

RDFa: Embedding RDF Knowledge in HTML

Some content from a presentation by Ivan Herman of the W3c, [Introduction to RDFa](#), given at the 2011 Semantic Technologies Conference.

What is RDFa?



- Serialization of RDF embedded in HTML, HTML or XML

Provides set of attributes (the *a* in RDFa) to use with existing tags to carry RDF metadata
- 2004: work on developing standards began
- 2008: RDFa 1.0 a recommendation (but only in XHTML, which failed to launch)
- 2012-15: RDFa 1.1 recommendation (works in HTML4, HTML5)
- See <http://rdfa.info/>

Principles of RDFa

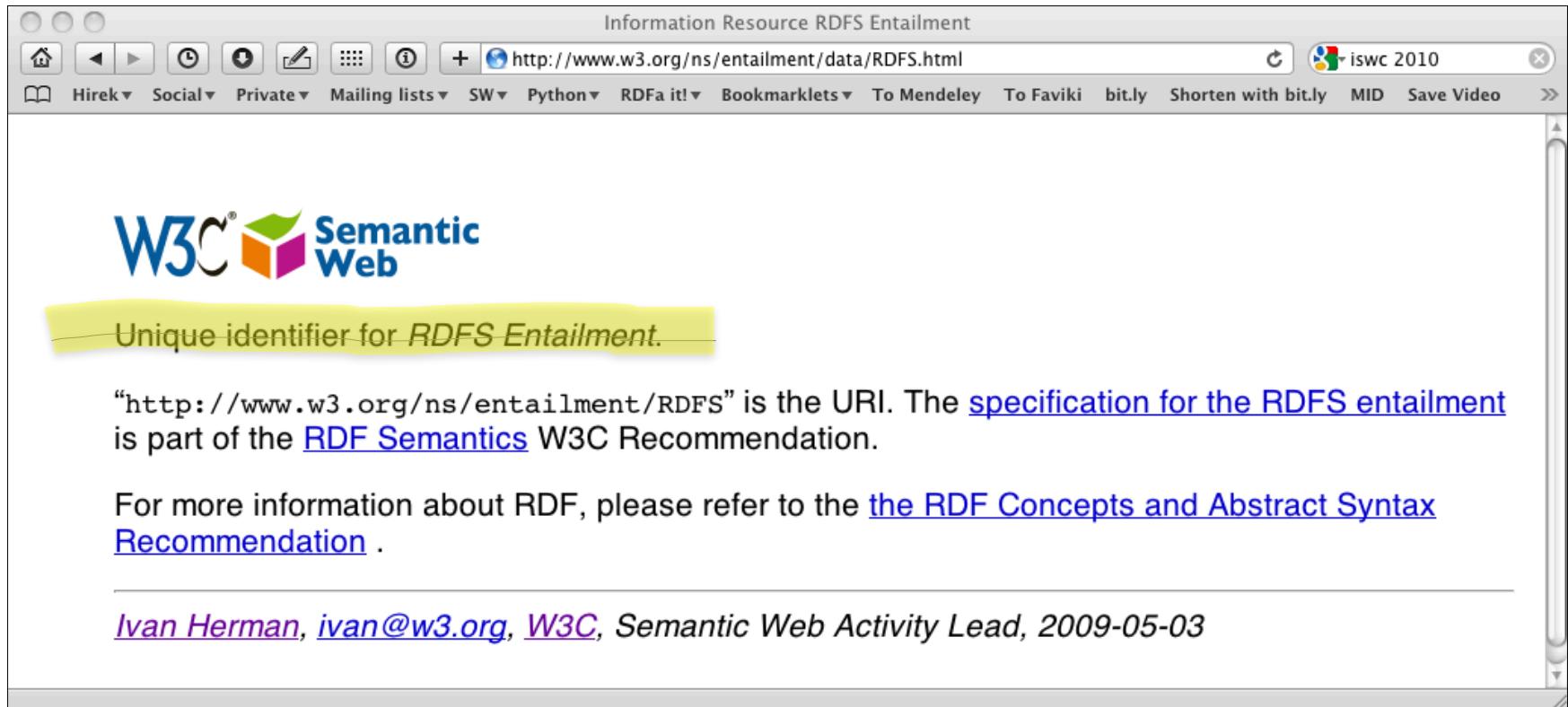
- RDF content specified in XML *attributes* of tags rather than *elements*
 - The XML/HTML *tree structure* is used as context, when appropriate
 - Some new attributes are *introduced* and some existing ones (@href, @rel) *reused*
 - When possible, HTML text content used for *literal values*
- Same file used by browser & RDF extractor

Web page viewed by a person

Information Resource RDFS Entailment

http://www.w3.org/ns/entailment/data/RDFS.html iswc 2010

Hirek Social Private Mailing lists SW Python RDFa it! Bookmarklets To Mendeley To Faviki bit.ly Shorten with bit.ly MID Save Video



W3C Semantic Web

Unique identifier for *RDFS Entailment*.

"<http://www.w3.org/ns/entailment/RDFS>" is the URI. The [specification for the RDFS entailment](#) is part of the [RDF Semantics](#) W3C Recommendation.

For more information about RDF, please refer to the [the RDF Concepts and Abstract Syntax Recommendation](#).

Ivan Herman, ivan@w3.org, W3C, Semantic Web Activity Lead, 2009-05-03

<http://www.w3.org/ns/entailment/data/RDFS.html>

The source

```
<p about="http://www.w3.org/ns/entailment/RDFS"
    property="http://purl.org/dc/terms/description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
```

Source and generated RDF...

```
<p about="http://www.w3.org/ns/entailment/RDFS"
    property="http://purl.org/dc/terms/description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
```

<<http://www.w3.org/ns/entailment/RDFS>>

... .

