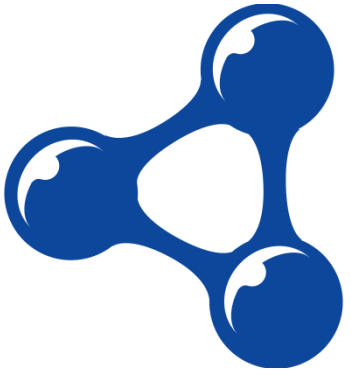
When Drupal and RDF meet



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- Software engineer, MGH
- Drupal developer
- SemWeb geek

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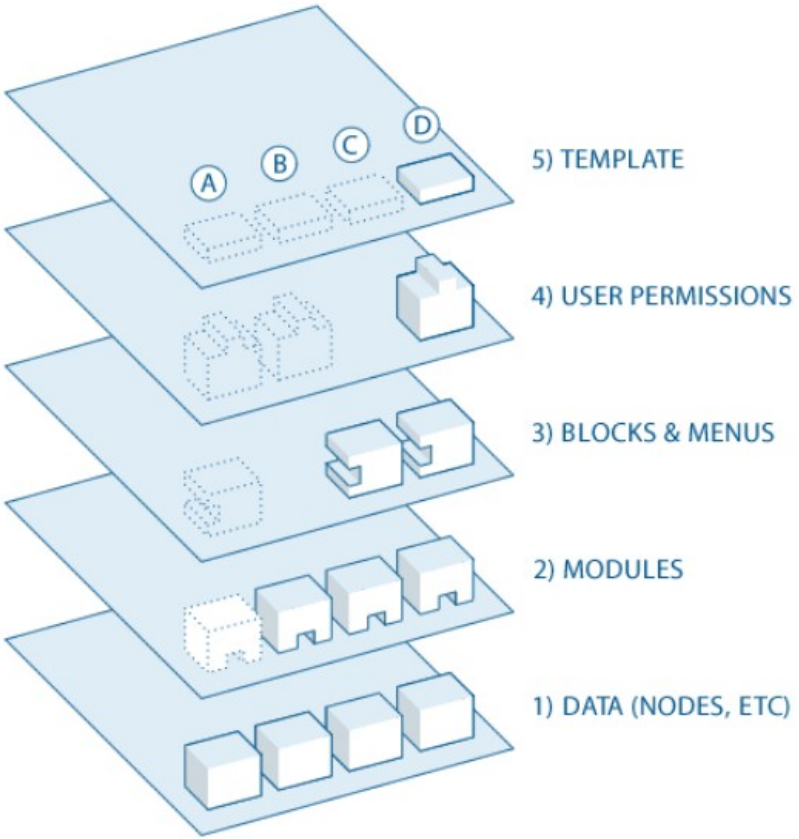
Drupal

- 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

http://www.flickr.com/photos/funkyah/2400889778/

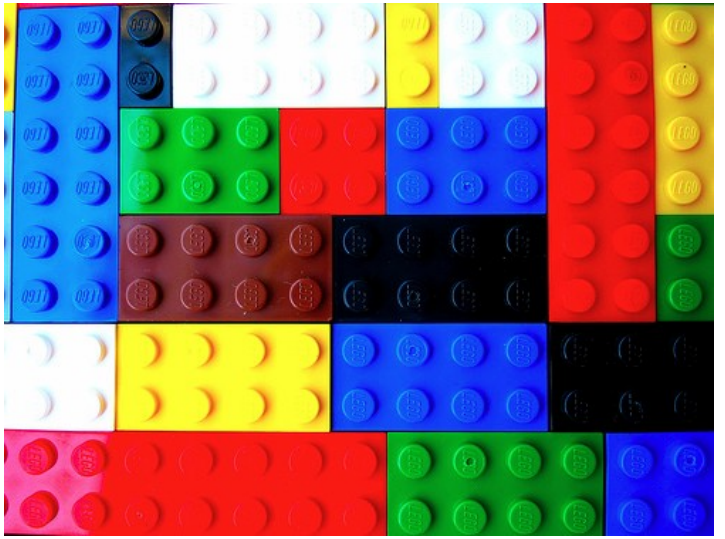
Drupal



- 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)



