



quand le lien fait sens

web de données et web sémantique

fabien, gandon, @fabien_gandon, <http://fabien.info>

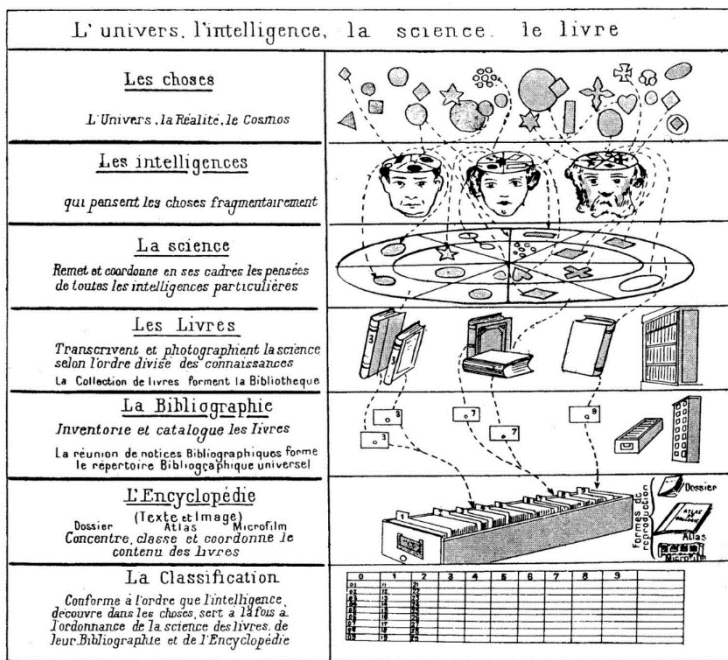


LE WORLD WIDE WEB



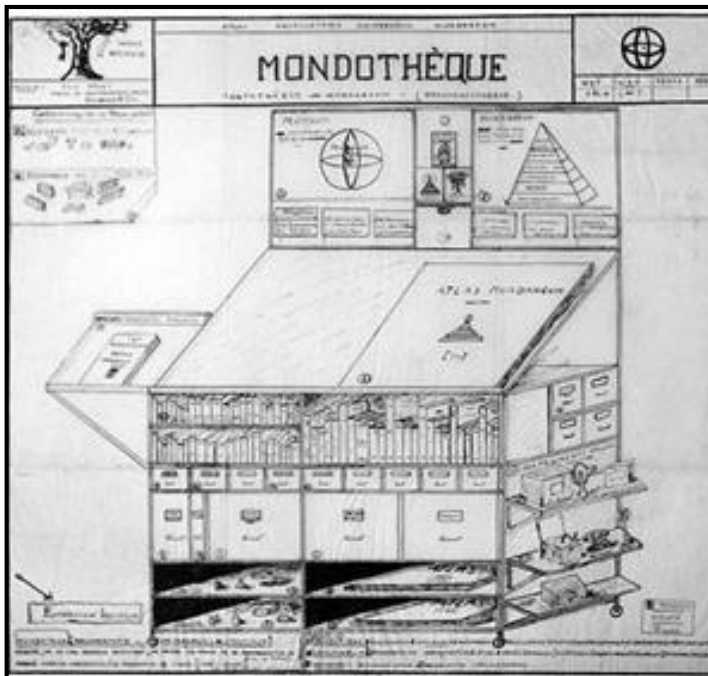
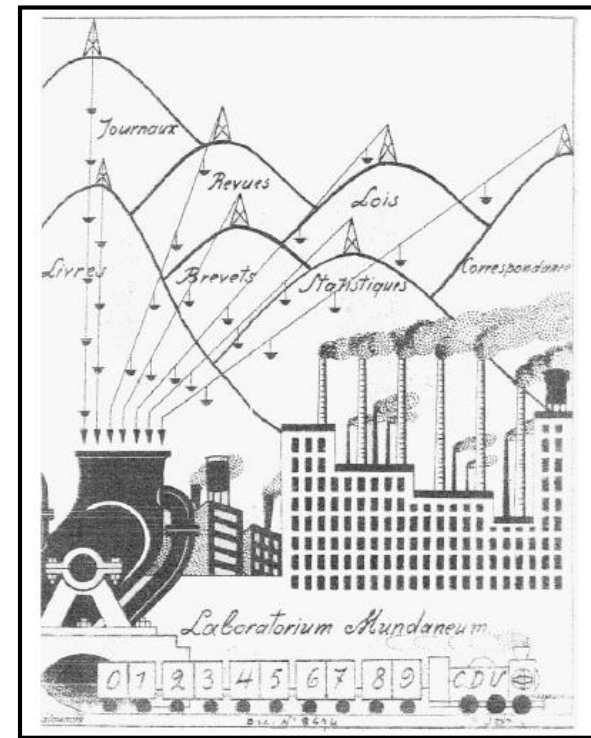
classer le monde

Paul Otlet



Paul Otlet, Traité de Documentation (1934), p.41

collecter
classer
téléphotoer





mundaneum, pour collecter le savoir mondial
17 000 000 entrées, Paul Otlet, 1895



extension de mémoire... humaine

Vannevar Bush

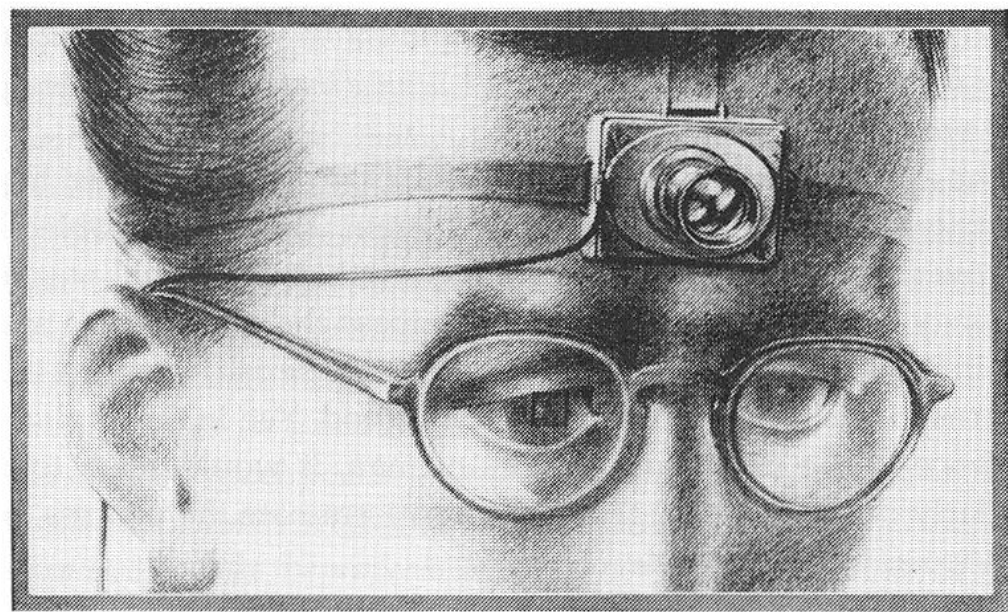
liens d'association

[Vannevar Bush, 1945]

du mémex entre les informations qui nous importent



70 ans avant « Google Glass »



A scientist of the future records experiments with a tiny camera fitted with universal-focus lens. The small square in the eyeglass at the left sights the object (*LIFE* 19(11), p. 112).