Source and generated RDF...

```
<p about="http://www.w3.org/ns/entailment/RDFS"
    property="http://purl.org/dc/terms/description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
```

```
<http://www.w3.org/ns/entailment/RDFS>
<http://purl.org/dc/terms/description>
...
.
```

Source and generated RDF...

```
<p about="http://www.w3.org/ns/entailment/RDFS"
    property="http://purl.org/dc/terms/description">
  Unique identifier for <em>RDFS Entailment</em>.</p>
```

```
<http://www.w3.org/ns/entailment/RDFS>
  <http://purl.org/dc/terms/description>
  "Unique identifier for RDFS Entailment." .
```

The Web page viewed by a person

Information Resource RDFS Entailment

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Hirek Social Private Mailing lists SW Python RDFa it! Bookmarklets To Mendeley To Faviki bit.ly Shorten with bit.ly MID Save Video



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For more information about RDF, please refer to the [the RDF Concepts and Abstract Syntax Recommendation](#).

Ivan Herman, ivan@w3.org, W3C, Semantic Web Activity Lead, 2009-05-03

The source

```
<a about="http://www.w3.org/ns/entailment/RDFS"
rel="http://www.w3.org/2000/01/rdf-schema#seeAlso"
href="http://www.w3.org/TR/2004/REC-rdf-mt-20040210/">RDF Semantics.
```


Source and generated RDF...

```
<a about="http://www.w3.org/ns/entailment/RDFS"
rel="http://www.w3.org/2000/01/rdf-schema#seeAlso"
href="http://www.w3.org/TR/2004/REC-rdf-mt-20040210/">
    RDF Semantics .
</a>
```

```
<http://www.w3.org/ns/entailment/RDFS>
```

... .

Source and generated RDF...

```
<a about="http://www.w3.org/ns/entailment/RDFS"
  rel="http://www.w3.org/2000/01/rdf-schema#seeAlso"
  href="http://www.w3.org/TR/2004/REC-rdf-mt-20040210/">>
  RDF Semantics .
</a>
```

```
<http://www.w3.org/ns/entailment/RDFS>
<http://www.w3.org/2000/01/rdf-schema#seeAlso>
...
.
```

Source and generated RDF...

```
<a about="http://www.w3.org/ns/entailment/RDFS"
    rel="http://www.w3.org/2000/01/rdf-schema#seeAlso"
    href="http://www.w3.org/TR/2004/REC-rdf-mt-20040210/">"
    RDF Semantics.
</a>
```

```
<http://www.w3.org/ns/entailment/RDFS>
<http://www.w3.org/2000/01/rdf-schema#seeAlso>
<http://www.w3.org/TR/2004/REC-rdf-mt-20040210/> .
```

Ntriples in HTML 😞

- Maybe we can do better, instead of this

```
<http://www.w3.org/ns/entailment/RDFS>
  <http://purl.org/dc/terms/description>
    "Unique identifier for RDFS Entailment." .
<http://www.w3.org/ns/entailment/RDFS>
  <http://www.w3.org/2000/01/rdf-schema#seeAlso>
    <http://www.w3.org/TR/2004/REC-rdf-mt-20040210/> .
```

- Allow URI prefixes and shared subject, like this

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix dcterms: <http://purl.org/dc/terms/> .

<http://www.w3.org/ns/entailment/RDFS>
  rdfs:seeAlso <http://www.w3.org/TR/2004/REC-rdf-mt-20040210/> ;
  dcterms:description "Unique identifier for RDFS Entailment." .
```

Turtlizing RDFa

- Turtle supports several simplifying ideas
- Use **compact URIs (CURIE)** when possible
 - URI with a prefix defined elsewhere, e.g.,
foaf:mbox
- Making use of the natural structure for
 - shared subjects
 - shared predicates
 - creating blank nodes
 - etc.

CURIE definition and usage

```
<html>
...
<p about="http://www.w3.org/ns/entailment/RDFS"
   property="http://purl.org/dc/terms/description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
...
</html>
```

- can be replaced by:

```
<html prefix="dcterms: http://purl.org/dc/terms/">
...
<p about="http://www.w3.org/ns/entailment/RDFS"
   property="dcterms:description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
...
</html>
```

Details on @prefix in RDFA

- Can be anywhere in the HTML tree and is valid for entire sub-tree
 - i.e., html element not the only place to have it
- The same @prefix attribute can hold several definitions:
 - prefix="dcterms: http://purl.org... foaf: http://..."
- CURIEs and “real” URIs can usually be mixed
- CURIEs *cannot* be used on @href

Sharing subjects

Basic principle: @about is inherited by children nodes, so no reason to repeat it

```
<html prefix="dcterms: http://purl.org/dc/terms/
       rdfs: http://www.w3.org/2000/01/rdf-schema#">
...
<body about="http://www.w3.org/ns/entailment/RDFS">
...
<p property="dcterms:description">
  Unique identifier for <em>RDFS Entailment</em>. </p>
<p>...<a rel="rdfs:seeAlso"
   href="http://www.w3.org/TR/2004/REC-rdf-mt-20040210">
  RDFS Semantics</a>...</p>
```

... yielding

```
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .  
@prefix dcterms: <http://purl.org/dc/terms/> .  
  
<http://www.w3.org/ns/entailment/RDFS>  
    rdfs:seeAlso <http://www.w3.org/TR/2004/REC-rdf-mt-20040210/> ;  
    dcterms:description "Unique identifier for RDFS Entailment." .
```

On reusing literals

- Reusing literals is a plus, but you don't always want to do it
- The basic rule says: the (RDF) Literal is the enclosed text from the HTML content
- This is fine in 80% of the cases, but...
- ...it may not be natural in many cases!

Example: dates

```
<body about=".." prefix="dcterms: http://... xsd: http://...">
  <address>
    <p property="dcterms:date" datatype="xsd:date">2010-07-05</p>
  </address>
</body>
```

- This leads to:

```
@prefix dcterms: <http://...> .
@prefix xsd: <http://...> .
<..> dcterms:date "2010-07-05"^^xsd:date .
```

- 2010-07-05 is official ISO format (for xsd:date)
but “July 5, 2010” is preferred by people

Usage of @content

```
<body about="..." prefix="dcterms: http://... xsd: http://...">
  <address>
    <p property="dcterms:date" datatype="xsd:date"
       content="2010-07-05">July 5, 2010</p>
  </address>
</body>
```

- Also leads to:

