

Tagging, User Interfaces, Taxonomies and the Semantic Web

Who I am

<http://www.taxonomystrategies.com/html/josephbusch.htm>



- ❖ Over 25 years in the business of organized information.
 - Founder, Taxonomy Strategies
 - Director, Solutions Architecture, Interwoven
 - VP, Infoware, Metacode Technologies
 - Program Manager, The Getty Trust
 - Manager, Pricewaterhouse
 - Assistant Director Technical Services, Hampshire College
 - Chief Technical Services, Paul, Weiss, Rifkind, Wharton & Garrison
- ❖ Metadata and taxonomies community leadership.
 - President, American Society for Information Science & Technology
 - Director, Dublin Core Metadata Initiative
 - Co-Founder, NKOS (Networked Knowledge Organization Systems/Services)

Recent & current projects:

<http://www.taxonomystrategies.com/html/clients.htm>

Government



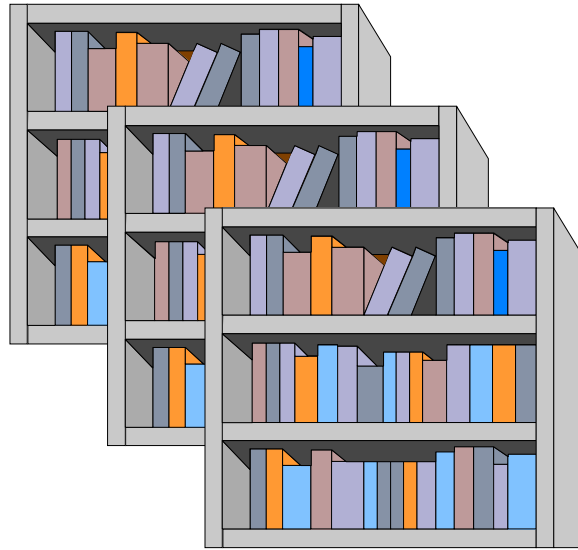
Commercial



Not-for-Profit



What I do



Organize Stuff

For us, taxonomy work includes:

- ❖ **Metadata Scheme**. Data fields for describing content so that it can be found and used.
- ❖ **Vocabularies**. Collections of terms that are used to specify some of the metadata properties.
 - Relationships between content, fields or terms (hierarchical, equivalence, & associative)
 - Some vocabularies are big & hierarchical, some are small and flat.
- ❖ **Application Profile**. Formal representation of metadata & vocabularies.

Element	Data Type	Length	Req. / Repeat	Source	Purpose
Creator	String	Variable	?	System supplied	Content ownership.
Organization	String	Variable	1	User supplied	
Dates	Date	Fixed	1	System supplied	
Description Metadata					
Content Type	String	Variable	1	Content Type CV	Localization & deriving new items.
Page Name	String	Variable	*	Validate by lookup	Reference to related resource.
Version	String	Variable	*	Validate by lookup	
Title	String	Variable	1	System supplied	Text search & results display
Description	String	Variable	1	User supplied	
Use Metadata					
Segment	String	Variable	*	Segment CV	Target, personalize content.
Product	String	Variable	*	SKU CV	
Locale	String	Fixed	1	Culture Code CV	Language & country localization.
Subject Metadata					
	String	Variable	*	Task CV	Target, personalize content
	String	Variable	*	RML CV	
Keywords	String	Variable	*	Editor supplied	Text search & results display

