

# Drupal 7 and Semantic Web Hands-on Tutorial



Advanced



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# Towards RDF in Drupal core

"Video from the future"

DrupalCon Boston 2008

Dries' keynote



# Towards RDF in Drupal core

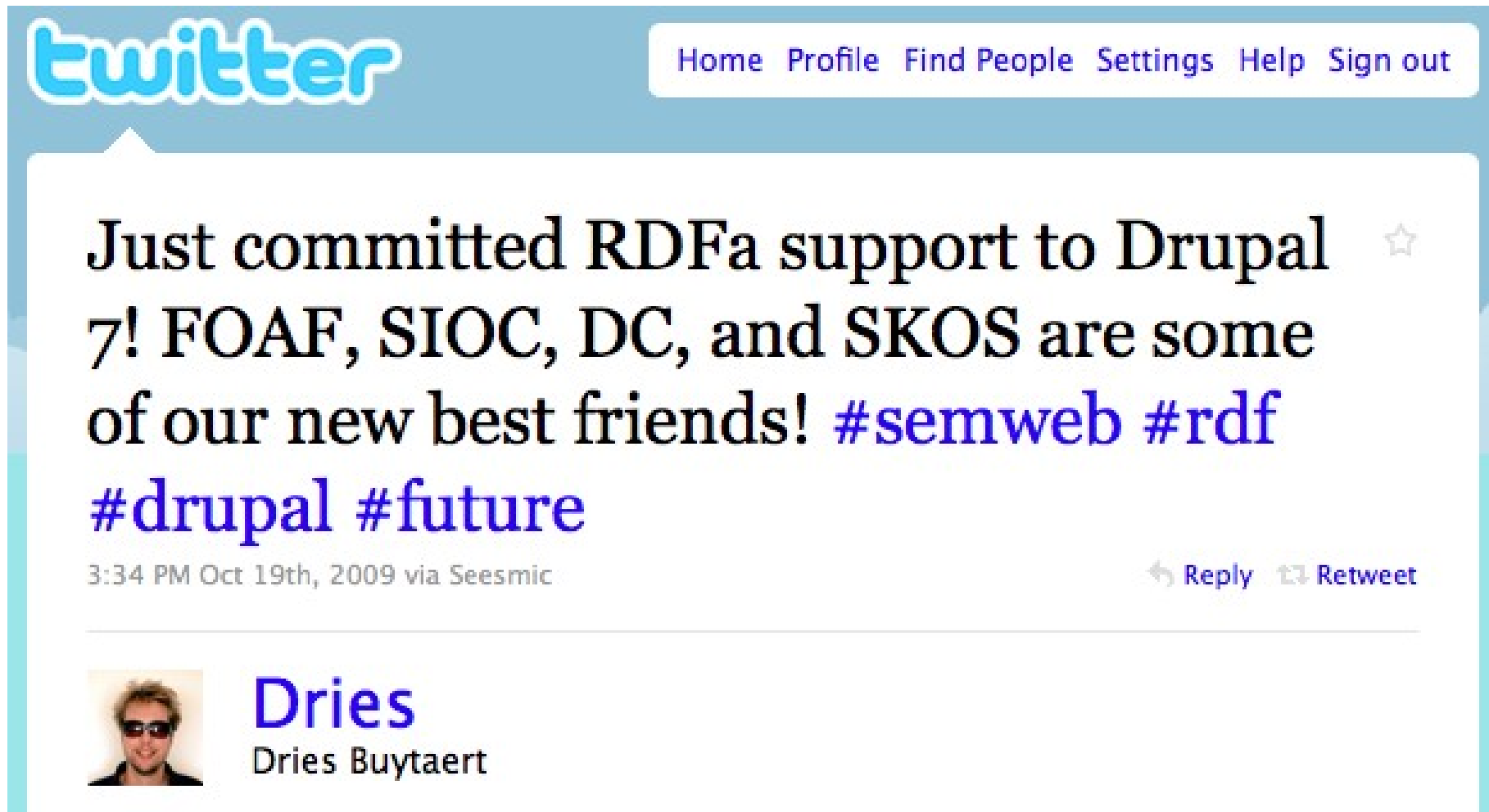
Code sprint

May 2009

DERI Galway, Ireland



# Towards RDF in Drupal core



The image is a screenshot of a Twitter post. At the top left is the Twitter logo. To the right of the logo is a navigation bar with links for Home, Profile, Find People, Settings, Help, and Sign out. The main content of the tweet is a text message: "Just committed RDFa support to Drupal 7! FOAF, SIOC, DC, and SKOS are some of our new best friends! #semweb #rdf #drupal #future". Below the text is the timestamp "3:34 PM Oct 19th, 2009 via Seismic" and two interaction buttons: "Reply" and "Retweet". At the bottom left of the tweet is a profile picture of Dries Buytaert, followed by his name "Dries" in a large blue font and "Dries Buytaert" in a smaller black font.


