

gist:SocialBeing

rdfs:comment

Equivalent to

--- OR ---

gist:Organization

purpose. rdfs:comment

gist:Person

rdfs:comment

rdfs:comment

rdfs:comment

rdfs:comment

necessary.

gist:Collection

collection of segments

rdfs:comment

rdfs:comment

gist:Content

Brands

gist:Intention

gist:Language

gist:Magnitude

gist:PhysicalIdentifiableItem

of something, e.g., statues are made of bronz

gist:PhysicalSubstance

corporeal material. That is, "stuff" which c

divided in half and stil retain its essence (i.e

ater, penicillin and even h. pilori bacteria ex

for those very rare cases where someone is

studying an individual bacterium).

gist:Place Locatable location

gist:TimeInstant

(as in 12:01.0001 January 1, 2008), or a broader still single point in time (January 1, 200

ime and dates are in xsd: DateTime format Universal Time. Our identity criteria require that

something has (refers to) this instance

gist:TimeInterval A specific interval on a time line with start and

gist:UnitOfMeasure

The primitive units can be converted, the

easure, for conversion of magnitudes. Ea nit has a base unit and a conversion factor t

the base. The bases are from SI. This is the

number you multiple a Unit by to get to base or

divide by to get from base. So the

nvertToBase for inch is 0.0254 to get you to the

base (meter)

gist:PhysicalThing

Something that takes up space and has

weight.