Legend: ? – 1 or more * – 0 or more

	A	B	C	D	E	F	G	H
1	Content Types						Synonym	Notes
2								
3		Calendar						Role-specific overview of major milestones.
4		Checklist						Role-specific laundry list of to-do items with links
5		Executive Brief						Outlines management issues for a given topic an
6		How-to						Enumerates steps for accomplishing a specific ts
7		Insight Editorial						Provides thought leadership, generally issue orier
8		Marketplace Page						Listing of ISVs, partners, or related products.
9		Multimedia Page						Introductory text and links to videos, demos or fis
10		Product Capability Study						Details a single area of functionality as it relates
11		Product Comparison						Compares functionality between different editions
12		Product Feature Definition						Brief description and business benefit of an indivi
13		Product Overview						High-level survey of a Microsoft product.
14		Product UI						Snapshot of a product UI with labels for individual
15		Quiz						Multiple choice questions with the ability to make
16		Solution Overview						High-level narrative about how a customer solves
17		Special Offer						Lead generation page focused on product, camps
18		Step-by-Step Guide						Explains the high-level steps in a business proce
19		System Requirements						Configuration-specific hardware and software req
20		Talking Points						Key issues BDMs should know about when enga
21		Theme Page						Aggregated links to content about a single topic.
22		Tip						Short step to follow that yields immediate ease o
23								
24								
25								
26								
27								
28								
29								
30								

Content Types / Audience / Culture Codes / Tasks / RML / SKU / Sheet1

Agenda

- ❖ Content Tagging
- ❖ Tagging Interface
- ❖ Taxonomies
- ❖ Semantic Web

Tagging overview

- ❖ Tagging is better than the words that happen to occur in a piece of content.
- ❖ All tagging is useful
 - End user tagging
 - Tagging by librarians
 - Automated tagging by OS and algorithms
- ❖ Content should be tagged throughout its lifecycle, each time the content is handled and used so that it accrues value or its significance is diminished.

How many people fill this in?

UNC-Tagging Talk Properties

General Summary Statistics Contents Custom

Title:

Subject:

Author:

Manager:

Company:

Category:

Keywords:

Comments:

Hyperlink base:

Template: Taxonomy Strategies

Save preview picture

OK Cancel

[Home](#) | [You](#) | [Organize](#) | [Contacts](#) | [Groups](#) | [Explore](#)

How many people click on this?

Activity | [On Your Photos](#) | [Comments You've Made](#) | [In Your Groups](#) | [Photos from your friends](#)
You | [Your Photos](#) | [Organize](#) | [Upload](#) | [Your Account](#) | [Do More with Your Photos](#)
Explore | [Places](#) | [Last 7 Days](#) | [This Month](#) | [Popular Tags](#) | [Creative Commons](#) | [Search](#)
Help | [Community Guidelines](#) | [The Help Forum](#) | [FAQ](#) | [Tools](#) | [Sitemap](#) | [Help by Email](#)

[Send to a friend](#)
 [Save to del.icio.us](#)

[Flickr Blog](#) | [About Flickr](#) | [Terms of Service](#) | [Your Privacy](#) | [Copyright/IP Policy](#) | [Report Abuse](#)

Yahoo! company

What is social tagging?

- ❖ End user tagging
- ❖ Easy, intuitive tagging interfaces
- ❖ Almost instantaneous feedback
 - Enables people to tag & re-tag content
 - ... in response to seeing their tags in context with other tags.
- ❖ Emergent categories
 - Resembles open card sort process in which patterns emerge
 - ... rather than validating categories using closed card sorts.

Some social tagging innovators

- ❖ del.icio.us founder (2003)
 - Joshua Schachter
- ❖ flickr founders (2004)
 - Caterina Fake
 - Stewart Butterfield
- ❖ facebook founder (2004)
 - Mark Zuckerberg
- ❖ You Tube founders (2005)
 - Steve Chen
 - Chad Hurley



- ❖ del.icio.us and flickr were acquired by Yahoo 2005; YouTube was acquired by Google in 2006.
- ❖ As of Nov 2007 flickr had 2 billion photos posted.

Agenda

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Requirements for a tagging interface

- ❖ Automated form fill-in: Automatically fills in known data.
- ❖ Tagging precedents: See tags already assigned by others.
- ❖ Controlled vocabularies: Pull-down list.
- ❖ Multi-valued tags
- ❖ Geo-tagging
- ❖ Group tagging
 - Batch operations
 - Inherit properties from a group
- ❖ Clean-up tag tools
 - Alpha list
 - Global changes
- ❖ Batch editing
- ❖ Privacy setting: Share/Don't share.
- ❖ Almost immediate feedback
 - Most popular
 - Tag cloud
 - Alerts

Form fill-in: Automatically fills in known data

More detail about Carsten Höller Test Site, Tate Modern, Dec 2006



Taken on [December 1, 2006](#) at 8.32am PST

Posted to Flickr [December 7, 2006](#) at 10.47am PST

[Edit the photo dates](#)

What is EXIF data?