```
@prefix dcterms: <http://...> .
@prefix xsd: <http://...> .
<..> dcterms:date "2010-07-05"^^xsd:date .
```

On subjects and objects

- Here is our rule so far
 - **@about** sets the subject
 - **@href** sets the object
- But that is not always good enough
 - We may not want to introduce an active link (i.e., "a" element) on the web page
 - what about other links in HTML?

We may not always want links...

- The RDFa @resource attribute is equivalent to @href
- Sets the object, just like @href but is ignored by browsers, e.g.,:

```
<span about="http://www.ivan-herman.net/foaf#me">  
  <span rel="rdfs:seeAlso"  
    resource="http://www.w3.org/People/Ivan/">Activity Lead</span>  
</span>
```

More features

- RDFa 1.1 has more features that make it easier to represent knowledge compactly in HTML
- These take advantage of the HTML tree context
- We'll skip the details, which you can find in
 - [RDFa 1.1 Primer](#)
 - [RDFa 1.1 Core](#)

Authoring RDFa

- Some tools already have RDFa facilities:
 - e.g., it is possible to add the right DTD to Dreamweaver, Amaya has it at its core, etc.
- There are plugins to, e.g., WordPress, to generate RDFa markup
- CMS systems (like Drupal 7) may have RDFa built in their publication system
 - users generate RDFa whether they know about it or not...

Consuming RDFa

- Major search engines (Google, Yahoo) process RDFa for vocabularies they understand can use
- There are libraries, distillers, etc., to extract RDFa information
 - may be part of RDF development environments like Redland, RDFLib
 - see, for further references,
<http://rdfa.info/wiki/Consume>
- Facebook’s “social graph” is based on RDFa



A page from Best Buy

RDFa for Facebook markup, JSON-LD for search engines

The screenshot shows a web browser window displaying a Best Buy product page for a Google Pixel 2 4G LTE with 64GB Memory Cell Phone. The page includes various social sharing and payment options.

Header:

- Google Pixel 2 4G LTE with 64GB Memory Cell Phone
- VPN
- www.bestbuy.com/site/google-pixel-2-4g-lte-with-64gb-memory-cell-phone
- SAVE \$200
- ON THE NEW ZTE AXON M
- ZTE AXON M
- AT&T
- Free Shipping on Everything
- Weekly Ad Deal of the Day Credit Cards
- Gift Cards Gift Ideas & Registry
- Search Best Buy
- Glen Burnie MD Open till 9 pm
- Cart

Product Information:

- SAVE \$300
- Best Buy Cell Phones All Cell Phones with Plans
- Google - Pixel 2 4G LTE with 64GB Memory Cell Phone - Just Black (Verizon)
- Model: GA00139-US SKU: 6099993
- 4.7 (47) 51 Questions, 45 Answers
- verizon

Payment Options:

- Share Print
- \$27.00/mo. for 24 months
- \$14.58/mo. for 24 months
- SAVE \$300 (\$12.50/mo.)

Description:

Total savings of \$300.00 includes \$12.50/mo. carrier bill for 24 months. Bill credits end when phone balance is paid off.

Accidental Damage Protection:

PROTECT YOUR PRODUCT Learn about Accidental Damage Plans

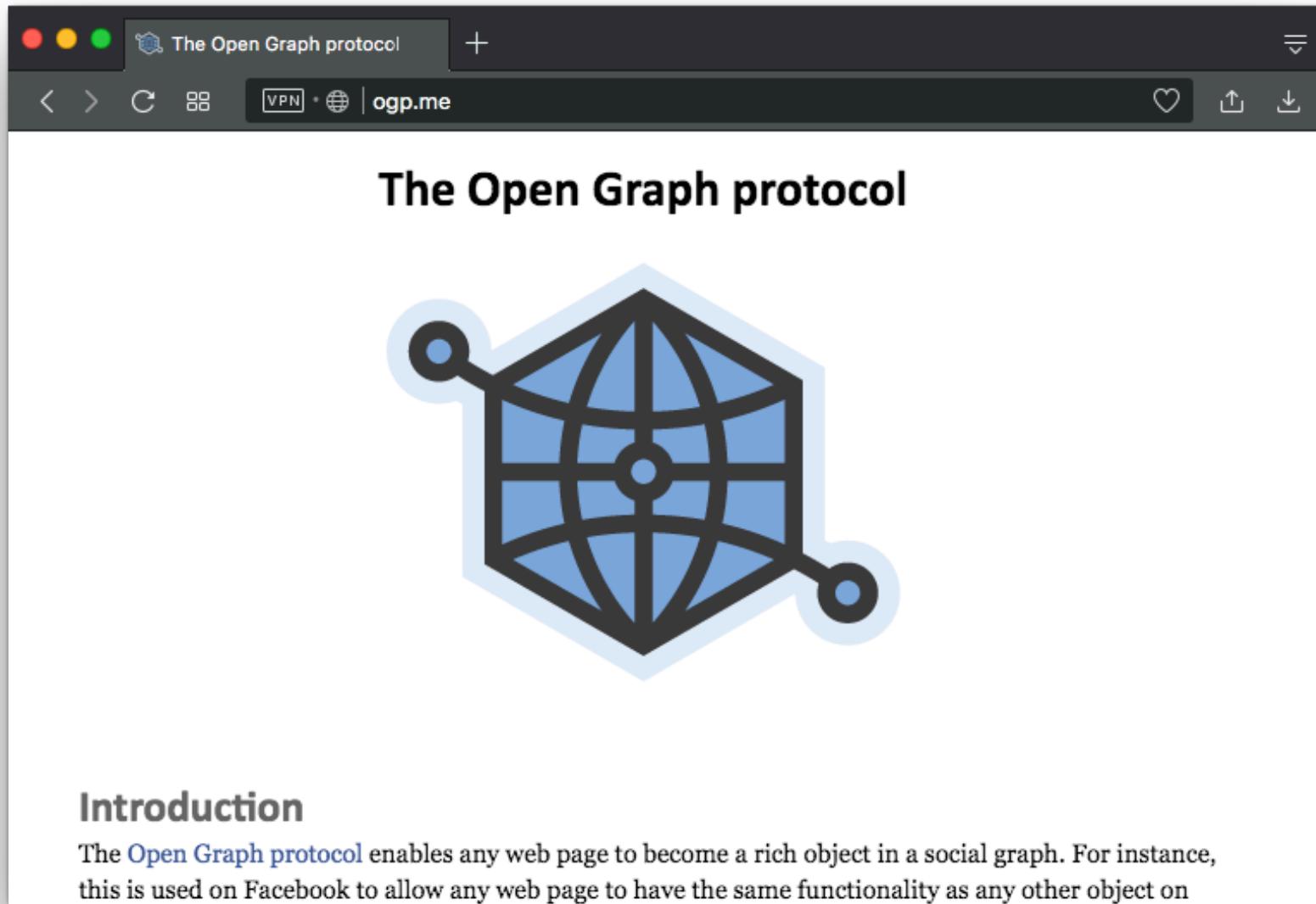
Add to Package:

Pricing Options:

\$14.58/mo.	\$649.99
for 24 months	Retail price

With device financing for qualified customers. Tax on full retail price due at time of sale. 0% APR. Full price: \$649.92.

FB's Open Graph Protocol



The screenshot shows a web browser window with the title bar "The Open Graph protocol". The address bar displays "VPN | ogp.me". The main content area features the heading "The Open Graph protocol" and a large, stylized globe icon composed of blue hexagons and black lines, with two small circular nodes connected to it.

Introduction

The [Open Graph protocol](#) enables any web page to become a rich object in a social graph. For instance, this is used on Facebook to allow any web page to have the same functionality as any other object on

Publishing RDFa

- RDFa+HTML file can just be on a server
 - the client extracts the RDF content
- Content negotiations can be set up on the server side
 - the client gets the format he/she asks for
 - the RDF content can either be generated on the fly or stored on the server statically

Google's rich snippets

Embedded metadata (microdata or RDFa) is used to improve search result page

- at the moment only a few vocabularies are recognized, but that is evolving continually

The screenshot shows a Google search results page for the query "chicken noodle soup recipes". The search bar at the top contains the query. Below it, a search snippet displays "About 1,150,000 results (0.26 seconds)". The first result is a link to Cooks.com, titled "Cooks.com - Recipes - Homemade Chicken Noodle So". The snippet for this result includes a newsletter signup prompt, a brief description of the recipe ("Put chicken and all seasonings in a ... are soft. ..."), and links to "www.cooks.com", "Recipes", "Cached", and "Similar". The second result is a link to Allrecipes.com, titled "Grandma's Chicken Noodle Soup Recipe - Allrecipes.c". This result features a rich snippet with a yellow star rating icon followed by "561 reviews", and details about prep and cook time. A descriptive text follows: "This is a recipe that was given to me by my grandmother. It is a very ... and I believe that all will like it."

