

Atom-Owl

An example of philosophical analysis



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Philosophical Analysis



2500 years of history starting with Plato continuing
(David Lewis, Nozick, ...):

Take a concept and extract its logical structure by looking
at usage, puzzles and paradoxes.

Advantages:

- Clears up understanding
- Resolves conflicts peacefully
- Helps resolve puzzles and paradoxes
- Better tools
- Formal model

Atom – rfc4287



```
<?xml version="1.0" encoding="utf-8"?>
<feed xmlns="http://www.w3.org/2005/Atom">

  <title>Example Feed</title>
  <link href="http://eg.org/" />
  <updated>2003-12-13T18:30:02Z</updated>
  <author>
    <name>John Doe</name>
  </author>
  <id>tag://eg.org,2003/entry/feed1</id>

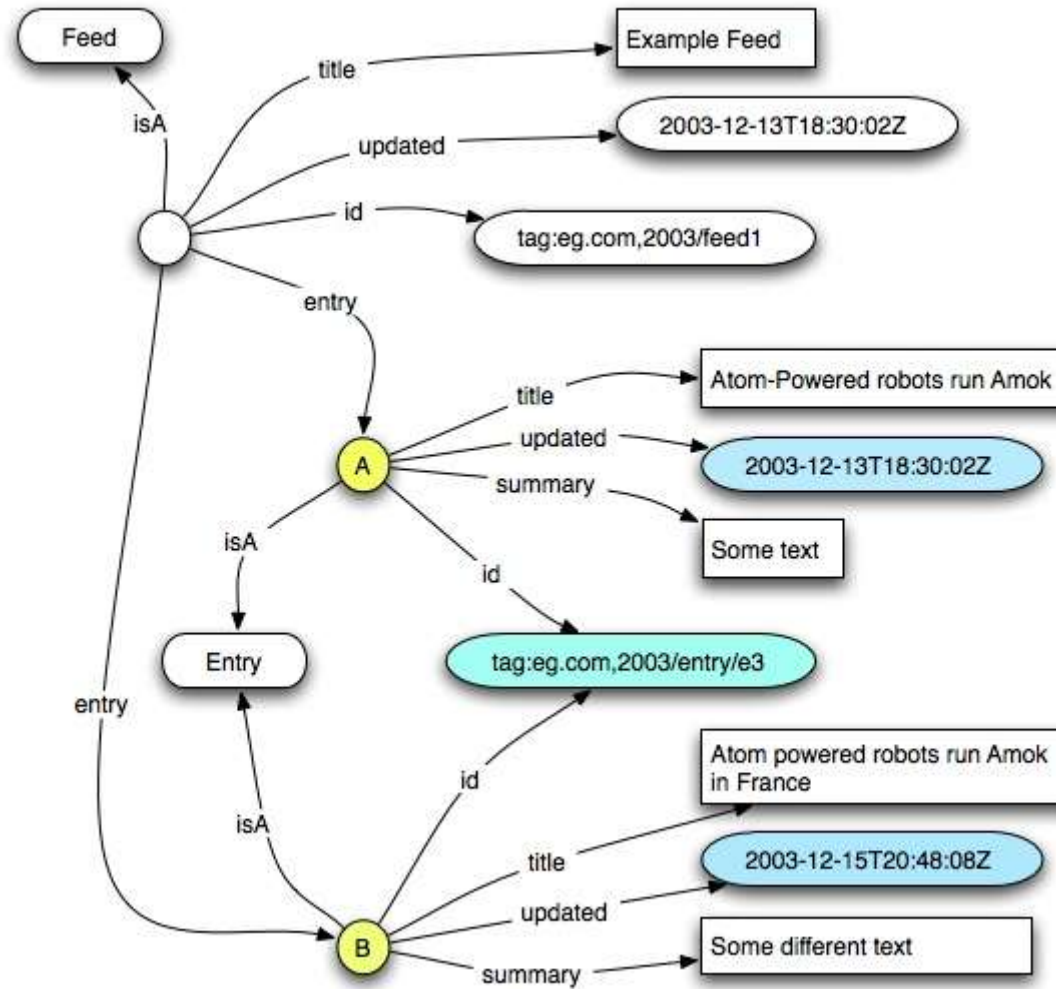
  <entry>
    <title>Atom-Powered Robots Run Amok</title>
    <link href="http://eg.org/2003/12/13/atom03/v1" />
    <id>tag://eg.org,2003/entry/e3</id>
    <updated>2003-12-13T18:30:02Z</updated>
    <summary>Some text.</summary>
  </entry>
  <entry>
    <title>Atom-Powered Robots Run Amok in France</title>
    <link href="http://example.org/2003/12/13/atom03/v2" />
    <id>tag://eg.org,2005/entry/e3</id>
    <updated>2003-12-15T20:45:08Z</updated>
    <summary>Some different text.</summary>
  </entry>
</feed>
```