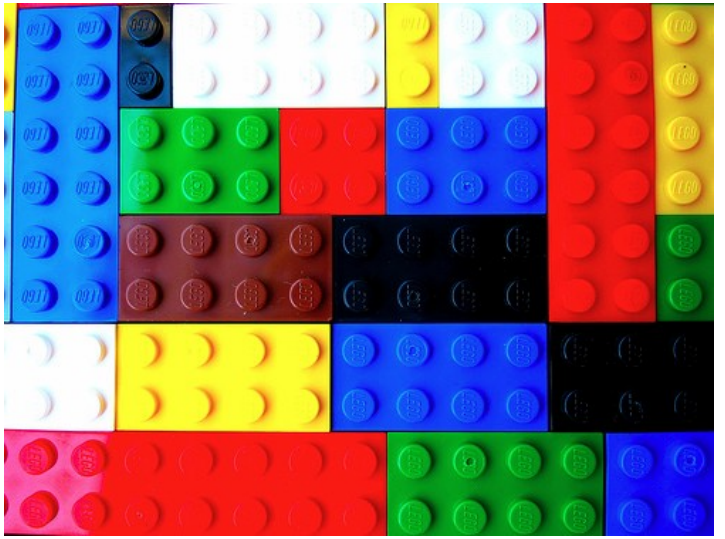
http://www.flickr.com/photos/grdloizaga/817425185

Drupal

- Enable the features you want:

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

  (from the 3000+ modules contributed by the community)



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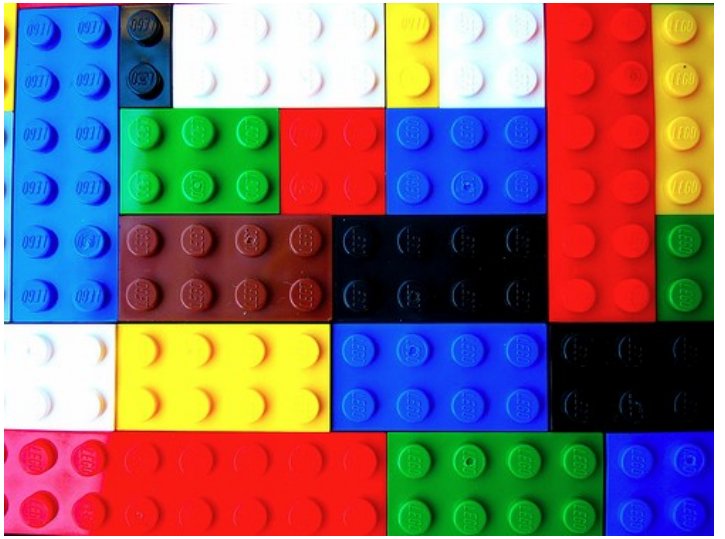
Drupal

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



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Who uses Drupal?

