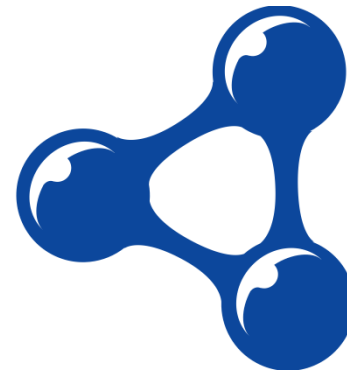


When Drupal and RDF meet



Stéphane Corlosquet, <scorlosquet@gmail.com>

- Software engineer, MGH
- Drupal developer
- SemWeb geek

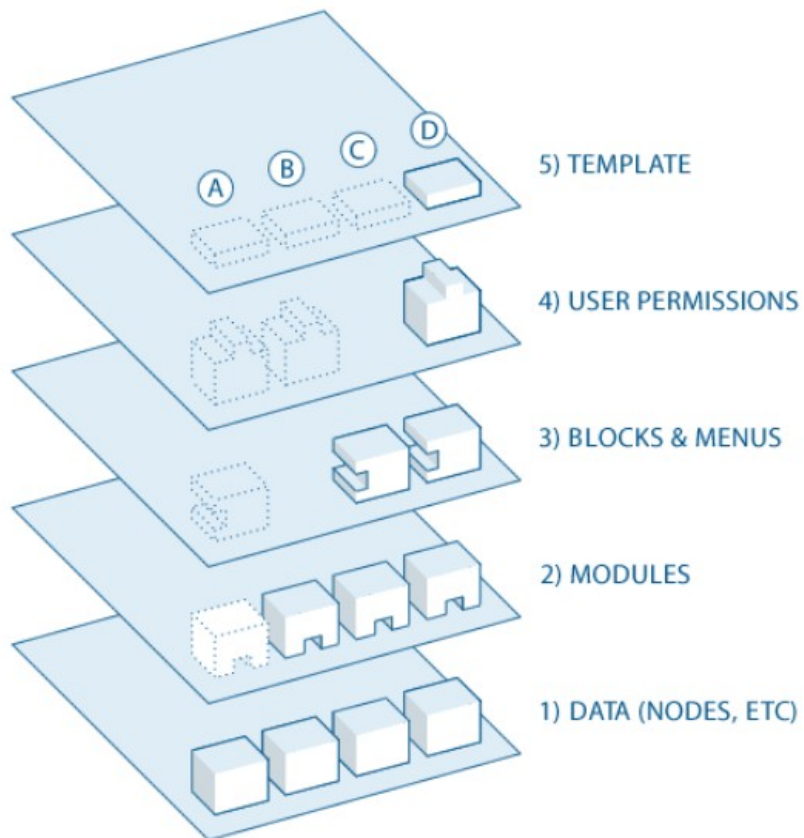


Drupal

- Small news site in 2000
- Open Source - 2001
- Content Management System
- LAMP stack
- Non-developers can build sites and publish content
- Control panels instead of code



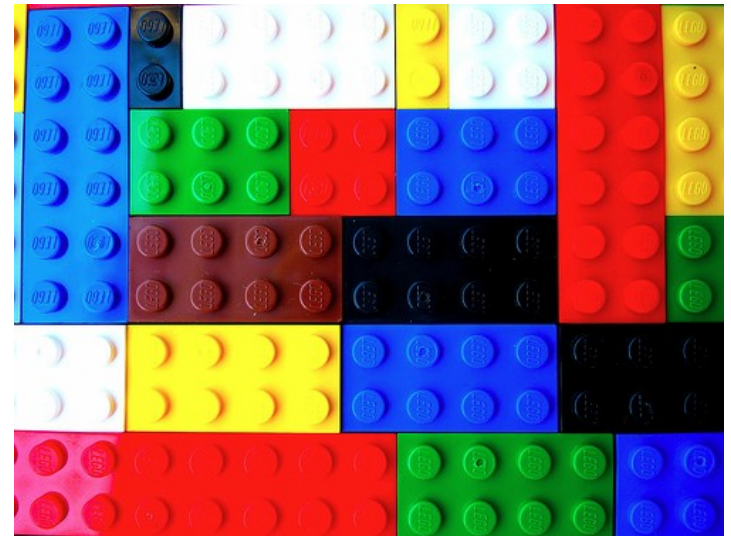
Drupal



- Open & modular architecture
- Extensible by modules
- Standards-based
- Low resource hosting
- Scalable

