Ontic Health Generic Model

Generated Documentation

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# OnticHealthGeneric::Actors

## Diagram: Actors



1. Actors

## Association Class Associated Actor

An  associated actor relationship defines a connection between an actor and some other actor they are associated with in some way. Subtypes of actor association  provide additional  semantics  about the association. As an association class, Actor Associations  may have properties and other relationships. Actor associations will typicaly have a timeframe.

 [NIEM] PersonOrganizationAssociationType (More specific concept)

 [NIEM] PersonPersonAssociationType (More specific concept)



1. Associated Actor

Direct Supertypes

[Temporally Related](#_9ed633619738f3e7193fcfe187317d60)

Association Ends

has associate : [Associate](#_83cf47762d76cb6602afaf218419b036) [\*]



The actor associated with another.

associated with : [Social Agent](#_934edf0b3719808db07a6b3c165c3d1d) [1..\*]



Another actor the subject actor is associated with.

## Association Class Boundary of System

An "edge" of a system affording some level of protection or containment for the system.



1. Boundary of System

Direct Supertypes

[Parthood](#_3b55ca0bfe97c75cd907e6e1d64153ff)

Association Ends

has boundary : [Boundary](#_76a6ed18a868cf12a9b41e52c4765407) [0..\*]



Logical or physical border of a system (or enterprise) that may serve to define, contain or protect the system.

bounds : [System](#_24096b0cc8b6c6a4f1582650e113f719) [1..\*]



System for which a boundary is an edge.

## Class Person

An individual human being.

[FIBO] Person

[NIEM] PersonType

[DOLCE] (Subtype of) Agentive Physical Object

Direct Supertypes

[Animal](#_af0e52963fe1fdbbeeea5d00c2f3644e), [Physical Thing](#_cc3527fc58d893771abfada69da672b8), [Social Agent](#_934edf0b3719808db07a6b3c165c3d1d)

Associations

has body part : [Human Body Part](#_97d0c106282f00353fcaf751758b9f80) [1..\*] *Subsets*: has part:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



## Association Class Person at location

A relationship representing the location of a person at a particular time.

[NIEM] PersonLocationAssociationType



1. Person at location

Direct Supertypes

[Physical Containment](#_801024a6f654381af40987565a230388)

Association Ends

location of person : [Physical Location](#_3a4c8f1cd249c1f74365f6f8909d1112) [\*] *Subsets*: has part:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



Location of the subject person.

[FIBO] isSituatedAt (mode general concept)

located person : [Person](#_cdc29d2819530ccaeba6b720b8983fee) [\*] *Subsets*: has part:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



A person who is at a location.

## Class Person Name <<Value>>

Text identifying a person by a recognized name.

[FIBO] hasFullLegalName (More specific concept)

[NIEM] PersonNameType

Direct Supertypes

[Name](#_4fe2a0b97ea7a3db28c2db6f67c0a550)

## Association Class Residency

A residence of a person - where they live.

[NIEM] PersonResidenceAssociationType

[FIBO] Residence: Note that residence is not the same as domicile, as a person or organization can have many transient residences but only one legal domicile. The domicile of a formal organization is the address (location) where the establishment is maintained or where the governing power of the organization is exercised.



1. Residency

Direct Supertypes

[Operating Location](#_5b09b321eafbd931b5d01f5355025ee5)

Association Ends

resides at : [Residence](#_9dd387bde667c04aadeb529598149adc) [\*] *Subsets*: has part:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



A residence of a person, where they live.

[FIBO] isDomiciledIn: identifies the permanent home or principal establishment of an individual or organization

has resident : [Person](#_cdc29d2819530ccaeba6b720b8983fee) [1..\*] *Subsets*: has part:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



A person living in a residence.

## Class Social Agent

An actor that may have responsibilities - people and organizations. Actors in general may include automated entities and even, in some context, animals. Social agent excludes these other kinds of actors by including (at this time) only people and organizations.

What responsibilities a particular person or organization may have at any particular time is the subject of law and social constructs. A social agent is distinguished in that a person or organization may have such responsibilities in their lifetime.

[NIEM] EntityType

[DOLCE] Social Agent

Direct Supertypes

[Actor](#_366e70bab7ea3da37cb039e7a6b88ae2)

## Class System

[OMG MDA Guide] A system is a collection of parts and relationships among these parts that may be organized to accomplish some purpose.

[UAF] An integrated set of elements, subsystems, or assemblies that accomplish a defined objective. These elements include products (hardware, software, firmware), processes, people, information, techniques, facilities, services, and other support elements .

A system is a situation in that it has constituent parts working together for a finite period.

A system is a means in that it may achieve objectives for stakeholders.

Direct Supertypes

[Actor](#_366e70bab7ea3da37cb039e7a6b88ae2), [Composite](#_22543a68d14e5d05f70a9a8fad141809), [Means](#_89cacaa776395d9758d13a4ba425de00), [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

# OnticHealthGeneric::Foundation

# Class Actor

An entity capable of behavior - performing an activity or process.

[IDEAS] Agent: Something capable of action.

[FIBO] AutonomousAgent: An agent is an autonomous individual that can adapt to and interact with its environment.



1. Actor Detail

## Direct Supertypes

[Contactable](#_361c8ec052bb3ceeaeeba100681ef85a), [Discreet Thing](#_6ef1dbf4983daf69e5425cbaf8e11659), [Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)

# Class Actual Entity

An actual entity is an identifiable, individual person, specific object, process enactment, agreement, etc. Actual Entities do not have to be physical, e.i. may denote social constructs. Actual entities are disjoint from types.

A more specific class of actual entity (e.g., Person) is intended to refine the classification of the individual thing.

Individuality (or selfhood) is the state or quality of being an individual; particularly of being separate from other individuals and possessing identity. Actual entities typically have a lifetime and some individuals may change over that lifetime. Individuals may have parts that together help define the individual but may change over time.

"Actual" does not imply current existence.

[ISO 1087] individual concept: concept (3.2.1) which corresponds to only one object

[UML] Loose correspondence with "InstanceSpecification". SMIF instances are direct instances of their types, there is no "indirection" through value specification as their is in UML.

[Guizzardi] (individual concept)

[CL] Individual: one element of the universe of discourse

[DOLCE] Particular: particulars are entities which have no instances

[SOWA1999] Independent. Can be considered "Actuality" when including social constructs in [SOWA1999] Physical.

[OWL] Individual



1. Actual Entity Detail

## Direct Supertypes

[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)

# Class Context

A <Context> is an identifiable thing that can impact the condition or interpretation of other things.

A context may assert or negate other context.

Subtypes of <Context>, such as location, situation or <Type> ascribe more semantics to the context as well as limit the things it contextualizes.

[CL] Sort: any subset of the universe of discourse over which some quantifier is allowed to range

[ISO 1087] concept field: unstructured set of thematically related concepts (3.2.1)

[SOWA1999] Mediating thing



1. Context Detail

## Direct Supertypes

[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)

# Class Identifiable Thing

An identifiable thing is any thing that can be distinguished from another, it is disjoint from values. Identifiable thing includes individuals, types, axioms, situations, speech acts, information structures, etc.

Identifiable things always have some kind of identity and may have identifiers. Note that identity is an abstraction that may have representation in models as any number of identifiers, also known as a "sign".

[OWL] Entity type (Implied in section [OWL] 5.8) as an instance of rdfs:Class

## Direct Supertypes

[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)

# Class Identifiable Type

A type of an identifiable entity. All concrete entity instances must have at least one entity type. Entity type may be mixed with other types to fully define an entity.

[FUML] Classifier

[BFO] Universal

[Guarino1994] Substantial or Pseudo-Sortal (Substantial being concrete)

[Guizzardi] A Rigid Universal.

(Rigid Universal): A universal G is rigid (or modally constant) iff for any w,w ∈ W 3. extw(G) = extw(G) Putting definitions 4.1 and 4.3 together, we have that for any rigid universal G the following is true 4. ext(G) = extw(G), for all w ∈ W A rigid universal is one that applies to its instances necessarily, i.e., in every possible world. Every substance sortal G is a rigid universal.

[OWL] rdfs:Class (as Entity Type does not include values). However, non=primitive values are typically represented as rdfs:Class

## Direct Supertypes

[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)

# Class Thing

Any thing or value that does or may exist in any possible world. Thing is the supertype of all types and may therefore participate in unbounded relations.

Instances of Thing are referred to as "a thing" in this model.

[IDEAS] Thing

[OWL] Thing

[ISO 1087] object: anything perceivable or conceivable

[FIBO] Thing

[Guizzardi] Thing

[FUML] Element

[SOWA1999] "T"

[OWL] rdfs:Resource



1. Thing Detail

## Associations

plays role : [Role](#_eb9719483c5285d39be117ca681afa25) [0..\*]



# Class Type

A <Type> is a categorization of any thing based on specific criteria. The specific criteria may or may not be formalized in a model.

A <Type> <categorizes> a set of <Thing>s which comprises the "extent" of the type.

A <Type> is a <Context> where the things it <categorizes> are <in the context> of the <Type>.

Types may participate in a taxonomy based on generalizations.

[ISO 1087] general concept: concept (3.2.1) which corresponds to two or more objects (3.1.1) which form a group by reason of common properties

[FIBO] Classifier: a standardized classification or delineation for something, per some scheme for such delineation, within a specified context

[FUML] Type

[CL] Type:: logical framework in which expressions in the logic are classified into syntactic or lexical categories (types) and restricted to apply only to arguments of a fixed type

[Guarino1994] Universal

[OWL] Union(rdfs:Class, rdfs:Datatype)

Similar to:

[IDEAS] Type: A set (or class) of Things.

## Direct Supertypes

[Context](#_03a263ab0765501d19eb2e8b9bcb2c2b), [Lexical Context](#_077942895c005b1ba5dd5f7ae8318551), [Scoped Context](#_397634767e670e41ac23b5ff466a540d)

## Associations

sufficient supertype : [Role](#_eb9719483c5285d39be117ca681afa25) [0..\*]



*through association:* [Sufficient Generalization](#_1d28e8c2ceff1eae37b3dc9cf267db1b)

justifies subtype : [Role](#_eb9719483c5285d39be117ca681afa25) [0..\*]



*through association:* [Sufficient Generalization](#_1d28e8c2ceff1eae37b3dc9cf267db1b)

# OnticHealthGeneric::Foundation::Facets

The facet package defines facets, roles and phases. Types that "mix in" to other types in a specific context or timeframe.

## Diagram: Facets



1. Facets

## Class Category Type

A category is a classification or division of people, events or things regarded as having particular shared characteristics. Categorization is typically contextual, potentially transient and may or may not be formally defined.

As with all facets, categories are non-rigid. Something classified by a category must also be classified by an entity type.

Direct Supertypes

[Facet Type](#_b66933481bbd493f7b05e550e94de306)

## Association Facet Constraint

A Facet Constraint specifies a possible a "mix in" or "non rigid" classification of an entity beyond any fundamental entity type. The must common kinds of facets are roles and phases. Note that the UML profile also specifies subtypes of <<Facet Of>> that are syntactic sugar for facet classification.

The type of individual a facet can apply to may be specified using a facet classification. Note that Facets . A facet classification may be contextual, such as within a relation, situation and/or time frame. Instances may have any number of types and classifications may change over time.