Ted Nelson & Xanadu

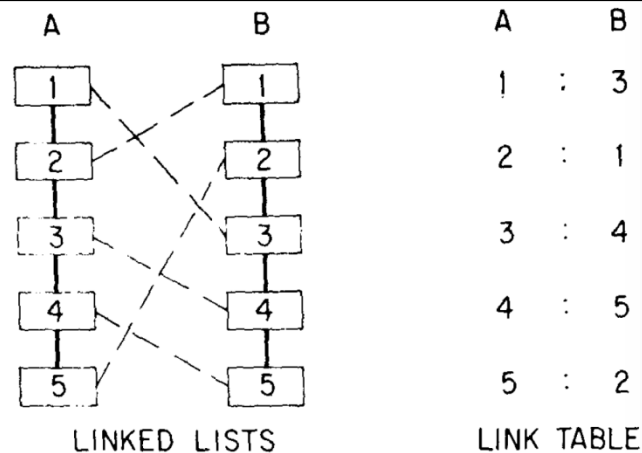
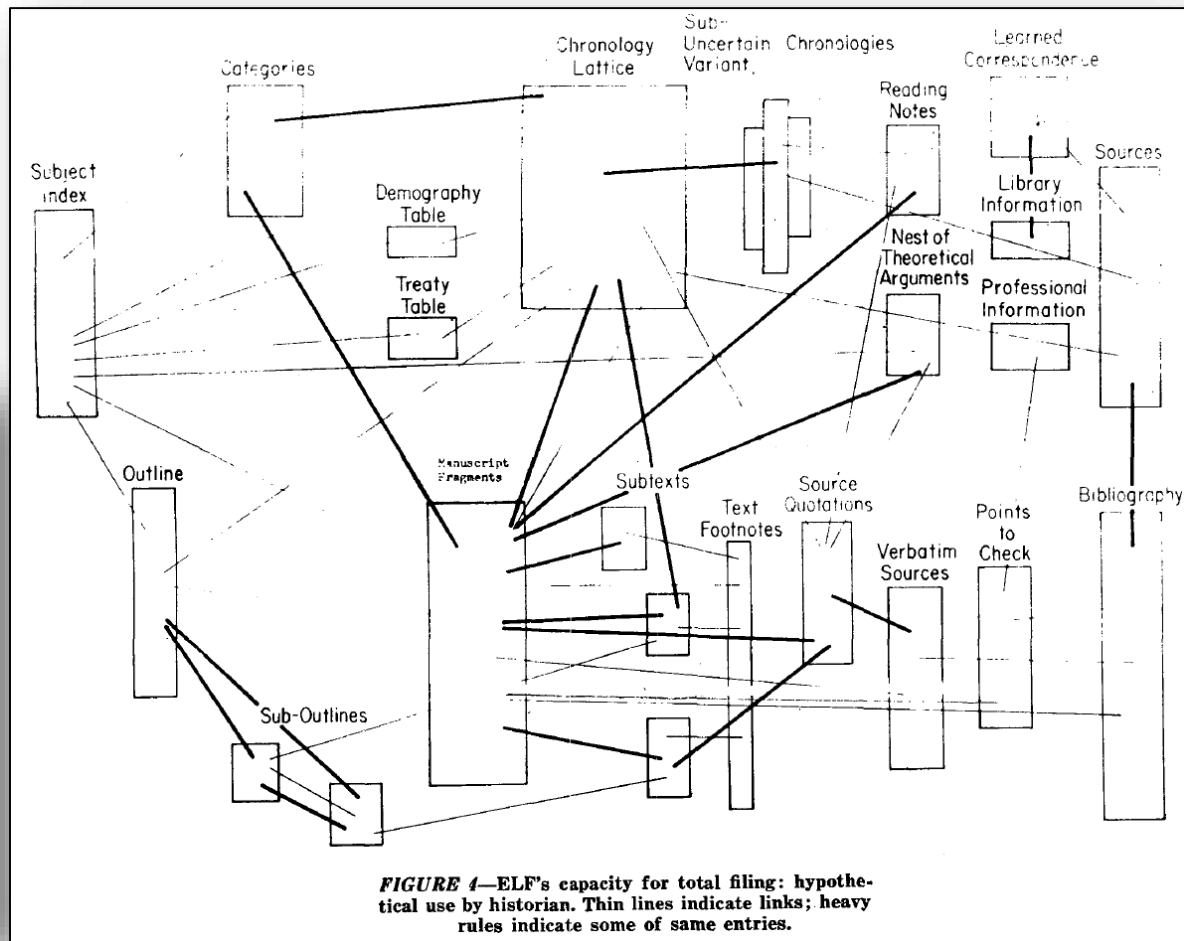


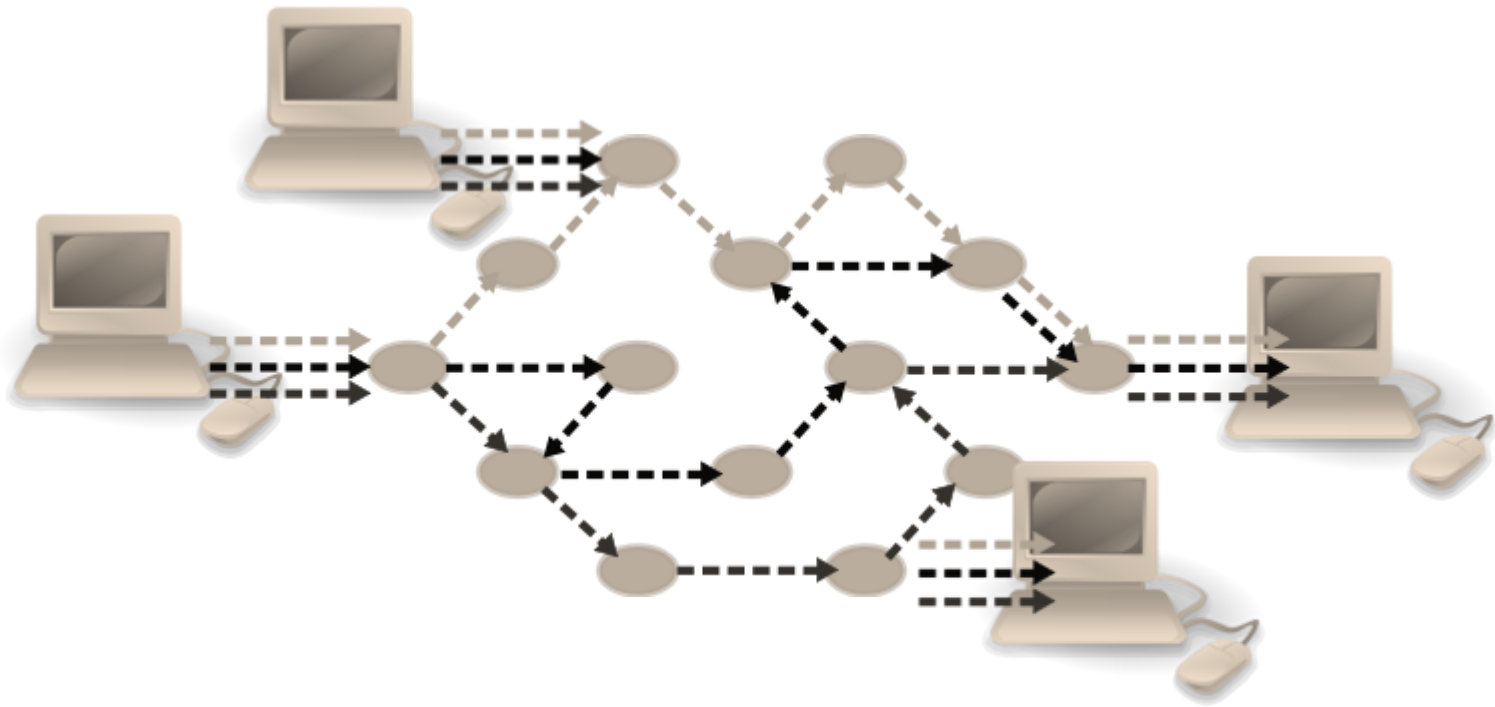
FIGURE 1—Zippered lists: 1-for-1 links between entries are invariant under list permutation.



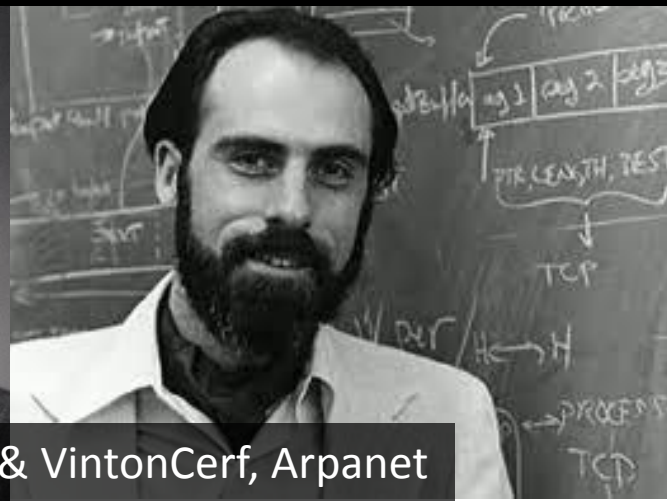
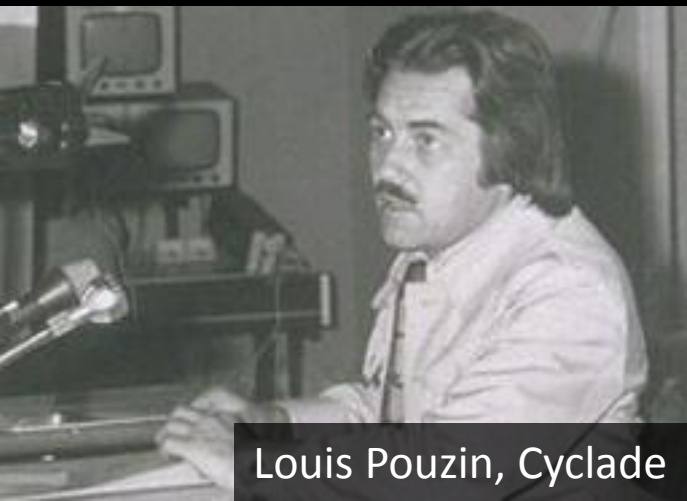
hypertexte, hypermédia