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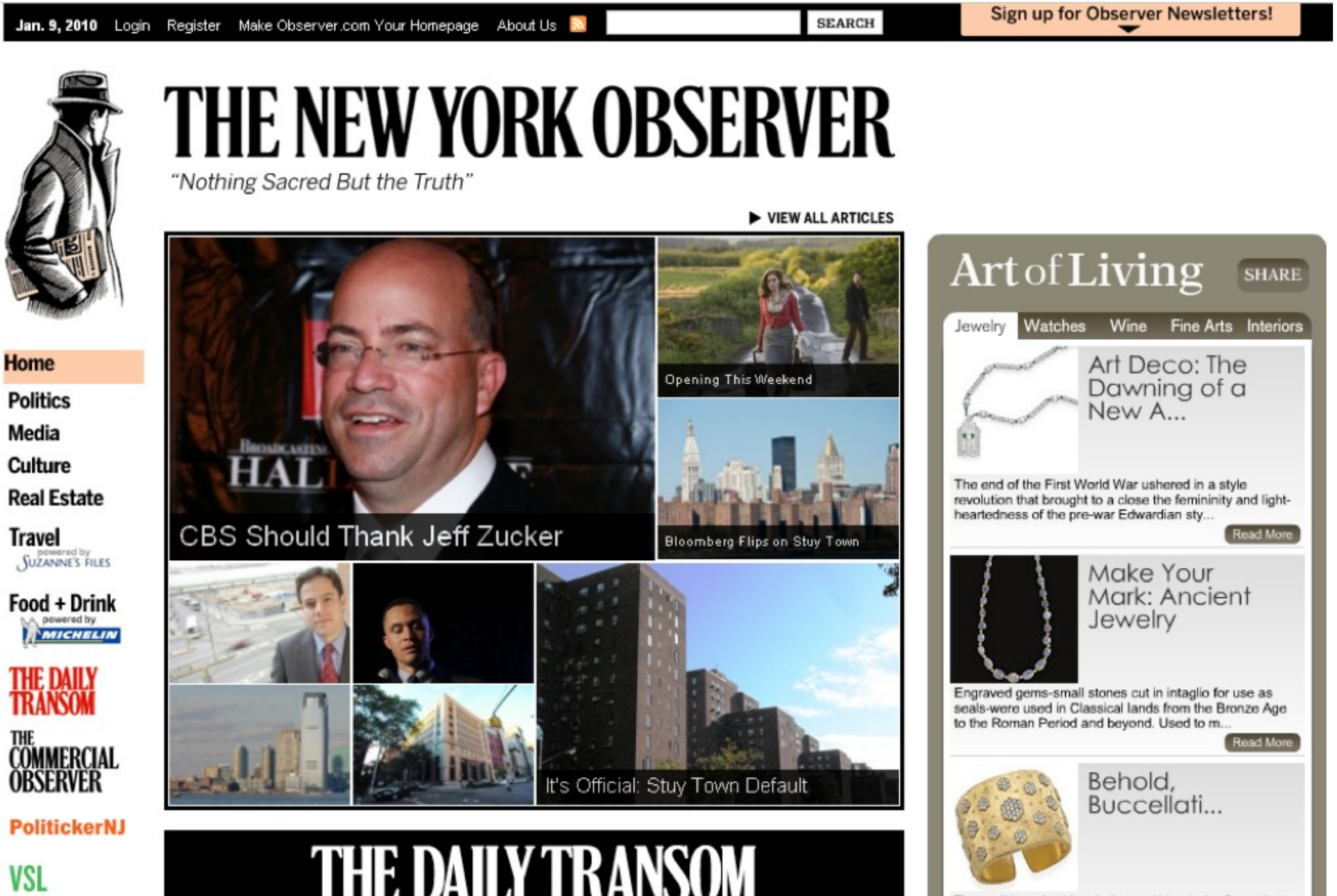
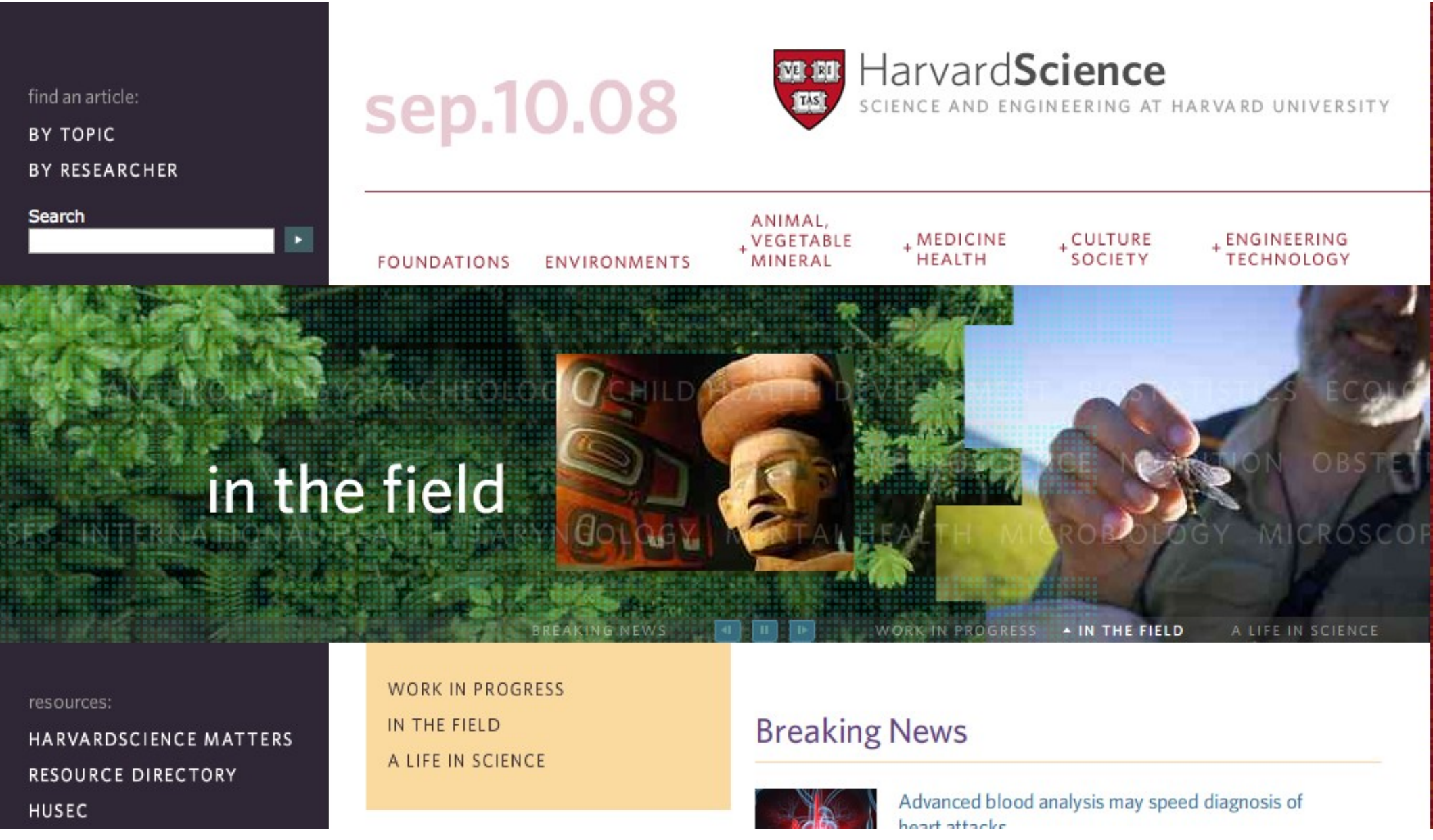