A <<Sufficient>> property is typically used to specify the mediating concept the facet is with respect to.

There are various implementation strategies for facets including multiple classification and dependent objects. SMIF does not commit to any particular implementation strategy.

Association Ends

facet of : [Type](#_4f4ad21bf676d3e6a5c0f355d83345e1) [0..1]



faceted by : [Facet Type](#_b66933481bbd493f7b05e550e94de306) [0..\*]



## Association Facet Of Entity

Facet of Entity is a first-class relationship defining a facet of an entity. As a relationship the application of the facet to the entity may be time and context specific. The entity will have the type of the identified facet. Properties and relationships specific to the entity exhibiting a facet, if required, may utilize a subtype of Entity Of Facet.

For example, a Person may play the "Parent" role for multiple children and there may be properties and relationships relative to this generic parent role. If it is required to specify properties and relationships specific to the person being a parent of a specific child, a subtype of Facet Of Entity is used.

Direct Supertypes

[Extent of Type](#_0f89eb8fa6548b4339c6c4da37527f2b)

Association Ends

exhibits facet : [Facet Type](#_b66933481bbd493f7b05e550e94de306) [\*]



The facet that an entity assumes when it is the facet of an entity.

[FIBO] (for roles) playsRole

exhibited by : [Identifiable Thing](#_aa050de8310b74df540d7772f2579de8) [\*]



Type of the entity exhibiting the facet.

## Class Facet Type

A facet is a "mix in" type that defines an aspect of something but does not define the identity or "fundamental" (A.K.A. "Rigid") type of that thing, but some potentially transient role, phase or other way to classify it. Something must have at least one type that is not a facet to define that things identity.

Facets do not define independent identity of the referent but technology implementations may create independent objects to represent a facet.

An instance of a facet must also have a type that is not a facet to provide the identity of the instance.

The type(s) a facet may categorize may be constrained by a Facet Generalization Constraint. E.g. Policeman is a role of a person.

[Guarino1994] Non-Substantial sortal

[Guizzard] Non-Rigid Universal: A universal G is non-rigid iff for a w ∈ W There is an x such that x ∈ extw(G), and there is a w∈ W such that x ∉extw(G)

[SOWA1999] Prehension (Relative

Direct Supertypes

[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)

## Class Phase Type

A phase (or state) is a static characteristic of something that exists for limited time(s). Something takes on or looses a phase as a result of some event. E,g, Teenager, living, closed invoice.

A Phase is a situation in that there is a situation coincident with each phase.

[Guizzardi] (Phased-Sortal): Let PS be a universal and let S be a

substance sortal specialized (restricted by) PS. Now, let extw(~PS) = extw(S) \ extw(PS)

be the complement of the extension of PS in world w. In this formula, the

symbol \ represents the set theoretical operation of set difference. The

universal PS is a phased-sortal iff for all worlds w ∈ W, there is a w ∈ W such

that extw(PS) ∩ extw(~PS) ≠ ∅

Direct Supertypes

[Facet Type](#_b66933481bbd493f7b05e550e94de306)

# OnticHealthGeneric::Identifiers

## Diagram: Identifiers



1. Identifiers

# OnticHealthGeneric::Observations

Observations are acts where an observer notes some entity (including situations and individuals') that are observed in a situation.

## Diagram: Observations



1. Observations

## Association Class Measurement

A measurement is an observation made by <observed by> that <observes> the value of a characteristic for a particular entity, which is the Characteristic Binding the observer <observes>. The characteristic binding binds a particular value, e.g. 2 meters, with a particular characteristic, e.g. height, of a particular individual, e.g. John Smith.

As a characteristic binding is a temporal entity it has a time and context which may be different from the time and context of the measurement. e.g. The nurse "Sue" took the patients (Joe) weight measurement (Characteristic Binding - Joe <has weight> 94 KG) on 2/5/2010 at 9:31AM which was recorded as the patents current weight for 90 days.

Association Ends

: [Characteristic Binding](#_dadc2e9f949177e3c9c2c6d84a4aa345) [1..\*]



: [Observer](#_e0a52a1f785691cf9125e5ec5755cdfc) [0..\*]



## Class Measurement Activity

Direct Supertypes

[Observation Activity](#_dee615f9e44d1e2052d3573f6f1fc7b8)

Associations

: [Measurement Result](#_246aad5e499a3dae61ae5b5418deab0c) [0..\*] *Redefines*: observes:[Observation Result](#_b13d7b72ffbc53b67c7bd3ea58364405)



## Class Measurement Result

Direct Supertypes

[Conclusion](#_d6a58eccfb49026ff2c2466c45bf1c5f), [Observation Result](#_b13d7b72ffbc53b67c7bd3ea58364405)

Associations

: [Quality](#_691f47488c9ad7e3f73bc1e8d91283ab) [1..\*] *Redefines*: has position on:[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)



: [Measurement Activity](#_311770c205be82af5ce92c3f02e8aa08) [1..\*] *Redefines*: observed during:[Observation Activity](#_dee615f9e44d1e2052d3573f6f1fc7b8)



## Class Observation Activity

Direct Supertypes

[Activity](#_7b140b32efd980b218435cbb95798380)

Associations

observes : [Observation Result](#_b13d7b72ffbc53b67c7bd3ea58364405) [0..\*] *Subsets*: produces:[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8) as basis for:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b) overlaps to:[Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)



## Class Observation Result

Direct Supertypes

[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)

Associations

: [Observer](#_e0a52a1f785691cf9125e5ec5755cdfc) [1..\*] *Subsets*: held by:[Participant](#_b4401436185956a165d3b9d8de6c6b8f)



observed during : [Observation Activity](#_dee615f9e44d1e2052d3573f6f1fc7b8) [1..\*] *Subsets*: produced by:[Occurrence](#_799617cb54756b9414625779f3b740cc) based on:[Evidence](#_247398fd6886fc0dedd771899df8bb96) overlaps from:[Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)



## Class Observation Tool <<Role>>

A tools that assists in observations. e.g. a wireless microphone is used to observe a conversation.

Direct Supertypes

[Tool](#_8f56d99a6c9c351391b8cca136ff3469)

## Class Observer <<Role>>

Role of an actor that can or has observed something

Direct Supertypes

[Performer](#_24aef6888e290cab8d524ab650f56967)

Associations

: [Observation Result](#_b13d7b72ffbc53b67c7bd3ea58364405) [0..\*] *Subsets*: holds:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)



# OnticHealthGeneric::Occurrences

## Diagram: Occurrences



1. Occurrences

## Class Activity

A process performed by one or more actors intended to meet a need.

[UML] Activity

Direct Supertypes

[Process](#_a54dfc29252b25448d3d93db3ceb51e4), [Resource](#_c3c68931301e3219612679ba09cbed93)

## Class Composite Process <<Role>>

Direct Supertypes

[Process Type](#_5487051b001a4ba42a2bbbc1c5887b66), [Temporal Composite](#_2fc8352b9124ebd58d175c6777958e48)

## Class Occurrence

An Occurrence is a situation that "happens" (a.k.a. occurs). A dynamic situation (past, present or future) composed of a set of things changing over a period of time. e.g., a rock falling.

Occurrences are not limited in their timeframe. Occurrences can have long or short timeframes, from an instant to infinity and beyond.

[DOLCE] Perdurant

[BFO]Occurrent

[NIEM] ActivityType

Direct Supertypes

[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

## Association Class Output

Outputs from a process or actual event - the things or situations it creates.



1. Output

Direct Supertypes

[Effect](#_d73e4ebdfd2444629d07f65820eda0ab)

Association Ends

produces : [Identifiable Thing](#_aa050de8310b74df540d7772f2579de8) [\*] *Subsets*: holds:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)



Resources produced by a process or actual event

produced by : [Occurrence](#_799617cb54756b9414625779f3b740cc) [\*] *Subsets*: holds:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)



Occurrences which produce an entity.

## Class Process

An process is an occurrence with a non-zero duration frequently having sub-processes (parts).

[BFO] Event: perdurant that is related to exactly two states (its pre-state and its post-state).

An event is related to the states before and after it has happened.

Direct Supertypes

[Occurrence](#_799617cb54756b9414625779f3b740cc)

Associations

<<Restriction>> : [Process Type](#_5487051b001a4ba42a2bbbc1c5887b66) [1..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



## Association Class Process Decomposition

Relationship describing the decomposition of a process.



1. Process Decomposition

Direct Supertypes

[Temporal Part](#_ffa46344dc76fdd671ce24c8c60928c3), [Usage](#_121e86a9010afc735b86c3293f79c522)

Association Ends

has subprocess : [Process Type](#_5487051b001a4ba42a2bbbc1c5887b66) [0..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



Process occurring within the scope of and in support a composite process.

used by process : [Composite Process](#_9b6b4d69c345df1174f4ade23eb8e0ce) [0..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



Composite processes which utilize the subject property as a component part.

## Association Class Usage

Inputs to a process or actual event - what it uses



1. Usage

Direct Supertypes

[Effect](#_d73e4ebdfd2444629d07f65820eda0ab)

Association Ends

uses : [Resource](#_c3c68931301e3219612679ba09cbed93) [0..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



A resources used by a process or actual event.

used by : [Occurrence](#_799617cb54756b9414625779f3b740cc) [\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



A process or actual occurrence that is used by a resource for the resource to fulfill its function.

# OnticHealthGeneric::Qualitative Position

## Diagram: Qualitative Position



1. Qualitative Position

## Class Conclusion

Direct Supertypes

[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)

## Class Evidence <<Role>>

Evidence is a kind of resource for situation(s) justifying qualitative positions.

Direct Supertypes

[Resource](#_c3c68931301e3219612679ba09cbed93), [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

Associations

as basis for : [Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b) [\*]



## Class Exclusion

Direct Supertypes

[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)

## Class Qualitative Position

a qualitative position is a kind of epistemic situation where a judgment <is about> a situation <held by> some participant <based on> other situations as evidence.

Direct Supertypes

[Epistemic Situation](#_7bb78623f2206d68297626d4bf4a41e1), [State](#_2f02569bb8334e33923ced03f32e144d)

Attributes

confidence : [Metric](#_0b552384ad202c0c014daf924625d64d)



Associations

held by : [Participant](#_b4401436185956a165d3b9d8de6c6b8f) [1..\*]



based on : [Evidence](#_247398fd6886fc0dedd771899df8bb96) [\*]



has position on : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [1..\*] *Subsets*: is about:[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)



# OnticHealthGeneric::Qualities

## Diagram: Qualities



1. Qualities

## Diagram: Values



1. Values

## Class Quality

a quality is an ontic state representing a characteristic of an entity at a point in time or over a range of time. Examples include the temperature or height of a person at a particular time.

Direct Supertypes

[Ontic Situation](#_3b6dc697de97ce073daecd87bcd5dcaa), [Relationship](#_accd5eb3f49a80122f5edf4b533965d0), [State](#_2f02569bb8334e33923ced03f32e144d)

Attributes

has quality value : [Value](#_e31475aed8f6ab7db3b8aae1e826c3b3)



Associations

: [Measurement Result](#_246aad5e499a3dae61ae5b5418deab0c) [0..\*] *Subsets*: is subject of position:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)



# OnticHealthGeneric::Quantities and Units

This package defines quantities and units. Quantities are the basis for units and measurements.