Almost all new digital cameras save JPEG (jpg) files with EXIF (Exchangeable Image File) data. Camera settings and scene information are recorded by the camera into the image file. Examples of stored information are shutter speed, date and time, focal length, exposure compensation, metering pattern and if a flash was used.

Source: [Digicamhelp](#).

Camera: [Canon PowerShot SD110](#)
Exposure: 0.125 sec (1/8)
Aperture: f/2.8
Focal Length: 5.4 mm
Exposure Bias: 0/3 EV
Flash: Flash did not fire

X-Resolution: 180 dpi
Y-Resolution: 180 dpi
Date and Time: 2006:12:01 08:32:33
YCbCr Positioning: Centered
Date and Time (Original): 2006:12:01 08:32:33
Date and Time (Digitized): 2006:12:01 08:32:33
Compressed Bits per Pixel: 5 bits
Shutter Speed: 96/32
Maximum Lens Aperture: 95/32
Metering Mode: Pattern
Color Space: sRGB
Focal Plane X-Resolution: 9846.154 dpi
Focal Plane Y-Resolution: 9846.154 dpi
Sensing Method: One-chip colour area sensor



Tagging precedents: See tags assigned by others

TagCloud - Home

<http://www.tagcloud.com/>

this url has been saved by 2117 people.

title	<input type="text" value="TagCloud - Home"/>
url	<input type="text" value="http://www.tagcloud.com/"/>
notes	<input type="text"/>
tags	<input type="text" value="tagging folksonomy"/>
	<input type="button" value="save"/> <input type="button" value="cancel"/> <input type="checkbox"/> do not share full-screen edit

common tags cloud | list

aggregator ajax blog blogging blogs cloud del.icio.us
design **folksonomy** internet news **rss** search
social software tag tagcloud **tagging tags** tool
tools visualization web web2.0 webdesign

Controlled vocabularies: Pull-down lists



Joseph Busch
What are you doing right now?

facebook Profile edit Friends Networks Inbox home account privacy logout

Search

Applications edit

- Photos
- Groups
- Events
- Marketplace
- more

Joseph Busch

Joseph is

is at home

Networks: is at work

Sex: is with the family

Relationship: is at a party

Home town: is sleeping

Clear Status | Cancel

Mini-Feed

Displaying 6 stories. See All

Yesterday


Joseph and Ron Daniel are now friends. 6:43pm

February 6

Multi-valued tags

Batch Organize | Your Sets | Your Groups | Map

Edit photos | Permissions | Edit dates | Add tags | Add to set | Send to Group



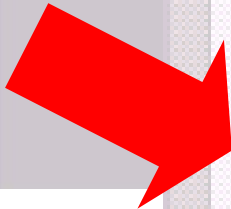
Tags to Add (will add to 5 photos)

Separate each tag with a space: cameraphone urban moblog. Or to join 2 or more words together in one tag, use double quotes: "eric is the best".

Tags to Add (will add to 5 photos)

Separate each tag with a space: cameraphone urban moblog. Or to join 2 or more words together in one tag, use double quotes: "eric is the best".

CANCEL | **ADD TAGS**



Geo-tagging

Batch Organize Sets Groups **Map**

Your photos flickr

Drag and drop your photos on to the map!

You're on page 1 of 1

1 photo taken here

[Explore this map](#)

Find a location london, uk

Carsten Höller Test S... from jbusch94110

1 of 1

Map Hybrid Satellite

Edited photo

1 photo taken here

Would you like to return to the [photo](#), or remain on this page?

RETURN REMAIN HERE

Photos from a batch

SEARCH More options

Jump to date

Need help?