Effects of, e.g., Google or Facebook

A number of popular sites publish RDFa as part of their normal pages:

- Tesco, BestBuy, Slideshare, The London Gazette, Newsweek, MSNBC, O'Reilly Catalog, the White House...
- Creative Commons snippets are in RDFa (e.g., on Flickr)

BestBuy example of RDFa use

My Account | Order Status | Customer Service | Español

BEST BUY Weekly Ad Store Locator Outlet Center Services ▾ Gifts ▾ cart Items

TV & VIDEO AUDIO CAR & GPS CAMERAS & CAMCORDERS COMPUTERS MOBILE PHONES & OFFICE MUSIC, MOVIES & BOOKS VIDEO GAMES & GADGETS HOME & APPLIANCES

Search All Categories Keyword or Item # GO Credit Cards Reward Zone*

Best Buy - Carbondale [Print](#)

 1270 E Main St
Carbondale, IL 62901
Phone: 618-351-1700
GEO: 37.732719, -89.192314

Customer Reviews:

Be the first to write a store review.

[Maps & Directions](#) | [Weekly Ad](#)

Store Hours
Mon: 10-9; Tue: 10-9; Wed: 10-9; Thurs: 10-9; Fri: 10-9; Sat: 10-9; Sun: 11-7;
4/4 ~ 4/10, 2010
Mon: 10-9; Tues: 10-9; Wed: 10-9; Thurs: 10-9; Fri: 10-9; Sat: 10-9; Sun: Closed

Events

Avatar Midnight Release! 

The biggest movie of 2009 is coming to Best Buy on April 22nd! Carbondale Best Buy is hosting a special midnight release! We will open the doors at 12:00am on 4/22! We'll have door prizes including movie posters available only to those in attendance at the midnight release! Local band "Ravenhill" will be playing, as well! You don't want to miss this special event! Check back for more information as we get closer to the release date!

Local Selections
Check out these special product selections at our store.
[Open Box Items \(25\)](#)

At This Location

Geek Squad Computer setup & services, plus home theater, appliance and car installation. 

Best Buy Mobile Get informed advice from noncommissioned mobile phone specialists. 

Small Business Solutions Featuring Professional Series products and trained staff to help with small business needs. 

Apple Shop Mac, iPod and more at this Apple store-within-a-store. 

Electronics Recycling We offer electronics recycling at this and all other U.S. stores. 

BestBuy example of RDFa Use

My Account | Order Status | Customer Service | Español

BEST BUY

Weekly Ad Store Locator Outlet Center Services ▾ Gifts ▾ cart Items

TV & VIDEO AUDIO CAR & GPS CAMERAS & CAMCORDERS COMPUTERS MOBILE PHONES & OFFICE MUSIC, MOVIES & BOOKS VIDEO GAMES & GADGETS HOME & APPLIANCES

Search All Categories

<div class="fn n" property="foaf:name rdfs:label vcard:fn gr:legalName"> Best Buy - Carbondale<h1>Buy - Carbondale</h1></div>

Best Buy - Carbondale

1270 E Main St
Carbondale, IL 62901
Phone: 618-351-1700
GEO: 37.732719, -89.192314

Customer Reviews:
☆☆☆☆☆

Be the first to write a store review.

Store Hours
Mon: 10-9; Tue: 10-9; Wed: 10-9; Thurs: 10-9; Fri: 10-9; Sat: 10-9; Sun: 11-7;

<div class="hours" rel="gr:hasOpeningHoursSpecification"> Sun: Closed <div typeof="gr:OpeningHoursSpecification" about="#regularhours"> Mon:&nbsp109 ... </div> </div>

The biggest movie of 2009 is coming to Best Buy on April 22nd! Carbondale Best Buy is hosting a special midnight release! We will open the doors at 12:00am on 4/22! We'll have door prizes including movie posters available only to those in attendance at the midnight release! Local band "Ravenhill" will be playing, as well! You don't want to miss this special event! Check back for more information as we get closer to the release date!

<div class="adr" rel="vcard:adr"> <div typeof="vcard:Address"> <div class="street-address" property="vcard:street-address">1270 E Main St</div> Carbondale, IL 62901 squad </div> Computer setup & services, plus <div class="tel"> home theater, appliance and car Phone; 618-351-1700 Small business service from non-commissioned phone <div class="geo" rel="vcard:geo">GEO: 37.732719, -89.192314 with small business needs. </div>

 Apple Shop
Mac, iPod and more at this Apple store-within-a-store.

 Electronics Recycling
We offer electronics recycling at this and all other U.S. stores.

Effects on BestBuy

- Reported in a BestBuy blog:
 - GoodRelations+RDFa improved Google rank tremendously
 - 30% increase in traffic on BestBuy store pages
 - Yahoo observes a 15% increase in click-through rate
- Today, BestBuy uses RDFa for much more than just snippets
 - E.g., to locate shops that have certain products on stock...

Library of Congress RDFa use

Semantic Web

From Library of Congress Subject Headings

Details Visualization Suggest Terminology

Semantic Web

URI
<<http://id.loc.gov/authorities/sh2002000569#concept>>

Type
Topical Term

Broader Terms

> [Semantic integration \(Computer systems\)](#)

> [Semantic networks \(Information theory\)](#)

> [World Wide Web](#)

Related Terms

> [Microformats](#)

Sources

> Engr. index online, May 6, 2002 (identifier: Semantic Web)

> ASTI on FirstSearch, May 6, 2002: in titles (semantic Web)

> Work cat.: 2002070545: The Semantic Web--ISWC 20002, 2002.

LC Classification
TK5105.88815

Library of Congress RDFa use