[Ted Nelson, 1965]

une structure de fichier pour l'information
complexe, changeante et indéterminée



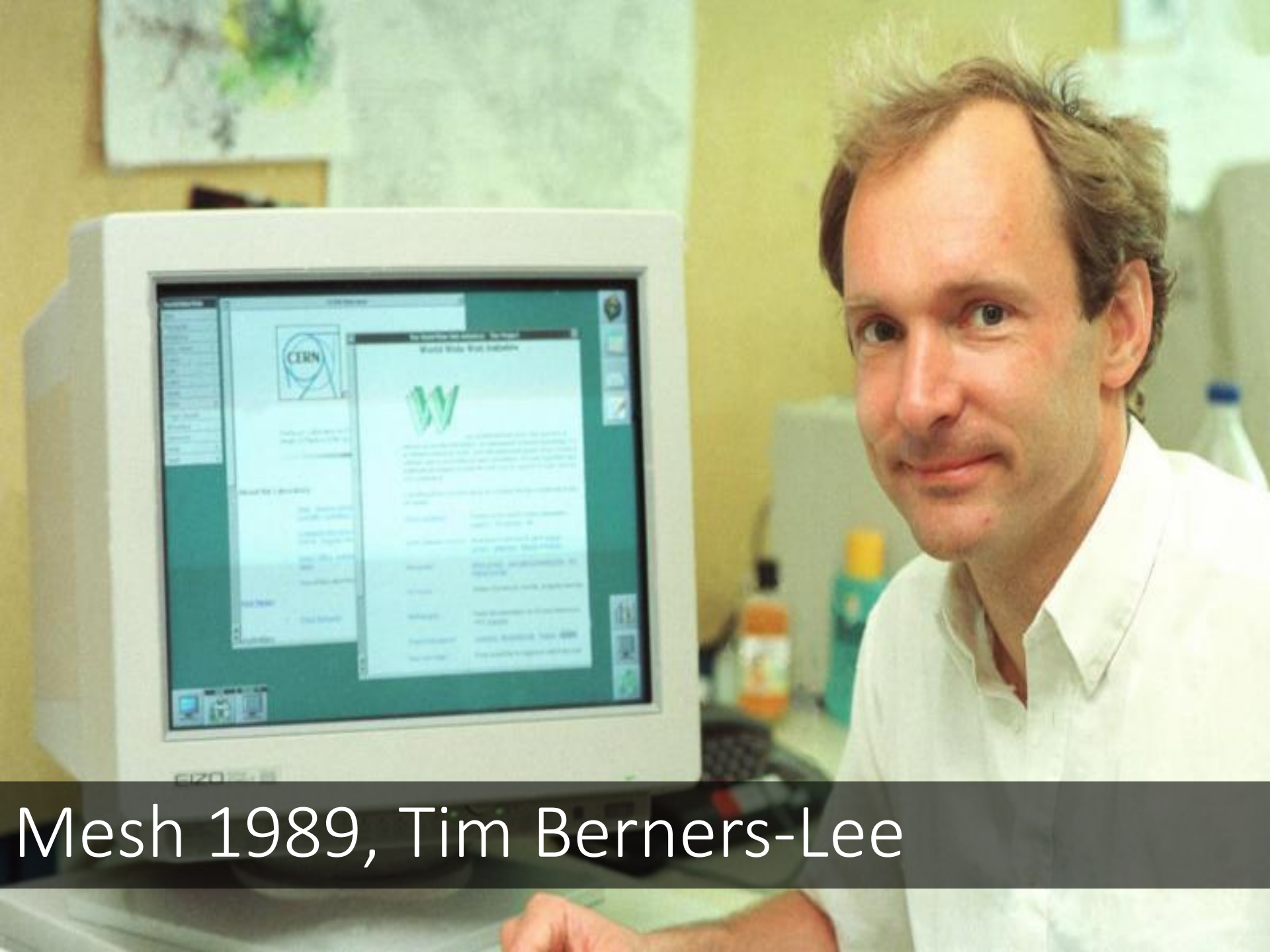
un paquet de données (1970)





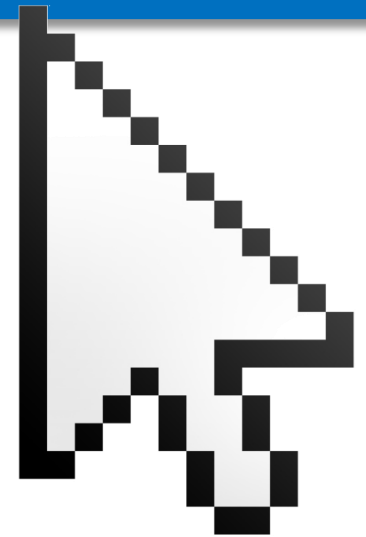
interaction homme-machine





Mesh 1989, Tim Berners-Lee

http://www.



liens utilisant des références
à travers le réseau

[Tim Berners-Lee, 1989]

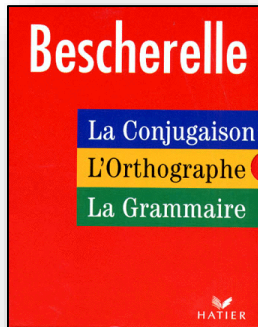
3 composants de l'architecture du web



identification (URI) & adressage (URL)
`http://www.inria.fr`



communication / protocole (HTTP)
`GET /centre/sophia HTTP/1.1`
`Host: www.inria.fr`



langage de représentation (HTML)
`Fabien travaille chez`
`<a href="http://www.inria.fr">Inria</a>`