1 photos from a batch | [Reset](#) :: 0 selected | [Select all](#)

Group tagging: Batch operations

Describe your photos

Or, [open in Organizer](#) for more fine-grained control.

Batch operations

Add Tags

"Clarion Alley" "San Francisco" Murals

Add to a Set

[Create a new Set...](#)

Choose a Set
Choose a Set
Alemany Farmers Market
Tate Slides

Titles, descriptions, tags



Title:

Description:



Title:

Description:



Title:

Description:

Group tagging: Tag a folder

- ❖ Drag & drop content items into folder (or group)
- ❖ Then, content items inherit properties of folder

Example: iTunes music inherits properties of album, such as artist, genre, etc.

Clean-up tools: Alpha list



Your photos

[Sets](#) | [Tags](#) | [Archives](#) | [Favorites](#) | [Popular](#) | [Profile](#)

	Tag	Entered as	On		
A	alemanymarket	Alemanymarket	6 photos	Edit	Delete
F	farmersmarket	Farmers Market	7 photos	Edit	Delete
	farnersmarket	Farners Market	5 photos	Edit	Delete
	flowers	Flowers	1 photo	Edit	Delete
M	murals	Murals	7 photos	Edit	Delete
S	sanfrancisco	San Francisco	7 photos	Edit	Delete

- ❖ ID collection of related content items by pattern or context
- ❖ Then, apply same attributes to all content items

Tags

- » rename tags
- » [delete tags](#)
- » [bundle tags](#)

Tags: rename tags

This is where you can rename tags that you have used before. Renaming tags will change every bookmark that is tagged with the old tag to the new tag. You can also [delete tags](#).








old tag

one or more new tags

Batch editing

Batch Organize Your Sets Your Groups Map Back to your photos flickr

Make your changes and hit the "save" button. Or, you can [cancel](#).

Title: Alemany Farmers Market Mural	
Description: Alemany Farmers Market Mural, San Francisco, CA Detail of pillar: Farmer picking lemons.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Mural	
Title: Alemany Farmers Market Mural	
Description: Alemany Farmers Market Murals, San Francisco, CA Booth panel: Farm field with mission and sunflower.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Mural F.	
Title: Alemany Market Flag	
Description: Alemany Farmers Market San Francisco, CA Flag with crab, snail and starfish.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Flag Cr.	
Title: Alemany Farmers Market Mural	
Description: Alemany Farmers Market Murals, San Francisco, CA Booth panel: Farmer as shiva.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Mural F.	
Title: Alemany Farmers Market Mural	
Description: Alemany Farmers Market Murals, San Francisco, CA South detail: Farm worker with red jalapenos, squash, carrots and grapes.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Mural F.	
Title: Alemany Farmers Market Mural	
Description: Alemany Farmers Market Murals, San Francisco, CA Booth detail: Zinnia, sunflower and cosmos flowers.	
Tags: "Alemany Market" "San Francisco" "Farmers Market" Mural F.	
Title: Alemany Market	
Description: Alemany Farmers Market, San Francisco, CA. Flower vendor: White lilies.	
Tags: Flowers "Farmers Market" "San Francisco" "Alemany Market"	

SAVE CANCEL

Page 1 of 1



Privacy settings: Share/Don't share

url do not share

description

notes

tags space separated

originally posted on 2006-08-27. [delete this post.](#)

Almost instantaneous feedback: Interactive rewards

- ❖ Almost instantaneous exposure of tags in simple user interfaces on the web provides positive reinforcement for user tagging that simply did not exist before.
- ❖ For example,
 - Most popular
 - Tag clouds
 - Alerts

Explore **Last 7 Days** This Month Popular Tags Creative Commons Search

Hot tags

In the last 24 hours

itunes7, itv, lunch20, addresscontienteurope, roidweek06, coverflow, showtime, itunes, mobilife, contextwatcher, shuffle, primary, girona, puebla, bestival, fz7, cellmcc310, nano, theworldthroughmyeyes, viewfinder