Drupal

- Create the content types you need:
Blog, article, wiki, forum, polls, image, video, podcast, e-commerce... (be creative)

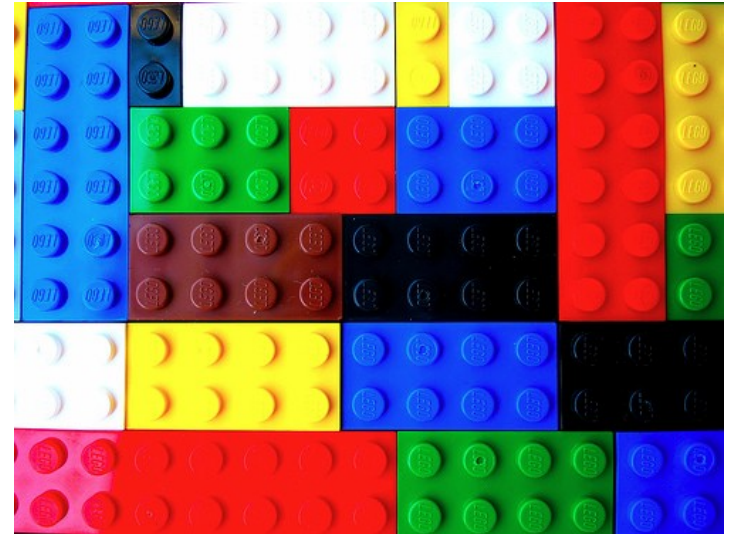


Drupal

- Enable the features you want:

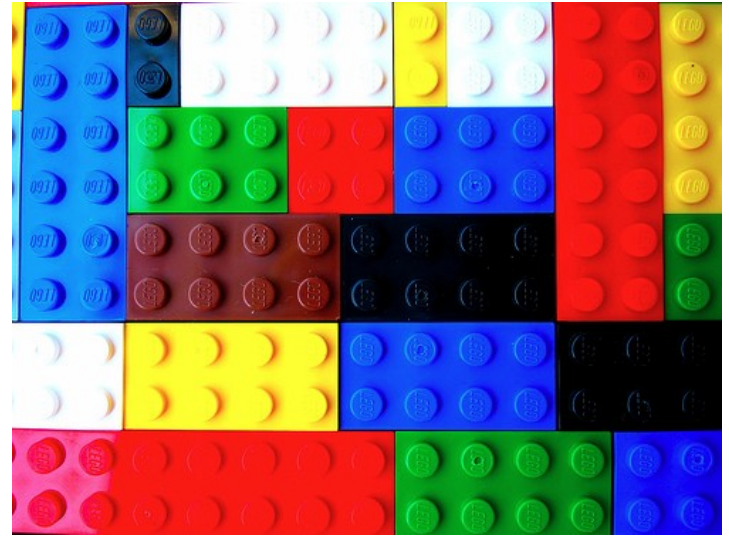
Comments, tags, voting/rating,
location, translations, revisions,
search...

(from the 3000+ modules contributed
by the community)



Drupal

- Place links in the navigation bars and blocks
- Build Views over your data



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Samantha Appleton, 1/8/10

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Cut through the rhetoric on health insurance reform. Read the essentials of the President's plan, and watch a video with highlights of his speech to Congress.

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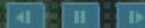
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SAP

Sun
microsystems

Jabber



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MUSIC ENTERTAINMENT

ubuntu

SECOND.
LIFE

UNIVERSAL

FedEx[®]
Corporation



eclipse

UNIVERSAL MUSIC GROUP

<http://buytaert.net/tag/drupal-sites>

- 227,000 sites running Drupal
- How to leverage all this data?