Qualities of things are represented with respect to what that thing means, not how it is represented. This introduces multiple "quantity kinds" which derive from Value and Quantity. Quantiles are stereotyped as "Quantity Kind".

The representation of a value or quantity will typically use the "primitive types" that are found in I.T. systems such as "Integer", "Real" and "String".

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## Diagram: Quantities and units



1. Quantities and units

## Class Confidence Metric <<Quantity Kind>>

Any metric of confidence that something is true or valid.

Direct Supertypes

[Metric](#_0b552384ad202c0c014daf924625d64d)

## Class Count <<Quantity Kind>>

The number of something used as a property or metric, e.g., 5 fish.

Direct Supertypes

[Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

## Class Currency Benefit Metric <<Quantity Kind>>

A metric for benefit or harm expressed in terms of a currency, such as dollars or yen.

Direct Supertypes

[Harm-Benefit Metric](#_1f5ffa0a988e30ef567355b39f0a0d49)

## Class Harm-Benefit Metric <<Quantity Kind>>

A metric to quantify benefit or harm.

Direct Supertypes

[Metric](#_0b552384ad202c0c014daf924625d64d)

## Class Metric <<Quantity Kind>>

A standard for measuring or evaluating something in a quantifiable way.

Typical representations of a metric may be a fraction from zero to 1 or a rating such as "high, medium, low". Not to be confused with the "Metric System".



1. Metric

Direct Supertypes

[Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

Attributes

value : [Metric Value](#_256ba07d1de9d59db396a7e6761f9b8d)



The value of a quantity that, when multiplied by the unit defined in a subtype of quantity kind, specifies a measurement value such as 3 Meters.

## Class Probability Metric <<Quantity Kind>>

A metric that represents the possibility that something uncertain will happen.

Direct Supertypes

[Metric](#_0b552384ad202c0c014daf924625d64d)

## Class Time Coordinate <<Quantity Kind>>

An identifier for a particular point in time, recognizing that any such point is an interval at a finer level of granularity.

Specific time coordinate systems, such as ISO or Internet time, specialize Time Coordinate and relate it to a time scale.

[DTV] time point: concept that specializes the concept 'time interval' and that is a member of a time scale

[ISO11404] time: time is a family of datatypes whose values are points in time to various common resolutions: year, month, day, hour, minute, second, and fractions thereof.

Direct Supertypes

[Coordinate](#_4fe9616d1516b4b36f94e6c28bcefb32), [Time Point](#_fb11adf0086d81f73057dcfbd6b13592), [Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

Attributes

value : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f)



### <<Value>>Enumeration PentaScale <<Value>>

An scale of 5 values the interpretation of which is context specific.

Direct Known Superclasses

[Scale](#_241181fba55c01238d9a99f5d0304883)

package OnticHealthGeneric::Quantities and Units

public enum PentaScale

{Very Low, Low, Moderate, High, Very High}

Literals

Very Low



Low



Moderate



High



Very High



1. Quantities and units

### <<Value>>Enumeration TriScale <<Value>>

A scale of 3 arbitrary levels.

Direct Known Superclasses

[Scale](#_241181fba55c01238d9a99f5d0304883)

package OnticHealthGeneric::Quantities and Units

public enum TriScale

{Low, Medium, High}

Literals

Low



Medium



High



1. Quantities and units

# OnticHealthGeneric::Quantities and Units::Quantity Kinds

Quantity kinds are abstractions for the way we measure or quantify things, such as mass or length. Units provide specific ways to specify a quantity kind.

## Diagram: Quantity Kinds



1. Quantity Kinds

## Class Absorbed Dose (Radiation) <<Quantity Kind>>

The energy of ionizing radiation absorbed per unit mass by a body, often measured in rads.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Acceleration <<Quantity Kind>>

The rate of change of velocity per unit of time.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Amount of Substance <<Quantity Kind>>

The abstract unit of the amount of a substance which is the supertype of all amount units and also acts as its "quantity kind".

Amount of substance is a standards-defined quantity that measures the size of an ensemble of elementary entities, such as atoms, molecules, electrons, and other particles. It is sometimes referred to as chemical amount. The International System of Units (SI) defines the amount of substance to be proportional to the number of elementary entities present. The SI unit for amount of substance is the mole. It has the unit symbol mol.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Angle <<Quantity Kind>>

The space (usually measured in radians or degrees) between two intersecting lines or surfaces at or close to the point where they meet.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Area <<Quantity Kind>>

[QUDT] Area is a quantity expressing the two-dimensional size of a defined part of a surface, typically a region bounded by a closed curve.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Color <<Quantity Kind>>

Color is the visual perceptual property corresponding in humans to the categories called red, blue, yellow, and others. Color derives from the spectrum of light (distribution of light power versus wavelength) interacting in the eye with the spectral sensitivities of the light receptors. Color categories and physical specifications of color are also associated with objects or materials based on their physical properties such as light absorption, reflection, or emission spectra. By defining a color space, colors can be identified numerically by their coordinates.

Direct Supertypes

[Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

## Class Concentration <<Quantity Kind>>

The abstract concept of the amount, mass or volume of one substance in another without being specific as to how it is measured.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Concentration (amount of substance) <<Quantity Kind>>

Concentration based on amount-of-substance.

Direct Supertypes

[Concentration](#_8a52e0e6c7ddc8e3f8ec1278411a485d)

## Class Concentration (Mass) <<Quantity Kind>>

Concentration based on mass per unit of volume.

Direct Supertypes

[Concentration](#_8a52e0e6c7ddc8e3f8ec1278411a485d)

## Class Concentration (Volume) <<Quantity Kind>>

Volume concentration is defined as the volume of a constituent divided by the volume of the mixture.

Direct Supertypes

[Concentration](#_8a52e0e6c7ddc8e3f8ec1278411a485d)

## Class Currency <<Quantity Kind>>

Any form of money.

[FIBO] Currency: medium of exchange value, defined by reference to the geographical location of the authorities responsible for it

Direct Supertypes

[Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

## Class Dose Equivalent (Radiation) <<Quantity Kind>>

A measure of the biological damage to living tissue as a result of radiation exposure. Also known as the "biological dose," the dose equivalent is calculated as the product of absorbed dose in tissue multiplied by a quality factor and then sometimes multiplied by other necessary modifying factors at the location of interest. The dose equivalent is expressed numerically in rems or sieverts (Sv) (see 10 CFR 20.1003). For additional information, see Doses in Our Daily Lives and Measuring Radiation. [NRC]

For practical purposes, 1 R (exposure) = 1 rad (absorbed dose) = 1 rem or 1000 mrem (dose equivalent).

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Duration <<Quantity Kind>>

The abstract quantity kind of time which is the supertype of all time duration units.

Time is a measure that allows events to be ordered from the past through the present into the future, and also the measure of durations of events and the intervals between them. Durations are quantities of time, not points or intervals of time.

[DTV] base quantity of the International System of Quantities, used for measuring time intervals.

[IDEAS] Time: A MeasureInstance whose members are individuals' that have a particular temporal dimension of the same length.

[FIBO] Duration: An amount of time.

[UML] Duration

[OWL] xsd:duration

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb)

## Class Electric Current <<Quantity Kind>>

The abstract quantity kind of electric current which is the supertype of all current units.

[QUDT]Electric Current is the flow (movement) of electric charge. The amount of electric current through some surface, e.g., a section through a copper conductor, is defined as the amount of electric charge flowing through that surface over time. Current is a scalar-valued quantity.

The SI unit for measuring an electric current is the ampere, which is the flow of electric charge across a surface at the rate of one coulomb per second.

[IDEAS] ElectricCurrent: A MeasureInstance whose members are individuals' that all have the same electric current flowing through them

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Electric Potential <<Quantity Kind>>

[QUDT] Electric Potential is a scalar valued quantity associated with an electric field.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Energy <<Quantity Kind>>

The measure of energy- the ability to perform work (such as moving a mass).

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Force <<Quantity Kind>>

(Physical) force is an influence that causes mass to accelerate. It may be experienced as a lift, a push, or a pull.

Force is defined by Newton's Second Law as F = m · a, where F is force, m is mass and a is acceleration. Net force is mathematically equal to the time rate of change of the momentum of the body on which it acts. Since momentum is a vector quantity (has both a magnitude and direction).

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Frequency <<Quantity Kind>>

Repetitions per unit of time. e.g., Hertz.

[IDEAS] Frequency: A MeasureInstance whose instances are individuals' that all oscillate at the same frequency

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Length <<Quantity Kind>>

The abstract unit of distance (or length) which is the supertype of all length units and also acts as its "quantity kind".

In the International System of Quantities, length is any quantity with dimension distance. In other contexts "length" is the measured dimension of an object.

[IDEAS] Length: A MeasureInstance whose instances are individuals' that all have the same length

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Luminosity <<Quantity Kind>>

Luminosity ( or luminous intensity ) is a measure of the wavelength-weighted power emitted by a light source in a particular direction per unit solid angle, based on the luminosity function, a standardized model of the sensitivity of the human eye. The SI unit of luminous intensity is the candela (cd), an SI base unit.

[IDEAS] LuminousIntensity: A MeasureInstance whose members are individuals' that all have the same luminous intensity

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Mass <<Quantity Kind>>

The abstract unit of Mass which is the supertype of all mass units and also acts as its "quantity kind".

The mass of a body is a measure of its inertial property or how much matter it contains. The weight of a body is a measure of the force exerted on it by gravity or the force needed to support it. Gravity on earth gives a body a downward acceleration of about 9.8 m/s2.The SI unit of mass is the kilogram (kg).

[IDEAS] Mass: A MeasureInstance whose members are individuals' that all have the same mass.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Mass Density <<Quantity Kind>>

The density, or more precisely, the volumetric mass density, of a substance is its mass per unit volume. The symbol most often used for density is ρ (the lower case Greek letter rho). Mathematically, density is defined as mass divided by volume.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Physical Quantity <<Quantity Kind>>

A measurable property of a physical object.

Direct Supertypes

[Unit Value](#_e79a8c8e0284d51d332531e5a63c1e6c)

## Class Power <<Quantity Kind>>

(Physical) power is the rate at which work is performed or energy is transmitted, or the amount of energy required or expended for a given unit of time. As a rate of change of work done or the energy of a subsystem, power is: P = W/t where P is power W is work t is time.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb)

## Class Pressure <<Quantity Kind>>

A quantity kind representing the continuous physical force exerted on or against an object by something in contact with it.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Radiation Exposure <<Quantity Kind>>

A measure of exposure to radiation.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Radioactivity <<Quantity Kind>>

Radioactivity is a quantity kind that refers to the amount of ionizing radiation released by a material. Whether it emits alpha or beta particles, gamma rays, x-rays, or neutrons, a quantity of radioactive material is expressed in terms of its radioactivity (or simply its activity), which represents how many atoms in the material decay in a given time period. The units of measure for radioactivity are the curie (Ci) and Becquerel (Bq).

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Speed <<Quantity Kind>>

A Quantity kind representing distance per unit of time.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Temperature <<Quantity Kind>>

The abstract quantity kind of Thermodynamic temperature which is the supertype of all temperature units and also acts as its "quantity kind".

