
	name Type xs:string — xs:string Built-in primitive type. The string datatype represents character strings in XML.
Type	xs:string
Used by	Elements data_element_set, element, organization, person, value_set/value

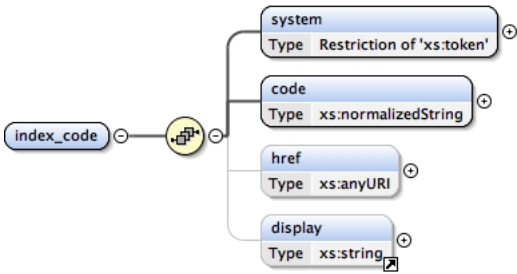## Element `data_element_set / url`

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 `description`

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

Element `index_codes`

Diagram	
	index_codes — (…) — 1..∞ — index_code
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	
	index_code — (…) — system Type Restriction of 'xs:token' code Type xs:normalizedString href Type xs:anyURI display Type xs:string
Used by	Element index_codes
Model	system , code , href{0,1} , display{0,1}

Instance	`<index_code>`
	  `<system>`{1,1}`</system>`
	  `<code>`{1,1}`</code>`
	  `<href>`{0,1}`</href>`
	  `<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	
Type	xs:normalizedString

Element `index_code / href`

Diagram	
Type	xs:anyURI

Element `display`

Diagram	
Type	xs:string
Used by	Element index_code

Element `modality`

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

Instance	<code><modality>
	  <system>{1,1}</system>
	  <code>{1,1}</code>
	  <href>{1,1}</href>
	</modality></code>

Element `modality / system`
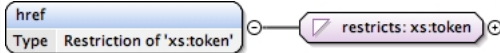
Diagram	

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
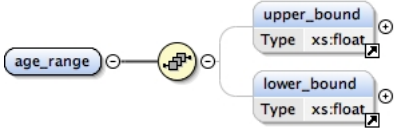
Element `modality / href`

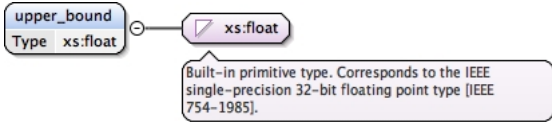| Diagram		
Type	restriction of xs:token	
Facets	enumeration	http://dicom.nema.org/ medical/dicom/ current/output/html/ part03.html#sect_C.7.3.1.1.1

Element `biological_sex`

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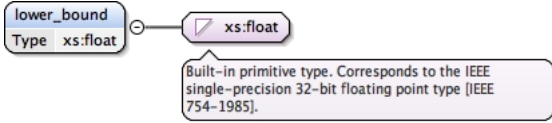
Element `age_range`

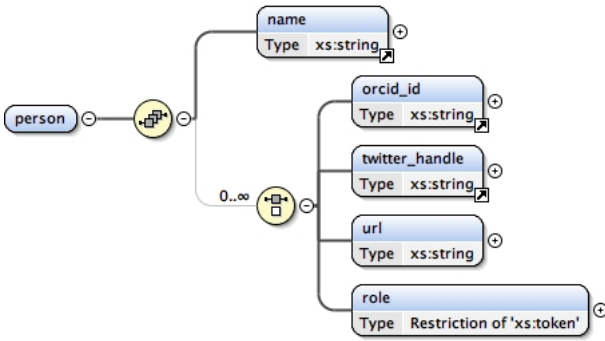| Diagram		
Used by	Elements	data_element_set, element
Model	upper_bound{0,1} , lower_bound{0,1}	

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
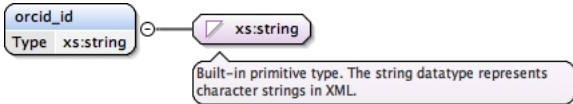
Element `lower_bound`

Diagram	
Type	xs:float
Used by	Element age_range
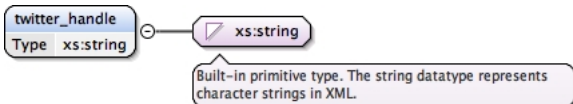
Element `person`

Diagram	
Used by	Elements data_element_set, image
	Element Group authors
Model	name , (orcid_id | twitter_handle | url | role)

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>`
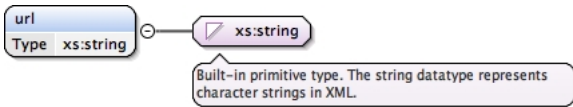
Element `orcid_id`

