Ontology Life Cycles
and
The Web's LOD Cloud

By *Kingsley Idehen*

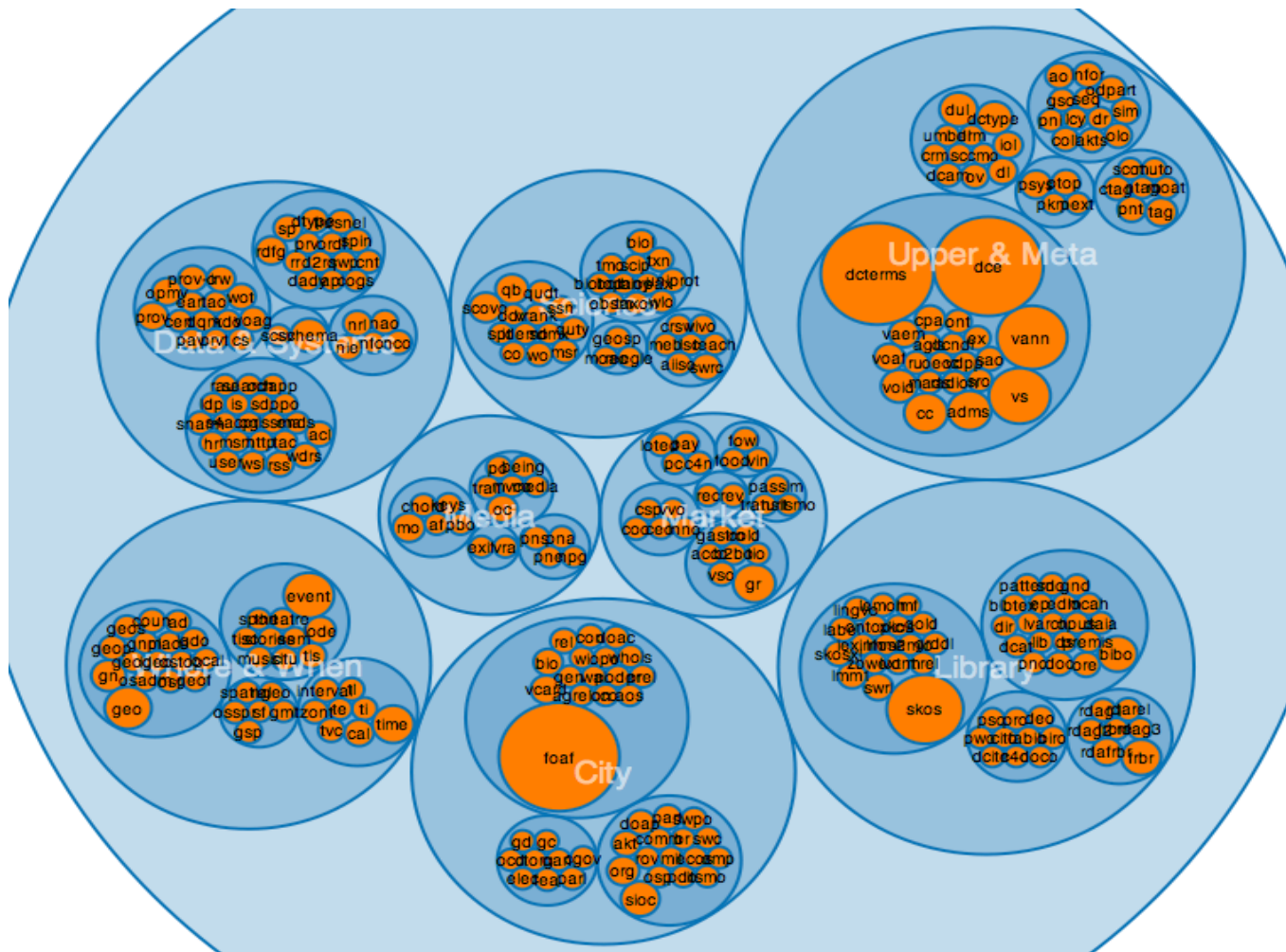*Founder & CEO,* *OpenLink Software*

Life Cycle Challenges

- Ontology Creation

- Ontology Publication

- Ontology Discovery

- Ontology Use

- Ontology Attribution

- Ontology Problem Discovery

- Ontology Problem Resolution .