Who uses Drupal?



Who uses Drupal?

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

- 227,000 sites running Drupal
- How to leverage all this data?
- <insert RDF sales pitch here>

http://www.flickr.com/photos/bitzcelt/450640323/

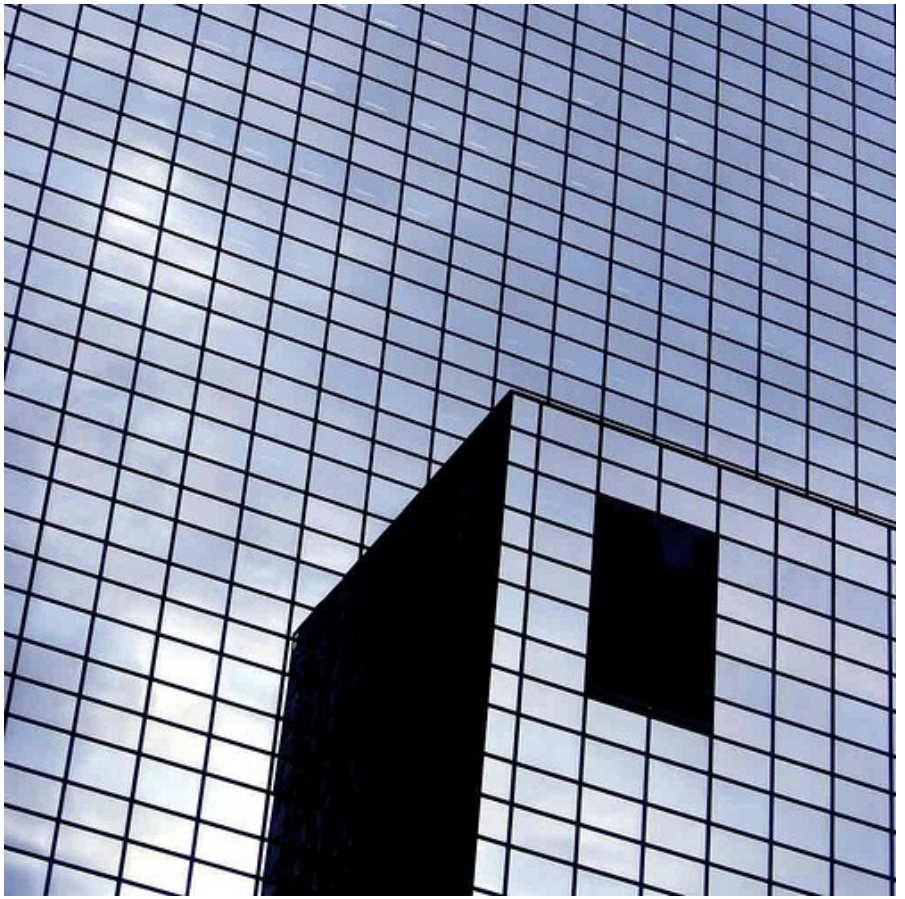
Experiment in Drupal 6

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

http://www.flickr.com/photos/neys/2386865187

Architecture

- User driven data model
- Content type = RDF class
- Field = RDF property
- Node = RDF resource