Diagram	
Type	xs:string
Used by	Element person
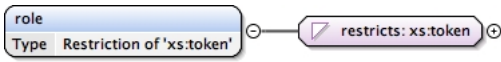
Element `twitter_handle`

Diagram	
Type	xs:string
Used by	Element person
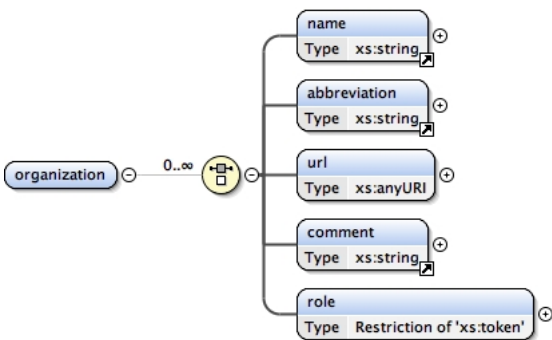
Element `person / url`

Diagram	
Diagram	url / Type xs:string — xs:string — Built-in primitive type. The string datatype represents character strings in XML.
Type	xs:string
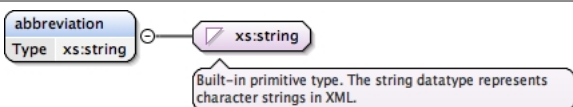
Element `person / role`

Diagram	role / Type Restriction of 'xs:token' — restricts: xs:token
Type	restriction of xs:token
Facets	enumeration `author`
	enumeration `editor`
	enumeration `translator`
	enumeration `reviewer`
	enumeration `contributor`
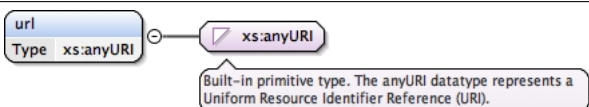
Element `organization`

Diagram	organization — 0..∞ — name Type xs:string / abbreviation Type xs:string / url Type xs:anyURI / comment Type xs:string / role Type Restriction of 'xs:token'	
Used by	Elements	data_element_set, image
	Element Group	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 `abbreviation`
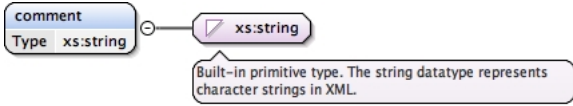
Diagram	abbreviation / Type xs:string — xs:string — Built-in primitive type. The string datatype represents character strings in XML.	
Type	xs:string	
Used by	Element	organization

Element `organization / url`

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

Type	xs:anyURI
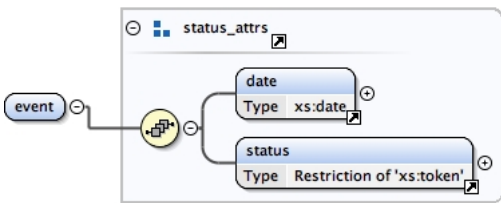
Element `comment`

Diagram	
Type	xs:string
Used by	Element organization
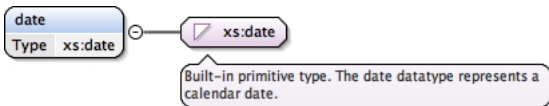
Element `organization / role`

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

Element `event`

Diagram	
Used by	Element Group history
Model	date , status

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

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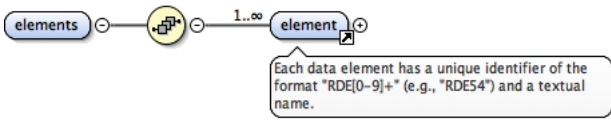
Diagram	
Type	xs:date
Used by	Element Group status_attrs