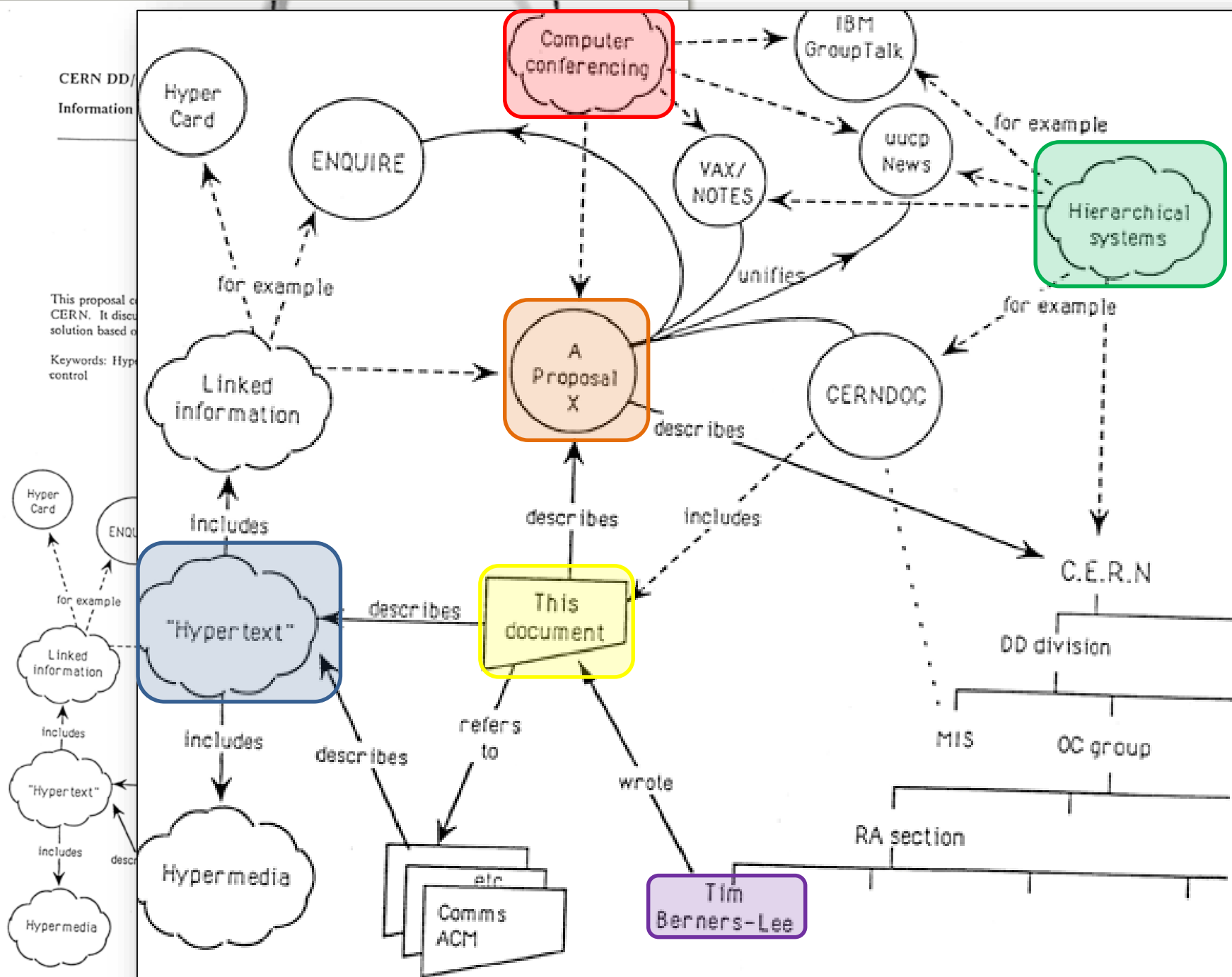
Web25TH
— ANNIVERSARY —



CERN DD/
Information

This proposal of
CERN. It discus
solution based o

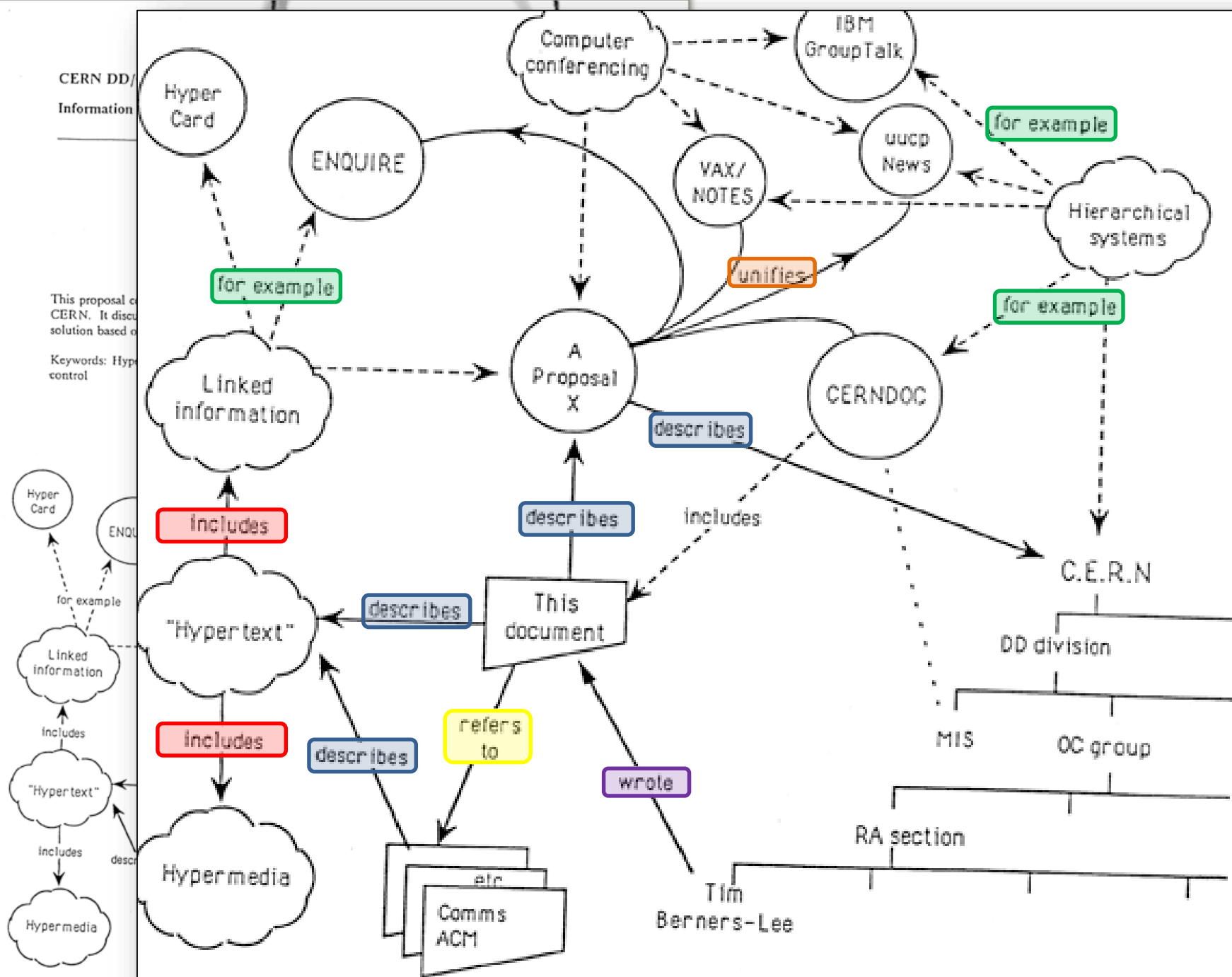
Keywords: Hyp
control



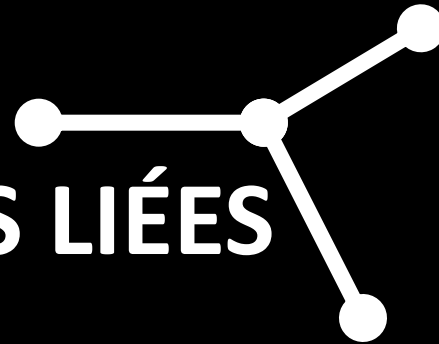
CERN DD/
Information

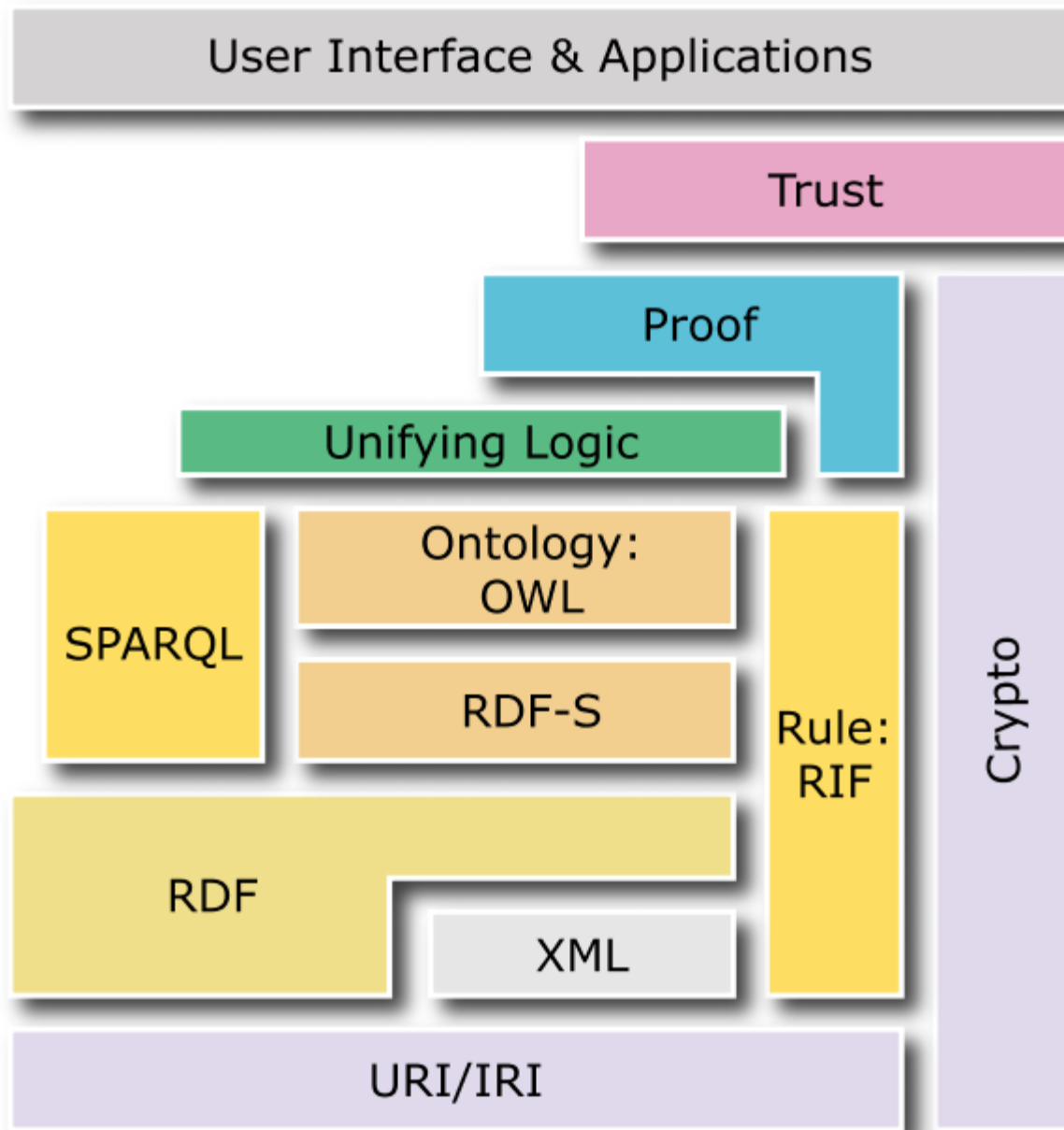
This proposal of
CERN. It disc
solution based o