OPENLINK
SOFTWARE

Linked Open Data (LOD) Cloud

Legend:
- Media
- Geographic
- Publications
- User-generated content
- Government
- Cross-domain
- Life sciences

Linked Open Vocabularies (LOV) Cloud

Ontology Creation

- File Creation

- Content Created

- File Saved.

Ontology Publication

- File Published to Web Address
- Ontology Publication Announced

From: Diane Hillmann <metadata.maven@gmail.com>
Date: Tue, 12 Mar 2013 15:03:51 -0400
Message-ID: <CAEXEg8qd82TrO2t+Kn13nU6BMEWg6efQ3C7L87D6DwBj=t=Tww@mail.gmail.com>
To: Kingsley Idehen <kidehen@openlinksw.com>
Cc: public-vocabs@w3.org

```
Kingsley:

Thanks for your comments. We're in the process of upgrading the Open
Metadata Registry, and you suggestions will be considered as we proceed
with the upgrade. For the moment, we're applying our limited resources to
managing the vocabularies we have, pushing on the upgrade and gathering
feedback. So we thank you!

BTW, the remaining LII US Legislative Model properties and classes now
appear at: http://metadataregistry.org/schema/show/id/69.html.  All have
the status of 'published', so the URIs should be considered stable.

Diane Hillmann
Metadata Management Associates
```

Ontology Discovery

- Tweets, G+ Posts etc.

Ontology Discovery

- LOD Cloud Cache Lookup Service

Ontology Discovery

- LOV Cloud Lookup Service

Ontology Discovery

■ LOV Cloud Lookup Service

Ontology Use

- DBpedia & LOD Cloud Meshups

Ontology Attribution

Personal URIs (WebID) for Creators.

Ontology Problem Discovery

■ IFP example with FOAF

What is an Inverse Functional relation?

An Inverse Functional relation enables the determination (inference) of subject equivalence by property value. For instance, let's start with the following urn: scheme URIs that denote me --

- <urn:person:Kingsley>
- <urn:person:kidehen>

Each of these denotations is associated with an email address, itself denoted by a maito: scheme URI, <mailto:kidehen@openlinksw.com>, using the Turtle based statements --

```
<urn:person:Kingsley>
    <http://xmlns.com/foaf/0.1/mbox>
        <mailto:kidehen@openlinksw.com>
        .
<urn:person:kidehen>
    <http://xmlns.com/foaf/0.1/mbox>
        <mailto:kidehen@openlinksw.com>
        .
```

I explicity add the IFP designation --

```
<http://xmlns.com/foaf/0.1/mbox>
    a
        <http://www.w3.org/2002/07/owl#InverseFunctionalProperty>
```

Ontology Problem Resolution

■ Local tweaks

```
Update Local FOAF Graph with missing IFP claim

## update starts
INSERT
INTO GRAPH <http://xmlns.com/foaf/0.1/>
{
    <http://xmlns.com/foaf/0.1/mbox>
        a
            owl:InverseFunctionalProperty
}
## update ends
```

Additional Information

- **OpenLink Software:**
  - OpenLink Software
  - OpenLink Virtuoso
  - Universal Data Access Drivers

- **Social Media Data spaces**
  - http://www.openlinksw.com/blog/~kidehen/ (weblog)
  - https://plus.google.com/112399767740508618350/about (Google+)
  - https://twitter.com/kidehen (Twitter)
  - Hashtag: #LinkedData (Anywhere) .

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