Notice

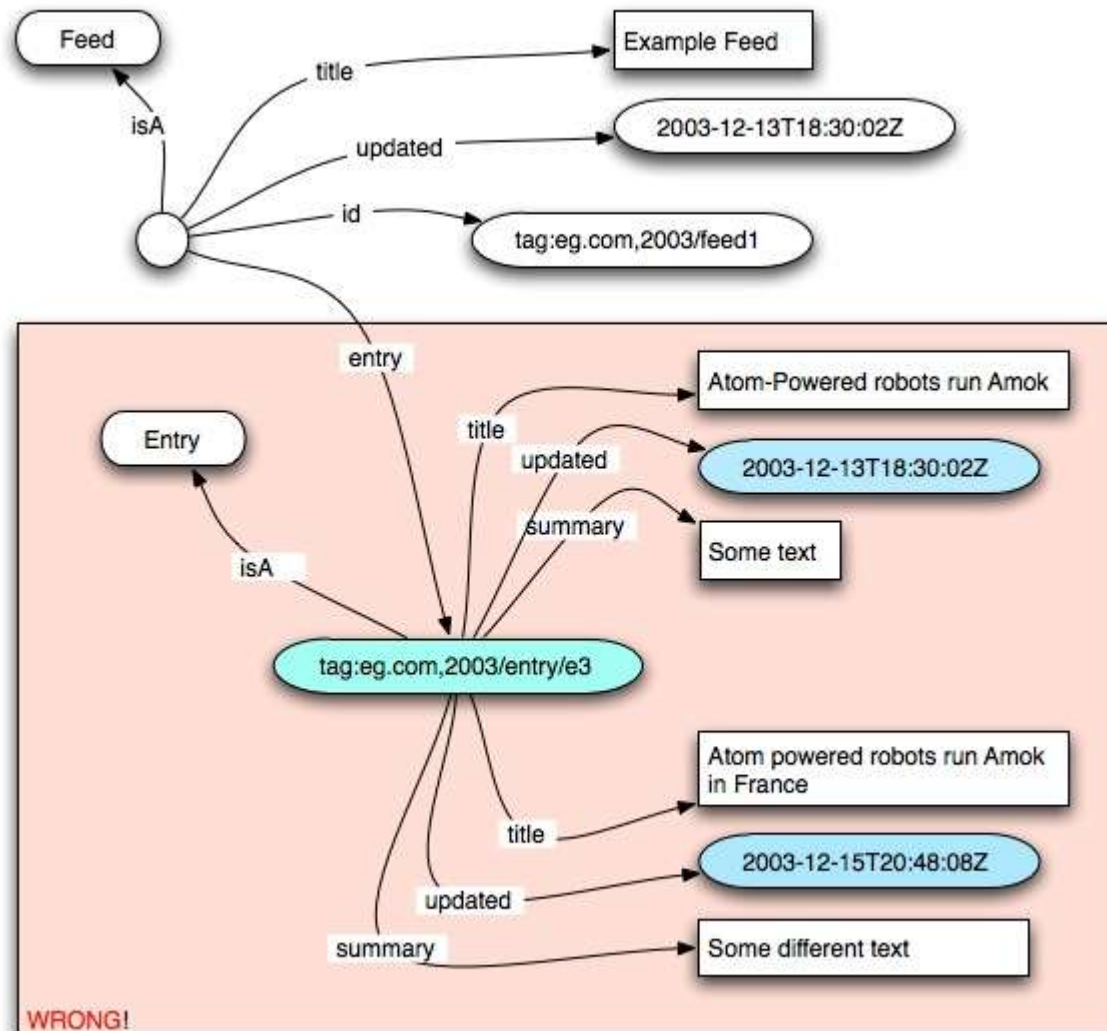


- AtomOwl uses the same exact terms as Atom
- The name space of the terms is the namespace of Atom + #
currently: `<http://www.w3.org/2005/10/23/Atom#>`
- The terms are defined by reference to rfc 2487
- We work with the intuitions developed by Atom
- Then we add logic...