Over the last week

utatathursdaywalk21, artparade, podcamp, towersoflight, torontointernationalfilmfestival, asem, zombiepubcrawl, zombiepubcrawl2006, openmonumentendag, solanostroll, bestival2006, virginfestival, tributeinlight, bestival, dconstruct06, deitch, dconstruct, touchandgo, leuchars, islademaipo

❖ **Another example is most emailed from, e.g., the NY Times.**

All time most popular tags

06 africa amsterdam animal animals april **architecture** **art** august australia baby
barcelona **beach** berlin birthday black blackandwhite blue boston bw
california cameraphone camping **canada** canon car cat cats chicago
china christmas church city clouds color **concert** day dc dog england europe
family festival film florida flower flowers food france **friends** fun
garden geotagged **germany** girl graffiti green halloween hawaii hiking holiday home
honeymoon hongkong **house** india ireland island italy **japan** july june kids lake
landscape light live **london** losangeles macro march may me mexico mountain mountains
museum music nature new newyork newyorkcity newzealand **night** nikon nyc
ocean paris park **party** people portrait red river roadtrip rock rome san
sanfrancisco school scotland sea seattle show sky snow spain spring street
summer sun sunset sydney taiwan texas thailand tokyo toronto **travel** tree
trees trip uk urban usa **vacation** vancouver washington water
wedding white winter yellow york zoo

- ❖ New (content selected by date)
- ❖ Subscriptions (content selected by tags)
- ❖ Interest (content selected by other people)
- ❖ Individual (content selected for you by other people)

People

- » [network privacy](#)
- » **subscriptions**
- » [report spam](#)

People: subscriptions

This is where you set up your tag subscriptions, which allow you keep track of all new bookmarks saved with tags that interest you. View your subscriptions page at del.icio.us/subscriptions/jbusch.

subscribe to a tag

tag

only from this user

(leave blank for all)

subscribe

label subscription

Summary

- ❖ There are lessons to be learned from web tagging about how to get good metadata.
- ❖ Tagging must be simple, and it must be almost instantaneously easier to find relevant stuff.

Agenda

- ❖ Content Tagging
- ❖ Tagging Interface
- ❖ Taxonomies
- ❖ Semantic Web

- ❖ Lesson from shopping websites – a few small taxonomies, rather than one large one.
 - Easier to tag
 - Easier to build services
 - Easier to maintain

« return to Men

Shirts & Sweaters »

- Dress Shirts (52)
- Turtlenecks (7)
- Sweaters (22)
- T-shirts & Knit Tops (21)
- Polos (25)
- Cardigans (5)
- Sport Shirts (32)
- Custom Shirts (2)



Men's Long Sleeve Buttondown Traditional Fit No Iron Pinpoint Shirt
\$39.50- \$45.00



Men's Long Sleeve Comfort Neck Buttondown Solid No Iron Pinpoint Shirt
Was \$49.50
Now \$45.00 - \$55.00

Narrow Selection By:

Size Range

Show All

(Reg, Plus, Slim, Big & Tall, etc.)

Collar Style

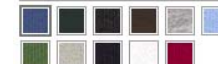
Show All

Fabric

Show All

Sleeve Length

Show All



Men's Short Sleeve Performance Super-T
\$12.50- \$17.50



Uniform Men's Short Sleeve Performance Super-T™
\$12.50

Date: Wed, 6 Feb 2008 17:23:30 -0800

From: Iratliff@library.ucla.edu

To: metadatalibrarians@lists.monarchos.com

Subject: [Metadatalibrarians] Cataloging of videos on YouTube

Hi all,

I am forwarding a question from my department head, in hopes that you may have leads on this topic.

Does anyone have experience with material that is being produced on campuses (teaching materials, lab experiments, etc.) and uploaded to youtube. are any of you aware of staff that is cataloging this material? or any discussion around this in the larger community? seems valuable to capture and expose.....