Element `status`
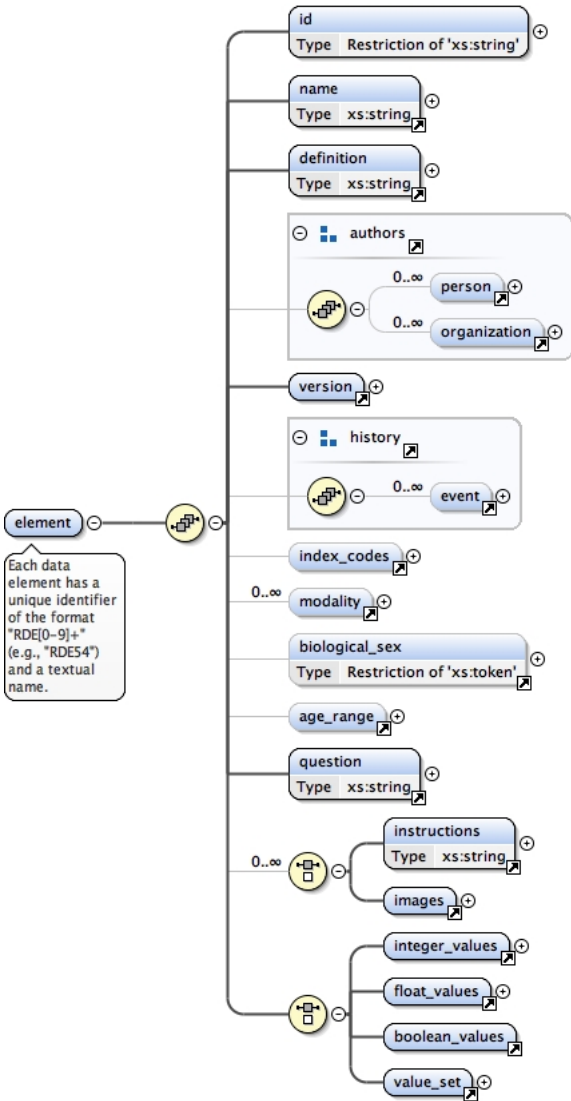
Diagram	
Type	restriction of xs:token
Facets	enumeration `proposed`
	enumeration `approved`
	enumeration `published`

	enumeration	deprecated
Used by	Element Group	status_attrs

Element `elements`

Diagram	Each data element has a unique identifier of the format "RDE[0-9]+" (e.g., "RDE54") and a textual name.
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 , person* , organization* , version , event* , index_codes{0,1} , modality* , biological_sex{0,1} , age_range{0,1} , question , (instructions | images) , (integer_values | float_values | boolean_values | value_set)
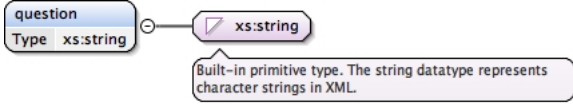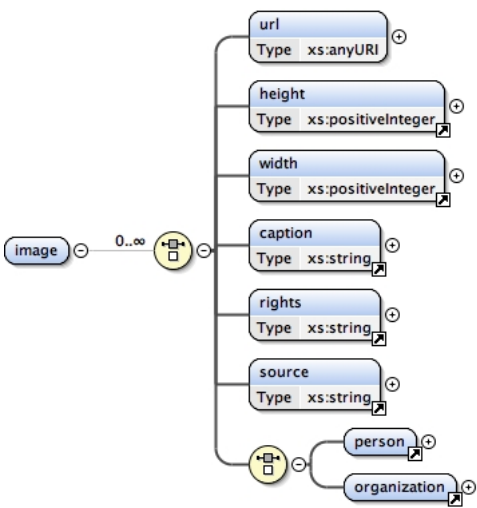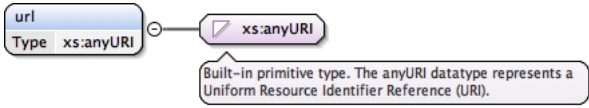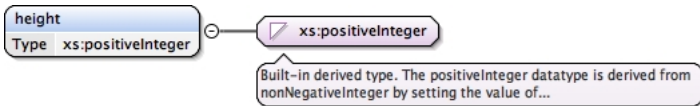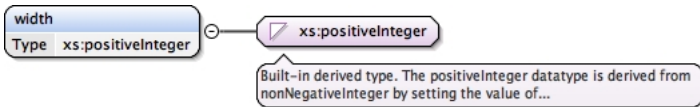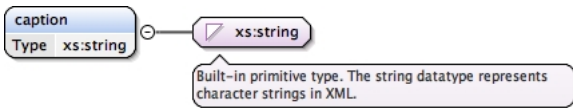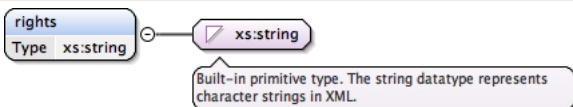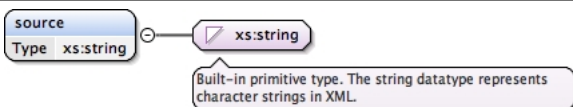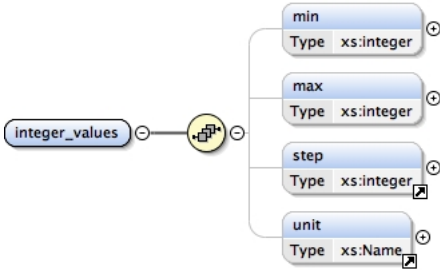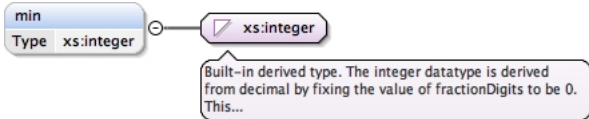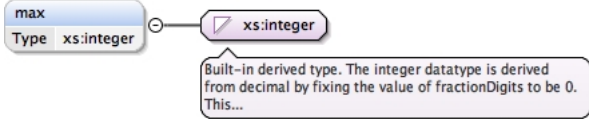
| Instance | ```
<element>
  <id>{1,1}</id>
  <name>{1,1}</name>
  <definition>{1,1}</definition>
  <person>{0,unbounded}</person>
  <organization>{0,unbounded}</organization>
  <version>{1,1}</version>
  <event>{0,unbounded}</event>
  <index_codes>{0,1}</index_codes>
  <modality>{0,unbounded}</modality>
  <biological_sex>{0,1}</biological_sex>
  <age_range>{0,1}</age_range>
  <question>{1,1}</question>
  <instructions>{1,1}</instructions>
  <images>{1,1}</images>
  <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>
``` |
|---|---|

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 `version`

Diagram	
Used by	Element element
Model	versionNumber , date , status
| Instance | ```
<version>
  <versionNumber>{1,1}</versionNumber>
  <date>{1,1}</date>
  <status>{1,1}</status>
</version>
``` |
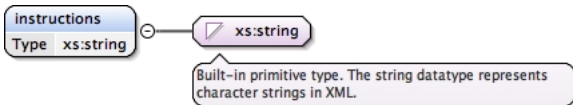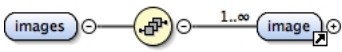
Element `versionNumber`