Thermodynamic temperature is the absolute measure of temperature and it is one of the principal parameters of thermodynamics.

Thermodynamic temperature is defined by the third law of thermodynamics in which the theoretically lowest temperature is the null or zero point.

[IDEAS] ThermodynamicTemperature:

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Volume <<Quantity Kind>>

A quantity kind for the amount of space that a substance or object occupies.

Direct Supertypes

[Physical Quantity](#_d1a943a552f39fcae6a3b9f5b1743bdb), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

# OnticHealthGeneric::Quantities and Units::Units

A package of common SI and U.S. Units. Note: All measures in concrete models should be bound to the expected units, even if units are implicit in the data structure.

This package is non-normative in the threat and risk specification. It is supplied to assist users in defining the units used in data structures.

## Diagram: Common Units 1



1. Common Units 1

An amount of time.

## Diagram: Common Units 2



1. Common Units 2

## Class Acre <<Unit Value>>

1 acre = 43 560 square feet.

Direct Supertypes

[Area](#_14f1c14b43c491b4da145162055cce16)

## Class Ampere <<Base Unit Value>>

[NIST-SI] The ampere is that constant current which, if maintained in two straight parallel conductors of infinite length, of negligible circular cross-section, and placed 1 meter apart in a vacuum, would produce between these conductors a force equal to 2 x 10-7 newton per meter of length.

[IDEAS] electricCurrentInAmperes: A measureNamedNumericallyBy that names an ElectricCurrent with its ValueInAmperes

Direct Supertypes

[Electric Current](#_175665d55793dd0222cad01c3e2d1e24)

## Class Becquerel (Bq) <<Unit Value>>

The SI unit of radioactivity, corresponding to one disintegration per second.

Direct Supertypes

[Radioactivity](#_40b8850a3a12ae7c5ca7c7f3c0afb474)

## Class Candela <<Base Unit Value>>

The candela is the luminous intensity, in a given direction, of a source that emits monochromatic radiation of frequency 540 x 1012 hertz and that has a radiant intensity in that direction of 1/683 watt per steradian.[NIST-SI]

[IDEAS] luminousIntensityInCandela: A measureNamedNumericallyBy that names a LuminousIntensity with its ValueInCandela

Direct Supertypes

[Luminosity](#_4b2d9287fe8f07079348eb965564f9c5)

## Class Celsius <<Unit Value>>

Centigrade. The temperature scale (Celsius scale) in which 0° represents the ice point and 100° the steam point of water.

Direct Supertypes

[Temperature](#_494f3688c4c43d837eb999b90a5db325)

## Class Compound Duration Value <<Unit Value>>

A value for a duration derived from the sum of primitive duration values. e.g. 2 days and 3 hours or 2016 years, 12 months and three days.

Direct Supertypes

[Duration](#_d9db3dc8aabfa0d4d5626f091381927f)

Attributes

value : [Compound Duration](#_a4556392f0c03dcfa0e9faeb5af7cefd)



## Class Concentration Percent <<Base Unit Value>>

The volume of a constituent divided by the volume of the mixture.

Direct Supertypes

[Concentration (Volume)](#_91d6550ae5606f90898f8379a9e4e563)

## Class Coulomb/kilogram (C/kg). <<Unit Value>>

Unit of radiation exposure.

Direct Supertypes

[Radiation Exposure](#_abe88bc0a91ed24edd079b2509b90912)

## Class Cubic Feet <<Unit Value>>

A volume measured in feet.

Direct Supertypes

[Volume](#_bcacb37514ebc2cbf84f71684c11d38a)

## Class Cubic Inch <<Unit Value>>

A volume measured in inches.

Direct Supertypes

[Volume](#_bcacb37514ebc2cbf84f71684c11d38a)

## Class Cubic Meter <<Base Unit Value>>

A volume measured in meters.

Direct Supertypes

[Volume](#_bcacb37514ebc2cbf84f71684c11d38a)

## Class Cup (US) <<Unit Value>>

8 Fluid Ounces (US).

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Curie (Ci) <<Base Unit Value>>

The SI unit of measure for radioactivity is the curie (Ci) and Becquerel (Bq).

Direct Supertypes

[Radioactivity](#_40b8850a3a12ae7c5ca7c7f3c0afb474)

## Class Day <<Unit Value>>

A unit of time equal to 24 hours.

[DTV] day: the precise time unit that is quantified by 86 400 seconds

[OWL] xsd:gDay

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Degrees <<Unit Value>>

A unit for an angle from 0-360.

Direct Supertypes

[Angle](#_31202bbc0993b03b18c141dc69cdf1ee)

## Class Fahrenheit <<Unit Value>>

The Fahrenheit scale in which 32° represents the ice point and 212° the steam point. of water Symbol: F.

Direct Supertypes

[Temperature](#_494f3688c4c43d837eb999b90a5db325)

## Class Fluid Ounce (US) <<Unit Value>>

A unit of volume: 16 fluid ounces = 1 pint (pt)

= 28.875 cubic inches.

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Foot <<Unit Value>>

A foot (pl. feet; abbreviation: ft; symbol: ′, the prime symbol) is a unit of length in the imperial and US customary systems of measurement. Since 1959, both units have been defined by international agreement as equivalent to 0.3048 meters exactly. In both systems, the foot comprises 12 inches and three feet compose a yard.

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Gallon (Imperial) <<Unit Value>>

A unit of volume.

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Gallon (US) <<Unit Value>>

A measure of the quantity of a substance. 1 gallon (gal) = 231 cubic inches.

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Gram <<Unit Value>>

The gram is a SI unit of mass.

Direct Supertypes

[Mass](#_eb212f1c3bf88424f9e10c9cbf0feb1d)

## Class Gray (Gy) <<Base Unit Value>>

[NRC] One of the two units used to measure the amount of radiation absorbed by an object or person, known as the "absorbed dose," which reflects the amount of energy that radioactive sources (with any type of ionizing radiation) deposit in materials (e.g., water, tissue, air) through which they pass. One gray (Gy) is the international system of units (SI) equivalent of 100 rads, which is equal to an absorbed dose of 1 Joule/kilogram. An absorbed dose of 0.01 Gy means that 1 gram of material absorbed 100 ergs of energy (a small but measurable amount) as a result of exposure to radiation.

Direct Supertypes

[Absorbed Dose (Radiation)](#_1e3b05fbfc313e756221d5a7225e0ec2)

## Class Hertz <<Base Unit Value>>

A unit of frequency. Cycles per second.

[IDEAS] frequencyInHertz: A measureNamedNumericallyBy that names a Frequency with its ValueInHertz

Direct Supertypes

[Frequency](#_4d236a66f843987219a804ef6afc523c)

## Class Horsepower <<Unit Value>>

Horsepower (hp) is a unit of measurement of power (the rate at which work is done). There are many different standards and types of horsepower. This model uses the 746 watt interpretation of horsepower.

Direct Supertypes

[Power](#_3745f124f1cc015fec7fe26151906902)

## Class Hour <<Unit Value>>

A unit of time: 60 Minutes.

[DTV] hour: the precise time unit that is quantified by '3600 seconds'

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Inch <<Unit Value>>

A unit of length.

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Joule <<Base Unit Value>>

The joule (symbol J, also called newton meter, watt second, or coulomb volt) is the SI unit of energy and work.

Direct Supertypes

[Energy](#_41055f8949448d35956d884172766a18)

## Class Kelvin <<Base Unit Value>>

[NIST-SI] The kelvin, unit of thermodynamic temperature, is the fraction 1/273.16 of the thermodynamic temperature of the triple point of water.

[IDEAS] temperatureInKelvin: A measureNamedNumericallyBy that names a ThermodynamicTemperature with its ValueInKelvin

Direct Supertypes

[Temperature](#_494f3688c4c43d837eb999b90a5db325)

## Class Kg per cubic meter <<Base Unit Value>>

The SI unit for density.

Direct Supertypes

[Mass Density](#_1ad446d565020076cf191ea45b81bc65)

## Class Kilogram <<Base Unit Value>>

[NIST-SI] The kilogram is the unit of mass; it is equal to the mass of the international prototype of the kilogram. [NIST-SI]

[IDEAS] massInKilograms: A measureNamedNumericallyBy that names a Mass with its ValueInKilograms

Direct Supertypes

[Mass](#_eb212f1c3bf88424f9e10c9cbf0feb1d)

## Class Kilogram per cubic meter <<Base Unit Value>>

The SI Unit of density.

Direct Supertypes

[Concentration (Mass)](#_7801b130982e4fe764750a243eb469e6)

## Class Kilometer <<Unit Value>>

A unit of length, the SI measure of distances equal to 1000 meters, and equivalent to 3280.8 feet or 0.621 mile.

Symbol: km.

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Kilometer per Hour <<Base Unit Value>>

The SI unit of speed

Direct Supertypes

[Speed](#_32d17f1bf390323d84647e38936e46db)

## Class Kilowatt hour <<Unit Value>>

The watt-hour (symbolized Wh) is a unit of energy equivalent to one watt (1 W) of power expended for one hour (1 h) of time.

Direct Supertypes

[Energy](#_41055f8949448d35956d884172766a18)

## Class Liquid Volume <<Quantity Kind>>

Volume of a liquid.

Direct Supertypes

[Volume](#_bcacb37514ebc2cbf84f71684c11d38a)

## Class Meter <<Base Unit Value>>

The meter is the length of the path traveled by light in vacuum during a time interval of 1/299 792 458 of a second.[NIST-SI]

The meter, (SI unit symbol: m), is the fundamental unit of length in the International System of Units (SI).

[IDEAS] lengthInMeters: A measureNamedNumericallyBy that names a Mass with its ValueInKilograms

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Meter per second squared <<Base Unit Value>>

The SI Unit of acceleration.

Direct Supertypes

[Acceleration](#_1f9cbd09db67682fc5685c4b16b5acd9)

## Class Mile <<Unit Value>>

The mile is an English unit of length standardized as exactly 1.609344 kilometers.

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Miles per Hour <<Unit Value>>

U.S. unit of speed.

Direct Supertypes

[Speed](#_32d17f1bf390323d84647e38936e46db)

## Class Millimeter <<Unit Value>>

A unit of length equal to one thousandth of a meter and equivalent to 0.03937 inch.

Abbreviation: mm.

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Millisecond <<Unit Value>>

A unit of time: 1/1000th of a second.

[DTV] millisecond

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Minute <<Unit Value>>

A unit of time: 60 seconds.

[DTV] minute : the precise time unit that is quantified by '60 seconds'

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Mole <<Base Unit Value>>

The mole is a unit of measurement used in chemistry to express amounts of a chemical substance, defined as the amount of any substance that contains as many elementary entities (e.g., atoms, molecules, ions, electrons) as there are atoms in 12 grams of pure carbon-12.

Direct Supertypes

[Amount of Substance](#_973b3cbc58736809bcd9458296b56b5b)

## Class Mole Per Cubic Meter <<Base Unit Value>>

The SI unit for amount-of-substance concentration.

