Protege ontology consists of:

- Individuals
- Properties
- Classes

Properties

- Inverse
- Transitive
- Functional

Inverse Property

- If individual a is related to individual b, then individual b is related to individual a.

Transitive Property

- If individual a is related to individual b, and individual b is related to individual c, then individual a is related to individual c.

Functional Property

- If individual a is related to individual b, and individual a is related to individual c, then individual b equals individual c.

OWL ontology consists of:

- Classes
- Slots
- Instances
- Value Partitions

Classes

- A class that has at least one necessary and sufficient condition is known as a Defined Class.

Necessary - it must be a member of this class

Sufficient - it must fulfil these conditions

A class of individuals is described or defined by the relationships that these individuals participate in (defined using restrictions).

Restrictions

- Necessary conditions
- Sufficient conditions
- Irreducible restrictions

Necessary conditions - if something fulfils these conditions then it must be a member of this class.

Sufficient conditions - if something fulfils these conditions then it cannot be assumed that something does not exist unless it is explicitly specified so (i.e. we must add negative 'necessary' restrictions to define classes).

Irreducible restrictions - these are conditions that define classes of individuals that for a given property only have hasTopping relationships to VegetableTopping.

Irreducible restrictions are defined using OWL restrictions:

- Necessary
- Sufficient
- Irreducible

Necessary restrictions - describe classes of individuals that participate in at least one relationship (in protege keyword some is used to define existential restrictions).

Sufficient restrictions - describe classes of individuals that for a given property only have hasTopping relationships to VegetableTopping.

Irreducible restrictions - describe classes of individuals that are members of a specified class (i.e. only have hasTopping relationships to VegetableTopping).

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> Protégé ontology consists of:

- Individuals
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- Classes

Properties

- Inverse
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Inverse Property

- If property links individual a to individual b, then inverse property will link b to a.

Transitive Property

- If property links individual a to individual b, and individual b is related to individual c, then individual a is related to individual c.

Functional Property

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