Thanks,

Louise Ratliff

UCLA Library Cataloging & Metadata Center

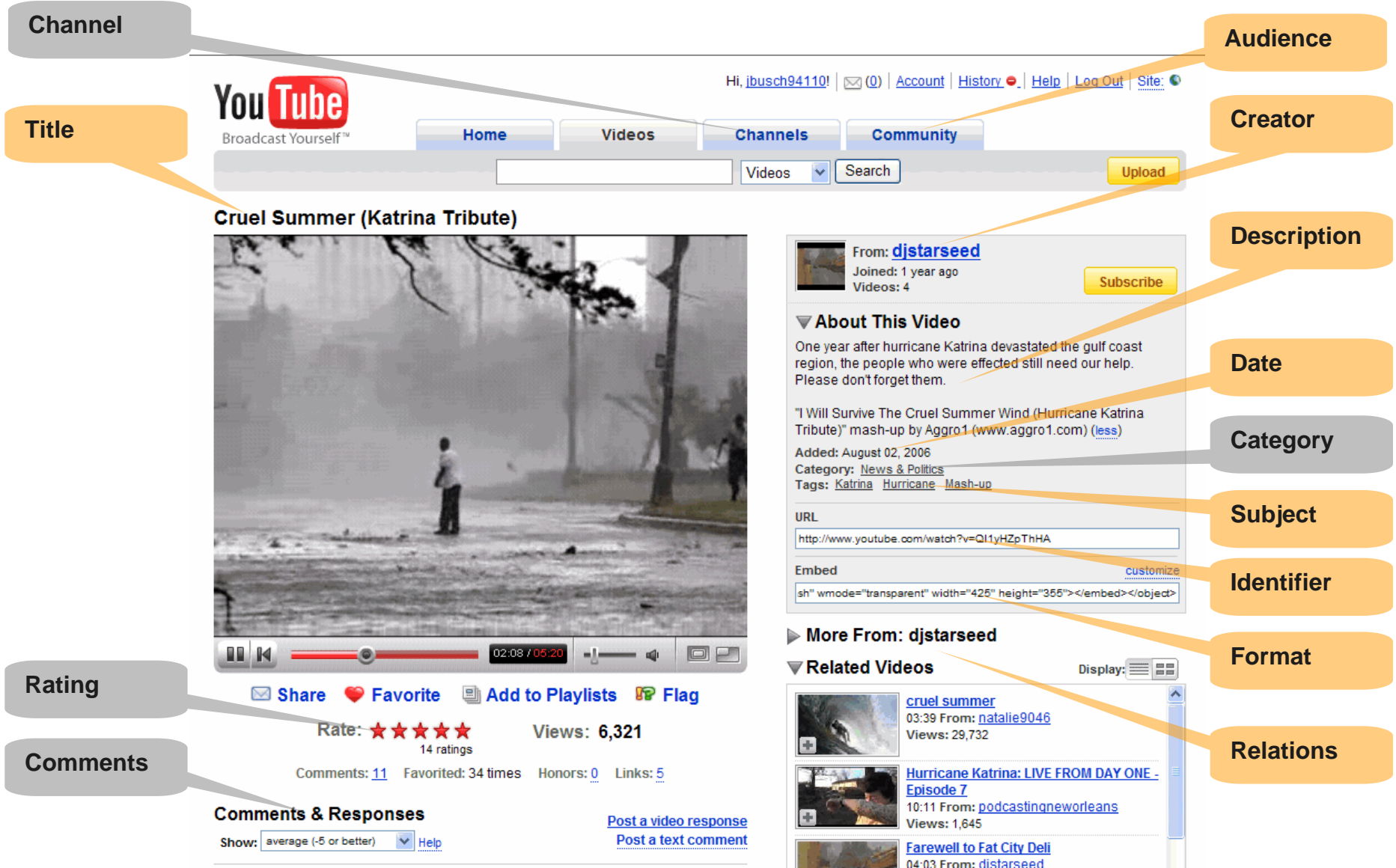
Metadatalibrarians mailing list

Metadatalibrarians@lists.monarchos.com

<http://lists.monarchos.com/listinfo.cgi/metadatalibrarians-monarchos.com>

You Tube metadata

	Dublin Core
	Other attributes



You Tube taxonomies



Audience & Category use the same controlled vocabulary

You Tube services: From just a little bit of tagging

- ❖ Populate all Video, Channel & Community pages.
- ❖ Automatic RSS subscriber based on tags for any page.
- ❖ Identify more videos from the same creator.
- ❖ Identify related videos.
- ❖ Create, publish & monetize (place ads) your playlists & favorites.