Direct Supertypes

[Concentration (amount of substance)](#_afaace0898704546b1ab328dcd10d2ea)

## Class Month <<Unit Value>>

[DTV] month: the nominal time unit that is the duration of a time interval required for one rotation of the Moon in its orbit around the Earth, approximated to a number of days.

[OWL] xsd:gMonth

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Newton <<Base Unit Value>>

The SI unit of force. Equivalent to 100,000 dynes. A Newton is equal to the force that would give a mass of one kilogram an acceleration of one meter per second per second.

Direct Supertypes

[Force](#_8c62379c2bad2dd1748b4b76d86d20cc)

## Class Ounce-Mass (US) <<Unit Value>>

U.S. Unit of Ounce representing Mass.

Direct Supertypes

[Mass](#_eb212f1c3bf88424f9e10c9cbf0feb1d)

## Class Pascal <<Base Unit Value>>

The SI unit of pressure, equal to one newton per square meter (approximately 0.000145 pounds per square inch, or 9.9 × 10-6 atmospheres).

Direct Supertypes

[Pressure](#_dcef7fc7621bdfdc343069e327979d53)

## Class Pint (US) <<Unit Value>>

Unit of liquid volume: 2 pints = 1 quart (qt) = 57.75 cubic inches.

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Pound-Force <<Unit Value>>

Pound-force is equal to the gravitational force exerted on a mass of one avoirdupois pound on the surface of Earth.

Standard gravity is not constant but usually taken to be 9.80665 m/s2 (about 32.174 049 ft/s2) in the context of the surface of the earth.

Direct Supertypes

[Force](#_8c62379c2bad2dd1748b4b76d86d20cc)

## Class Pound-Mass (Imperial) <<Unit Value>>

A unit of mass that is exactly 453.59237 grams.

Direct Supertypes

[Mass](#_eb212f1c3bf88424f9e10c9cbf0feb1d)

## Class Pound-Mass (US lb) <<Unit Value>>

The pound avoirdupois, which forms the basis of the U.S. customary system of mass, is defined as exactly 453.59237 grams.

The avoirdupois pound is legally defined as a measure of mass, but the name pound is also applied to measures of force.

See also: http://www.nist.gov/pml/wmd/metric/upload/frn-59-5442-1959.pdf

Direct Supertypes

[Mass](#_eb212f1c3bf88424f9e10c9cbf0feb1d)

## Class PSI <<Unit Value>>

Unit of pounds per square inch.

Direct Supertypes

[Pressure](#_dcef7fc7621bdfdc343069e327979d53)

## Class Quart (US) <<Unit Value>>

Unit of liquid volume where 4 quarts = 1 gallon (gal) = 231 cubic inches [NIST-UNITS].

Direct Supertypes

[Liquid Volume](#_f56fb28da5401bb69f2782a7cdf24e45)

## Class Radians <<Base Unit Value>>

A unit of an angle where there are 2 PI radians in a circle.

Direct Supertypes

[Angle](#_31202bbc0993b03b18c141dc69cdf1ee)

## Class Radiation Absorbed Dose (rad) <<Unit Value>>

One of the two units used to measure the amount of radiation absorbed by an object or person, known as the “absorbed dose,” which reflects the amount of energy that radioactive sources deposit in materials through which they pass. The radiation-absorbed dose (rad) is the amount of energy (from any type of ionizing radiation) deposited in any medium (e.g., water, tissue, air). An absorbed dose of 1 rad means that 1 gram of material absorbed 100 ergs of energy (a small but measurable amount) as a result of exposure to radiation. The related international system unit is the gray (Gy), where 1 Gy is equivalent to 100 rad. For additional information, see Doses in Our Daily Lives and Measuring Radiation. [NRC]

Direct Supertypes

[Absorbed Dose (Radiation)](#_1e3b05fbfc313e756221d5a7225e0ec2)

## Class Roentgen (R) <<Base Unit Value>>

A unit of exposure to ionizing radiation. It is the amount of gamma or x-rays required to produce ions resulting in a charge of 0.000258 coulombs/kilogram of air under standard conditions. [NRC]

Direct Supertypes

[Radiation Exposure](#_abe88bc0a91ed24edd079b2509b90912)

## Class Roentgen Equivalent Man (REM) <<Unit Value>>

One of the two standard units used to measure the dose equivalent (or effective dose), which combines the amount of energy (from any type of ionizing radiation that is deposited in human tissue), along with the medical effects of the given type of radiation. For beta and gamma radiation, the dose equivalent is the same as the absorbed dose. By contrast, the dose equivalent is larger than the absorbed dose for alpha and neutron radiation, because these types of radiation are more damaging to the human body. Thus, the dose equivalent (in rems) is equal to the absorbed dose (in rads) multiplied by the quality factor of the type of radiation [see Title 10, Section 20.1004, of the Code of Federal Regulations (10 CFR 20.1004), "Units of Radiation Dose"]. The related international system unit is the sievert (Sv), where 100 rem is equivalent to 1 Sv. [NRC]

Direct Supertypes

[Dose Equivalent (Radiation)](#_a5b5e0a01a20e05d84221c1728bdba69)

## Class Scalar Duration Value <<Unit Value>>

Number and time unit together giving magnitude of a duration.

[DTV]

Definition:if the atomic duration value is a precise atomic duration value, then the time unit is the reference duration to which the ratio of the duration quantified by the atomic duration value is taken

Definition:if the atomic duration value is a nominal atomic duration value, then the time unit is the reference duration to which the ratio of exactly one element of the duration value set specified by the atomic duration value is taken

Example:“45 minutes” has the time unit ‘minute’



1. Scalar Duration Value

Direct Supertypes

[Duration](#_d9db3dc8aabfa0d4d5626f091381927f), [Scalar Quantity](#_41b700dd2a5b4e5f06052735d0098d00)

## Class Second <<Base Unit Value>>

[NIST-SI] The second (symbol: s) is the base unit of time in the International System of Units (SI) and is also a unit of time in other systems of measurement (abbreviated s or sec); it is the second division of the hour by sixty, the first division by 60 being the minute.

[DTV] second: The second is the duration of 9 192 631 770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the cesium 133 atom.

[IDEAS] Second: A measureNamedNumericallyBy that names a Time with its ValueInSeconds

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

## Class Sievert (Sv), <<Base Unit Value>>

The international system (SI) unit for dose equivalent equal to 1 Joule/kilogram. 1 sievert = 100 rem. Named for physicist Rolf Sievert.

Direct Supertypes

[Dose Equivalent (Radiation)](#_a5b5e0a01a20e05d84221c1728bdba69)

## Class Square Feet <<Unit Value>>

Area measured in feet.

Direct Supertypes

[Area](#_14f1c14b43c491b4da145162055cce16)

## Class Square Meter <<Base Unit Value>>

Area measured in SI meters.

Direct Supertypes

[Area](#_14f1c14b43c491b4da145162055cce16)

## Class Volt <<Base Unit Value>>

The SI unit of electromotive force, the difference of potential that would drive one ampere of current against one ohm resistance.

Direct Supertypes

[Electric Potential](#_036ecb2e939a2ff6a872bc81e1a868e1)

## Class Watt <<Base Unit Value>>

The SI unit of power is the joule per second (J/s).

Direct Supertypes

[Power](#_3745f124f1cc015fec7fe26151906902)

## Class Yard <<Unit Value>>

A Unit of length equal to 3 feet.[NIST-UNITS]

Direct Supertypes

[Length](#_f656aa6b144fc8f9a9295af8a4eef943)

## Class Year <<Unit Value>>

The period of 365 days (or 366 days in leap years) starting from the first of January, used for reckoning time in ordinary affairs.

[DTV] year: the nominal time unit that is the duration of a time interval required for one revolution of the Earth around the Sun, approximated to an integral number of days

[OWL] xsd:gYear

Direct Supertypes

[Scalar Duration Value](#_48f07627e1ed98952166a877f1135130)

# OnticHealthGeneric::Situation Types

## Diagram: Situation Types



1. Situation Types

## Class Benchmark

A benchmark is a situation type for comparison against expected patterns or values.

Direct Supertypes

[Situation Type](#_460fc5a0315bc39cd213060d285f174d)

## Class Composit Situation Type

A composite situation type is a Situation Definition that uses (synthesizes) other situation definitions as its parts. [Reenskaug 1995] Collaboration

Direct Supertypes

[Situation Definition](#_f21c7abdc68fa63d9dc4f06c07b41b90)

Associations

<<Restriction>> : [Composite Situation](#_da8a7f19b213bc45135308f87c3c6eac) [0..\*] *Redefines*: categorizes:[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



## Class Repeditive Situation

a situation that repeats. Repetitive is a "mixin" class, any situation may be repetitive unless otherwise restricted.

Direct Supertypes

[Situation Type](#_460fc5a0315bc39cd213060d285f174d)

Attributes

has repetition frequency : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f)



how often each actual repetition should happen

has repetition separation : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f)



time between actual situations

has repetition duration : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f)



how long each repetition should last

has repetition count : [Count](#_d986f3c81ec545f01797ac6470312c45)



number of times the situation should repeat

Associations

repeats : [Situation Type](#_460fc5a0315bc39cd213060d285f174d) [0..\*] *Subsets*: has supertype:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



situation type that is repeated (if any)

## Association Class Role Derivation

A role derivation "synthesizes" a base role into a role within the context of a situation use based on the synthesis pattern described in

[Reenskaug 1995] Derived Role Constraint.

[UML] Role binding

Direct Supertypes

[Generalization](#_04fbe52e2a644abb0c90c057b1310d22)

Association Ends

has derived role : [Role Type](#_6ca2e7a77a8cd8f2f3f4ed71887d2721) [0..\*] *Subsets*: has supertype:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



role that is defined as being a subtype of a base role

has base role : [Role Type](#_6ca2e7a77a8cd8f2f3f4ed71887d2721) [0..\*] *Subsets*: has supertype:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



role that will supertype of derived role and synthesized into the composite pattern.

Associations

derived in : [Situation Use](#_f5c089f092568df3588ee617709eac10) [1]



roles defined as meaningful within the situation type

## Class Role Type

A role type is a facet type that defines a specific purpose or behavior of a class of things. E.g. teacher, policeman, or employer.

[Reenskaug 1995] Role

[FIBO] Role. Note that partyInRole or thingInRole are implied by classification of a thing.

Direct Supertypes

[Facet Type](#_b66933481bbd493f7b05e550e94de306)

Associations

<<Restriction>> : [Role](#_eb9719483c5285d39be117ca681afa25) [0..\*] *Subsets*: categorizes:[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



defined in : [Situation Definition](#_f21c7abdc68fa63d9dc4f06c07b41b90) [1..\*]



definition is which the role is defined

has derived role : [Situation Definition](#_f21c7abdc68fa63d9dc4f06c07b41b90) [1..\*]



*through association:* [Role Derivation](#_1e0aea6093fab8728ae5e7b0ae9001ea)

role that is defined as being a subtype of a base role

has base role : [Situation Definition](#_f21c7abdc68fa63d9dc4f06c07b41b90) [1..\*]



*through association:* [Role Derivation](#_1e0aea6093fab8728ae5e7b0ae9001ea)

role that will supertype of derived role and synthesized into the composite pattern.