Equivalent to

--- OR ---

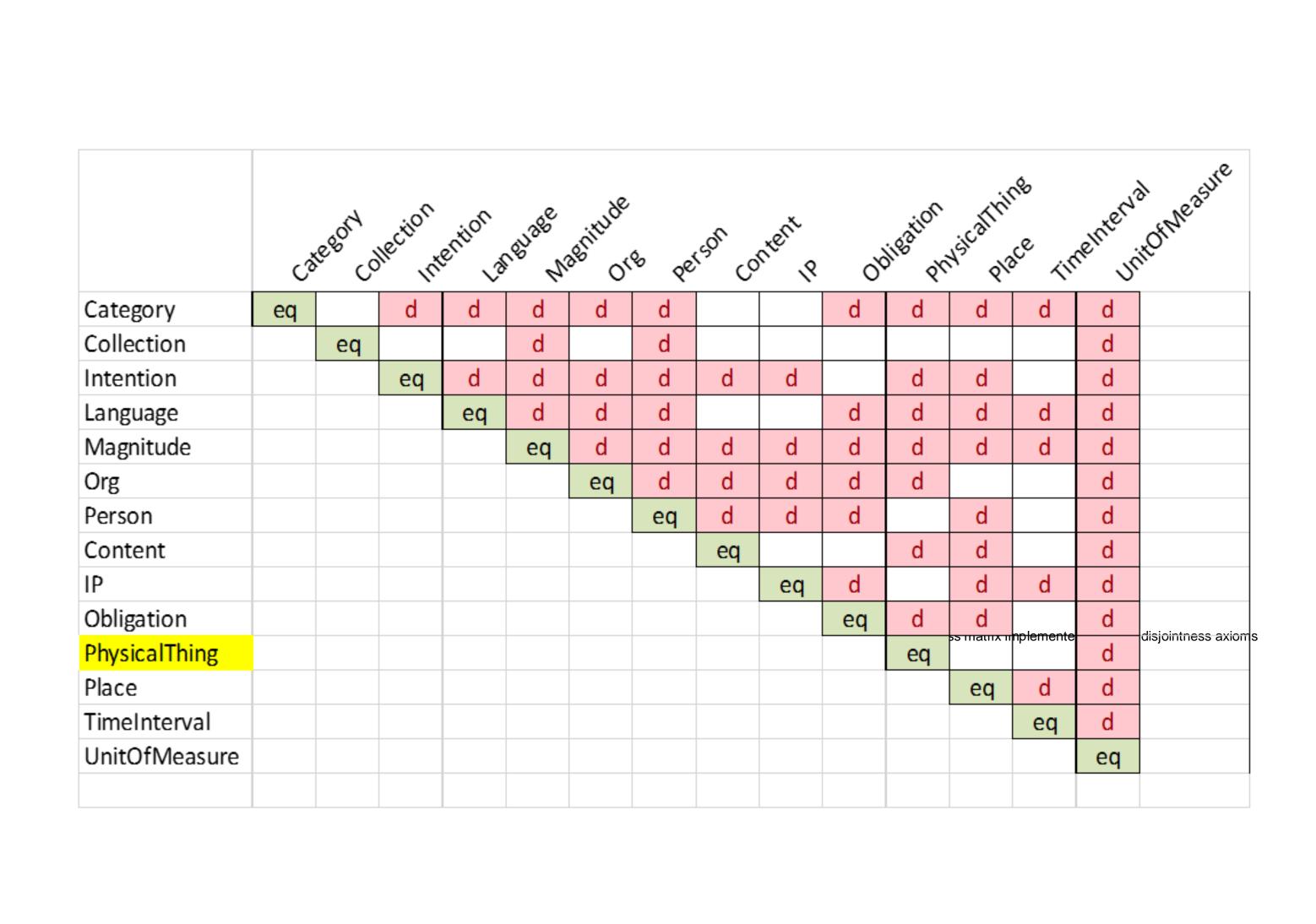
gist:PhysicalIdentifiableItem

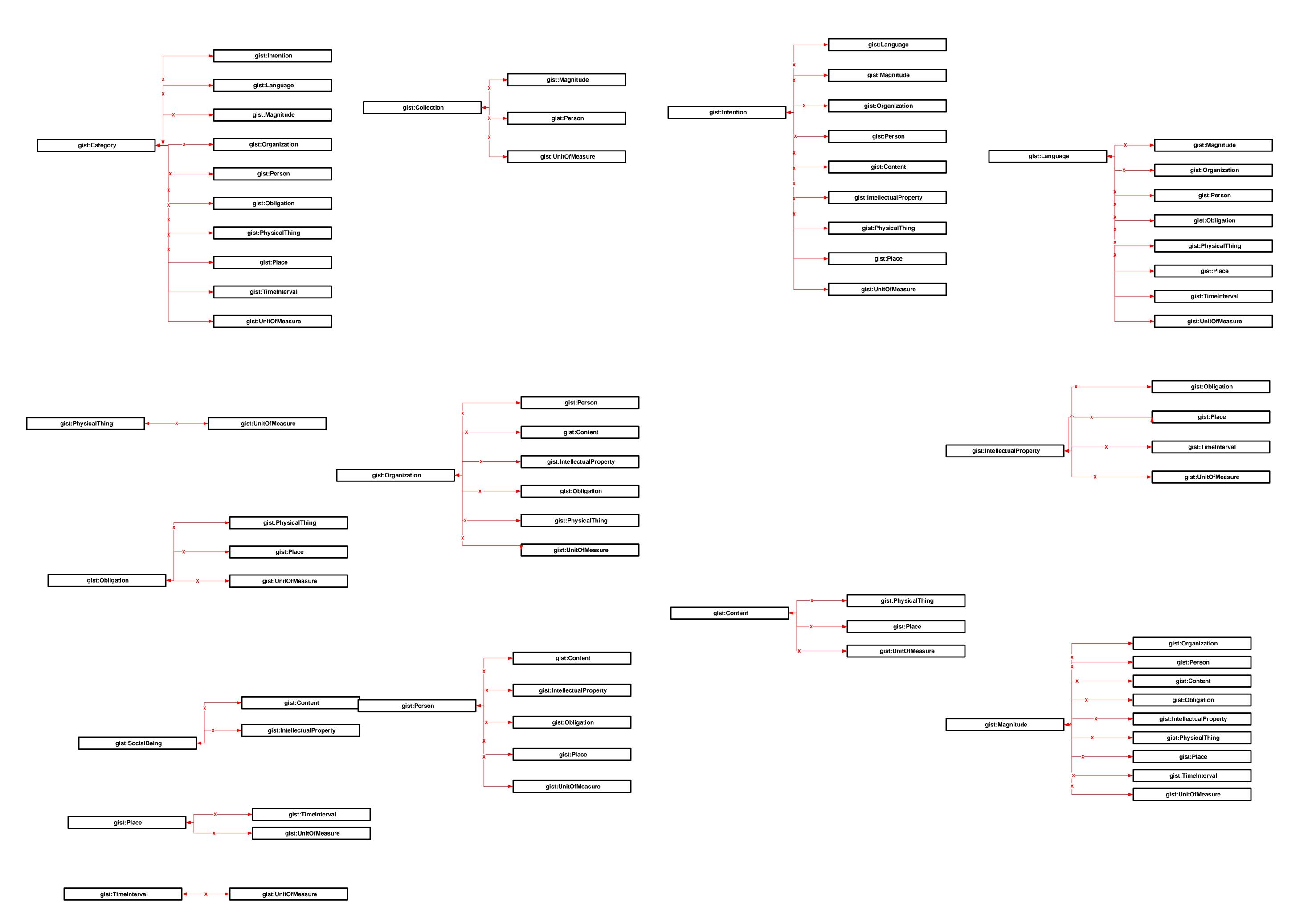
gist:PhysicalSubstance

omplex units (ratio oBase class for all units

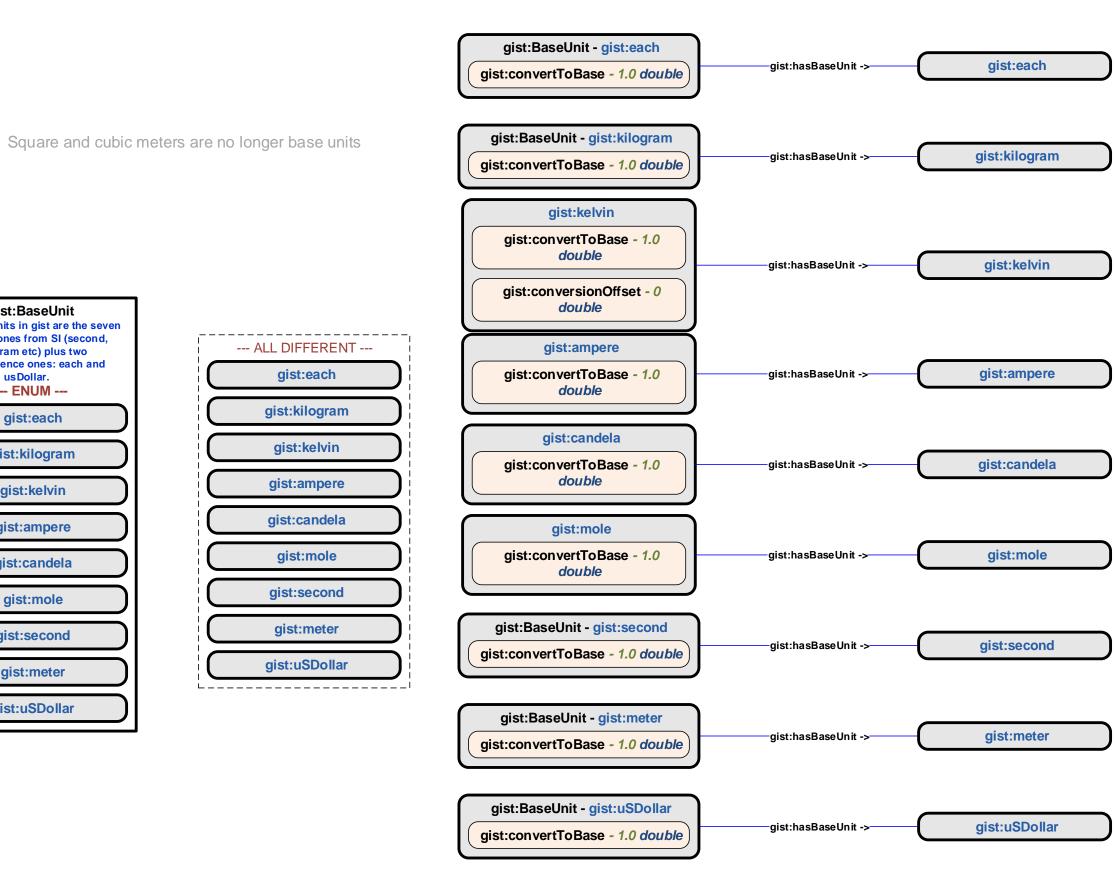
end TimeInstants and a Duration

could at least in principle put an RFID tag o nembers of this class. Physical things are ma





semantic arts



Introduced the product unit (similar to the ratio unit where two units

gist:UnitOfMeasure gist:RatioUnit gist:ProductUnit A #UnitOfMeasure composed of a numerator unit and a #denominator unit oduct Units are units of measre that are gist:SimpleUnitOfMeasure --- AND --he product of two simpler ones. Area and ne primitive units can be converted, th Volume are the classic cases, but other complex units (ratio or product) have to more exotics exists like newtons. rdfs:comment dcompose to their primitives. Each unit --- AND ---EXAMPLE: miles/hour has a base unit and a conversion factor to the base. The bases are from SI. This is the gist:UnitOfMeasure number you multiple a Unit by to get to rdfs:comment base or divide by to get from base. So the NOTE: If needed, a conversion factor for a convertToBase for inch is 0.0254 to get RatioUnit can be (recursively) derived from gist:multiplier you to the base (meter) he conversion factors of the numerator and some gist:UnitOfMeasure --- AND --denominator units. E.g. the derived nversion factor from km/minute to meters/ gist:multiplicand second is 1000/60 or 16 2/3. gist:convertToBase some gist:UnitOfMeasure some double gist:convertToBase gist:UnitOfMeasure gist:hasBaseUnit min 0 double exactly 1 gist:BaseUnit

> gist:numerator some gist:UnitOfMeasure

gist:denominator

some gist:UnitOfMeasure

gist:BaseUnit

nits to measure linear distance such as feet and kilometers. --- AND --gist:SimpleUnitOfMeasure gist:hasBaseUnit has gist:meter gist:DurationUnit nits to measure passage of time, hours days, years. --- AND --gist:SimpleUnitOfMeasure gist:hasBaseUnit has gist:second gist:MassUnit Units of weight, e.g., pounds, kilos, etc.

--- AND ---

gist:SimpleUnitOfMeasure

gist:hasBaseUnit

has gist:kilogram

gist:DistanceUnit

--- AND ---

gist:SimpleUnitOfMeasure gist:hasBaseUnit has gist:kelvin gist:conversionOffset some double gist:ElectricalCurrentUnit nits of electrical charge(volt). Note that wattage, current and kilowatt hours are composed unts. --- AND --gist:SimpleUnitOfMeasure gist:hasBaseUnit has gist:ampere gist:LuminescenceUnit Measure of brightness (candles). --- AND --gist:SimpleUnitOfMeasure gist:hasBaseUnit has gist:candela gist:MoleUnit

Amount of chemical material. Measured i

avagadro units of 6.02 x 10 ^23 molecules --- AND ---

gist:SimpleUnitOfMeasure

gist:hasBaseUnit

has gist:mole

and therefore need an offset for

gist:TemperatureUnit

peratures have a different zero valu

gist:CurrencyUnit Units of money. Note: this is the only unit whose conversion factors include time (i.e., the conversion rates change on a daily basis). --- AND ---

gist:CountingUnit

gist:SimpleUnitOfMeasure

gist:hasBaseUnit

has gist:each

Units of counting, especially "each" bu

also units such as dozens.

--- AND ---

gist:SimpleUnitOfMeasure

gist:hasBaseUnit has gist:uSDollar

gist:multiplicand some gist:DistanceUnit

gist:VolumeUnit Units of three dimensional space, expressed here as an area times a distan --- AND ---

gist:ProductUnit

gist:multiplier

some gist:AreaUnit

gist:BaseUnit

The base units in gist are the sever

primary ones from SI (second,

kilogram etc) plus two

--- ENUM ---

convienience ones: each and

gist:each

gist:kilogram

gist:kelvin

gist:ampere

gist:candela

gist:mole

gist:second

gist:meter

gist:uSDollar

gist:each

Units of two-dimensional area such as square inches and hectares. --- AND ---

aist:AreaUnit

gist:ProductUnit

gist:multiplier some gist:DistanceUnit

gist:multiplicand some gist:DistanceUnit

are multiplied), and made area and volume specialization

gist:convertToBaseDomain:gist:Uni tOfMeasuredouble conversion factor used to get to the

This indicates what kind Unit something is e.g. saying that a furlong #hasBaseUnit pase unit. E.g., multiplying by 0.0254 #meter says it is a #DistanceUnit. gets you from inches to meters. Divide by this number to go the other way. rdfs:comment Used in conjunction with EXAMPLE: saying that a furlong versionOffset to convert from one unit to another.

ist:conversionOffsetDomain:gist

UnitOfMeasuredouble

On the Celsius scale, the

On the Fahrenheit scale it is -459.67

inch, meter.

dd this number to get to the zero point

nversionOffset is -273.15 degrees C

degrees. Is equal to 0 when the unit has

e same zero point as the base unit. e.g.

#hasBaseUnit #meter says it is a #DistanceUnit. Degrees K = (Degrees F ersionOffset) * convertToBase. Or K = (F-(-469.67)) * (5/9). To go the other way: F = (K * 9/5) - 469.67. Try it on Google.

gist7.0 units of measure Base URI: http://ontologies.semanticarts.com/o/gistUnit Version URI: http://ontologies.semanticarts.com/o/gistUnit7.0

gist http://ontologies.semanticarts.com/gist#

URI: http://ontologies.semanticarts.com/o/gistTop7.0

aist:hasBaseUnitDomain:gist:UnitOfMea

sure Range:gist:BaseUnit

Relates a #UnitOfMeasure to its #BaseUnit.