Agenda

- ❖ Content Tagging
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- ❖ Semantic Web

What is the semantic web

- ❖ Making content web-accessible in a format that can be read and used by automated tools, so that people and machines can find, share and integrate information more easily.
- ❖ Some current examples, especially if they use semantics as the basis for that integration.
 - Dynamic Web Pages – Content changes in response to different contexts or conditions.
 - Personalization – Tailoring to a user based on personal details or characteristics they provide.
 - Mashups – Combining data from more than one source into an integrated application.

Oracle events

Technology: Siderean
<http://events.oracle.com/>

Traditional search

Filter on Location "Germany"
and Date "This Month"

Time line search widget

More filters based on this result

FIND EVENTS

Search By Keyword

In-Person Events | Web Events

From: 2008-02-13 To: 2008-05-08

Europe > Germany + This Month [Clear All Filters](#)

Date

- This Week (2)
- Next 60 Days (5)
- Next 90 Days (5)

Location

- Muenchen (2)
- Stuttgart (1)
- Koeln (1)
- Duesseldorf (1)
- Berlin (1)

Target Audience

- Developer (4)
- CTO/CIO/IT Manager (2)

Database

- Grid Computing (3)
- Data Warehousing (1)
- Database Options (1)

Middleware

- Middleware (2)

Applications

- Supply Chain Applications (1)

Found 6 In-Person Events Map On | Map Off

Map | Satellite | Hybrid

Results 1-6 of 6 [Subscribe to this result set](#) [RSS](#)

February 13, 2008
Stuttgart

Kosten und Aufwand reduzieren mit Oracle Database 11g

[Register](#) Show Details

February 14, 2008
Muenchen

Information Lifecycle Management fuer strukturierte Geschaeftsdaten

[Register](#) Show Details Email to a Friend

Register, view details, or email info

Results shown on Google maps UI

Subscribe to RSS feed based on the criteria set on this page

Oracle press releases

Technology: Siderean

<http://pressroom.oracle.com/>

Oracle Press Releases
Traditional search
Time line search widget

FIND PRESS RELEASES

Search By Keyword

From: 2004-06-01 To: 2008-02-13

No Filter Applied **More filters based on this result**

Date

This Week (9)

This Month (21)

This Year (55)

Older (1235)

Technology Products

Middleware (392)

Security (326)

Collaboration (217)

SOA (171)

XML (134)

Java (130)

Embedded (64)

SMB (56)

Manageability (49)

Clustering (33)

[More](#)

Application Products

Applications (964)

Service (696)

Sales (364)

Marketing (331)

Retail (209)

Manufacturing (201)

Projects (146)

Maintenance (136)

Results 1-10 of 1290 [Subscribe to latest press releases feed](#) **RSS**

February 13, 2008 [More than 250 New Resellers Transact Business Through Oracle's VAD Remarketer Program](#)
 Show Details Email BOOKMARK ...
[Add Tag](#)

February 12, 2008 [YMCA of Greater New York Invests in the Oracle\(r\) E-Business Suite](#)
 Show Details Email BOOKMARK ...
[Add Tag](#)

February 12, 2008 [Tennessee Department of Education Streamlines Student Data Collection](#)
 Show Details Email BOOKMARK ...
[Add Tag](#)