Diagram	

Type	xs:positiveInteger	
Used by	Element	version

Element `question`

Diagram	
Type	xs:string
Used by	Element element

Element `instructions`

Diagram	
Type	xs:string
Used by	Element element

Element `images`

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

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

Element `image`

Diagram	
Used by	Element images
Model	url | height | width | caption | rights | source | person | organization

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

```
<source>{1,1}</source>
<person>{1,1}</person>
<organization>{1,1}</organization>
</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 `source`

Diagram	
Type	xs:string

Used by	Element	image

Element `integer_values`

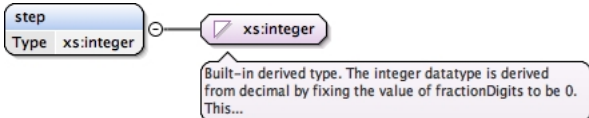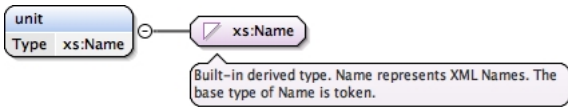| Diagram	
Used by	Element element
Model	min{0,1} , max{0,1} , step{0,1} , unit{0,1}

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	
Diagram	
Used by	Element element
Model	min , max , step , unit

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

Element `float_values / min`

Diagram	
Diagram	min Type xs:float — xs:float. Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985].
Type	xs:float

Element `float_values / max`

Diagram	
Diagram	max Type xs:float — xs:float. Built-in primitive type. Corresponds to the IEEE single-precision 32-bit floating point type [IEEE 754-1985].
Type	xs:float

Element `boolean_values`

Diagram	
Diagram	boolean_values
Used by	Element element

Element `value_set`

Diagram	
Diagram	value_set — 1..∞ value
Used by	Element element
Model	value+

Instance	`<value_set>`
	  `<value>{1,unbounded}</value>`
	`</value_set>`

Element `value_set / value`

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

Instance	`<value>`
	`  <value>`{1,1}`</value>`
	`  <name>`{1,1}`</name>`
	`  <definition>`{0,1}`</definition>`
	`  <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 `history`

Diagram	
Used by	Elements data_element_set, element
Model	event*

Element Group `status_attrs`

Diagram	
Used by	Elements event, version
Model	date , status

Element Group `authors`

Diagram	
Used by	Element element
Model	person* , organization*