Keywords: Hyp
control



UN WEB DE DONNÉES LIÉES





Pile des standards du Web de données W3C®

User Interactions **interaction**

Trust
confiance
Proof

Unifying Logic

requêtes
SPARQL

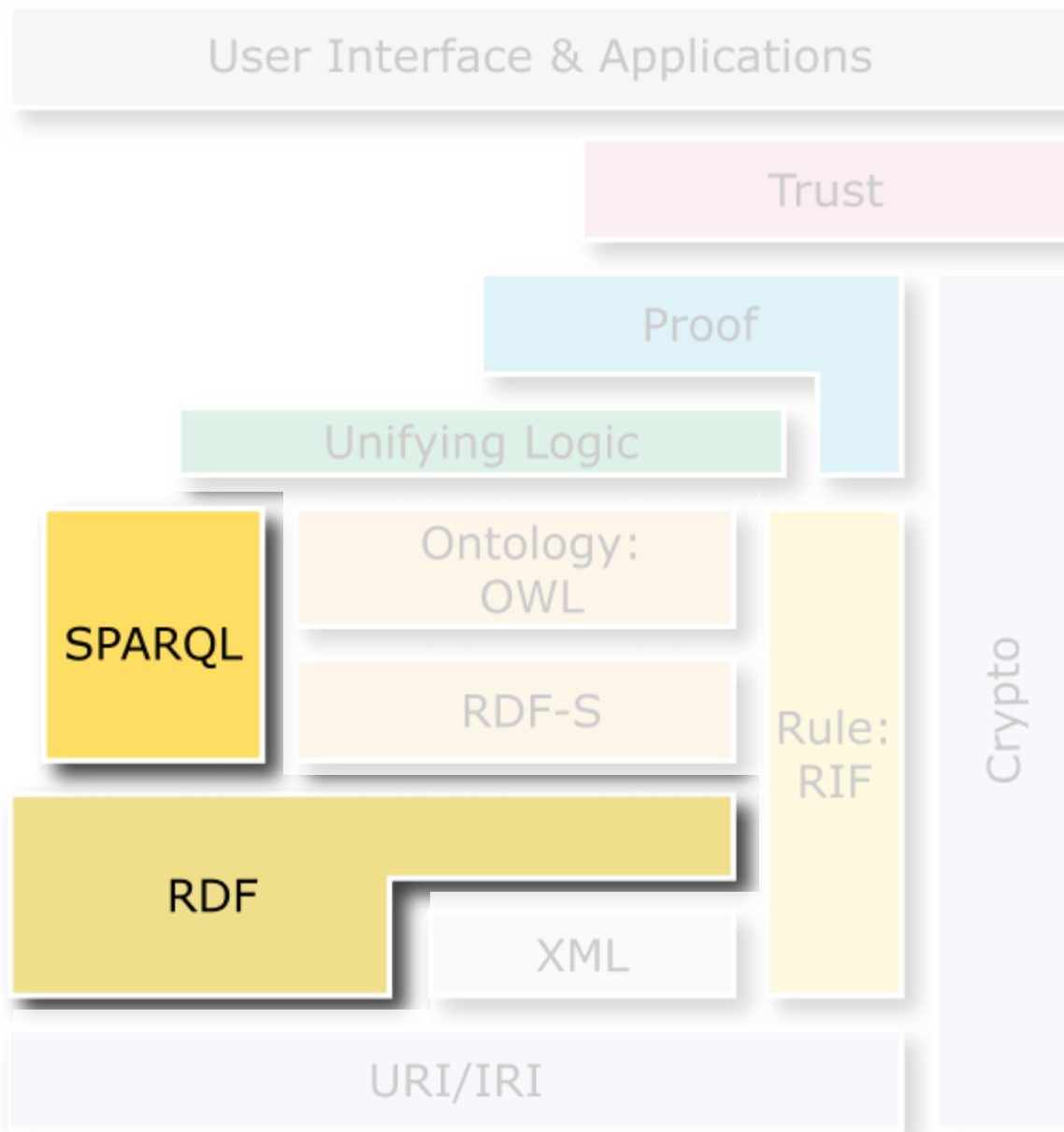
Ontology:
OWL
raisonnement
RDF-S

Rule:
RIF

Crypto

RDF
XML
représentation
URI/IRI

UN WEB DE DONNÉES LIÉES



RDF signifie

Resource: *pages, chaises, idées...*

tout ce qui peut avoir une URI

Description: *attributs, caractéristiques,
et relations entre ressources*

Framework: *modèle, langage et
syntaxes pour ces descriptions*

RDF est un modèle de triplets *i.e.*
toute connaissance est décomposée en

(**sujet** , **predicat** , **objet**)



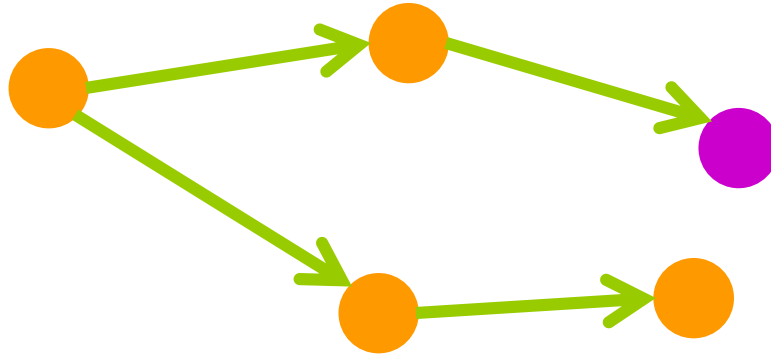
*doc.html a pour auteur Fabien et a
pour thème la Musique*

doc.html a pour auteur Fabien
doc.html a pour thème Musique

(doc.html , author , Fabien)

(doc.html , theme , Music)

(subject , predicate , object)



RDF: les triplets peuvent être vus
comme les arcs d'un graphe
(sommet, arc, sommet)

(le modèle RDF est celui d'un multi-graphe étiqueté et orienté)

Fabien

author

doc.html

theme

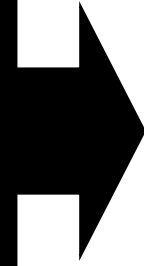
Music





références au web

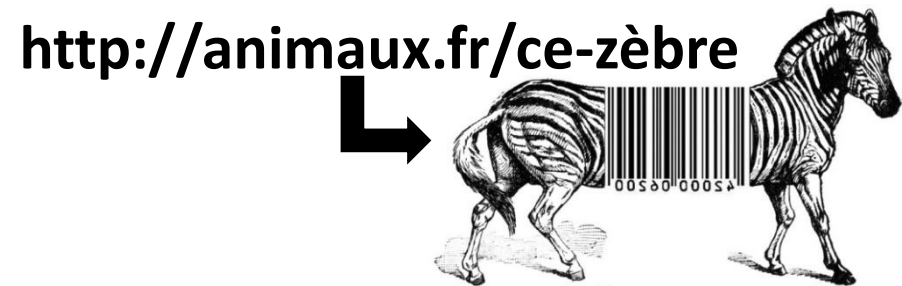
URL



URI

identifier ce
qui existe sur
le web

identifier,
sur le web,
ce qui existe



```
graph BT; A["http://inria.fr/rr/doc.html"] --> B["http://inria.fr/schema#theme"]; B --> C["http://inria.fr/schema#author"]; C --> D["http://ns.inria.fr/fabien.gandon#me"]; E["Music"] --> A;
```

<http://ns.inria.fr/fabien.gandon#me>

<http://inria.fr/schema#author>

<http://inria.fr/rr/doc.html>

<http://inria.fr/schema#theme>

"Music"

< **R****D****F** /> a une syntaxe XML
et d'autres syntaxes

(Turtle, TriG, JSON-LD, N-Triples, N-Quads)

<http://ns.inria.fr/fabien.gandon#me>



<http://inria.fr/schema#author>

<http://inria.fr/rr/doc.html>

⋮

<http://inria.fr/rr/doc.html>

<http://inria.fr/schema#theme>



Music

ouvrir et relier des données dans un
graphe mondial



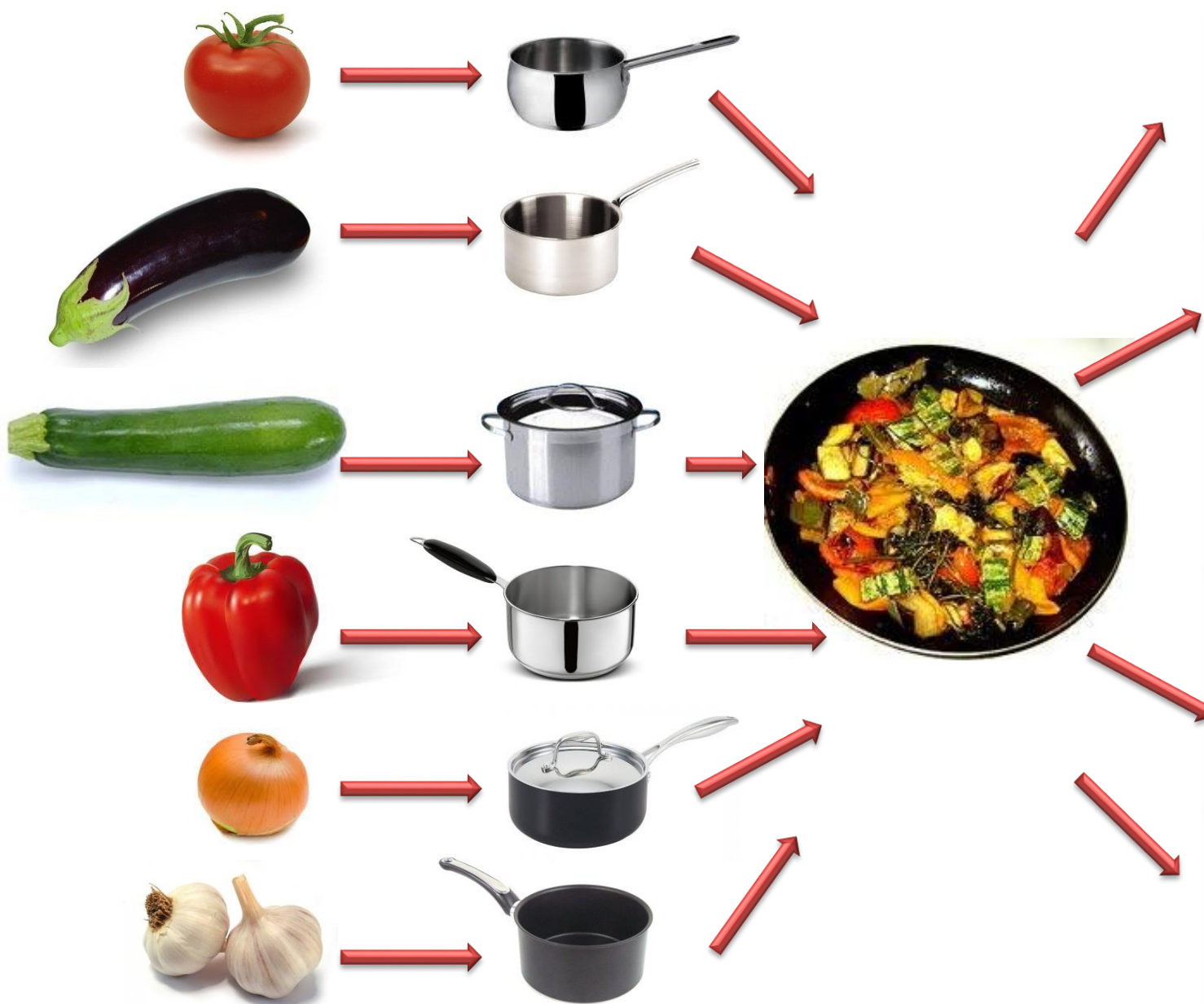
- syntaxes et modèle des graphes, s. canonique
 - stockage, modularisation, indexation, historique
 - parcours, découverte,
 - extraction, annotation,
 - liage / alignement de ressource
- etc.

recherche...