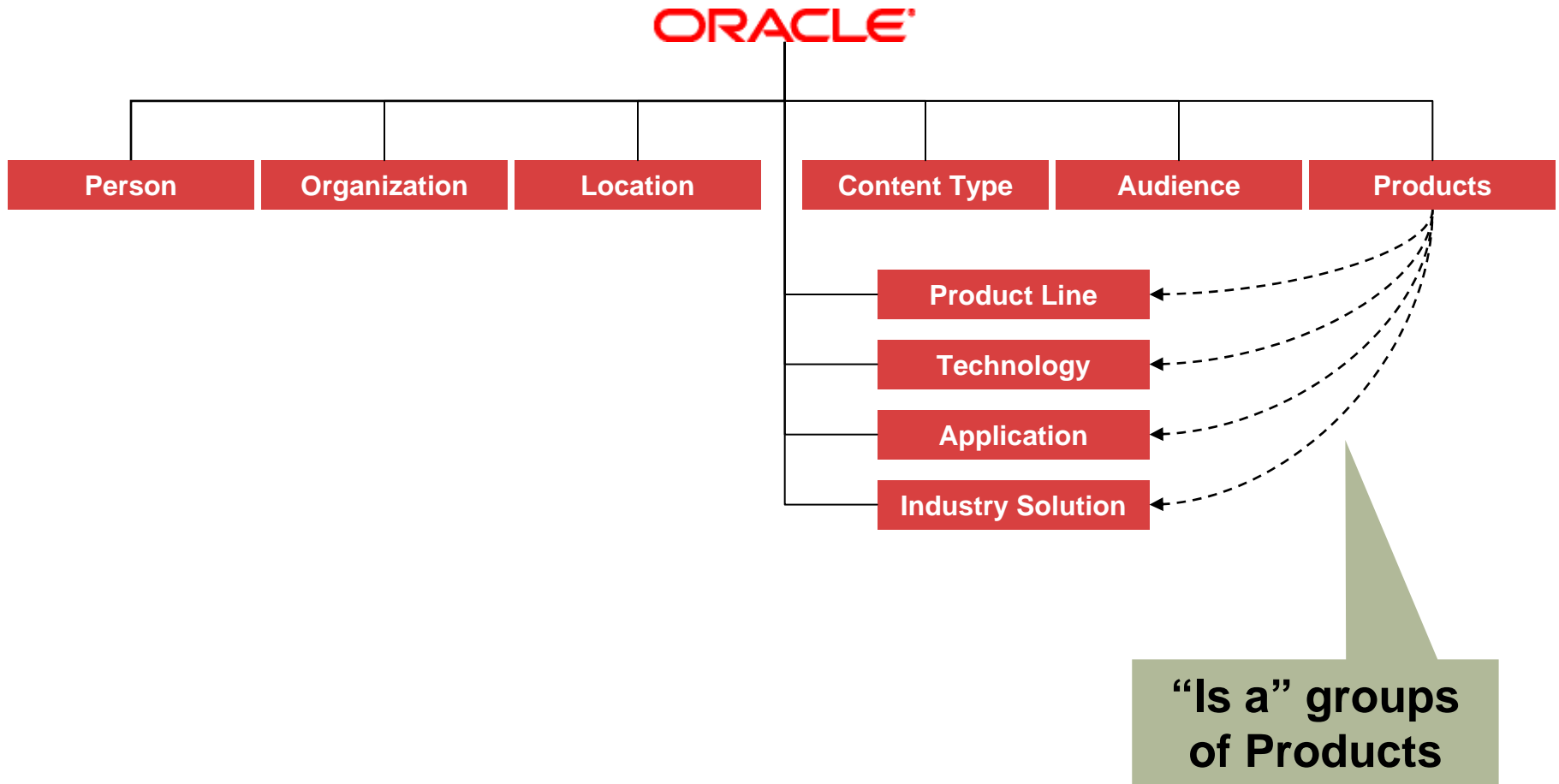
February 12, 2008 [Innovative K-12 School Districts Implement Oracle® Applications and Infrastructure Software](#)
 Show Details Email BOOKMARK ...
[Add Tag](#)

February 12, 2008 [Oracle and Accenture Integrate Oracle® Fusion Middleware into Accenture Communications Solutions](#)
 Show Details Email BOOKMARK ...
[Add Tag](#)

Taxonomy Strategies LLC The business of organized information

39

Oracle top-level taxonomy architecture



Questions?

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