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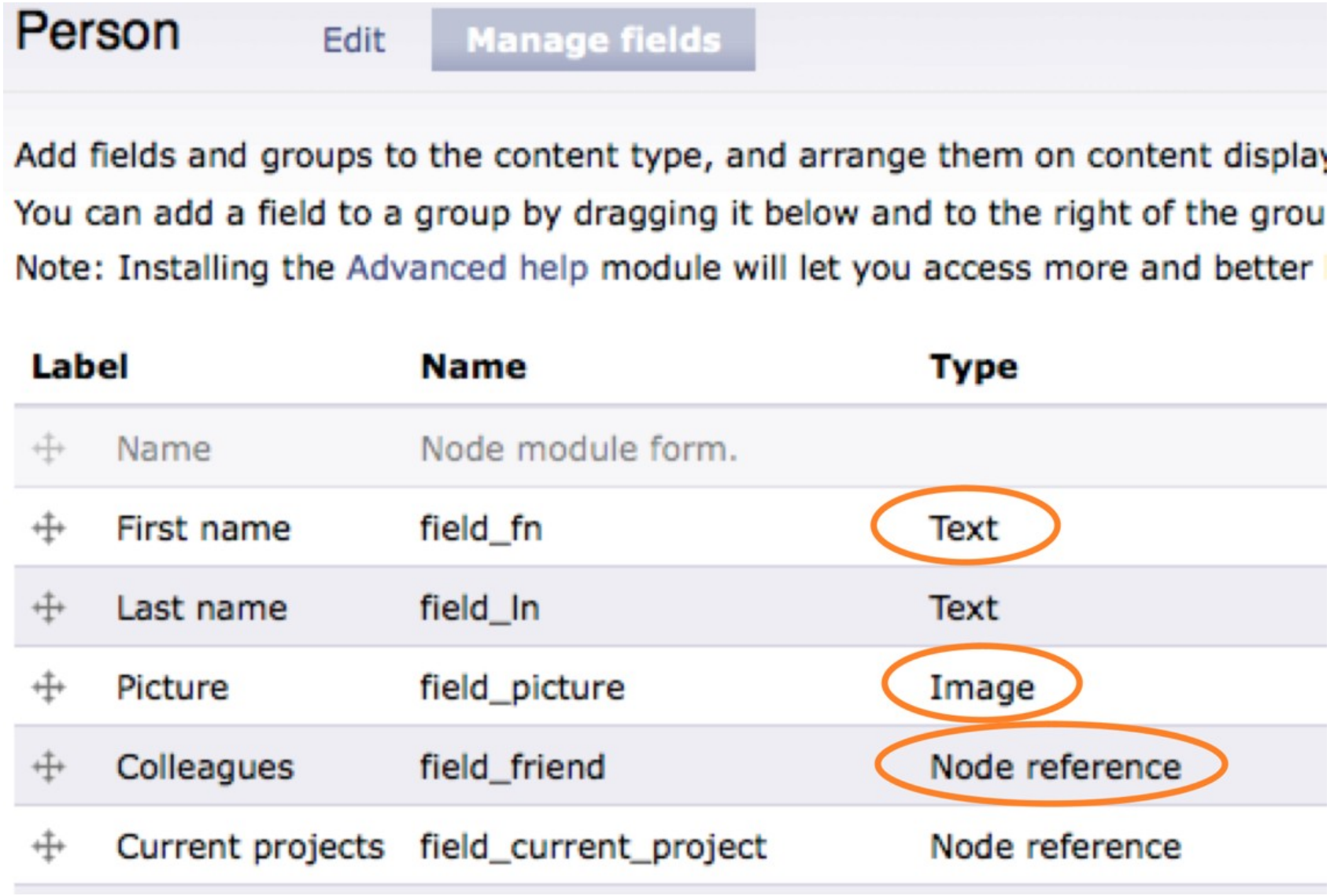