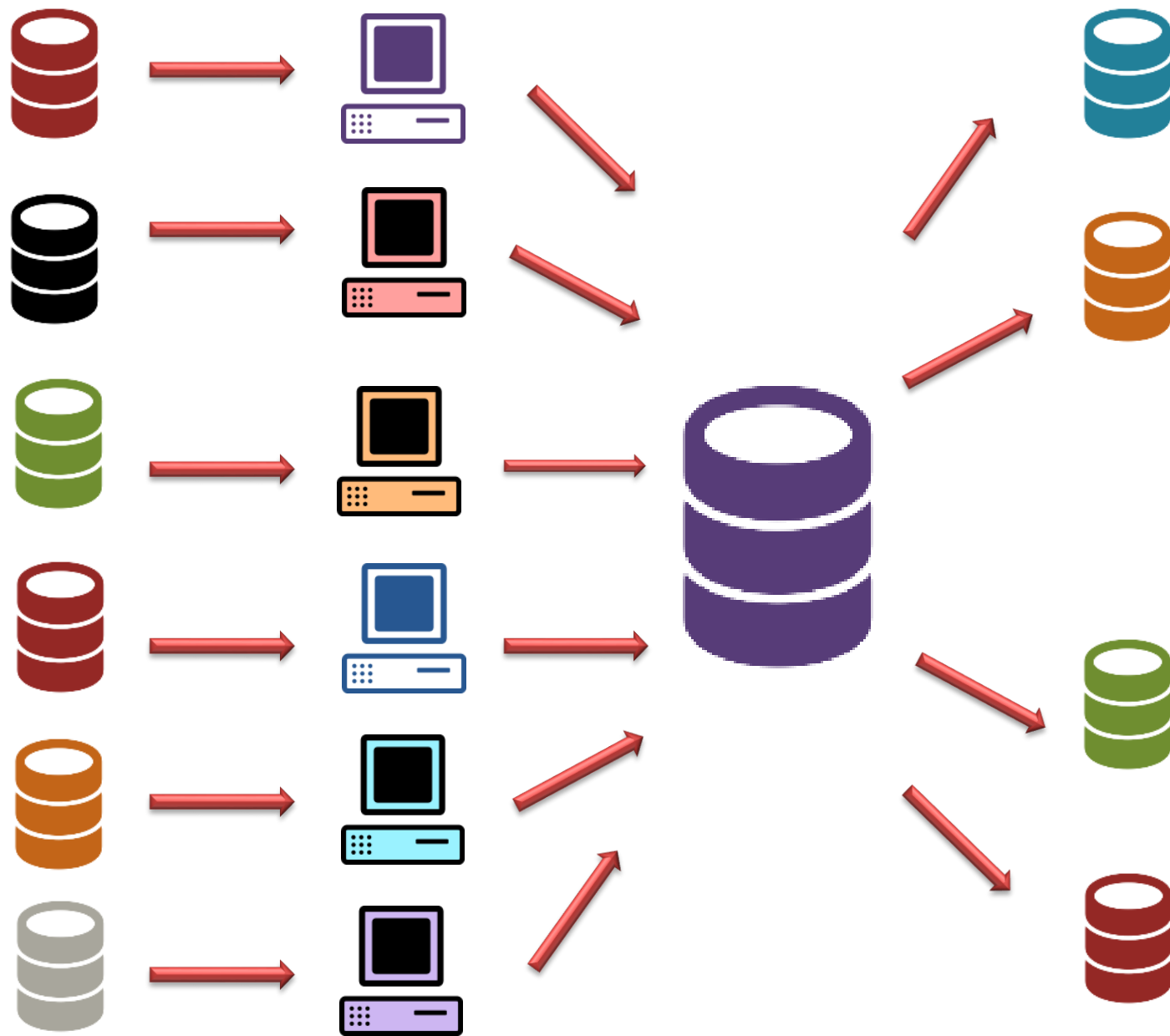


ACCÈS AU WEB DE DONNÉES





ratatouille.fr



datatouille.fr

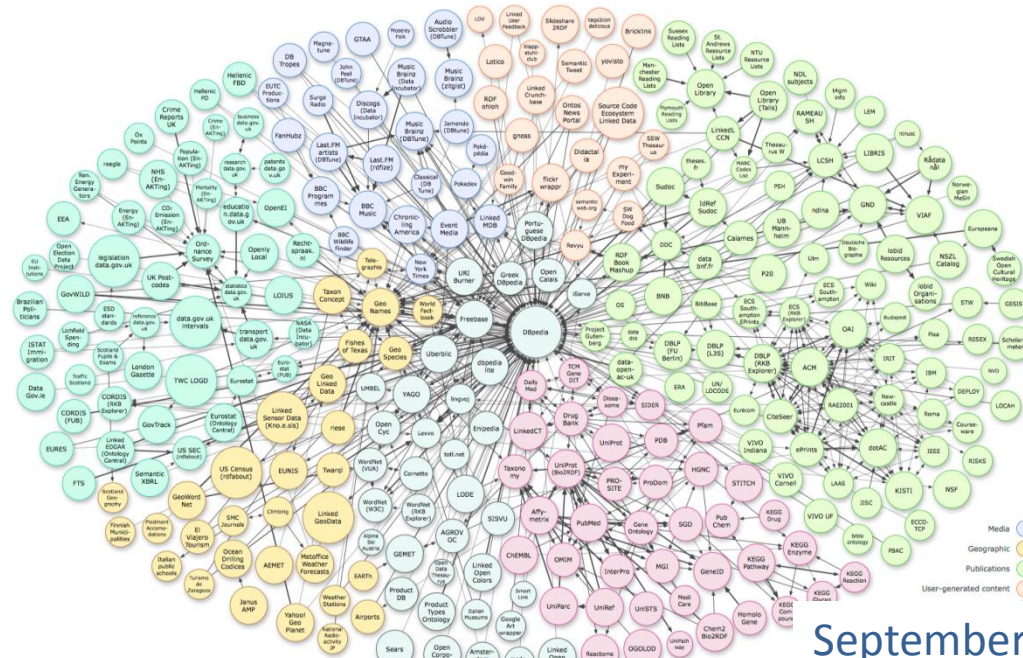
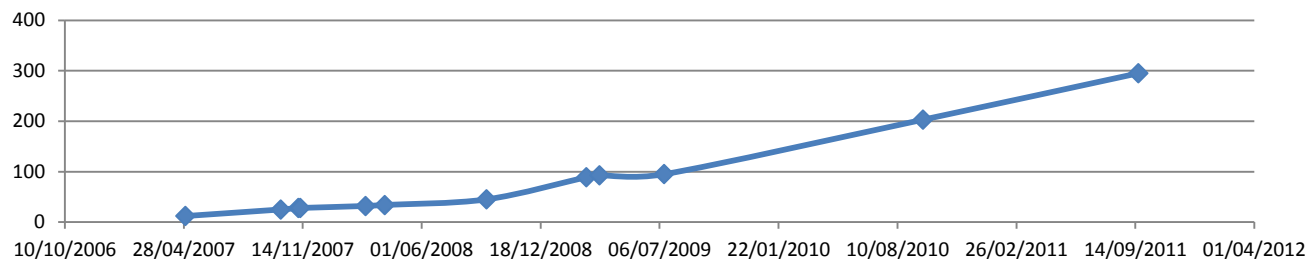
May 2007