Location : gistTop7.0.owl

gist:numeratorDomain:gist:RatioUnit Range:gist:UnitOfMeasure Relates a #RatioUnit such as meter(s)/

second to the numerator Unit (e.g. meter)

qist:denominatorDomain:gist:RatioUnit Range:gist:UnitOfMeasure Relates a #RatioUnit such as meters/secon to the denominator Unit (e.g. second).

gist:multiplierDomain:gist:ProductUn Range:gist:UnitOfMeasure Relates a ProductUnit such as square mile

to the first of two units multiplied to geher (e.g. mile)

gist:multiplicandDomain:gist:ProductUnit Range:gist:UnitOfMeasure Relates a ProductUnit such as square mile to the second of two units multiplied togeher (e.g. mile).

gistMagnitude

gist7.0 magnitudes

Base URI: http://ontologies.semanticarts.com/o/gistMagnitude Version URI: http://ontologies.semanticarts.com/o/gistMagnitude7.0

Namespaces

gist http://ontologies.semanticarts.com/gist#

mports

URI: http://ontologies.semanticarts.com/o/gistTop7.0

Location: gistTop7.0.owl

URI: http://ontologies.semanticarts.com/o/gistUnit7.0

Location: gistUnit7.0.owl

gist:hasA [IF]

gist:hasPrecision

Range:gist:Magnitude
Links a Magnitude to the degree of
accuracy of the numeric value. This
allows for fuzzy numbers. All
magnitudes have a precision. Usually we
don't record them. When we do this, it
will be a value whose extent covers 2
standard deviations around the stated
magnitude

rdfs:comment

NOTE: Most frequently apples to #Magnitude(s) and #TimeInstant. Could also apply to a measurement.

rdfs:comment

EXAMPLE: Temperature precise to tenth of a degree C; TimeInstant precise to 24 hours.

gist:hasMagnitude

Range:gist:Magnitude
To have a comparable numerical value.
Each magnitude has a unit.

gist:decimalValueDomain:

gist:Magnitudedouble

gist:currencyValueDomain:

gist:Magnitudedouble Currencies are rounded to specified precision

gist:Magnitude

A scalar value which is either measured, estimated or set as a refernece value.

Magnitudes of the same dimensional type (i.e., duration or electric current) can be compared with a greater than or less than operator, but can still differ in their relationToTheWorld type (i.e., you can compare actuals to estimates or references as long as the dimension is the same).

--- AND ---

rdfs:comment

NOTE: Note the precision should be in the same type of unit as the magnitude but we'd need rules to enforce that

gist:hasUoM

some gist:UnitOfMeasure

gist:hasPrecision

some gist:Magnitude

gist:of

some owl:Thing

gist:decimalValue

some double

gist:hasUoMDomain:gist:Magnitude

Range:gist:UnitOfMeasure
Which unit of measure you are using. All
measures are in some uom, even if we
don't know what it is initially.

gist:Duration

Time, but not on time line. For instance one week, or seven days, but not Jan 1, 2008 to Jan 7, 2008 (which is an interval). Intervals have durations but aren't durations.

gist:Magnitude

--- AND ---

gist:hasUoM

some gist:DurationUnit

gist:Extent

A measure of distance which could be distances over the earth, and could also be height, width, length, depth, girth, etc.

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:DistanceUnit

gist:Weight

Magnitude of mass. Assumes object is near the earth's surface, so weight and mass are equivalent for our purposes.

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:MassUnit

gist:Count

Measures that involve countable amounts ("eaches" as well as cases, etc.). Can be decimal. Note: we did not make count disjoint with all the other magnitudes as there are some magnitudes that could conceivably be counted (say distance in rods, it's a bit of a stretch admittedly but shouldn't harm anything).

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:CountingUnit

gist:Area

Two-dimensional area.
--- AND ---

gist:Magnitude

gist:hasUoM

some gist:AreaUnit

gist:Volume

Three dimensional space or equivalent fluid measurement.

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:VolumeUnit

gist:Monetary

Special type of magnitude due to the way rounding is handled in math and temporal aspect of conversion.

--- AND ---

gist:Magnitude

gist:currencyValue

some double

gist:hasUoM

some gist:CurrencyUnit

gist:RatioMagnitude

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:RatioUnit

gist:Percentage

This is a ratio class where the numerator and denominator are of the same unit of measure. This would have to be enforced as a SWRL rule. Note: there are various ways to represent percentage: 50/100 could be represented as "50" or "0.5". We have chosen the later as it involves fewer conversions for subsequent use.

Subclass of

gist:RatioMagnitude

gist:Temperature

Base of temperature is in Kelvin per SI to allow for all units to be expressed relative to a real (in this case absolute) zero.

--- AND ---

gist:hasUoM

some gist:TemperatureUnit

gist:Magnitude

gist:ElectricCurrent

Voltage

--- AND ---

gist:hasUoM

some gist:ElectricalCurrentUnit

gist:Magnitude

gist:Luminance

Measure of light

--- AND ---

gist:Magnitude

gist:hasUoM some gist:LuminescenceUnit

gist:MolarQuantity

Amount of a substance as counted molecules. It's here for completeness, in case we bridge to an SI unit conversion ontology. It is unlikely a commercial system, with the possible exception of some involved in chemical research, would use this. Note: I left out the disjointness with Count, Weight and Volume as there is some ambiguity, at least in my mind, as to whether they are mutually exclusive.

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:MoleUnit

gist:ProductMagnitude

These are magnitudes expresses as products of primitives (such as force M*A)

--- AND ---

gist:Magnitude

gist:hasUoM

some gist:ProductUnit

gistTime gist:TimeInterval A specific interval on a time line with start gist7.0 time and end TimeInstants and a Duration. Base URI: http://ontologies.semanticarts.com/o/gistTime rdfs:comment Version URI: http://ontologies.semanticarts.com/o/gistTime7.0 **EXAMPLE:** Jan1 through Jan8, 2013 **Names paces** (N) gist:start some gist:TimeInstant http://ontologies.semanticarts.com/gist# (N) gist:end <u>Imports</u> some gist:TimeInstant http://ontologies.semanticarts.com/o/gistMagnitude7.0 Location: gistMagnitude7.0.owl (N) gist:hasMagnitude some gist:Duration rdfs:comment gist:startDomain:gist:TimeInterval **EXAMPLE:** Jan1 through Jan8, 2013 Range:gist:TimeInstant rdfs:comment NOTE: has a Duration, but is not a gist:endDomain:gist:TimeInterval Duration. Range:gist:TimeInstant rdfs:comment NOTE: end should be later than start, but gist:timeZoneStandardUsed this is not enforced Domain:gist:TimeInstant Range:gist:TimeZoneStandard the "timezone" with Daylight savings adjust gist:sameTimeAs [S]Domain:gist:TimeInstant Range:gist:TimeInstant Allows relating local time to universal time. gist:dateTimeDomain:gist:TimeInstantdateTime gist:universalDateTimeDomain:gist:TimeInstantdateTime gist:localDateTimeDomain:gist:TimeInstantdateTime gist:time Domain:gist:TimeInstant gist:universalTime gist:localTime Domain:gist:TimeInstant Domain:gist:TimeInstant gist:date Domain:gist:TimeInstant gist:universalDate gist:localDate Domain:gist:TimeInstant Domain:gist:TimeInstant

gist:TimeInterval

Д

gist:TimeInstant

A point on a time line. Could be a literal instant (as in 12:01.0001 January 1, 2008), or a broader but still single point in time (January 1, 2008). Time and dates are in xsd: DateTime format in Universal Time. Our identity criteria require that something has (refers to) this instance. We are declaring a time instant to be an interval with no duration (or really a duration only equal to its precision)

(N) gist:hasPrecision some gist:Duration

(N) gist:universalDateTime some dateTime

(N) gist:universalDate

(N) gist:universalTime

(N) gist:timeZoneStandardUsed has gist:_greenwichTimeZone

(N) gist:of

some owl:Thing

rdfs:comment

EXAMPLE: 12:01.0001 April8, 2012 or March 8, 1955

gist:LocalInstant

A point in time expressed relative to a local time zone. Can be converted to Universal Time using the time zone offset. The precision is used to state how precise this instant is. Typical values would be day, hour, minute or second

--- AND ---

gist:timeZoneStandardUsed

some gist:TimeZoneStandard

(N) gist:sameTimeAs
some gist:TimeInstant

gist:localDateTime some dateTime

gist:localDate

min 1

gist:localTime

gist:TimeInstant

gist:TimeZoneStandard - gist:_greenwichTimeZone

Added grenich time zone

gist:TimeZoneStandard
--- AND ---

gist:Specification

gist:basedOn some gist:TimeZone

Note: converted date and time from xsd:date and xsd:time to min 1 blank because Fact++ doesn't recognized date or time

gistPlace

gist7.0 place

Base URI : http://ontologies.semanticarts.com/o/gistPlace Version URI : http://ontologies.semanticarts.com/o/gistPlace7.0

<u>Namespaces</u>

gist http://ontologies.semanticarts.com/gist#

Imports

URI: http://ontologies.semanticarts.com/o/gistPhysicalThing7.0

Location: gistPhysicalThing7.0.owl

URI: http://ontologies.semanticarts.com/o/gistMagnitude7.0

Location: gistMagnitude7.0.owl

gist:offsetToUniversalDomain:gist: TimeZone Range:gist:Duration

gist:fromPlace Range:gist:Place

gist:toPlace Range:gist:Place

gist:hasAltitudeDomain:gist:GeoPoi nt Range:gist:Extent Distance above sea level

gist:geoOccupies

(gist:geoOccupiedBy)

Domain:gist:PhysicalThing

Range

--- OR ---

gist:GeoRegion

gist:GeoVolume

gist:permanentGeoOccupies (gist:permanentGeoOccupiedBy)

gist:sequenceinteger

For ordering ordered lists.

gist:latitudeDomain:gist:GeoPointdouble

gist:longitudeDomain:gist:GeoPointdouble

gist:geoContains [T]

(gist:geoContainedIn)

Transitive version of geoDirectlyContains

Domain

--- OR ---

gist:GeoRoute

gist:GeoSegment

gist:Landmark

gist:Room

gist:GeoPoint

gist:GeoRegion

gist:GeoVolume

Range

--- OR ---

gist:GeoRoute

gist:GeoSegment

gist:Landmark

gist:Room

gist:GeoPoint

gist:GeoRegion

gist:GeoVolume

gist:geoDirectlyContains(gist:geoDirectlyContainedIn) The subject geopartially contains the chiest Fig.