- <insert RDF sales pitch here>

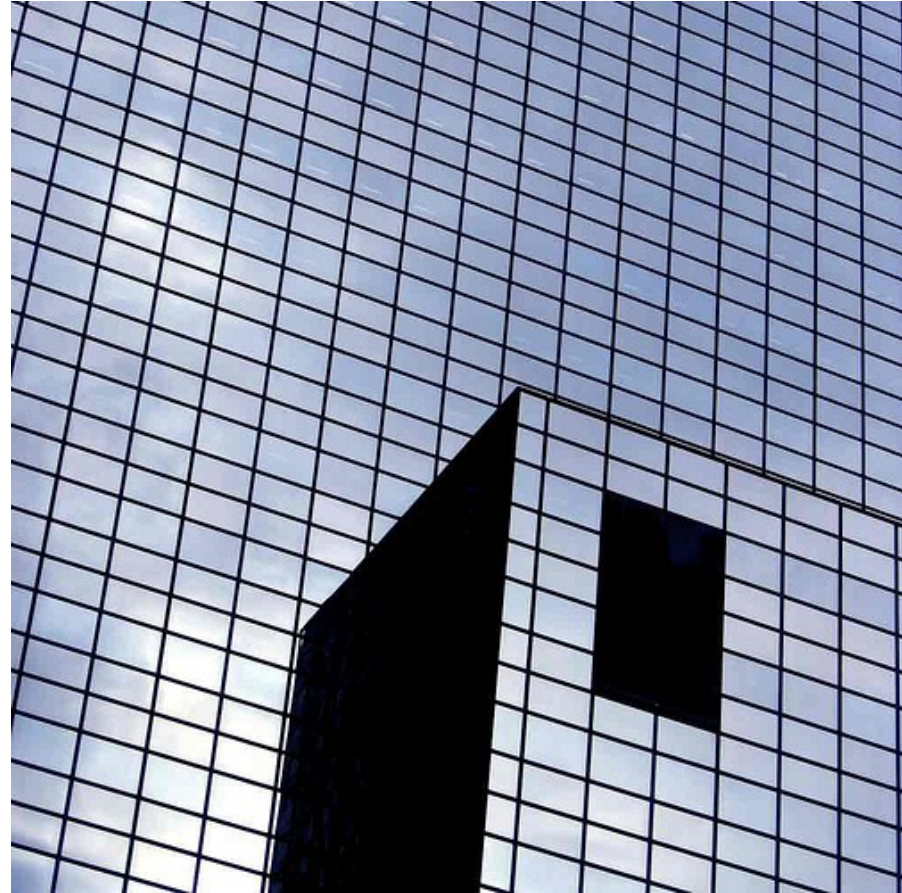
Experiment in Drupal 6

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



Architecture

- User driven data model
- 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
scorlosquet@gmail.com

Colleagues: [Aidan Hogan](#)

[Andreas Harth](#)

[Axel Polleres](#)

[Tim Clark](#)

Current projects: [Drupal](#)

[Drupal Semantics](#)

[Science Collaboration Framework](#)



Mapping to RDF

- `site:Person a rdfs:Class;`
`rdfs:subClassOf foaf:Person.`
- `site:first_name a rdf:Property;`
`rdfs:subPropertyOf foaf:firstName.`
- `site:colleague rdfs:domain site:Person.`

Mapping to RDF

Person [Edit](#) [Manage fields](#) [Manage RDF mapping](#)

Specify the RDF class of this content type. You can also map the CCk

RDF class:

- foaf:Person
- <http://xmlns.com/foaf/0.1/Person>Person* A person.**
- <http://ebiquity.umbc.edu/ontology/person.owl#Person>Person
- <http://rs.tdwg.org/ontology/voc/Person#Person>Person* A representation of a human being, living or dead.
- <http://www.cyc.com/2003/04/01/cyc#Person>persons* The collection of all human beings. Something is an instance of #Person just in case it is a member of the species Homo Sapiens, and thus #Person is an instance of #BiologicalSpecies