April 2008

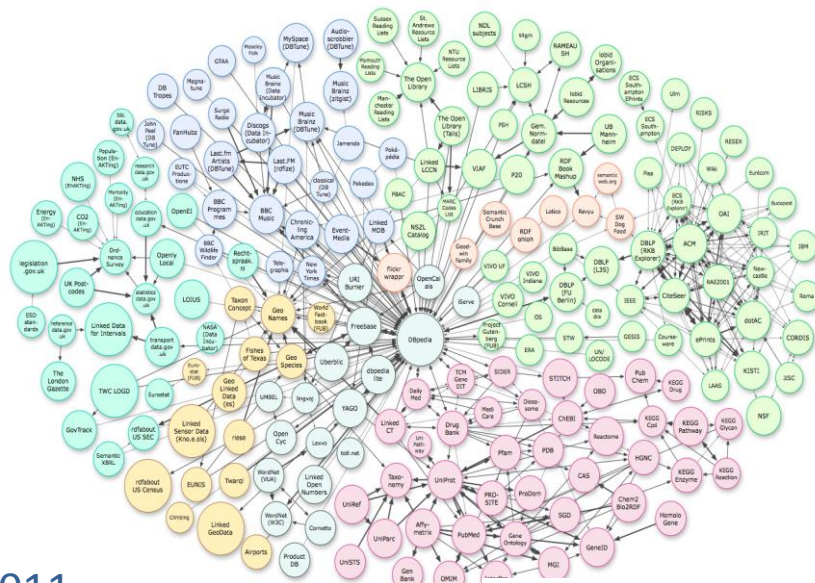
September 2008

March 2009

Linking Open Data



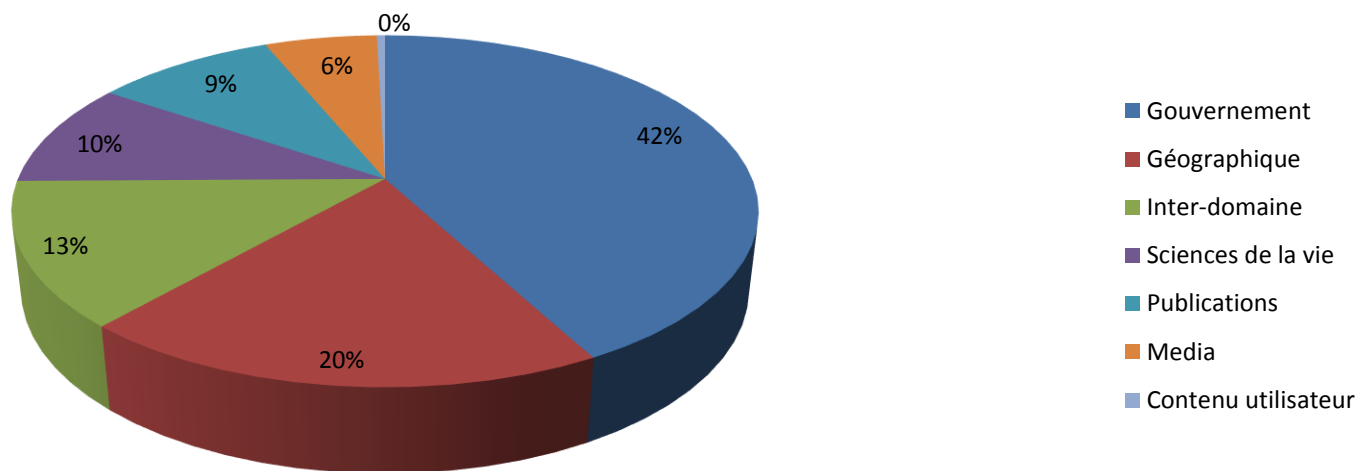
September 2011

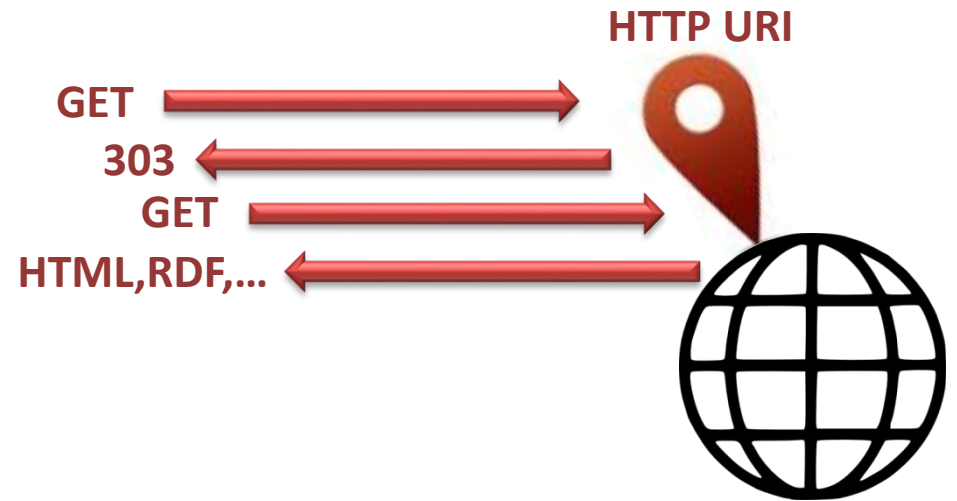


September 2010

contenus et thématiques

Domaines	Nombre de jeux de données	Triplets	%	Liens sortants	%
Media	25	1 841 852 061	5,82 %	50 440 705	10,01 %
Géographique	31	6145 532 484	19,43 %	35 812 328	7,11 %
Gouvernement	49	13 315 009 400	42,09 %	19 343 519	3,84 %
Publications	87	2 950 720 693	9,33 %	139 925 218	27,76 %
Inter-domaine	41	4 184 635 715	13,23 %	63 183 065	12,54 %
Sciences de la vie	41	3 036 336 004	9,60 %	191 844 090	38,06 %
Contenu utilisateur	20	134 127 413	0,42 %	3 449 143	0,68 %
	295	31 634 213 770		503 998 829	





principes

- utiliser des URI **HTTP** (URL) pour que l'on puisse les suivre
- lorsqu'un URI est **suivi** donner des informations (HTML, RDF)
- inclure dans ces informations des **liens** vers d'autres données



TOP NEWS STORY

Top Israeli officers reprimanded

Israel reveals it has reprimanded two top officers over the use of white phosphorus shells in Gaza, its first such admission of errors.

[» More from BBC News](#)

More Top Stories

Edit x



Iraqi female bomber kills dozens

US to resume Haiti victim airlift

S Lanka military chiefs dismissed

- Obama to unveil \$3.8tn US budget
- Nigerian oil pipeline sabotaged
- China accuses US over Taiwan deal
- Pratchett would test suicide law
- Beyonce is queen of Grammy Awards

[» MORE TOP STORIES](#)

- Obama to unveil \$3.8tn US budget
- Nigerian oil pipeline sabotaged
- China accuses US over Taiwan deal

Sport

Edit x



Live - Transfer deadline day

Cairo delight at African Cup win

Latest updates from first F1 test

- Transfer trio boost Celtic squad
- Ferguson praises 'maturing' Nani
- Terry left to sweat on captaincy
- Geremi completes Newcastle exit
- Benitez dismisses Juventus deal

Travel

from lonely planet

Edit x

Spotlight

x

[» AEROSPACE](#)



Singapore air show eyes military sales

After a bad year for airlines, manufacturers at the Singapore air show have higher hopes for sales of military hardware than civilian aircraft.

- Gloom ahead of Asia's largest air show
- Planemakers eye depressed cargo market
- 'Manage flights' to cut emissions