The subject geospatially contains the object. E.g. the area of a city contains the area of its neighborhoods

gist:GeoPoint

Individual point on Earth's surface, including latitude, longitude and altitude. If altitude is missing, assumed to be at the earth's surface, however, altitude is measured from sea level.

--- AND ---

gist:hasAltitude

some gist:Extent

gist:latitude some double

gist:longitude

some double

rdfs:comment

NOTE: Altitude is above sea level.

rdfs:comment

NOTE: Assume coordinate system used by Google.

gist:GeoRegion

Bounded region(s) on surface of the earth.
At this level a geoRegion could be noncontiguous; e.g. the region governed by
the USA is the region governed by the
lower 48 states plus that of Alaska and
Hawaii). Child classes in lower ontologies
can make this distinction.

--- AND ---

gist:geoDirectlyContains

some gist:GeoPoint

gist:hasMagnitude

some gist:Area

rdfs:comment

EXAMPLE: the bounded shape that defines the region occupied by Crater Lake; the bounded are known as the continguous USA

rdfs:comment

NOTE: GeoRegion has an area, but it isn't an area (area in gist is a magnitude)

gist:OrderedCollection

Subclass of

gist:Collection

gist:TimeZone

I haven't found a definitive source for time zone names or their geoboundaries. I'll suggest the tz database for now.

--- AND ---

gist:GeoRegion

gist:offsetToUniversal

gist:GeoSegment

Single segment.

--- AND ---

gist:fromPlace

exactly 1 gist:GeoPoint

gist:toPlace exactly 1 gist:GeoPoint

gist:GeoRoute

Ordered set of GeoPoints that define a

route from starting point to ending point.

--- AND ---

gist:OrderedCollection

gist:hasDirectPart

some gist:GeoSegment

gist:GeoVolume

Three dimensional space on or near the

surface of the earth such as an oil

reservoir, the body of a lake or an airspace

--- AND ---

gist:geoDirectlyContains some gist:GeoPoint

gist:hasMagnitude

some gist:Volume

some gist:Duration

--- OR ---

gist:Landmark

Added volume and three D

point

gist:Place

Locatable location

gist:Room

gist:GeoPoint

gist:GeoSegment

gist:GeoRoute

gist:GeoRegion

gist:GeoVolume

gist:Room

An enclosed area within a building.

--- AND ---

gist:directPartOf

some gist:Building

gist:identifiedBy

some gist:ID

gist:Landmark --- AND ---

gist:PhysicalIdentifiableItem

gist:permanentGeoOccupies

--- OR ---

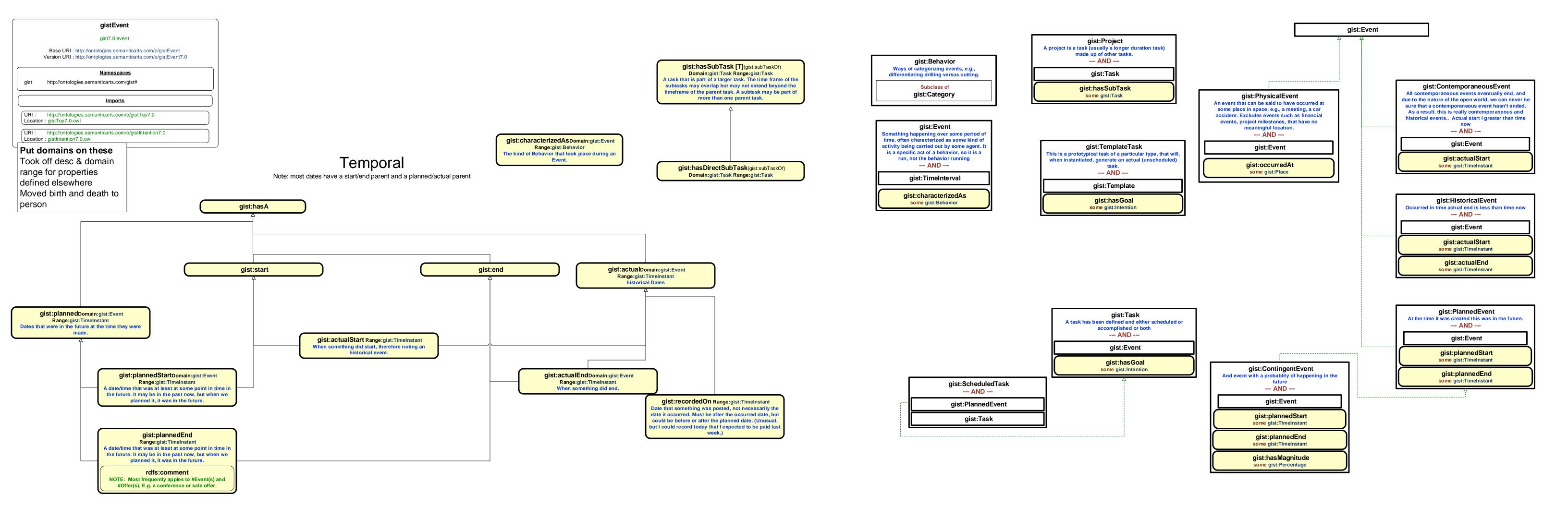
gist:GeoVolume

gist:GeoRegion

gist:Building

Subclass of

gist:Landmark



gistAddress

gist7.0 Address

Base URI: http://ontologies.semanticarts.com/o/gistAddress Version URI: http://ontologies.semanticarts.com/o/gistAddress7.0

Names paces

gist http://ontologies.semanticarts.com/gist#

Imports

http://ontologies.semanticarts.com/o/gistContent7.0

Location: gistContent7.0.owl

http://ontologies.semanticarts.com/o/gistPlace7.0

Location : gistPlace7.0.owl

A set of codes the postal authorities can use to deliver mail. Could be a street address, could be a postal address, could be the route codes.

qist:PostalAddress

Subclass of

gist:Address

gist:communicationAddressOf

some gist:SocialBeing

rdfs:comment

EXAMPLE: a street address, a PO Box, an FPO code

gist:TelephoneNumber

Some phone numbers accept faxes, some allow Internet access, etc.

rdfs:comment

EXAMPLE: cell, fax, landline

Subclass of gist:Address

gist:communicationAddressOf

some gist:SocialBeing

gist:hasCommunicationAddress(gist:communicati onAddressOf)

Domain:gist:SocialBeing Range:gist:Address The general class of places you can send messages including postal addresses, fax numbers, phone numbers, email, web site, etc.

gist:hasStreetAddress(gist:streetAddressOf

Range:gist:BuildingAddress A place that can be found on a map, has geo coordinates; you could live or work there.

gist:BuildingAddress

An address that you can send mail to or that you could find in the physical world.

Subclass of

gist:Address

(N) gist:streetAddressOf

some gist:Building

gist:Address

A reference to a place (real or virtual) that can be located by some routing algorithm and where messages or things can be sent to or retrieved from. E.g. PO Box or URL to a pdf file.

Subclass of

gist:Content

gist:ElectronicMessageAddress

Any place a message can be sent (email, fax,

Subclass of gist:Address

gist:communicationAddressOf

some gist:SocialBeing

Need something here on the types of things that can be sent, text messages, images, audio messages, letters, small packages, trucks, boats.etc (this is a taxo)

Probably should put the communication preferences stuff here

gistPerson

gist7.0 Person

Base URI: http://ontologies.semanticarts.com/o/gistPerson Version URI: http://ontologies.semanticarts.com/o/gistPerson7.0

Namespaces

gist http://ontologies.semanticarts.com/gist#

<u>Imports</u>

URI: http://ontologies.semanticarts.com/o/gistPhysicalThing7.0

Location: gistPhysicalThing7.0.owl

URI: http://ontologies.semanticarts.com/o/gistAddress7.0

Location : gistAddress7.0.owl

gist:offspringOf(gist:parentOf)
Domain:gist:LivingThing
Range:gist:LivingThing

gist:nameNote this can be firstName, lastName, fullName etc

gist:actualStart gist:hasBirthDateDomain:gist:LivingThing Range:gist:TimeInstant Date a living thing was "born" (or germinated, for plants). gist:hasDeathDateDomain:gist:LivingThing Range:gist:TimeInstant Date a living thing died

gist:hasOccupant(gist:occupantOf)
Domain:gist:Building Range:gist:SocialBeing
More specific form of incumbent where we are
referring to residing at or working at, or doing
business at a very specific location.

gist:LivingThing

Something that is or at some point was alive and growing.