Graphically



Is :id the identity relation?

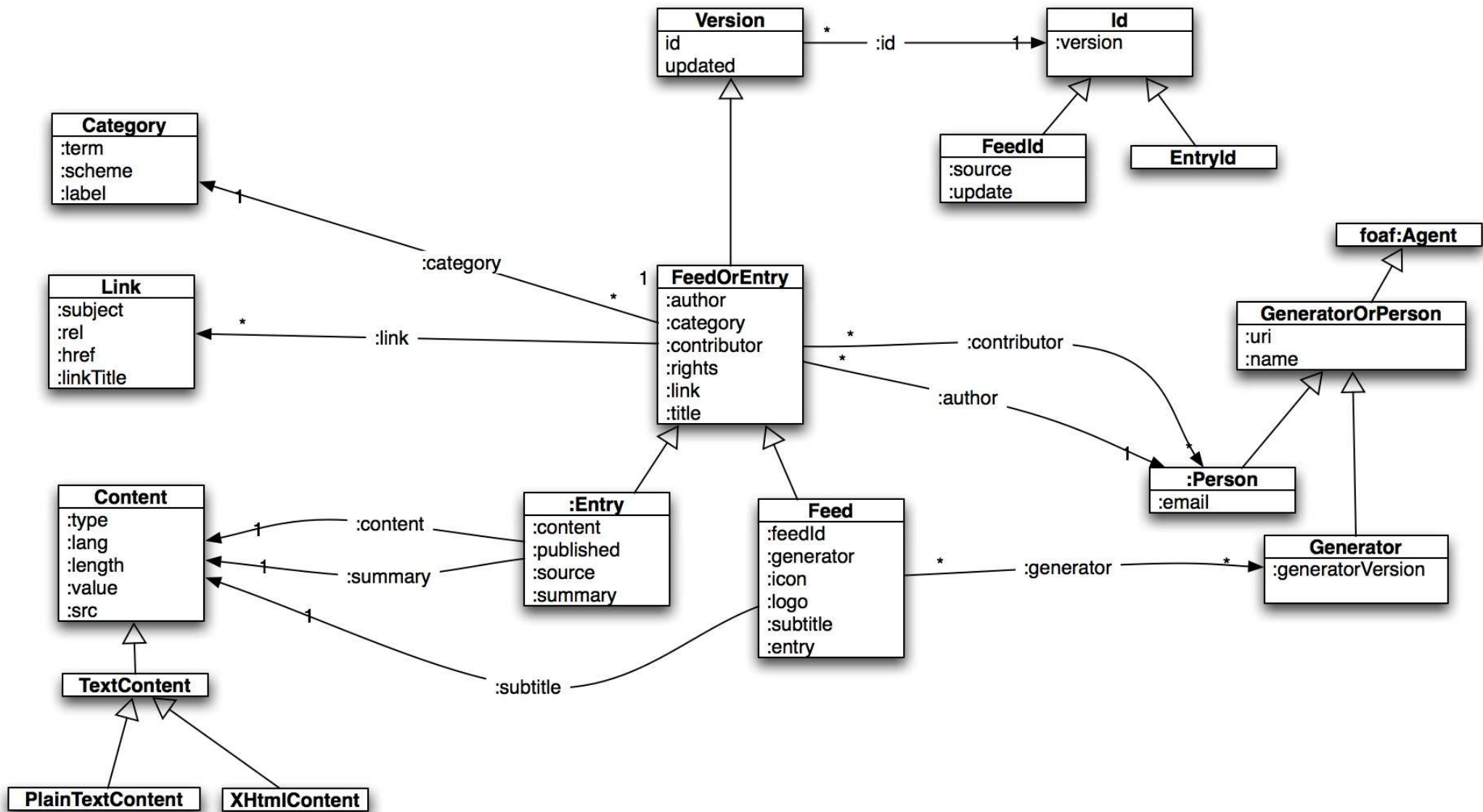


Hence the definition of :id

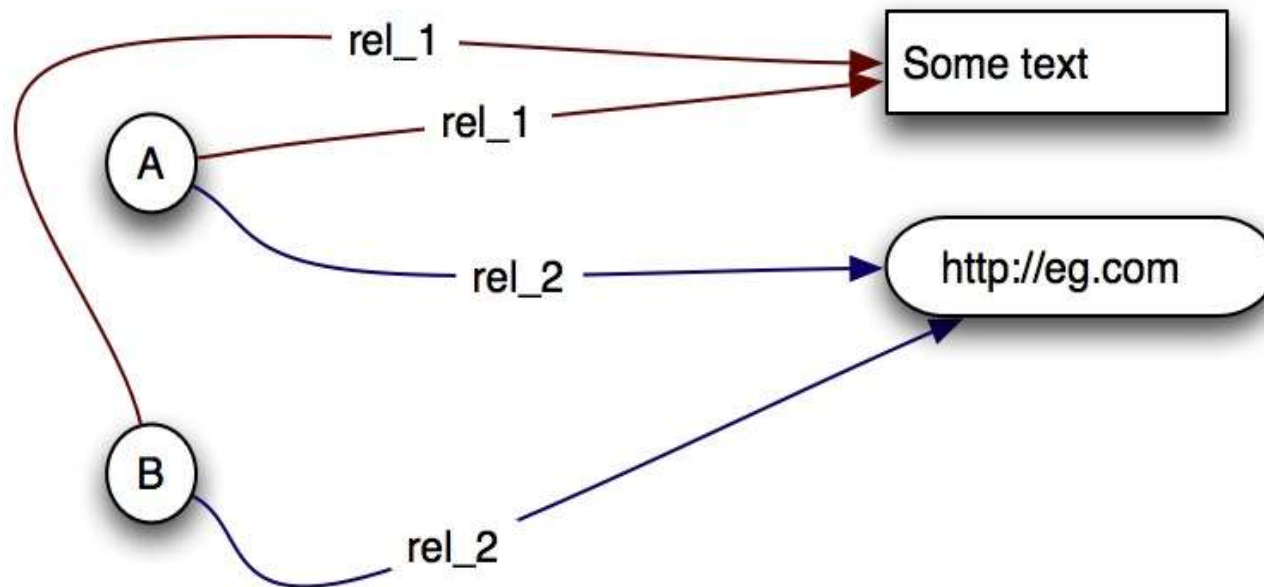


```
:id    a owl:FunctionalProperty,  
        owl:ObjectProperty;  
        rdfs:label "id"@en;  
        rdfs:comment "See section 4.2.6 of rfc2487 spec. All Versions  
with the same id can be considered to be versions of the resource  
identified by the id. Hence the inverse :version relationship."@en;  
        rdfs:domain    :Version;  
        rdfs:range     :Id .
```

AtomOwl UML



Combined Inverse Functional Property (CIFP)



If the combined property formed from `rel_1` and `rel_2` is an ifp
 \Rightarrow `A owl:sameAs B`

more at <http://esw.w3.org/topic/CIFP>

CIFP in Atom-Owl



```
[ ] cifp:productProperty ( :updated :id );  
    a owl:InverseFunctionalProperty .
```

Uses for AtomOwl



- Aggregate feeds from many locations into one triple database (BlogEd, JNN,...)
- SPARQL queries
- Clarify debate over extensions
- A vocabulary for specifying metadata of content at instances time, that can be re-used in other ontologies
- ...

SPARQL



a) list all entries in the collection `tag:example.org,2003:feedId`

```
BASE <http://www.w3.org/2005/10/23/Atom#>
SELECT ?id
WHERE { [ a :Entry;
         :id ?id;
         :source <tag:example.org,2003:feedId>;
       ]
}
```

b) list all entries in the collection belonging to the cat category

```
BASE <http://www.w3.org/2005/10/23/Atom#>
SELECT ?id
WHERE {
  [] a :Entry;
  :id ?id;
  :category [ :term "Cat"^^xsd:string ] .
}
```

c) ...

Todo



- Turn this ontology into a W3C note for external working group
- Finish xslts for transforming Atom xml into AtomOwl
- Join <http://groups.google.com/atomowl>