twitter

Home Profile Find People Settings Help Sign out

Just committed RDFa support to Drupal 7! FOAF, SIOC, DC, and SKOS are some of our new best friends! #semweb #rdf #drupal #future

3:34 PM Oct 19th, 2009 via Seismic

Reply Retweet

 **Dries**  
Dries Buytaert

# RDF in Drupal 7

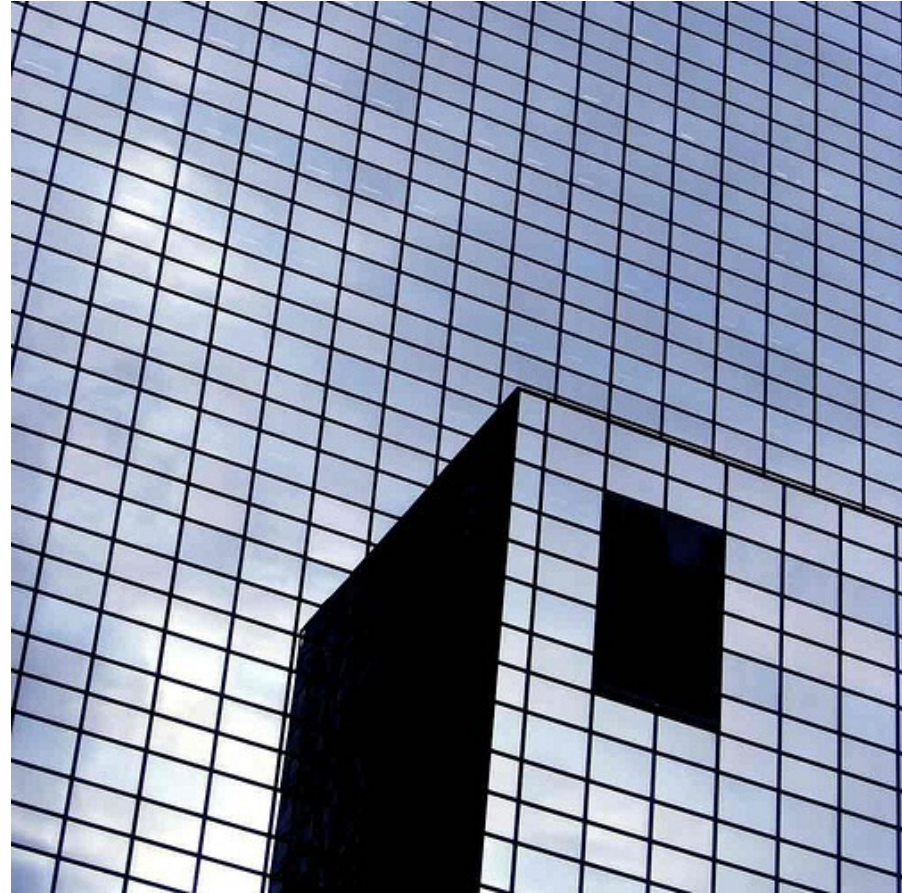
- Expose Drupal's data in RDF
- Automatically
- No RDF expertise required
- Module based





# Architecture

- User driven data model
- Structured data: instances of types with properties and relationships
- Content type = RDF class
- Field = RDF property
- Node = RDF resource



# Content types and Fields

Person

Edit

Manage fields

Add fields and groups to the content type, and arrange them on content display. You can add a field to a group by dragging it below and to the right of the group. Note: Installing the [Advanced help](#) module will let you access more and better help.