```
Source of http://id.loc.gov/authorities/sh2002000569
<p rel="skos:inScheme" resource="http://id.loc.gov/authorities#topicalTerms">Topical
Term</p>
</li>

<li>
  <h3>Broader Terms</h3>
  <ul class="std">
    <li>
      <a href="http://id.loc.gov/authorities/sh2004000479#concept" rel="skos:broader">
        <span property="skos:prefLabel" xml:lang="en">Semantic integration (Computer
systems)</span>
        </a>
      </li>
    <li>
      <a href="http://id.loc.gov/authorities/sh92004914#concept" rel="skos:broader">
        <span property="skos:prefLabel" xml:lang="en">Semantic networks (Information
theory)</span>
        </a>
      </li>
    <li>
      <a href="http://id.loc.gov/authorities/sh95000541#concept" rel="skos:broader">
        <span property="skos:prefLabel" xml:lang="en">World Wide Web</span>
      </a>
    </li>
  </ul>
</li>
```

Overstock.com example

Shopping Community Cars Real Estate Auctions We Recommend My Acco

Welcome To overstocktober™
11 Years

Free Shipping on yo

Shop All Departments

Online Shopping > Electronics > Cameras & Photo > Camcorders > Digital Camcorders

Bell and Howell DV550UW 12MP Digital Video Camera with Underwater Housing

Rating 3.8 ★★★★☆ 10 reviews
Read Reviews / Write a review

Today: \$68.99

Get 5% Back With Club O
View Details

Brief Description Item#: 12403958

- Take great videos with the Bell + Howell digital video camera
- Digital video camera has ultra compact body and features a flip-up USB
- Camcorder includes waterproof underwater housing to take video underwater (up to 33 ft)

Sold out!

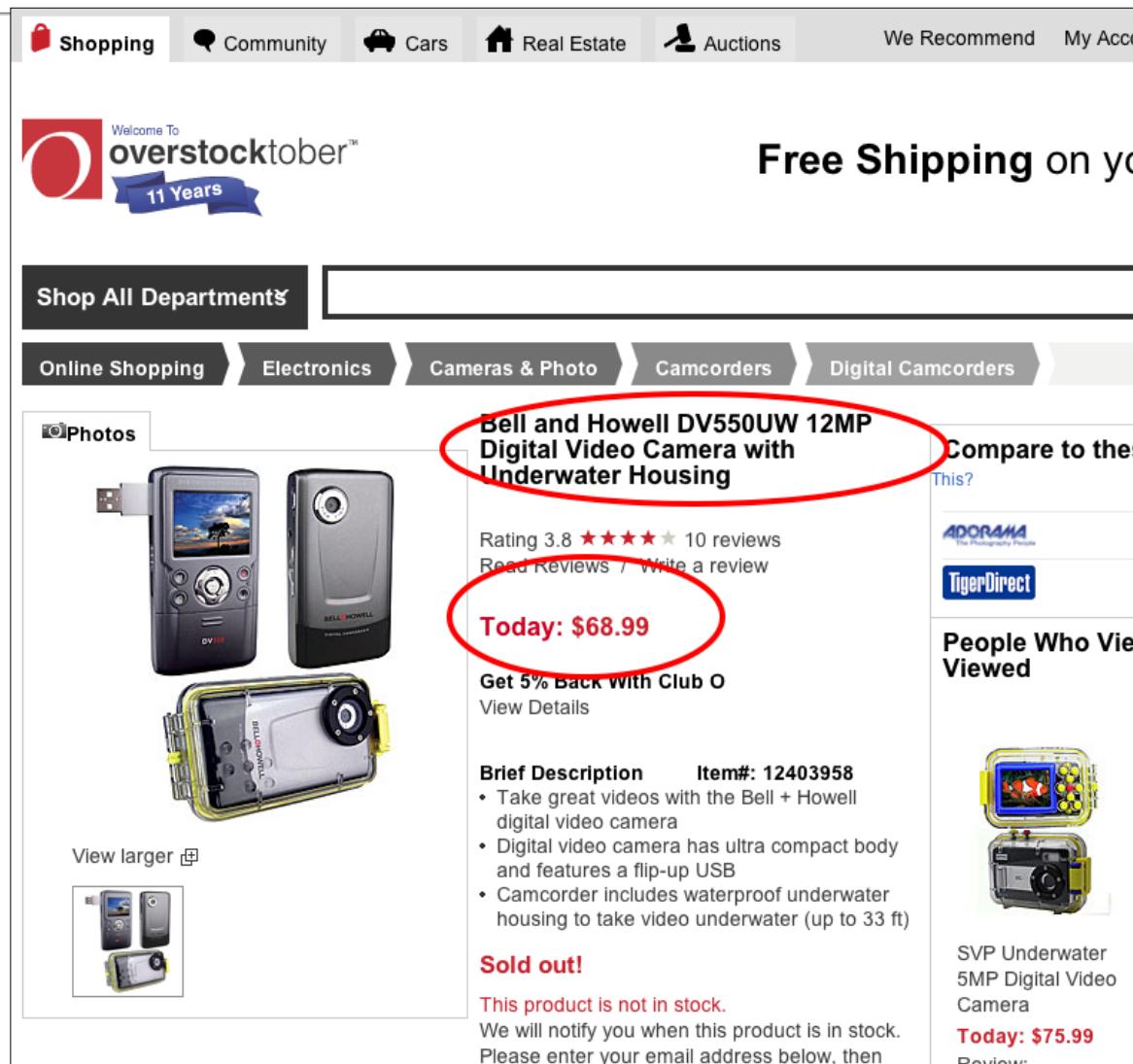
This product is not in stock.
We will notify you when this product is in stock.
Please enter your email address below, then

Compare to these
This?

ADORAMA
TigerDirect

People Who Viewed This Product

SVP Underwater 5MP Digital Video Camera
Today: \$75.99



Overstock.com example



Free Shipping on yo

Shop All Departments

http://www.w3.org/2007/08/pyRdfa/extract?format=turtle&uri=http%3A//www.overstock.co...d-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/4450313/product.html#myoffer> .

<http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/reviews.html> v:count "10" .

<http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/xhv:icon <http://ak1.ostcdn.com/favicon.ico> ;
xhv:stylesheet <http://ak1.ostcdn.com/css/ProductPageC.css>, <http://ak1.ostcdn.com/css/os_master.less>
<http://ak1.ostcdn.com/css/productPageImgGallery.css> .

<http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/4450313/product.html#TypeAndQuantityNode> a gr>TypeAndQuantityNode ;
gr:hasUnitOfMeasurement "C62"^^xsd:string ;
gr:typeOfGood <http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-Housing/4450313/product.html#product> .

<http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/4450313/product.html#UnitPriceSpecification> a gr>UnitPriceSpecification .

<http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/4450313/product.html#myoffer> a gr>Offering ;
gr:hasBusinessFunction gr:Sell ;
gr:hasPriceSpecification
[gr:hasCurrency "USD"^^xsd:string ;
gr:hasCurrencyValue "68.99"^^xsd:float
] <http://www.overstock.com/Electronics/Bell-and-Howell-DV550UW-12MP-Digital-Video-Camera-with-Underwater-Housing/4450313/product.html#UnitPriceSpecification> ,