--- AND ---

rdfs:comment

NEGATIVE EXAMPLE: fictional life forms such as Unicorns or Mickie Mouse

rdfs:comment

EXAMPLE: a cat, a mushroom, a tree

gist:PhysicalIdentifiableItem

gist:offspringOf

some gist:LivingThing

gist:hasBirthDate

some gist:TimeInstant

rdfs:comment

NOTE: Is or was at some point was alive and growing. With open world you never know if it has since died.

gist:Person

This is a member of homo sapiens, who has lived at some point, and may or may not be dead. With open world you never know if someone has died. Fictitious people are not persons.

--- AND ---

rdfs:comment

NEGATIVE EXAMPLE: fictional characters

gist:LivingThing

gist:name

some string

gist:offspringOf

some gist:Person

gistPhysicalThing

gist7.0 PhysicalThing

Base URI: http://ontologies.semanticarts.com/o/gistPhysicalThing Version URI: http://ontologies.semanticarts.com/o/gistPhysicalThing7.0

Namespaces

gist http://ontologies.semanticarts.com/gist#

<u>Imports</u>

URI: http://ontologies.semanticarts.com/o/gistID7.0

Location : gistID7.0.owl

URI: http://ontologies.semanticarts.com/o/gistMagnitude7.0

Location: gistMagnitude7.0.owl

gist:madeUpOf

Domain:gist:PhysicalThing Range:gist:PhysicalSubstance as in the vase is made up of clay

(gist:ownedBy) Domain:gist:SocialBeing relationship where a Social Being can enjoy the rights of the asset being owned. Note this could be made temporal with gistTemporalRelationship Range -- OR - gist:PhysicalThing gist:IntellectualProperty gist:Content gist:SocialBeing

gist:owns

gist:PhysicalThing

Something that takes up space and has weight.

Equivalent to

--- AND ---

gist:hasMagnitude

some gist:Weight

gist:hasMagnitude

some gist:Volume

Equivalent to

--- OR ---

gist:PhysicalIdentifiableItem

gist:PhysicalSubstance

gist:PhysicalIdentifiableItem

You could at least in principle put an RFID tag on members of this class. Physical things are made of something, e.g., statues are made of bronze.

rdfs:comment

NEGATIVE EXAMPLE: a discontinouous thing like a manufacturing line cannot reasonably have an RFID attached to it even though its parts are nto the same kind of thing as the whole.

rdfs:comment

EXAMPLE: a computer, a book

(N) gist:madeUpOf

some gist:PhysicalSubstance

(N) gist:identifiedBy

some gist:ID

rdfs:comment

NOTE: In practice, this is always means that the parts are not the same kind of thing as the whole.

gist:PhysicalSubstance

Non corporeal material. That is, "stuff" which can be divided in half and stil retain its essence. In principle, cannot have an ID.

rdfs:comment

EXAMPLE: an amout of water, of penicillin, of sand

rdfs:comment

NOTE: This is the actual amout of something, not the type of substance.

rdfs:comment

NOTE: some things are substances at a macro level, but ultimately end up as not being divisible into the same kind of thing, e.g. sand vs. grains of sand., bacteria vs. an individual bacterium.

gistID

gist7.0 id

Base URI : http://ontologies.semanticarts.com/o/gistID Version URI : http://ontologies.semanticarts.com/o/gistID7.0

Namespaces

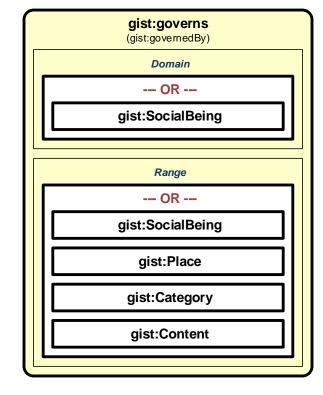
gist http://ontologies.semanticarts.com/gist#

nports

\(\begin{align*} \text{URI:} & \text{http://ontologies.semanticarts.com/o/gistTop7.0} \\ \text{Location:} & \text{gistTop7.0.owl} \end{align*}

gist:identifiedBy [IF] (gist:identifies) Range:gist:ID This is like a uri: a thing can have more than one ID, but each of the IDs must refer to a unique thing.

gist:hasA



gist:uniqueText [F]string This is used for the actual value of

a key or ID where you don't want the possibility of having more than one.

gist:allocatedBy

Range:gist:SocialBeing
anything that can be assigned includes ids,
but also tasks, resources names, categories
etc.

gist:ID

an ID is a tiny piece of content

Subclass of

gist:Content

gist:ID

A string of characters that refers to a referent in the real world (person, place, organzation, vehicle, etc.), a concept or an event. Intended to be unique within a domain (but generally no guarantee of this).

--- AND ---

gist:allocatedBy

some gist:SocialBeing

gist:uniqueText

some string

rdfs:comment

EXAMPLE: e.g. SSN for a person, serial number for a product, employee id

rdfs:comment

NOTE: the thing identified can be anything, e.g. a person, place, organiation, product, concept, event.

gistOrganization

gist7.0 org

Base URI: http://ontologies.semanticarts.com/o/gistOrganization Version URI: http://ontologies.semanticarts.com/o/gistOrganization7.0

Names paces

gist http://ontologies.semanticarts.com/gist#

Imports

JRI: http://ontologies.semanticarts.com/o/gistPerson7.0

Location: gistPerson7.0.owl

URI: http://ontologies.semanticarts.com/o/gistAddress7.0

Location: gistAddress7.0.owl

URI: http://ontologies.semanticarts.com/o/gistPlace7.0

Location : gistPlace7.0.owl

gist:GovernmentOrganization -

gist:_unitedNationsif the united nations recognizes you as a country you are a country

gist:recognizedBy

(gist:recognizes)
Range:gist:SocialBeing
The entity that formally acknowledges the
existance of, as the State recognizes the existance
of a paricular company

gist:directlyRecognizedBy

gist:Organization

A generic organization that can be, e.g., formal or informal, legal or non-legal. It can have members or not

rdfs:comment

NOTE: There are a plethora of different kinds of organizations that differ along many facets, including members, structure, purpose, legal vs. non-legal etc.

rdfs:comment

EXAMPLE: Legal entities like companies, non-legal entities like clubs, committees or departments.

gist:GovernmentOrganization

Established either by fiat (as a conquering army overtakes a land and declares a government) or by delegation from a fiat government, such as a state or local government or a specific agency. Differ from corporations in that they cannot be owned.

--- AND ---

rdfs:comment

EXAMPLE: State of WA Office of Financial Management; the FDA, the Scottish Parliament

gist:Organization

gist:recognizedBy some gist:CountryGovernment

gist:governs

some gist:GeoRegion

rdfs:comment

NOTE: Recognition by a

#CountryGovernment may be indirect via
local, regional or national
#GovernementOrganization(s) that
ulatimately are recognized by a
#CountryGovernment.

gist:CountryGovernment --- AND ---

gist:GovernmentOrganization

gist:directlyRecognizedBy has gist:_unitedNations

gist:Group

A gist:Group is a group of People, they may or may not be an organization. Many organizations consist of groups of people but that isn't a defining characteristic.

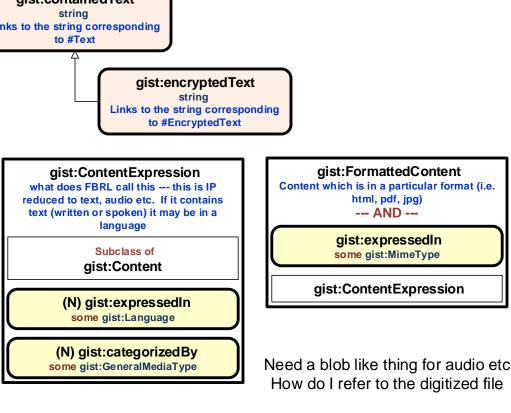
--- AND ---

gist:Collection

gist:hasMember

some gist:Person

gistContent gist7.0 content Base URI: http://ontologies.semanticarts.com/o/gistContent Version URI: http://ontologies.semanticarts.com/o/gistContent7.0 <u>Namespaces</u> http://ontologies.semanticarts.com/gist# http://ontologies.semanticarts.com/o/gistID7.0 Location: gistID7.0.owl gist:Content Documents, programs, images and the like. Categories are not content until they are written down. gist:fromAgent Range:gist:SocialBeing The source of a message or shipment gist:basedOn gist:toAgent pointer to the thing something was Range:gist:SocialBeing derrived from Comment: this is not the inverse of from Agent. A message can be from someone. If we made it the inverse the person would be "to" the message gist:about(gist:describedIn) Domain:gist:ContentSubject matter of a document. gist:expressedIn gist:renderedOn gist:containedText Links to the string corresponding to #Text gist:encryptedText Links to the string corresponding to #EncryptedText gist:FormattedContent gist:ContentExpression Content which is in a particular format (i.e. what does FBRL call this --- this is IP html, pdf, jpg) reduced to text, audio etc. If it contains --- AND --text (written or spoken) it may be in a



gist:EncryptedText #Text that has been encrypted. rdfs:comment NOTE: Will be likely be handled by an application by not showing the text in the Equivalent to --- AND --gist:Text gist:encryptedText some string

gist:Message

A specific message from an Agent to at least one other agent. Could be email, a phone call,

a voice message or a Web Service message

between applications.