Label	Name	Type
⊕ Name	Node module form.	
⊕ First name	field_fn	Text
⊕ Last name	field_ln	Text
⊕ Picture	field_picture	Image
⊕ Colleagues	field_friend	Node reference
⊕ Current projects	field_current_project	Node reference

# Content types and Fields

## Global settings

These settings apply to the *Gender* field in every content type in which it appears.

Required

### Number of values:

Maximum number of values users can enter for this field.

**Warning! Changing this setting after data has been created could result in the loss of data!**

## Allowed values

Create a list of options as a list in **Allowed values list** or as an array in PHP code. These values will be the same for *Gender* in all content types.

### Allowed values list:

Male  
Female



# Node

Stephane Corlosquet

View

Edit

**First name:** Stephane

**Last name:** Corlosquet

**Homepage:** <http://openspring.net/>

**Email:** [stephane.corlosquet@deri.org](mailto:stephane.corlosquet@deri.org)  
[scorlosquet@gmail.com](mailto:scorlosquet@gmail.com)

**Colleagues:** [Aidan Hogan](#)

[Andreas Harth](#)

[Axel Polleres](#)

[Tim Clark](#)

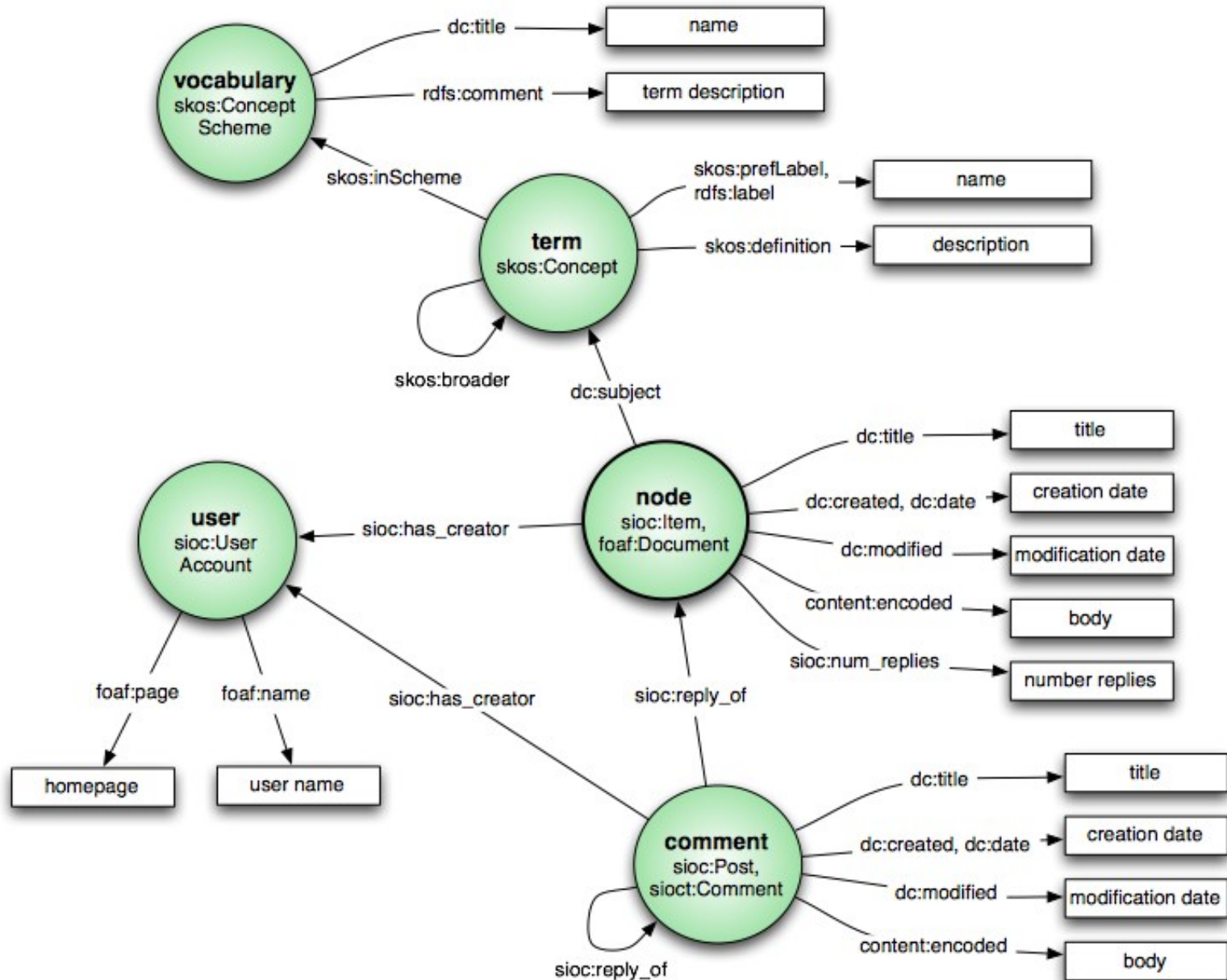
**Current projects:** [Drupal](#)