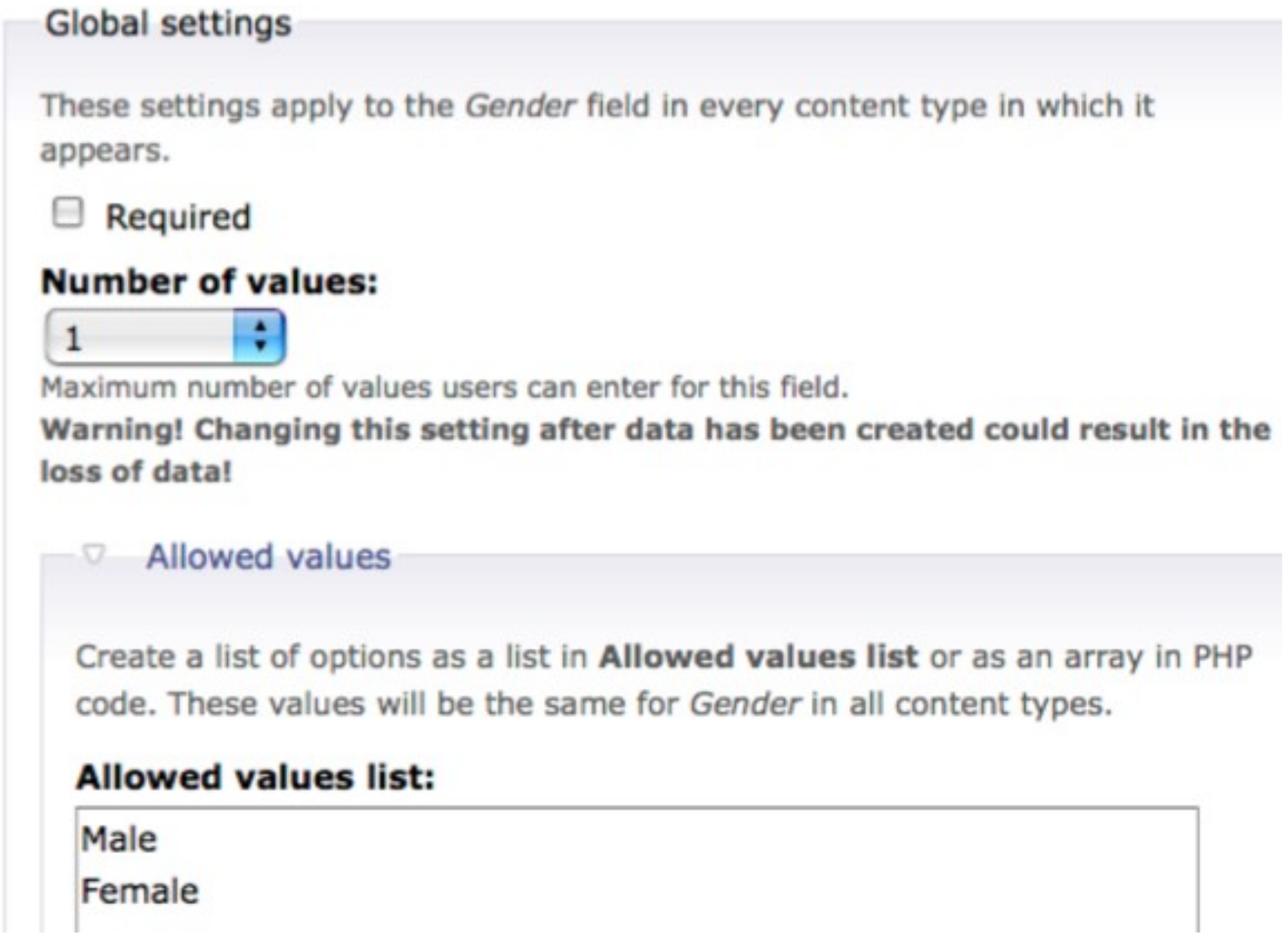
Content types and Fields