Drupal content management system

The screenshot shows the Drupal.org homepage. At the top, there's a navigation bar with links to Get Started, Community & Support, Documentation, Download & Extend, Marketplace, and About. Below the navigation is a search bar with the placeholder "Search Drupal.org". Under the search bar are buttons to "Refine your search" (All, Modules, Themes) and "Documentation", "Forums & Issues", and "Groups". The main content area includes sections for "Why Choose Drupal?", "Sites Made with Drupal" (showing a thumbnail of a website), and "Develop with Drupal" (listing statistics: 7,473 Modules, 912 Themes, 2,584 Code commits, 3,859 Active devs, 6,848 Issue comments). There's also a "Get Started with Drupal" button.

Why Choose Drupal?
Use Drupal to build everything from personal blogs to enterprise applications. Thousands of add-on modules and designs let you build any site you can imagine.
Drupal is free, flexible, robust and constantly being improved by hundreds of thousands of passionate people from all over the world. Join us!

[Get Started with Drupal](#)



The World Wildlife Fund using Drupal for Climate Change Adaptation Platform
Drupal is used by some of the biggest sites on the Web, like The Economist, Examiner.com and The White House. Read more Drupal success stories.



529,432 people in 228 countries* speaking 182 languages power Drupal.



[News](#) [Docs Updates](#) [Forum Posts](#) [Commits](#)

Your guide to rocking your Drupal 7 Release Party

January 6, 2011

On January 7, thousands of Drupal community members around the world will gather together to celebrate the release of Drupal 7. [Read more](#)

Drupal 7.0 is released!

Session Selections Announced for DrupalCon Chicago

New Drupal 7.0 Book: Foundation Drupal 7

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- RDF support in Drupal v. 7
- Major CMS system
- Has RDF at his core, pages contain RDFA
- In one step millions of pages of additional RDF data!

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Sheriff Dupnik names Angle and Palin as two responsible for 'vitriol' (Video)



Yesterday Pima County Sheriff Charles Dupnik took the bold step of naming Sharon Angle and Sarah Palin as two individuals responsible for the kind of toxic 'political vitriol' which he believes must end in light of the recent shooting in Tucson, Arizona. Dupnik's comments came in an interview with Geraldo Rivera of Fox News. Earlier in the day Dupnik had been interviewed by Megyn Kelly of Fox News, who accused the Sheriff of inserting politics where it did not belong. In the Rivera interview, Dupnik stands by his earlier comments, and goes further in identifying two Republicans as the source...

Ryan Witt
Political Buzz Examiner
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Twitter Trends:

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<http://www.examiner.com/sports-twitter-in-national/missed-field-goals-by-eagles-kicker-david-akers-makes-him-popular-twitter-trend> .  
xhv:icon <http://cdn2-b.examiner.com/sites/all/themes/base/favicon.ico> ;  
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Sheriff Dupnik names Angle and Palin as two responsible...

Missed Eagles Akers

TUCSON, AZ 8:04 PM MT

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Extracting the data