## Class Situation Definition

A Situation Definition is a kind of Situation Type that defines roles and constraints describing situations. A situation definition is also a situation in that it has a lifetime and may involve Roles to bind individuals playing roles to situation definitions.

Direct Supertypes

[Situation Type](#_460fc5a0315bc39cd213060d285f174d)

Associations

defines : [Role Type](#_6ca2e7a77a8cd8f2f3f4ed71887d2721) [\*]



## Class Situation Type

A situation type defines a kind of identifiable arrangement of individuals, assertions and the relations between them over a timespan.

[DTV] situation kind: state of affairs that may or may not happen in some possible world

[Barrwise 1999] Situation Type

Direct Supertypes

[Identifiable Property Owner](#_800914a6d3a2125b2088944b17382f37), [Identifiable Type](#_1c92ae371f6075c6031e3d53d4149bfb), [Identifiable Type](#_1c92ae371f6075c6031e3d53d4149bfb), [Lexical Context](#_077942895c005b1ba5dd5f7ae8318551), [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

## Class Situation Use

Situation use is a kind of role type that uses another situation type within a defining composite situation type based on the synthesis pattern described in [Reenskaug 1995] (Synthesis).

Direct Supertypes

[Role Type](#_6ca2e7a77a8cd8f2f3f4ed71887d2721)

Associations

: [Composit Situation Type](#_6dbc8ef021a7ce62ea598f4c125ccc90) [1] *Redefines*: defined in:[Situation Definition](#_f21c7abdc68fa63d9dc4f06c07b41b90)



has role derivation : [Role Derivation](#_1e0aea6093fab8728ae5e7b0ae9001ea) [\*]



a role derived from a situation that is used by a composite situation.

# OnticHealthGeneric::Situations

## Diagram: Situation Partitions



1. Situation Partitions

## Diagram: Situation Temporal



1. Situation Temporal

## Diagram: Situation Top



1. Situation Top

## Class Actual Situation

An actual situation is an individual (particular) situation that actually exists, happened in the past or may exist in some possible world, not a template or process definition. Such situations must exist for a time interval, however there are no constraints on such a time interval - from an instant to the life of the universe.

DTV: Occurrence: state of affairs that is a happening in the universe of discourse



1. Actual Situation

Direct Supertypes

[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06), [Temporal Entity](#_d3fc2d6158592a91ddf94dcf7708ef49)

## Association Class Cause and Effect

The causality relation where the <causes> situation is <caused by> a situation.

[FIBO] cause / caused by

[ISO 1087] causal relation: associative relation (3.2.23) involving cause and its effect

NOTE A causal relation exists between the concepts (3.2.1) 'action' and 'reaction', 'nuclear explosion' and 'fall-out'.



1. Cause and Effect

Direct Supertypes

[Enablement](#_8242d08ee2b5cadfcc8b16e2e518184a)

Association Ends

caused by : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [\*]



One of situations that causes the subject situation.

casuses : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [\*]



A situation caused by another.

## Class Discreet Thing

A discreet thing is an identifiable thing that may be the subject of temporal relationships but does not inherently include those relationships.

[Devlin] Individual

[Barwise 1999] Uniformity

Direct Supertypes

[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)

## Association Class Effect

Any impact on or alteration of an entity by a situation - an effect of the situation.



1. Effect

Direct Supertypes

[Impact](#_9db7850b79021b7eb6ddf87616ee9f9e)

Association Ends

affects : [Identifiable Thing](#_aa050de8310b74df540d7772f2579de8) [\*]



Entities affected by a action

affected by : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [\*]



Actions that can cause some change in a related entity.

## Association Class Enablement

A situation that enables (is a condition for), another.



1. Enablement

Direct Supertypes

[Effect](#_d73e4ebdfd2444629d07f65820eda0ab), [Impact](#_9db7850b79021b7eb6ddf87616ee9f9e)

Association Ends

enables : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [\*]



A situation that is enabled by another.

enabled by : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [\*]



A situation that enables another.

## Class Epistemic Situation

A Epistemic Situation is kind of situation where that situation is about, or focused on, another situation as its topic.

[Hutchins, Searle] Aboutness

Direct Supertypes

[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

Attributes

is negated : [Boolean](#_6119a00b0834641b9fe3f5ae9f58237f) [0..1]



is negated inverts the truth value of the statement.

## Association Class Indication

Association Ends

is indicated by : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [0..\*]



indicates : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [0..\*]



## Association Class Negation Effect

The negative causality relationship - <negated by> prevents or terminates the <negates> situation.



1. Negation

Direct Supertypes

[Effect](#_d73e4ebdfd2444629d07f65820eda0ab), [Negation](#_8641ea2fcd35dd7363f15c022feb9db1)

Association Ends

negated by : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [0..\*]



A situation that prevents or terminates another.

negates : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [0..\*]



A situation that is prevented or terminated by another situation.

## Class Ontic Situation

An Ontic situation is an ontological situation, representing things in the world - past, present, or future.

Direct Supertypes

[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

## Class Participant <<Role>>

a participant is a role of an actor involved in a situation.

Direct Supertypes

[Actor](#_366e70bab7ea3da37cb039e7a6b88ae2), [Role](#_eb9719483c5285d39be117ca681afa25)

Associations

holds : [Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b) [\*]



## Class Relationship

A relationship is a material atomic situation involving related things that are not part of the relationship. A relationship may be asserted within a context as true or false within that context. Each relationship type has a number of bindings of which do not change for the life of the relationship..

A relationship may be true or false within its context (including a timeframe) but is atomic in its truth value.

Relationships may participate in (be bound to) other relationships and as such bindings involving a relationship may change over time. That is, relationships are "first class" objects.

[IDEAS] tuple: A relationship between two or more things.

Note: SMIF allows one end of a relationship.

[Devlin] Relation

Direct Supertypes

[Actual Entity](#_bab16f734f2dacc51c5f66e15031a455), [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

## Class Role <<Role>>

a role is a facet of an identifiable thing involved in one or more situations.

[FIBO] Thing in role.

[SOWA 1999] Relative thing

Direct Supertypes

[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)

Associations

involved in : [Situation](#_0a2767712bb9a7ff9e4b2313d0312b06) [1..\*] *Subsets*: in context of:[Context](#_03a263ab0765501d19eb2e8b9bcb2c2b)



<<Restriction>> : [Role Type](#_6ca2e7a77a8cd8f2f3f4ed71887d2721) [1..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



is played by : [Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



## Class Situation

A situation is an identifiable entity composed of an arrangement of entities and the relations between them over a time interval. Situations are may be asserted as true or false in some context. Situations may change over time, unless otherwise constrained. As an identifiable entity, situations may participate in relationships, thus situations are "first class" elements.

[SBVR] "State of affairs"

[SOWA1999] Nexus

[Barwise 1999] Situation

[Devlin] Situation with corresponding infon(s).

Direct Supertypes

[Context](#_03a263ab0765501d19eb2e8b9bcb2c2b), [Context](#_03a263ab0765501d19eb2e8b9bcb2c2b), [Lexical Context](#_077942895c005b1ba5dd5f7ae8318551), [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)

Associations

involves : [Role](#_eb9719483c5285d39be117ca681afa25) [1..\*] *Subsets*: contextualizes:[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



is indicated by : [Role](#_eb9719483c5285d39be117ca681afa25) [1..\*] *Subsets*: contextualizes:[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



*through association:* [Indication](#_fcc11a9dc1437d5328e52da27a371dc0)

indicates : [Role](#_eb9719483c5285d39be117ca681afa25) [1..\*] *Subsets*: contextualizes:[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)



*through association:* [Indication](#_fcc11a9dc1437d5328e52da27a371dc0)

is subject of position : [Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b) [0..\*] *Subsets*: subject of:[Epistemic Situation](#_7bb78623f2206d68297626d4bf4a41e1)



## Class State

A state is a static situation - a particular configuration of entities that is static for a time period, including spatial and logical connections between those things {Snapshot of a Perdurant}

Note that states may be of any length, from an instant to infinity and beyond.

[DOLCE] State

Direct Supertypes

[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)

## Association State of Entity

Relationship between a perdurant (something that exits over time) and a "state" of that entity as a snapshot in time.

Association Ends

state of : [Identifiable Thing](#_aa050de8310b74df540d7772f2579de8) [\*] *Subsets*: subject of:[Epistemic Situation](#_7bb78623f2206d68297626d4bf4a41e1)



The endurant entity for which the subject state is a snapshot.

has state : [State](#_2f02569bb8334e33923ced03f32e144d) [\*] *Subsets*: subject of:[Epistemic Situation](#_7bb78623f2206d68297626d4bf4a41e1)



A states (or snapshots) of an entity within its lifetime.

# OnticHealthGeneric::Statements

## Diagram: Statement Classification



1. Statement Classification

## Diagram: Statements



1. Statements

## Class Assertive Statement

Statement that commit an author to the truth of the expressed <is about> situation.

[Searle] assertives

Direct Supertypes

[Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Author <<Role>>

An author is a kind of performer that makes statements about situations.

Direct Supertypes

[Participant](#_b4401436185956a165d3b9d8de6c6b8f)

Associations

states : [Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7) [1..\*]



## Class Commissive Statement

Statements that commit a speaker to some future action as represented by the <is about> situation, e.g. promises and oaths.

[Searle] commissives

Direct Supertypes

[Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Declaritive Statement

Statements that change the reality in accord with the proposition of the <is about> situation, e.g. baptisms, pronouncing someone guilty or pronouncing someone husband and wife

[Searle] declarations

Direct Supertypes

[Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Directive Statement

Statements that are to cause the hearer to take a particular <is about> action, e.g. requests, commands and advice

[Searle] directives

Direct Supertypes

[Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Expressive Statement

Statements that express on the author's attitudes and emotions towards the situation, e.g. congratulations, excuses and thanks.

[Searle] expressives

Direct Supertypes

[Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Interrogative Statement

An interrogative is a directive statement that asks a question or asks for information.

Direct Supertypes

[Directive Statement](#_38584d141bc77ebce58a2020075296e2)

## Class Listener <<Role>>

A Listener is a kind of performer that receives statements from authors in the form of utterances.

Direct Supertypes

[Participant](#_b4401436185956a165d3b9d8de6c6b8f)

Associations

is informed by : [Utterance](#_a6a265bb9d1507e5da6b000c1fb84cd8) [1..\*]



## Class Record

A record is a statement about one or more situations preserved in some form of information storage including but not limited to paper records, computer records, drawings on cave walls, and human memory.

Direct Supertypes

[State](#_2f02569bb8334e33923ced03f32e144d), [Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

## Class Statement

a statement is a kind of Epistemic Situation representing the communication or recording of an author's intention concerning a situation.

[BFO] Representational artifact

Direct Supertypes

[Epistemic Situation](#_7bb78623f2206d68297626d4bf4a41e1)

Associations

stated by : [Author](#_fecbf5a879151644debab027c40e65ff) [1..\*]



## Class Utterance

An utterance situation is a statement with the immediate context of an author transmitting information to a listener.

[Devlin] Utterance situation

[Searle] Speech Act

Direct Supertypes

[Occurrence](#_799617cb54756b9414625779f3b740cc), [Statement](#_aeac27b52eb8ed815c3bd1d6d75780f7)

Associations

informs : [Listener](#_70824a99584a93cf8226b445c8386af6) [1..\*]



# OnticHealthGeneric::Time & Temporal Entities

The Time package defines the essential concepts of time and the identification of time intervals.