--- AND ---

gist:ContentExpression

gist:fromAgent some gist:SocialBeing

gist:toAgent

some gist:SocialBeing

gist:Text

Content in words.

Equivalent to

--- AND ---

gist:Content

gist:expressedIn

some gist:Language

gist:containedText

some string

```
gist:RenderedContent
Content which has been expressed, either to
 print, or through speakers, or through a
               monitor.
              --- AND ---
          gist:expressedIn
          some gist:MimeType
          gist:renderedOn
           some gist:Medium
      gist:ContentExpression
```

Need image, audio and video

gist:Template

Any of a large variety of pieces of content that can be used to generate other content. For example a form can be used to generate data sets, a class can be used to create instances --- AND ---

rdfs:comment

NOTE: Use gist:basedOn to link the instantiation of a Template back to its Template.

gist:Content

gist:produces

some gist:Content

rdfs:comment

EXAMPLE: a form. A filled-in form has the structure of the form with data entered into some or all of the fields.

gist:IntellectualProperty

A work, invention or concept, independent of its being expressed in text, audio, video, image or live performance. For literature this could be called the "Work" except that "work" is a highly overloaded term (expenditure of energey, resource consumption, art). Often the first expression preceeds our recognition of the IP, but subsequent expressions are known to be derrivaties of the IP, even if they are expresssion to expression translations (or copies). IP can also be tacit knowledge, knowhow or skill. Also includes Brands

rdfs:comment

EXAMPLE: "The Old Man and The Sea" is Intellectual Property. As is the page rank algorithm, and Coca Cola

gist:Language

A recognized, organized set of symbols and grammar.

rdfs:comment

EXAMPLE: includes natural languages like **English and Spanish and computer** languages like C# and XML.

gist:Specification

A set of requirements to be satisfied by a material, design, product or service.

Subclass of

gist:Requirement

gist:GeneralMediaType

This is the real world media type (i.e., is it audio, image, video, textual, physical (ie a statue) or performance (i.e. a play) could be oil or pastel for painting

> Subclass of gist:Category

gist:Medium

A physicality that a work could be implemented or exposed on, for instance, paper, or clay or a computer monitor

> Subclass of gist:Category

gist:MimeType

These are digitized types that copmputer applications could recognize. These are the Mime types of interest to a given ontology

> Subclass of gist:Category

gistAgreement

gist7.0 agreement

Base URI : http://ontologies.semanticarts.com/o/gistAgreement $\label{lem:version} \textbf{Version URI:} http://ontologies.semanticarts.com/o/gistAgreement 7.0$

Namespaces

http://ontologies.semanticarts.com/gist#

<u>Imports</u>

http://ontologies.semanticarts.com/o/gistTime7.0

Location: gistTime7.0.owl

http://ontologies.semanticarts.com/o/gistCategory7.0

Location: gistCategory7.0.owl

http://ontologies.semanticarts.com/o/gistIntention7.0

Location: gistIntention7.0.owl

gist:party Range:gist:SocialBeing

The people or organizations participating in an agreement or obligation

gist:giver

gist:getter

gist:specifiedIn

gist:Category

gist:DegreeOfCommitment

The degree of commitment is the difficulty of reversing an commitment. A car rental typcially has a lower degree of commitment than a airfare reserveation

gist:triggeredBy

a property that describes what would happen to trigger the contingent obligation. In most cases, before the Contingent becomes an Obligation, the triggered by event is a planned event (that is it hasn't happened yet -- if it had happend the contingency would no longer be contingent. In most cases it will be a ContingentEvent

gist:giver

some gist:SocialBeing

gist:categorizedBy

some gist:DegreeOfCommitment

gist:Requirement

gist:ContingentObligation

An obligation that is not yet fully executed.

There is some contingent event, the occurance

of which will cause the Obligation to become

firm. Might have a getter counterparty (in the

case of Insurance for instance) but it might not

in the case of an Offer

Equivalent to

--- AND ---

gist:Commitment

gist:giver

some gist:SocialBeing

gist:triggeredBy

some gist:Event

A possibly unilateral obligation --- AND ---

gist:Commitment

--- OR ---

gist:Restriction

gist:Obligation

another. Contracts are sets of oblgations to do

NOTE: Will often be governed by some Agreement or Offer.

Equivalent to

--- AND ---

gist:Commitment

some gist:SocialBeing

gist:getter

gist:ContractTerm

A contract term is a specfication of some aspect of the contract.

Subclass of

gist:Specification

gist:Offer

A commitment to buy or sell a described or identified part or service.

--- AND ---

gist:plannedEnd

some gist:TimeInstant

gist:start

some gist:TimeInstant

gist:hasMagnitude

some gist:Monetary

gist:giver

some gist:SocialBeing

gist:specifiedIn

some gist:CatalogItem

gist:ContingentObligation

A future commitment from one social being to or forebear, or indemnify or warrant.

rdfs:comment

gist:giver

some gist:SocialBeing

gist:CatalogItem

A description of a product or service to be delivered to sufficient level of detail that a receiver could determine whether delviery constituted discharge of obligation to

Subclass of

gist:Specification

gist:BundledCatalogItem

Any combination of descriptions of things offerred together. Could be a kit (several parts offered together) but could also be a product + a warranty

--- AND ---

gist:CatalogItem

gist:hasDirectPart

some gist:CatalogItem

gist:ProductCategory

Any of many ways of categorizing products including models, NATO product codes and the like

Subclass of

gist:Category

gist:ProductSpecfication

Offering something which could be physically warehoused or digitally stored.

--- AND ---

gist:CatalogItem

gist:categoriezedBy

some gist:ProductCategory

gist:ServiceSpecification

A description of something that can be done for a person or organization (which produces some form of an "act"). --- AND ---

gist:CatalogItem

gist:produces

some gist:Behavior

gist:Account

This is account as in bank account, or credit card account, or AR account. It is an agreement with a balance

--- AND ---

gist:Agreement

gist:hasA

some gist:Balance

gist:Balance

A balance is the result of a series of transactions --- AND ---

gist:Magnitude

gist:hasDirectPart

some gist:Transaction

gist:Agreement

Contract or other binding agreement, usually evidenced by signature(s). --- AND ---

gist:Commitment

gist:party min 2 gist:SocialBeing

gist:hasDirectPart min 2 gist:Obligation

gist:Transaction

An event which has an affect on at lest one

Subclass of gist:Event

gistTemporalRelation

gist7.0 temporalRelation

Base URI: http://ontologies.semanticarts.com/o/gistTemporalRelation Version URI: http://ontologies.semanticarts.com/o/gistTemporalRelation7.0

Names paces

gist http://ontologies.semanticarts.com/gist#

<u>Imports</u>

URI : http://ontologies.semanticarts.com/o/gistTime7.0 Location : gistTime7.0.owl

gist:connectedTo

A non owning, non causal, nonsubordinate (ie. peer to peer) relationship.

gist:TimeInterval

gist:TemporalRelation

A relationship holding for a period of time. E.g. employs-Employment, hasStreetAddress-EstablishedLocation. One important context for reifying a property.