```
rdfa> python getdata.py "http://www.w3.org/ns/entailment/data/RDFS.html"
@prefix dc: <http://purl.org/dc/terms/> .
@prefix ent: <http://www.w3.org/ns/entailment/> .
...
ent:RDFS a ent:Entailment ;
  dc:creator <http://www.ivan-herman.net/foaf#me> ;
  dc:date "2010-05-03"^^xsd:date ;
  dc:description "Unique identifier for RDFS Entailment" ;
  rdfs:comment "The specification for the RDFS entailment is ... Semantics W3C Recommendation." ;
  rdfs:isDefinedBy <http://www.w3.org/TR/2004/REC-rdf-mt-20040210/#rdfs_entailment> ;
  rdfs:seeAlso <http://www.w3.org/TR/2004/REC-rdf-mt-20040210/> .

<http://www.w3.org/ns/entailment/data/RDFS.html> dc:title "Information Resource RDFS Entailment" ;
  xhv:stylesheet <http://www.w3.org/StyleSheets/TR/base> .

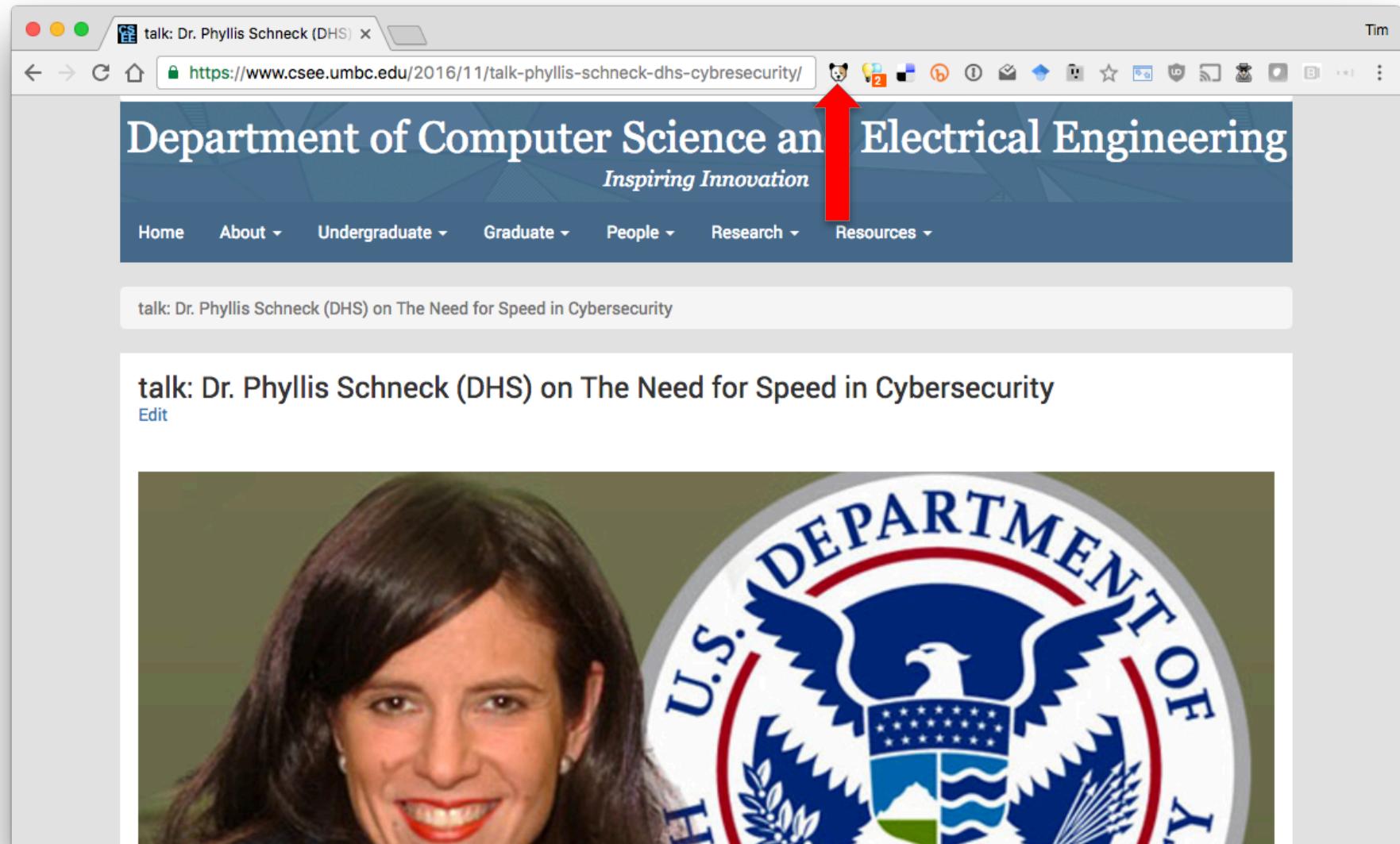
<http://www.ivan-herman.net/foaf#me> a foaf:Person ;
  rdfs:seeAlso <http://www.ivan-herman.net/foaf> ;
  foaf:mbox <mailto:ivan@w3.org> ;
  foaf:name "Ivan Herman" ;
  foaf:title "Semantic Web Activity Lead" ;
  foaf:workplaceHomepage <http://www.w3.org> .
```

getdata.py is very simple