Content types and Fields



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

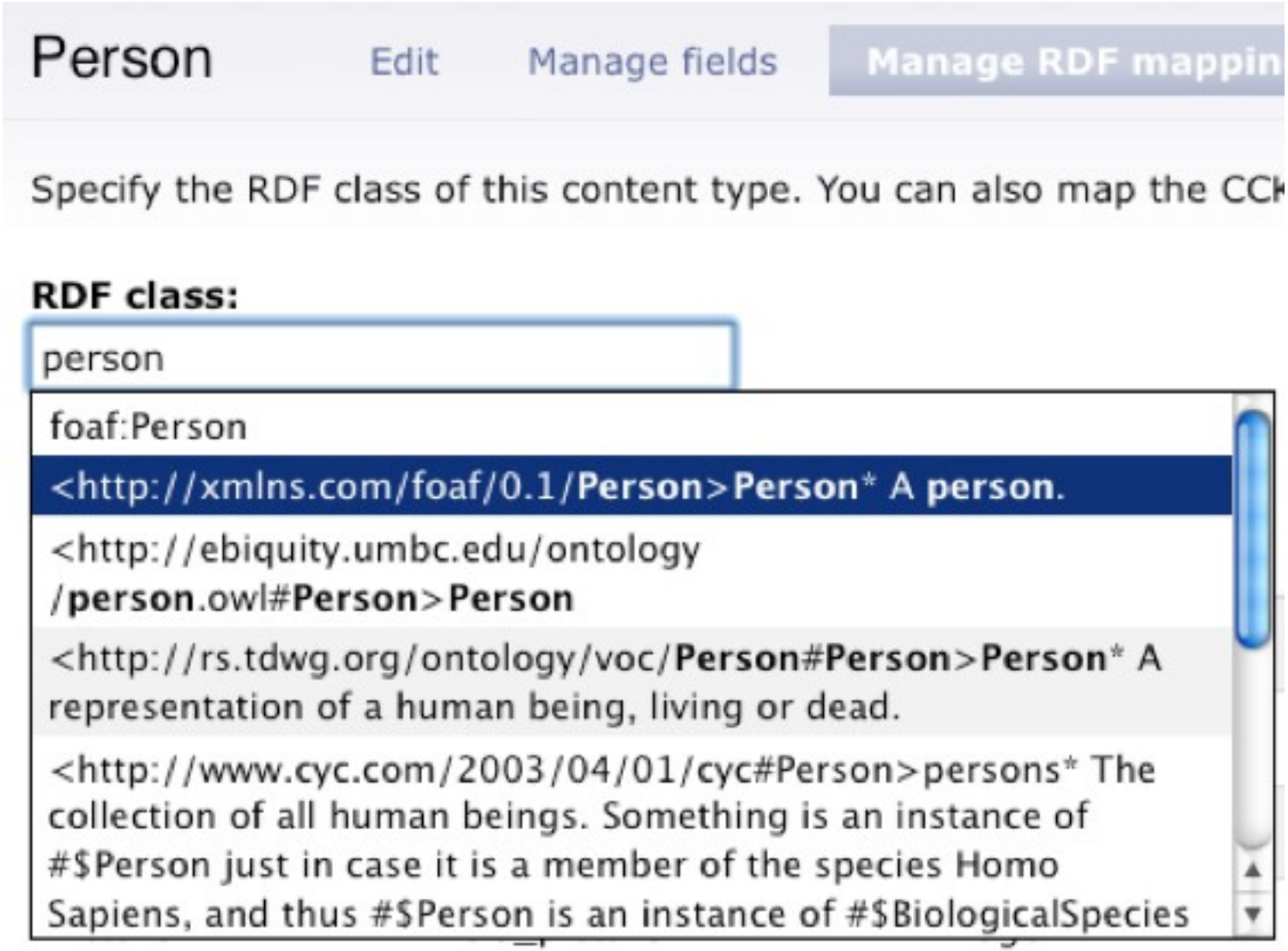
Mapping to RDF

- `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



Mapping to RDF

Label	Name	Type	RDF property
Last name	field_ln	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		
Blog	field_blog		
Current projects	field_curre		
Past projects	field_past_		
Gender	field_gend		
Organizations	field_organization		
Posts	field_post	Node reference	foaf:made

No matching local term found.