(N) gist:start

some gist:TimeInstant

(N) gist:end

some gist:TimeInstant

(N) gist:connectedTo

min 2 owl:Thing

rdfs:comment

EXAMPLE: employs-Employment, hasStreetAddress-EstablishedLocation.

rdfs:comment

NOTE: This is one important context for reifying a property.

gistCategory

gist7.0 Categoy

Base URI: http://ontologies.semanticarts.com/o/gistCategory Version URI: http://ontologies.semanticarts.com/o/gistCategory7.0

Names paces

gist http://ontologies.semanticarts.com/gist#

Imports

URI: http://ontologies.semanticarts.com/o/gistContent7.0

Location: gistContent7.0.owl

gist:allocatedBy

gist:hasPreferredTerm

[F](gist:preferredTermOf)
Range:gist:Text
If there are many terms for a concept or specific instance, this is the one to use.

gist:categorizedByPoints to a taxonomy item or other less formally defined class.

gist:governedBy

gist:Category

Instances of this class are used to categorize other instances informally. This could be tags, folksonomies or formal definitions from other systems.

gist:allocatedBy

some gist:SocialBEing

gist:ControlledVocabulary Key terms and who is approving

them --- AND ---

gist:Collection

gist:governedBy some gist:GovernanceCommittee

> gist:hasMember some gist:Category

gist:GovernanceCommittee

--- AND ---

gist:Group

gist:directPartOf

some gist:Organization

gist:Taxonomy

Hierarchical relationship of concepts in a controlled vocabulary. Note we need to have a property that represents the hierachy and we need a way to distinguish formal and informal taxos

Subclass of

gist:ControlledVocabulary

Need to add something like synonym ring

gistIntention

gist 7.0 Intention

Base URI: http://ontologies.semanticarts.com/o/gistIntention Version URI: http://ontologies.semanticarts.com/o/gistIntention7.0

Names paces

gist http://ontologies.semanticarts.com/gist#

nports

URI: http://ontologies.semanticarts.com/o/gistTop7.0

Location: gistTop7.0.owl

gist:preventDomain:gist:Intention Range:gist:Behavior

gist:allowDomain:gist:Intention Range:gist:Behavior

gist:requireDomain:gist:Intention Range:gist:Behavior

gist:affects(gist:affectedBy)the subject has or had or will have an effect on the object

gist:Restriction

A description of things one is prevented from doing; could be broad such as free speech, but more often is very specific such as the right of egress through a particular property. Most laws are restrictions

--- AND ---

gist:Intention

gist:prevent

some gist:Behavior

gist:Requirement

A documented physical and functional need that a particular design, product or process must be able to perform. Alternately, the obligation of a Social Being to behave in a certain way (i.e., drive on the right side of the road for instance)

Subclass of gist:Intention

gist:require some

--- OR ---

gist:Conformance

gist:Behavior

gist:Permission

A description of things one is permitted to do; could be broad such as free speech, but more often is very specific such as the right of egress through a particular property.

--- AND ---

gist:Intention

gist:allow

some gist:Behavior

gist:Conformance

The state where actual propeties are congruent with desired properties

Subclass of gist:Intention

gist:Goal

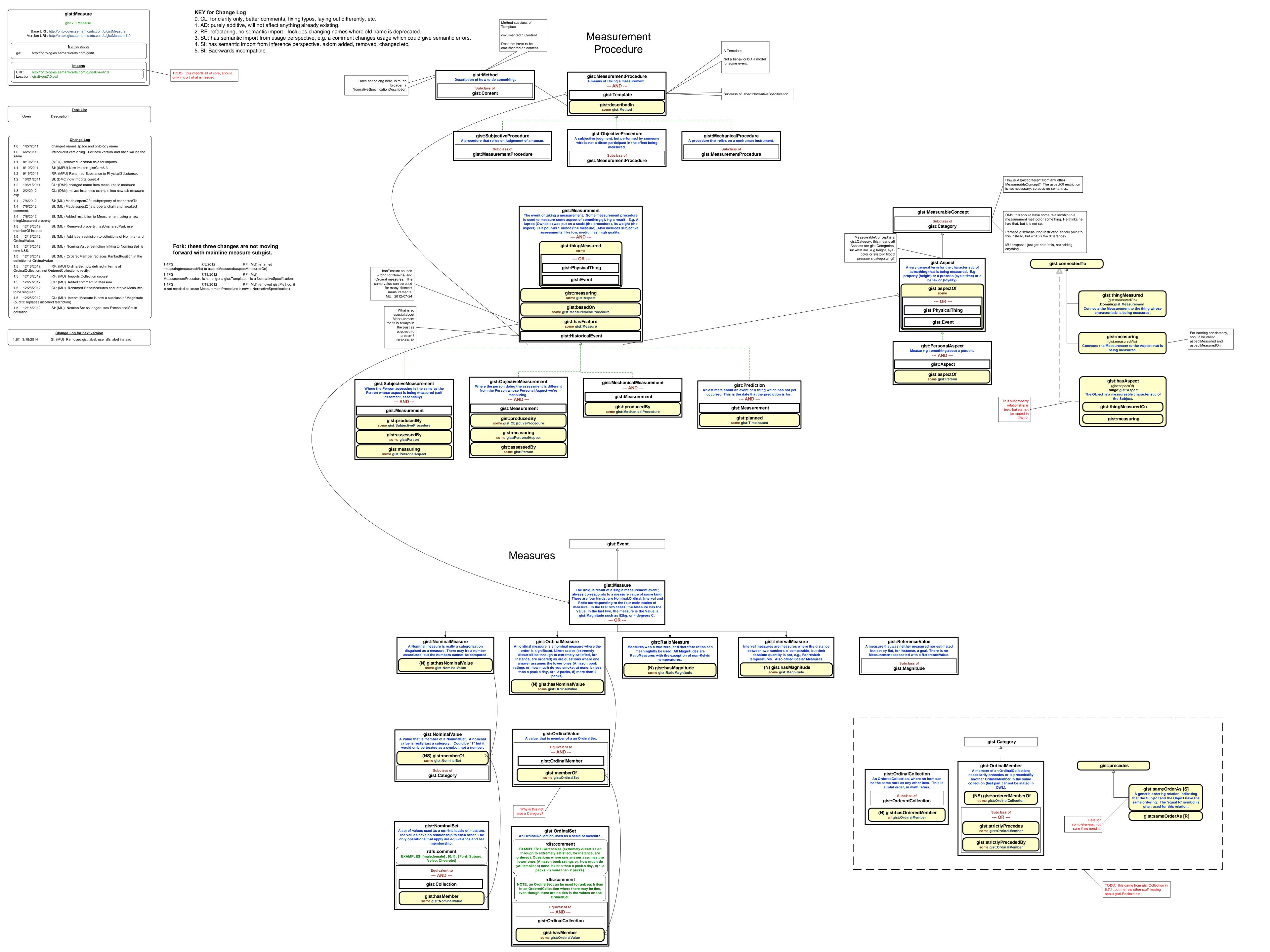
A specific intentional endpoint. Can tell whether its been achieved, as opposed to an intention which may not have an evaluation function

Subclass of

gist:Intention

gist:Intention

This is the "teleologic" aspect of the system that indicates things are done with a purpose. This answers the question: "What do I (they) want?" It is distinct from most of the other classes in the ontology as most of the others represent what is, rather that what is desired.



gistCore

gist7.0 Core this is meant to recreate the equivalent of gistCore6.9 by reassembling the pieces'

> Base URI: http://ontologies.semanticarts.com/o/gistCore Version URI: http://ontologies.semanticarts.com/o/gistCore7.0

<u>Names paces</u>

http://ontologies.semanticarts.com/gist# gist

Imports

URI: http://ontologies.semanticarts.com/o/gistEvent7.0 Location: gistEvent7.0.owl

URI: http://ontologies.semanticarts.com/o/gistOrganization7.0

Location: gistOrganization.8.0.owl

URI: http://ontologies.semanticarts.com/o/gistAgreement7.0 Location: gistAgreement7.0.owl

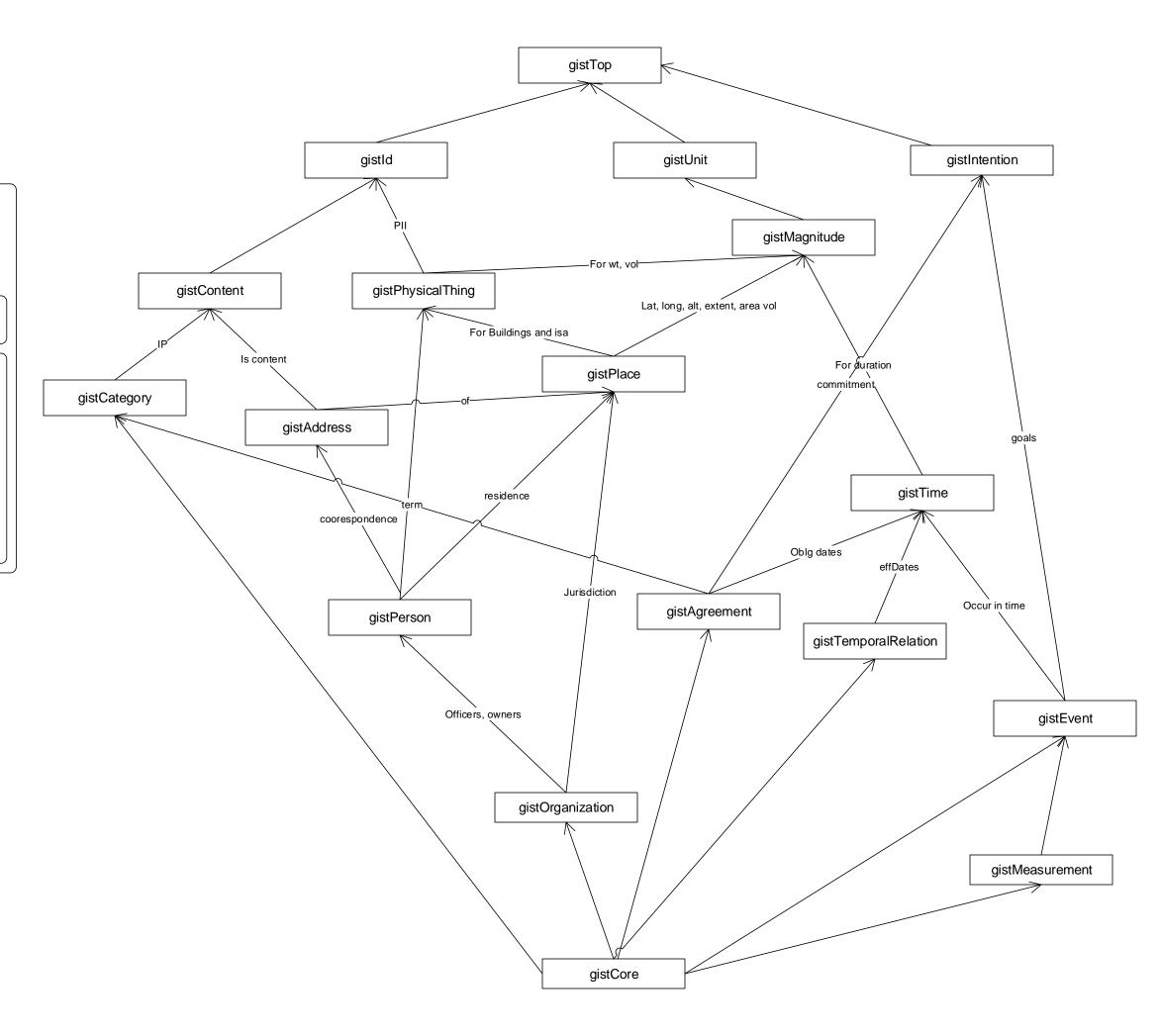
http://ontologies.semanticarts.com/o/gistTemporalRelation7.0