Mapping to RDF

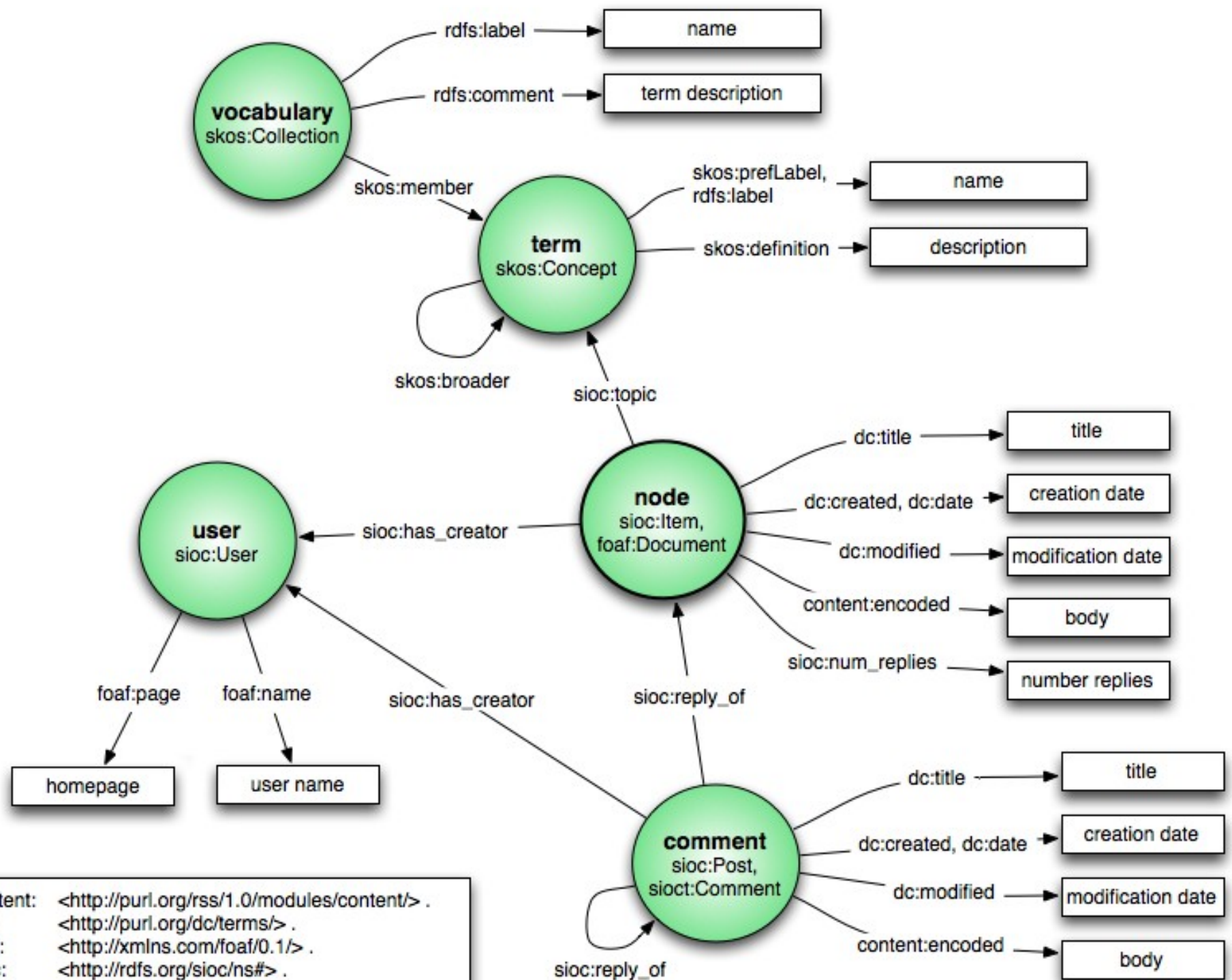
Label	Name	Type	RDF property
Last name	field_In	Text	foaf:surname
Picture	field_picture	Image	foaf:depiction
URI	field_myuri	Link	owl:sameAs
Homepage	field_homepage	Link	foaf:homepage
Email	field_email	Text	foaf:mbox
Colleagues	field_friend	Node reference	relationship works
Resume	field_resu		No matching local term found.
Blog	field_blog		< http://purl.org/vocab/relationship/worksWith >Works With* A person who works for the same employer as this person.
Current projects	field_curre		< http://www.cyc.com/2003/04/01/cyc#worksWith >works with* This predicate relates two agents (people or organizations) who in some way work together. (#\$worksWith AG1 AG2) means that #Agent AG1 and #Agent AG2 work together or cooperate in some activity for mutual benefit. They may or may not work for the same employer. Some times of
Past projects	field_past		
Gender	field_gend		
Organizations	field_organiza	Node reference	foaf:member
Posts	field_post	Node reference	foaf:made

Experiment continued

- 1. Automatic site vocabulary generation
- 2. Mapping Content Models to existing ontologies
- 3. Data endpoint for SPARQL querying
- 4. Lazy loading of external data (data import)

Drupal 7 and RDF

- Drupal 7 core is RDFa enabled!
- RDFa output by default on blogs, forums, comments, etc. using FOAF, SIOC, DC, SKOS
- Alpha release on Friday
- Sneak preview <http://drupalrdf.openspring.net/>



```

@prefix content: <http://purl.org/rss/1.0/modules/content/> .
@prefix dc: <http://purl.org/dc/terms/> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix sioc: <http://rdfs.org/sioc/ns#> .
@prefix sioct: <http://rdfs.org/sioc/types#> .
@prefix skos: <http://www.w3.org/2004/02/skos/core#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
  
```

Conclusion

- Drupal 7 will play a major role in exposing more RDF data on the web
- Empower users to create new types of apps
- Wide range of topics
- <http://groups.drupal.org/semantic-web>
- <http://openspring.net/>
- Questions?