These time concepts are based on the OMG Date Time Vocabulary [DTV] standard but subsets and simplifies DTV for use in defining, federating and exchanging time aspects of entities.

"Temporal Entity" is introduced as an abstraction to capture the common relationships between time elements. Within DTV these relationships are separate for each kind of time element. The relationships defined for Temporal Entity are grounded in DTV Time Interval as each temporal entity exists for a time interval.

Applications that need to reason about time are encouraged to utilize the full DTV semantics. DTV also contains text that more fully elaborates time concepts.

## Diagram: Time



1. Time

## Class Date and Time <<Quantity Kind>>

[FIBO] DateTimeStamp: A DateTimeStamp combines a Date, a time, and a time

Direct Supertypes

[Date Coordinate](#_2d5fde44ab0ed517279bdd55e95bc495), [Time Coordinate](#_1cc3170d7118a3fd5974788c5641e377)

## Class Date Coordinate <<Quantity Kind>>

[FIBO] Date: A Date identifies a calendar day on some calendar.

[NIEM] DateType

Direct Supertypes

[Time Coordinate](#_d96727064322aeaf623efa62de82423f)

## Association Duration of Region

[DTV] time interval [of temporal entity] has particular duration:the particular duration is the duration that is the amount of time in the time interval.

Each time interval [Temporal Entity] has a unique duration attribute that is a measure of its size, i.e., the amount of time the time interval occupies. This attribute is mathematically a function that maps time intervals into durations. This mapping function is sometimes called the “range” of a time interval, and some times called the “measure” of a time interval.

Association Ends

duration of : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



Temporal entity for which a duration is applicable.

has duration : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f) [1]



Difference between the start and end time. A non-zero positive value representing the amount of time a temporal entity exists.

[DTV] time interval [of temporal entity] has particular duration:the particular duration is the duration that is the amount of time in the time interval.

Each time interval [Temporal Entity] has a unique duration attribute that is a measure of its size, i.e., the amount of time the time interval occupies. This attribute is mathematically a function that maps time intervals into durations. This mapping function is sometimes called the “range” of a time interval, and some times called the “measure” of a time interval.

## Association Entity Exists for Interval

Relationship defining the time interval in which an entity actually exists.

[DTV] occurrence occurs for occurrence interval: the occurrence occurs throughout the occurrence interval and the occurrence does not occur within some time interval2 that meets the occurrence interval and the occurrence does not occur within some time interval3 that is met by the

occurrence interval

[Alen 1983] X is equal to Y: X = Y where X is "interval of" and Y is "exists for". Note that this relates the temporal aspect of "interval of" to the timeframe "exists for".



1. Entity Exists for Interval

Direct Supertypes

[Overlaps in Time](#_5302ce2c2bcca65738f276606d83b239)

Association Ends

exists for : [Time Interval](#_847d9c073151df72393d9739dfa87bee) [1]



Time interval where an entity may be considered "actual", that is existent in the domain of discourse.

interval of : [Actual Situation](#_9cd852c0e87e03590c79a63151bf9a8e) [\*]



Entity existent for the full extent of a time interval.

## Association Finish

The time something no longer exists (inclusive).

[DTV] time interval1 finishes time interval2

Synonymous Form:time interval2 is finished by time interval1

Definition:time interval1 is a proper part of time interval2 and there exists no time interval3 that is a proper part of time interval2 and that is after time interval1

[IDEAS] endBoundary: A temporalBoundary where the boundary is a end boundary of the whole.

[Alen 1983] X finishes Y: X f Y where X is "finishes at" and Y is "finish of"



1. Finish Time

Direct Supertypes

[Overlaps in Time](#_5302ce2c2bcca65738f276606d83b239)

Association Ends

finish of : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



Thing which no longer exists at a particular time.

finishes at : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [0..1]



Time something no longer exists. (Inclusive)

## Association Overlaps in Time

Some or all parts of the related temporal entities exist at the same time. Note that "to" and "from" may be arbitrary. By convention, the containing or prior temporal entity is "from".

[DTV] time interval1 properly overlaps time interval2

An [ISO 1087] temporal relation: sequential relation (3.2.24) involving events in time

[DOLCE] (subtype of) Temporal Quality

[Alen] X overlaps with Y: X o Y, where assignment of X and Y is arbitrary.



1. Overlaps in Time

Association Ends

overlaps from : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



An overlapping temporal component.

overlaps to : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



An overlapping temporal component.

## Association Start

The time something starts to exist (inclusive).

[DTV] time interval1 starts time interval2

Synonymous Form:time interval2 is started by time interval1

Definition:time interval1 is a proper part of time interval2 and there exists no time interval3 that is a proper part of time interval2 and that is before time interval1.

[IDEAS] startBoundary: A temporalBoundary where the boundary is a start boundary of the whole.

[Alen 1983] X starts Y: X s Y where X is "starts at" and Y is "start of".



1. Start Time

Direct Supertypes

[Overlaps in Time](#_5302ce2c2bcca65738f276606d83b239)

Association Ends

start of : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



Thing which begins to exist at a particular time.

starts at : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [0..1]



Time somethings begins to exist. (inclusive).

[FIBO] hasStartDate

## Class Temporal Composite <<Role>>

Direct Supertypes

[Composite](#_22543a68d14e5d05f70a9a8fad141809), [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)

## Class Temporal Entity

An actual entity existing for a duration in time.

Direct Supertypes

[Actual Entity](#_bab16f734f2dacc51c5f66e15031a455), [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)

## Association Temporal Order

A relationship representing ordering of temporal entities in time where the <starts at> of <is after> is greater than or equal to the <finishes at> of <is before>. Related things do not overlap in time.

[DOLCE] (subtype of) Temporal Quality

[DTV] "time interval1 is properly before time interval2": the time interval1 is before the time interval2 and the time interval1 is before a time interval3 and the time interval3 is before the time interval2

[DTV] time interval1 finishes duration after time interval2: The end of one time interval is duration after the end of the other time interval.

[IDEAS] beforeAfter: A couple that asserts one individuals' temporal extent is completely before the temporal extent of another.

An [ISO 1087] temporal relation: sequential relation (3.2.24) involving events in time

[Alen1983] X takes place before Y: X<Y where X is "is before" and Y is "is after".



1. Temporal Order

Association Ends

is after : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



A temporal entity that starts after the <is before> entity ends.

is before : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



A temporal entity that ends after the <is after> entity starts.

## Association Class Temporal Part

The time interval of <has temporal part> is within the time interval of <happens durring>.

[DTV] time interval1 is proper part of time interval2: the time interval1 is a proper part of the time interval2 and a time interval3 is a proper part of the time interval2 and a time interval4 is a proper part of the time interval2 and the time interval3 is before the time interval1 and the time interval1 is before the time interval4.

[IDAS] temporalWholePart: A wholePart that asserts the spatial extent of the (whole) individual is co-extensive with the spatial extent of the (part) individual for a particular period of time.

[Alen 1983] X during Y: Xd Y where X is "happens during" and Y is "has temporal part"



1. Temporal Part

Direct Supertypes

[Overlaps in Time](#_5302ce2c2bcca65738f276606d83b239), [Parthood](#_3b55ca0bfe97c75cd907e6e1d64153ff)

Association Ends

happens during : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [\*]



A situation with overlapping duration (overlapping temporal extent).

has temporal part : [Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b) [1..\*]



Sub-durations of anything that happen - a temporal part.

## Class Temporal Region

A temporal region is anything that has a timespan. Temporal regions may have temporal relationships with other temporal regions. Temporal regions may be identifiable or values.

[SOWA1999] Continuant

[Devlin] Temporal Location



1. Temporal Entity Detail

Direct Supertypes

[Thing](#_6fc933c79c6038a48c8d9b3700b64dca)

Associations

occurres at : [Time Point](#_fb11adf0086d81f73057dcfbd6b13592) [0..1]



## Class Time Coordinate <<Quantity Kind>>

A designation of a particular time.

Direct Supertypes

[Time Coordinate](#_d96727064322aeaf623efa62de82423f)

## Class Time Interval <<Value>>

A time interval is a temporal region and a value that is only segment of time and may have a value representation.

[DTV] "time interval" : segment of the time axis, a location in time.

Note:Every time interval has a beginning, an end, and a duration, even if not known. Every time interval is “finite”, a bounded segment of the Time Axis. The beginning or end of a

time interval may be defined by reference to events that occur for a time interval that is not known.

Note:Time intervals may be ‘indefinite’, meaning that their beginning is ‘primordiality’ or their end is ‘perpetuity’, or both (‘eternity’). This vocabulary assumes that indefinite

time intervals exist and have some duration, but their duration is unknown.

[IDEAS] PeriodOrInstant: An Individual whose spatial extent is infinite, but whose temporal extent is finite or zero.

[UML] TimeInterval

[NIEM] DateRangeType

[DOLCE] Temporal Region

Direct Supertypes

[Temporal Region](#_b87220c15e78dfc2d4cd72af2f73475b)

## Class Time Point <<Value>>

A time point is a time interval deemed atomic on a time scale. As all points in time may be further subdivided into a finer granularity of time, each point in time is also a time interval on some other scale.

The duration of a time point is the same as the granularity of the time scale of the time point.

[DTV] time point: concept that specializes the concept 'time interval' and that is a member of a time scale.

[IDEAS] CalendarPeriod: A Period that corresponds to a recognized date or time.

Direct Supertypes

[Time Interval](#_847d9c073151df72393d9739dfa87bee)

## Class Time Scale

A time scale is a way to reckon time as a series of consecutive time points identified by time coordinates. e.g. Time scale defined by the Gregorian calendar.

[DTV] time scale: regular sequence that each member of the regular sequence is a time point

Direct Supertypes

[Coordinate System](#_ee5cb923fd568e5634bc03fa1f74e5b0)

## Association Time Scale Granularity

[DTV] Time scale has granularity: The granularity of the time scale is the duration of the time points of the time scale.

Association Ends

has granularity : [Duration](#_d9db3dc8aabfa0d4d5626f091381927f) [1]



[DTV] the smallest duration that can be distinguished with a given time scale

granularity of : [Time Scale](#_53b256c5c68c8917b4207b98b64d88ca) [\*]



Duration of each time point on a time scale.

## Association Time Scale of Time Point

Relationship defining the time scale on which a time point is defined. e.g. December 7th, 1944 is defined on a Gregorian Calendar time scale.

Association Ends

time point on : [Time Scale](#_53b256c5c68c8917b4207b98b64d88ca) [1]



Time scale used for defining a time point.

[DTV] time scale has time point:

has member time Point : [Time Point](#_fb11adf0086d81f73057dcfbd6b13592) [1..\*]



Time point defined within a time scale

# OnticHealthGeneric::Time & Temporal Entities::ISO Time Scale

## Diagram: ISO Time



1. ISO Time

## Class 30 am 2020-01-03 : Date Time Coordinate (ISO 8601) <<Unit Value>>

[UAF] A date and time specified in the ISO8601 date-time format including timezone designator (TZD): YYYY-MM-DDThh:mm:ssTZD.