<http://purl.org/vocab/relationship/worksWith>Works With* A person who works for the same employer as this person.

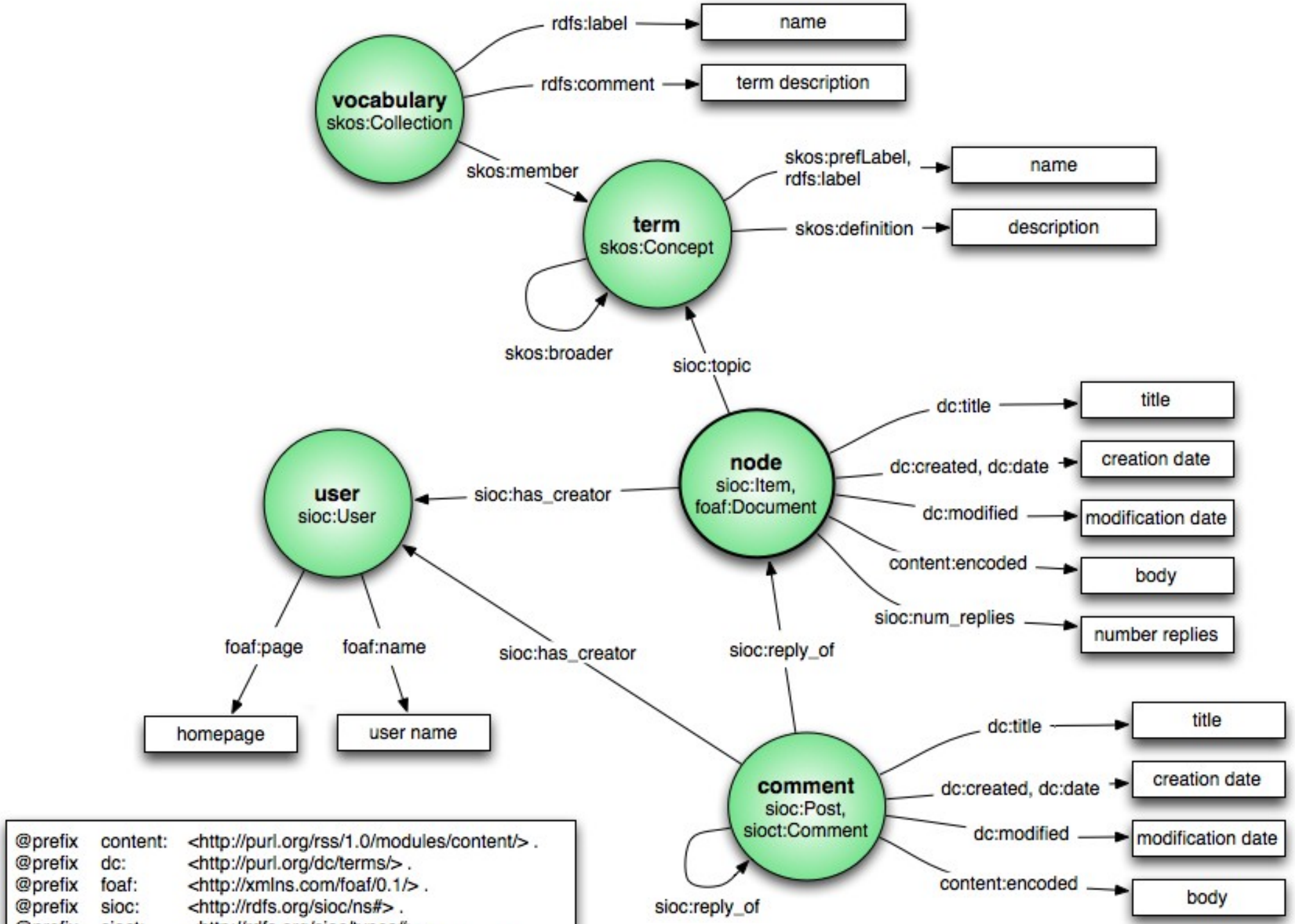
<http://www.cyc.com/2003/04/01/cyc#worksWith>works with* This predicate relates two agents (people or organizations) who in some way work together. (#$worksWith AG1 AG2) means that #$Agent AG1 and #$Agent AG2 work together or cooperate in some activity for mutual benefit. They may or

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?