```
import rdflib, sys
if not (1 < len(sys.argv) < 4):
    print 'usage: python getdata.py url [\'json-ld\' | rdfa | rdfa1.1 | microdata | html ]'
    print ' eg: python getdata.py "http://www.w3.org/ns/entailment/data/RDFS.html"'
    sys.exit(0)

url = sys.argv[1]
format = sys.argv[2] if len(sys.argv) == 3 else 'rdfa1.1'
g = rdflib.Graph()
g.parse(url, format=format)
print g.serialize(format='n3')
```

OpenLink Structured Data Sniffer*



A screenshot of a web browser window displaying a talk page for Dr. Phyllis Schneck (DHS) on The Need for Speed in Cybersecurity. The page features a photo of Dr. Schneck and the U.S. Department of Homeland Security seal. The browser's toolbar includes the OpenLink Structured Data Sniffer icon, which is highlighted by a red arrow.

talk: Dr. Phyllis Schneck (DHS) on The Need for Speed in Cybersecurity

talk: Dr. Phyllis Schneck (DHS) on The Need for Speed in Cybersecurity
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* <http://osds.openlinksw.com/>

OpenLink Structured Data Sniffer*

talk: Dr. Phyllis Schneck (DHS) Tim

<https://www.csee.umbc.edu/2016/11/talk-phyllis-schneck-dhs-cybersecurity/>

JSON-LD RDFa POSH

Statement Collection #1

Entity <https://www.csee.umbc.edu/2016/11/talk-phyllis-schneck-dhs-cybersecurity/>

Attributes

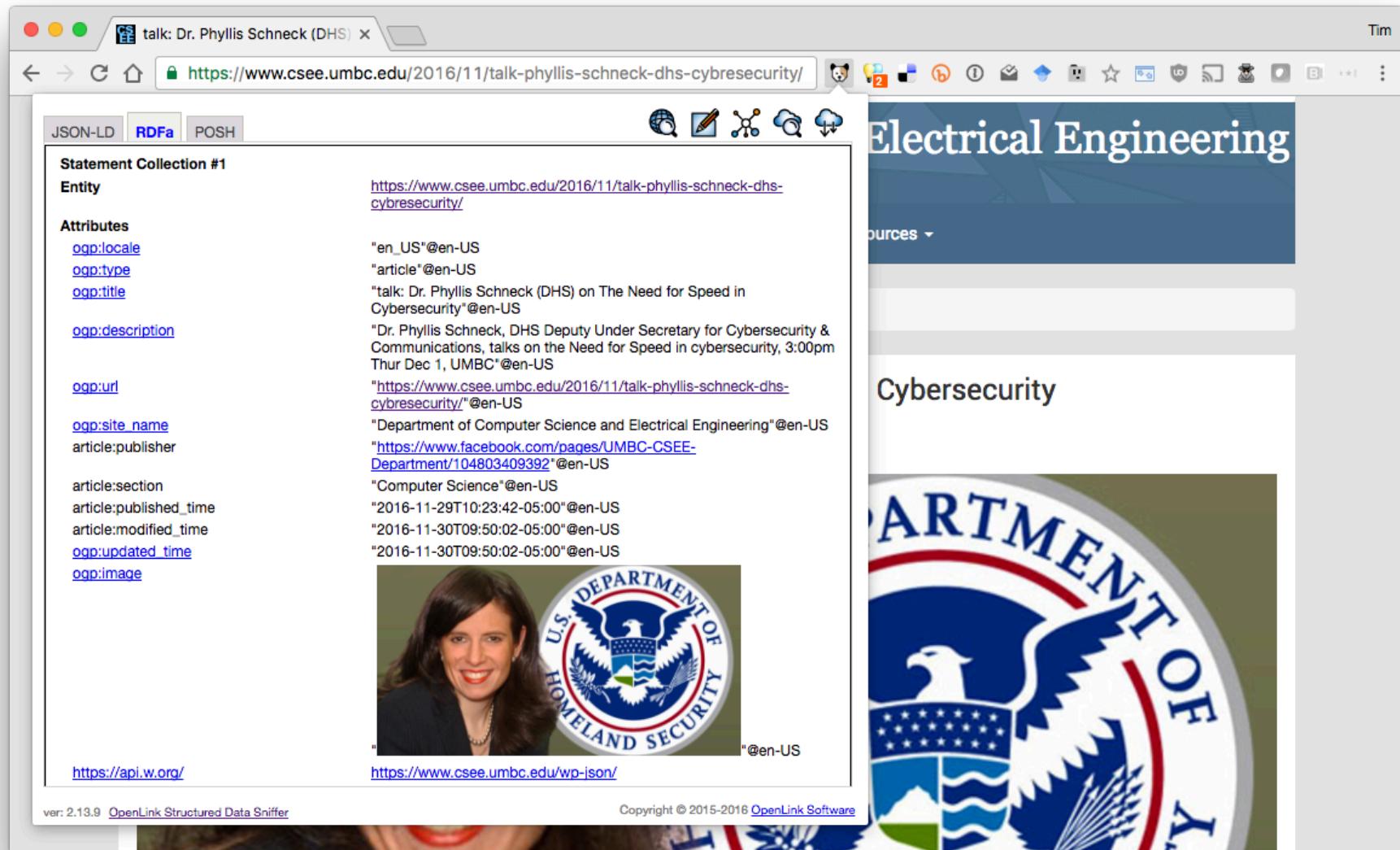
ogp:locale "en_US"@en-US
ogp:type "article"@en-US
ogp:title "talk: Dr. Phyllis Schneck (DHS) on The Need for Speed in Cybersecurity"@en-US
ogp:description "Dr. Phyllis Schneck, DHS Deputy Under Secretary for Cybersecurity & Communications, talks on the Need for Speed in cybersecurity, 3:00pm Thur Dec 1, UMBC"@en-US
ogp:url "<https://www.csee.umbc.edu/2016/11/talk-phyllis-schneck-dhs-cybersecurity/>"@en-US
ogp:site_name "Department of Computer Science and Electrical Engineering"@en-US
article:publisher "<https://www.facebook.com/pages/UMB-CSEE-Department/104803409392>"@en-US
article:section "Computer Science"@en-US
article:published_time "2016-11-29T10:23:42-05:00"@en-US
article:modified_time "2016-11-30T09:50:02-05:00"@en-US
ogp:updated_time "2016-11-30T09:50:02-05:00"@en-US
ogp:image

<https://api.w.org/> <https://www.csee.umbc.edu/wp-json/>

sources ▾

Electrical Engineering

Cybersecurity



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Conclusions

- Web developers want content providers to add structured data to HTML pages
- Content providers are incentivized to do so because their content will be better understood, ranked higher, more useful, etc.
- RDFa is most powerful & flexible knowledge markup standard understood by search engines
- RDFa is also an alternative serialization of full RDF