[Drupal Semantics](#)

[Science Collaboration Framework](#)



# Drupal 7 core RDF mappings



# Drupal 7 RDFa benefits

- FOAF, SIOC, SKOS, DC “out of the box”
- All users have a WebID
  - `user/3#me` => foaf:Person
  - WebID authentication

# RDF UI (RDF Extensions)

RDF Mapping User Interface for site administrators to customize RDF mappings



[Home](#) » [Administration](#) » [Structure](#) » [Content types](#) » [Article](#)

Manage the way this bundle and its fields are represented in RDF. The mappings defined here will be used to publish RDFa in the site's HTML pages.

<b>Type</b> sioc:Item, foaf:Document	<b>RDF Predicates</b> <input type="text" value="dc:subject"/>
<b>Title</b> dc:title property	Enter a comma-separated list of predicates for <i>Tags</i> using CURIE syntax. For example: <i>foaf:familyName, foaf:lastName</i>
<b>Body</b> content:encoded property	<b>Attribute Type</b> <input type="text" value="rel"/>
<b>Tags</b> dc:subject rel	For fields containing literals—things such as plain text, html, numbers—use the <a href="#">property</a> attribute. For fields containing references to other things—urls and node references, for example—use the <a href="#">rel</a> or <a href="#">rev</a> attribute.
<b>Image</b> og:image, rdfs:seeAlso rel	

Save mappings



# SPARQL endpoint (SPARQL)

SPARQL Endpoint: anyone can query your site data with SPARQL queries

name	title
Axel Polleres	Embedding Non-Ground Logic Programs into Autoepistemic Logic for Knowledge-Base Combination.
Axel Polleres	Planning under Incomplete Knowledge.
Tim Clark	Computational knowledge integration in biopharmaceutical research.
Tim Clark	Globally distributed object identification for biological knowledgebases.
Tim Clark	Knowledge Integration in Biomedicine: Technology and Community.
Tim Clark	SWAN: A distributed knowledge infrastructure for Alzheimer disease research.

# SPARQL Views

SPARQL Views: reuse remote data and display it on your site using Views. Credits to @linclark.

name	title
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# Hands on

- Blog post as an RDF Graph (Sindice)
- RDF UI
- Node references

# Hands on

- Content Negotiation
  - Install [Rest WS](#) module
  - Allow permission to 'Access the resource node'
  - RDF/XML            node/1.rdf
  - Turtle              node/1.ttl
  - N Triples           node/1.nt
- `curl -H 'Accept: application/rdf+xml'`



# Thanks!

- Semantic Web discussion group:  
<http://groups.drupal.org/semantic-web>
- My blog, mostly on Semantic Web & Drupal:  
<http://openspring.net/>
- Twitter: @scorlosquet