Direct Supertypes

[Date and Time](#_9e136664e929069561948aa890722f71)

Attributes

value : [Coded Numeric](#_bc4edf69d16276d3d101225bfc28b77e)



A text string representing a date and time specified in the ISO8601 date-time format including timezone designator (TZD): YYYY-MM-DDThh:mm:ssTZD.

# OnticHealthGeneric::Time & Temporal Entities::XSD Time Scale

XSD Representations of date and time

## Diagram: XSD Time Scale



1. XSD Time Scale

## Class XSD Date <<Unit Value>>

An XSD representation of a date

[OWL] xsd:date.

Direct Supertypes

[Date Coordinate](#_2d5fde44ab0ed517279bdd55e95bc495)

Attributes

value : [Coded Numeric](#_bc4edf69d16276d3d101225bfc28b77e)



A text string representing a date and time specified in the ISO8601 date-time format including timezone designator (TZD): YYYY-MM-DDThh:mm:ssTZD.

## Class XSD Date Time <<Unit Value>>

An XSD representation of a date and time

[OWL] xsd:dateTime

Direct Supertypes

[Date and Time](#_9e136664e929069561948aa890722f71)

Attributes

value : [Coded Numeric](#_bc4edf69d16276d3d101225bfc28b77e)



A text string representing a date and time specified in the ISO8601 date-time format including timezone designator (TZD): YYYY-MM-DDThh:mm:ssTZD.

## Class XSD Time <<Unit Value>>

An XSD representation of a time

[OWL] xsd:time

Direct Supertypes

[Time Coordinate](#_1cc3170d7118a3fd5974788c5641e377)

Attributes

value : [Coded Numeric](#_bc4edf69d16276d3d101225bfc28b77e)



A text string representing a date and time specified in the ISO8601 date-time format including timezone designator (TZD): YYYY-MM-DDThh:mm:ssTZD.

# OnticHealthGeneric::Top level

## Diagram: Context



1. Context

## Diagram: Types



1. Types

# OnticHealthSpecific::Clinical Situation

## Diagram: Clinical Situation



1. Clinical Situation

## Class Clinical Assessment Activity

Direct Supertypes

[Encounter](#_98317c83ded585d1efada85722619f40)

Associations

has finding : [Ontic Situation](#_3b6dc697de97ce073daecd87bcd5dcaa) [0..\*] *Subsets*: produces:[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)



*through association:* [finding](#_a4ff59b73d6c405ebc66db95e56bd62b)

## Class Clinical Intervention Activity

Direct Supertypes

[Encounter](#_98317c83ded585d1efada85722619f40)

Associations

has associated procedure : [Process Type](#_5487051b001a4ba42a2bbbc1c5887b66) [1..\*] *Subsets*: has type:[Type](#_4f4ad21bf676d3e6a5c0f355d83345e1)



## Class Clinical Observation Activity

Direct Supertypes

[Clinical Assessment Activity](#_4df1eb4c529ef158aa753e03366b2586), [Observation Activity](#_dee615f9e44d1e2052d3573f6f1fc7b8)

## Class Clinical Situation

a situation involving some process of healthcare.

Direct Supertypes

[Ontic Situation](#_3b6dc697de97ce073daecd87bcd5dcaa)

Associations

has care subject : [Subject](#_877fa92540aaa8dbdfdc4e8b15959440) [1..\*] *Subsets*: involves:[Role](#_eb9719483c5285d39be117ca681afa25)



## Class Consult

Direct Supertypes

[Clinical Assessment Activity](#_4df1eb4c529ef158aa753e03366b2586)

## Class Dosage Form

Direct Supertypes

[Discreet Thing](#_6ef1dbf4983daf69e5425cbaf8e11659)

## Class Encounter

Direct Supertypes

[Activity](#_7b140b32efd980b218435cbb95798380), [Clinical Situation](#_c5f03055257800e6efe75023a75bdd7a)

## Association finding

Association Ends

has finding : [Ontic Situation](#_3b6dc697de97ce073daecd87bcd5dcaa) [0..\*] *Subsets*: involves:[Role](#_eb9719483c5285d39be117ca681afa25)



found by : [Clinical Assessment Activity](#_4df1eb4c529ef158aa753e03366b2586) [0..\*] *Subsets*: involves:[Role](#_eb9719483c5285d39be117ca681afa25)



## Class Infered Observation Activity

Direct Supertypes

[Clinical Observation Activity](#_091f5e6f79068321bbbd789b505b0887)

## Class Medication

Attributes

has strenght : [Concentration](#_8a52e0e6c7ddc8e3f8ec1278411a485d)



Associations

has ingredient : [Substance](#_6c52cbab523aeb147bb492cebf98a5d0)



has dosage Form : [Dosage Form](#_8d41991026a8f35fc4899aea2a4986a2)



## Class Medication Activity

Direct Supertypes

[Clinical Intervention Activity](#_042edccf6913720962b08bfb7e264a63)

Attributes

has dosage : [Amount of Substance](#_973b3cbc58736809bcd9458296b56b5b)



has route : [Human Body Part](#_97d0c106282f00353fcaf751758b9f80)



## Class Procedure

Direct Supertypes

[Clinical Intervention Activity](#_042edccf6913720962b08bfb7e264a63)

## Class Sense Observation Activity

Direct Supertypes

[Clinical Observation Activity](#_091f5e6f79068321bbbd789b505b0887)

## Class Subject <<Role>>

Direct Supertypes

[Participant](#_b4401436185956a165d3b9d8de6c6b8f), [Person](#_cdc29d2819530ccaeba6b720b8983fee)

Associations

is subject of : [Clinical Situation](#_c5f03055257800e6efe75023a75bdd7a) [0..\*] *Subsets*: involved in:[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)



## Class Substance

Direct Supertypes

[Discreet Thing](#_6ef1dbf4983daf69e5425cbaf8e11659)

## Class Vital Sign Observation

Direct Supertypes

[Clinical Observation Activity](#_091f5e6f79068321bbbd789b505b0887), [Measurement Activity](#_311770c205be82af5ce92c3f02e8aa08)

Associations

: [Vital Sign Result](#_9c749e1dfa23fc4a1f66586dc9c358c7) [0..\*] *Subsets*: observes:[Observation Result](#_b13d7b72ffbc53b67c7bd3ea58364405)



## Class Vital Sign Result

Direct Supertypes

[Measurement Result](#_246aad5e499a3dae61ae5b5418deab0c)

Associations

: [Vital Sign Observation](#_d8dd05cc618e65e382cb103feddd6ce6) [1..\*] *Subsets*: observed during:[Observation Activity](#_dee615f9e44d1e2052d3573f6f1fc7b8)



: [Vital Sign](#_5c5c63c417da4b7e591d574fd8fdc2a3) [1..\*] *Redefines*: has position on:[Situation](#_0a2767712bb9a7ff9e4b2313d0312b06)



# OnticHealthSpecific::Health Qualities

## Diagram: Health Qualities



1. Health Qualities

## Class Actual Body Height

Direct Supertypes

[Actual Situation](#_9cd852c0e87e03590c79a63151bf9a8e), [Body Height](#_6edfe15cd727bace7f7d9d5b7568392d)

## Class Actual Body Temperature

Direct Supertypes

[Actual Situation](#_9cd852c0e87e03590c79a63151bf9a8e), [Body Temperature](#_3e402d3801a96d2460b3bec1afe4a061)

## Class Actual Creatine Clearance

Direct Supertypes

[Actual Situation](#_9cd852c0e87e03590c79a63151bf9a8e), [Creatinine Clearance](#_b1e40bf766e7b250dfddce3686aacc66)

## Class Allergy Intolerance Condition

Direct Supertypes

[Health Condition](#_0c441a64c78a7301688602c2917f6e02)

## Class Body Height

Direct Supertypes

[Vital Sign](#_5c5c63c417da4b7e591d574fd8fdc2a3)

## Class Body Temperature

Direct Supertypes

[Vital Sign](#_5c5c63c417da4b7e591d574fd8fdc2a3)

## Class CrCl for Kidney Disease

Direct Supertypes

[Benchmark](#_e7d96334cf2ed81f6ae9f1442cce68cc), [Creatinine Clearance](#_b1e40bf766e7b250dfddce3686aacc66)

## Class Creatinine Clearance

Direct Supertypes

[Vital Sign](#_5c5c63c417da4b7e591d574fd8fdc2a3)

## Class Disease

Direct Supertypes

[Health Condition](#_0c441a64c78a7301688602c2917f6e02)

## Class Health Condition

a state of affairs for the subject relating to their well being

Direct Supertypes

[State](#_2f02569bb8334e33923ced03f32e144d)

Associations

: [Person](#_cdc29d2819530ccaeba6b720b8983fee) [1] *Redefines*: state of:[Identifiable Thing](#_aa050de8310b74df540d7772f2579de8)



## Class Health Quality

Direct Supertypes

[Health Condition](#_0c441a64c78a7301688602c2917f6e02), [Quality](#_691f47488c9ad7e3f73bc1e8d91283ab)

## Class Kidney Disease

Direct Supertypes

[Disease](#_16e4cdf1e1a5a2e34c8ad6799f9b80f3)

## Class Vital Sign

Direct Supertypes

[Health Quality](#_36a08a70e6a644e536e852bfbdf9b71a)

Associations

: [Vital Sign Result](#_9c749e1dfa23fc4a1f66586dc9c358c7) [0..\*] *Subsets*: is subject of position:[Qualitative Position](#_927d9d7cfeddf09947d0f7003026e26b)



# OnticHealthSpecific::Human Characteristics

## Diagram: Human Characteristics



1. Human Characteristics

## Class Arm

Direct Supertypes

[Human Body Part](#_97d0c106282f00353fcaf751758b9f80)

## Class Brain

Direct Supertypes

[Human Body Part](#_97d0c106282f00353fcaf751758b9f80)

## Class Head

Direct Supertypes

[Human Body Part](#_97d0c106282f00353fcaf751758b9f80)

## Class Human Body Part

Associations

is part of person : [Person](#_cdc29d2819530ccaeba6b720b8983fee) [1] *Subsets*: is part of:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



## Class Leg

Direct Supertypes

[Human Body Part](#_97d0c106282f00353fcaf751758b9f80)

## Association Class Physical Parthood

Association Ends

has part : [Physical Thing](#_cc3527fc58d893771abfada69da672b8) *Subsets*: is part of:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



is part of : [Physical Thing](#_cc3527fc58d893771abfada69da672b8) *Subsets*: is part of:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



## Class Physical Thing

Associations

has part : [Person](#_cdc29d2819530ccaeba6b720b8983fee) [1] *Subsets*: is part of:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



*through association:* [Physical Parthood](#_6935bf155552cc1c568b02085fbed0d1)

is part of : [Person](#_cdc29d2819530ccaeba6b720b8983fee) [1] *Subsets*: is part of:[Physical Thing](#_cc3527fc58d893771abfada69da672b8)



*through association:* [Physical Parthood](#_6935bf155552cc1c568b02085fbed0d1)

# OnticHealthSpecific::Medications

## Diagram: Medications



1. Medications

## Class Immunization Activity

Direct Supertypes

[Medication Activity](#_1887f2bf7e8d84a570ddcb3217c9de85)

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