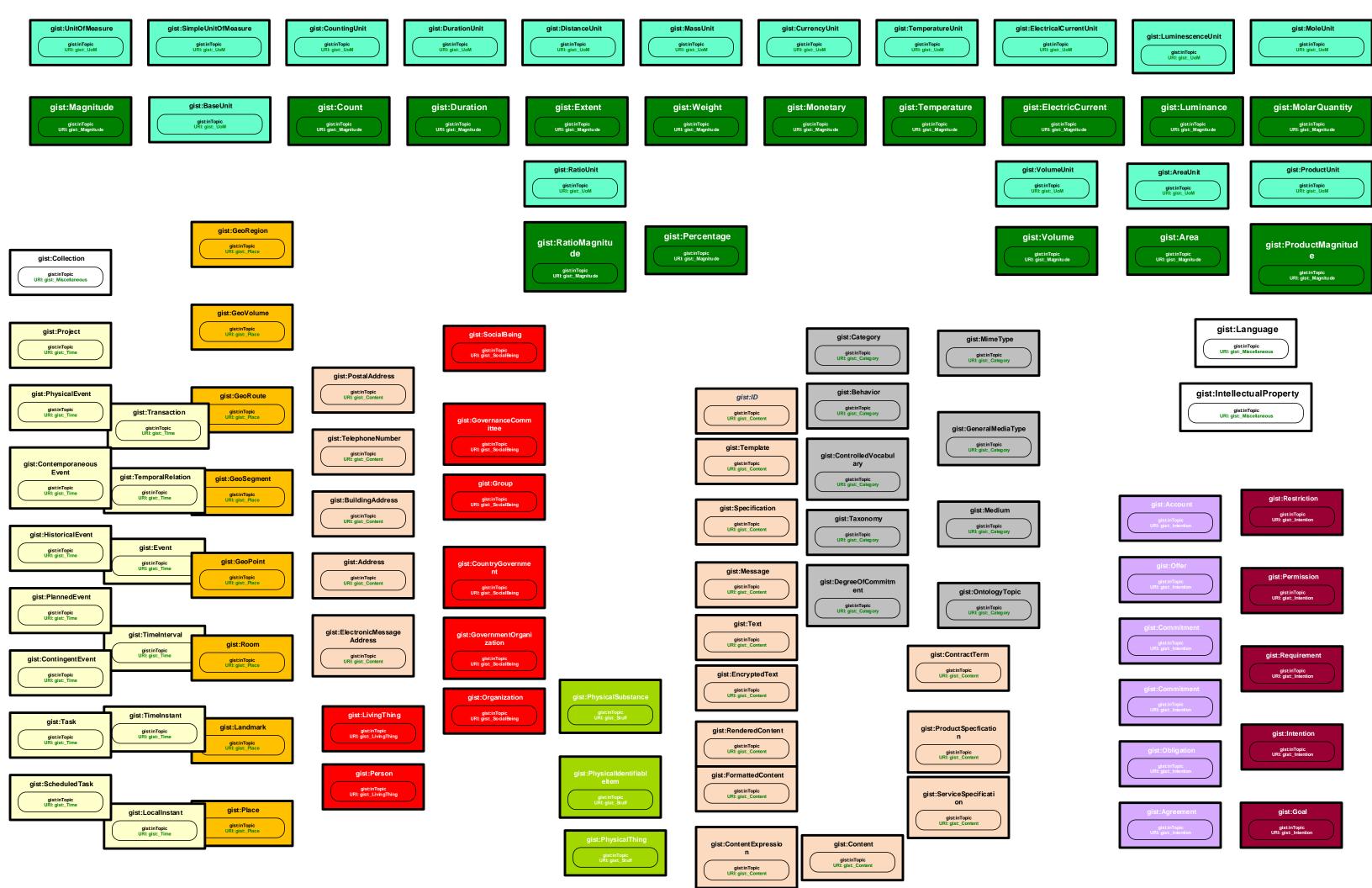
Location : gistTR.8.0.owl

URI: http://ontologies.semanticarts.com/o/gistCategory7.0

Location : gistCategory7.0.owl

URI: http://ontologies.semanticarts.com/o/gistMeasure7.0 Location: gistMeasure7.0.owl





gist Color Annotation

Colors for visualization

Base URI: http://ontologies.semanticarts.com/o/gistColors Version URI: http://ontologies.semanticarts.com/o/gistColors7.0

Namespaces

gist http://ontologies.semanticarts.com/gist#

<u>Imports</u>

URI: http://ontologies.semanticarts.com/o/gistCore7.0

Location : gistCore7.0.owl

gist:centrality

This marks the most important/ anchor concepts for visualization (0-100 100 being most central)

gist:hasColor

The #00000 style coloring for key classes

gist:hasPosition

A clock face position starting with 1 in the 12 oclock position

gist:Category

gist:centrality
100

gist:hasColor
#AAAAAA

gist:hasPosition
15

gist:centrality
100

gist:hasColor
#FDFBFD

gist:hasPosition
14

gist:Collection

gist:centrality
100

gist:hasColor
#06DCFB

gist:hasPosition
12

gist:Content

gist:hasColor #5757FF

gist:centrality 100

gist:hasPosition 11

gist:IntellectualProperty

gist:Intention

gist:centrality
100

gist:hasColor
#990066

gist:hasPosition
10

#FFFF00

gist:Language

gist:centrality
100

gist:hasColor
#C9EAF3

gist:hasPosition
13

gist:Magnitude

gist:centrality 100

gist:hasColor #006622

gist:hasPosition

gist:PhysicalIdentifiableItem

gist:centrality

100

#99EE00 gist:hasPosition

5

gist:hasColor

gist:PhysicalSubstance
gist:centrality
100

gist:hasColor
#B9264F

gist:hasColor
##B9264F

gist:hasPosition 6 gist:ha

gist:Place gist:SocialBeing
gist:centrality 100

gist:hasColor #D881ED

gist:hasPosition 8

gist:SocialBeing gist:TimeInstant

gist:centrality 100

gist:hasColor gist:hasColor

gist:hasPosition 9 gist:hasPosition 3

gist:TimeInterval

gist:centrality
100

gist:hasColor
#FFFF33

gist:hasPosition
4

gist:Person

gist:centrality 110

gist:hasColor #FF0000 gist:Organization

gist:centrality
110

gist:hasColor
#66BBDD

gist:UnitOfMeasure

gist:centrality
100

gist:hasColor #00FF00

gist:hasPosition 2

gistFinancial

gist 7.0 Financial

Base URI : http://ontologies.semanticarts.com/gistFinancial Version URI: http://ontologies.semanticarts.com/o/gistFinancial7.0

<u>Namespaces</u>

gist http://ontologies.semanticarts.com/gist#

<u>Imports</u>

http://ontologies.semanticarts.com/o/gistEvent7.0

Location : gistEvent7.0.owl

URI : http://ontologies.semanticarts.com/o/gistMagnitude7.0 Location : gistMagnitude7.0.owl

2014-03-20: Likely to be overnarrow, how can you besure nothing else is an gist:Asset Asset. A resource that has a value and is owned by someone. If its an obligation it has to be an obligation where the getter is the owner --- AND ---2014-03-20: Likely to be overnarrow, how can you --- OR --besure nothing else is an Asset. gist:PhysicalThing 2014-03-20: not necessarily, gist:IntellectualProperty so this is ok. gist:Content 2014-03-20: Suggests this shound be (N) what makes gist:Obligation something an asset is that it is owned. gist:hasMagnitude some gist:Monetary gist:ownedBy some gist:SocialBeing