Business & Money

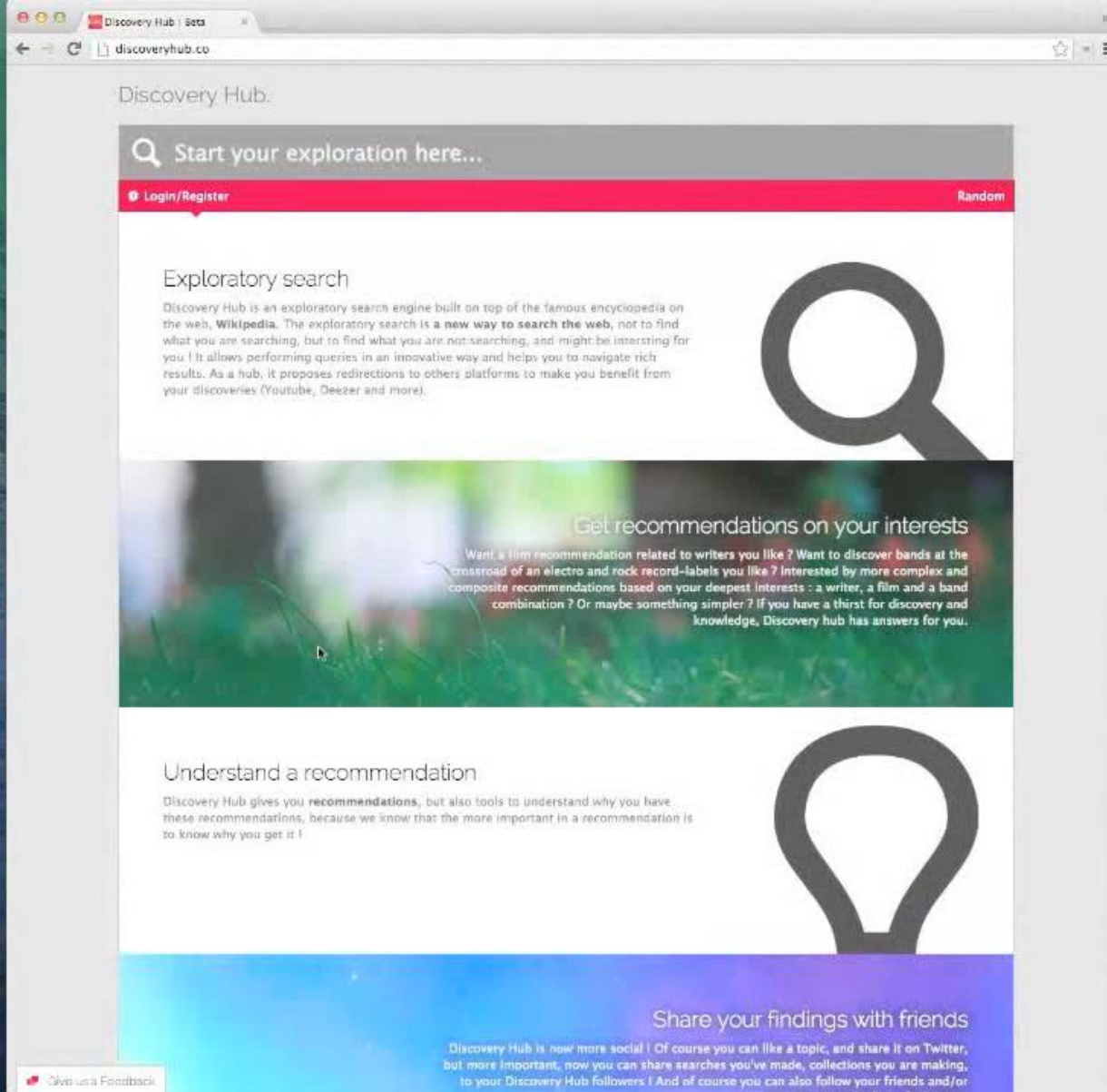
Edit x

[» MARKET DATA MON, 1 FEBRUARY 2010](#)
12:37:42 GMT

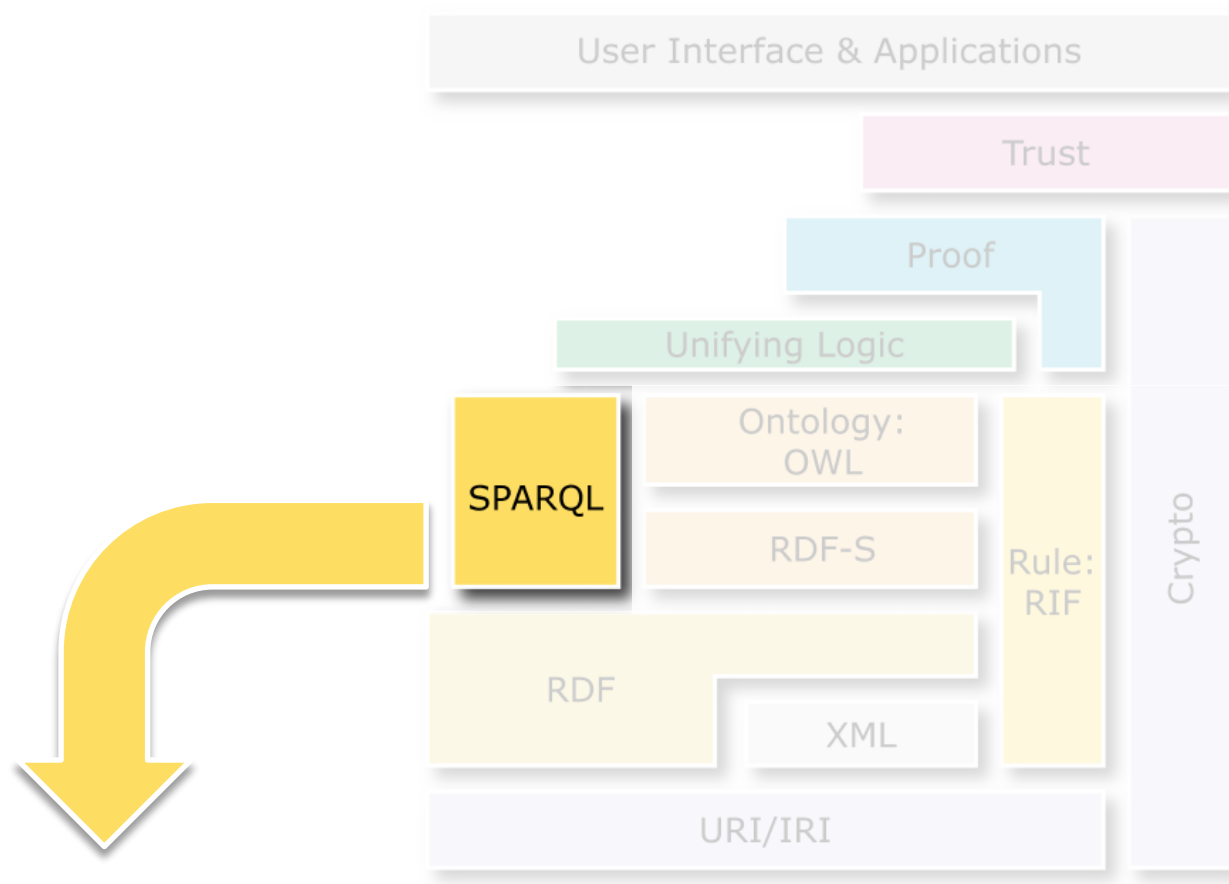
Dow Jones	10067.33	▼	-53.13
Nasdaq	2147.35	▼	-31.65
FTSE 100	5188.53	▲	0.01
Dax	5604.08	▼	-4.71
Cac 40	3729.43	▼	-10.03

15 minute delay | [Terms and Conditions](#)

[» STERLING EXCHANGE RATES](#)



DiscoveryHub



SPARQL en trois morceaux

- Langage de requête avec syntaxe triplets simplifiée

SPARQL QUERY LANGUAGE FOR RDF W3C REC 15 JAN. 2008

- Protocole d'accès comme un service Web (SOAP)

SPARQL PROTOCOL FOR RDF W3C REC 15 JAN. 2008

- Langage de présentation des résultats

SPARQL QUERY RESULTS XML FORMAT W3C REC 15 JAN. 2008



interroger avec **SPARQL**

SPARQL Protocol and **RDF**
Query Language

SELECT

ce que vous voulez

FROM

où vous voulez

WHERE

{ comme vous voulez }

exemple

personne ayant au moins 18 ans

```
PREFIX ex: <http://inria.fr/schema#>
SELECT ?person ?name
WHERE {
    ?person rdf:type ex:Person
    ?person ex:name ?name .
    ?person ex:age ?age .
    FILTER (?age > 17)
}
```



e.g. DBpedia

SPARQL Explorer for <http://dbpedia.org/sparql>

SPARQL:

```
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
PREFIX rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
PREFIX foaf: <http://xmlns.com/foaf/0.1/>
PREFIX dc: <http://purl.org/dc/elements/1.1/>
PREFIX : <http://dbpedia.org/resource/>
PREFIX dbpedia2: <http://dbpedia.org/property/>
PREFIX dbpedia: <http://dbpedia.org/>
PREFIX skos: <http://www.w3.org/2004/02/skos/core#>
```

Results: Browse



Go!

Reset

Powered by [OpenLink Virtuoso](#) and [dbpedia](#)

Gephi 0.8.1 beta - my graph.gephi

File Workspace View Tools Window Plugins Help

Overview Data Laboratory Preview

Partition x Ranking x

Nodes Edges

Group Show Pie Apply

Layout x

---Choose a layout

Run

<No Properties>

Presets... Reset

Semantic Web Import x Graph x

Driver Request Log Configurations

SPARQL Request

```
1 prefix dbpedia-owl: <http://dbpedia.org/ontology/>
2 prefix dbpedia-pro: <http://dbpedia.org/property/>
3 prefix geo: <http://www.w3.org/2003/01/geo/wgs84_pos#>
4 prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#>
5 prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#>
6 prefix geonames: <http://sws.geonames.org/>
7 prefix wgs84_pos: <http://www.w3.org/2003/01/geo/wgs84_pos#>
8 prefix gephi: <http://gephi.org/>
9 prefix owl: <http://www.w3.org/2002/07/owl#>
10
11 construct {
12     ?city1 owl:sameLanguage ?city2 .
13     ?city1 gephi:label ?city_name1 ;
14         gephi:longitude ?long1 ;
15         gephi:latitude ?lat1 ;
16         gephi:image ?im1 ;
17         gephi:language ?language ;
18         gephi:populationTotal ?population1 .
19
20     ?city2 gephi:label ?city_name2 ;
21         gephi:longitude ?long2 ;
22         gephi:latitude ?lat2 ;
23         gephi:image ?im2 ;
24         gephi:language ?language ;
25         gephi:populationTotal ?population2 .
26 }
27 where {
28     {
29         service <http://live.dbpedia.org/sparql/> {
```

Context x

Nodes: 765
Edges: 2184
Directed Graph

St... x Filters Mul... x

Settings

☒ Network Overview

Average Degree
Avg. Weighted Degree
Network Diameter
Graph Density
HITS
Modularity
PageRank
Erdős Number
Connected Components

☒ Node Overview

Avg. Clustering Coefficient
SW Type Statistics
Clustering Coefficient
Eigenvector Centrality

☒ Edge Overview

Avg. Path Length
Neighborhood Overlap, Embeddedness

Run

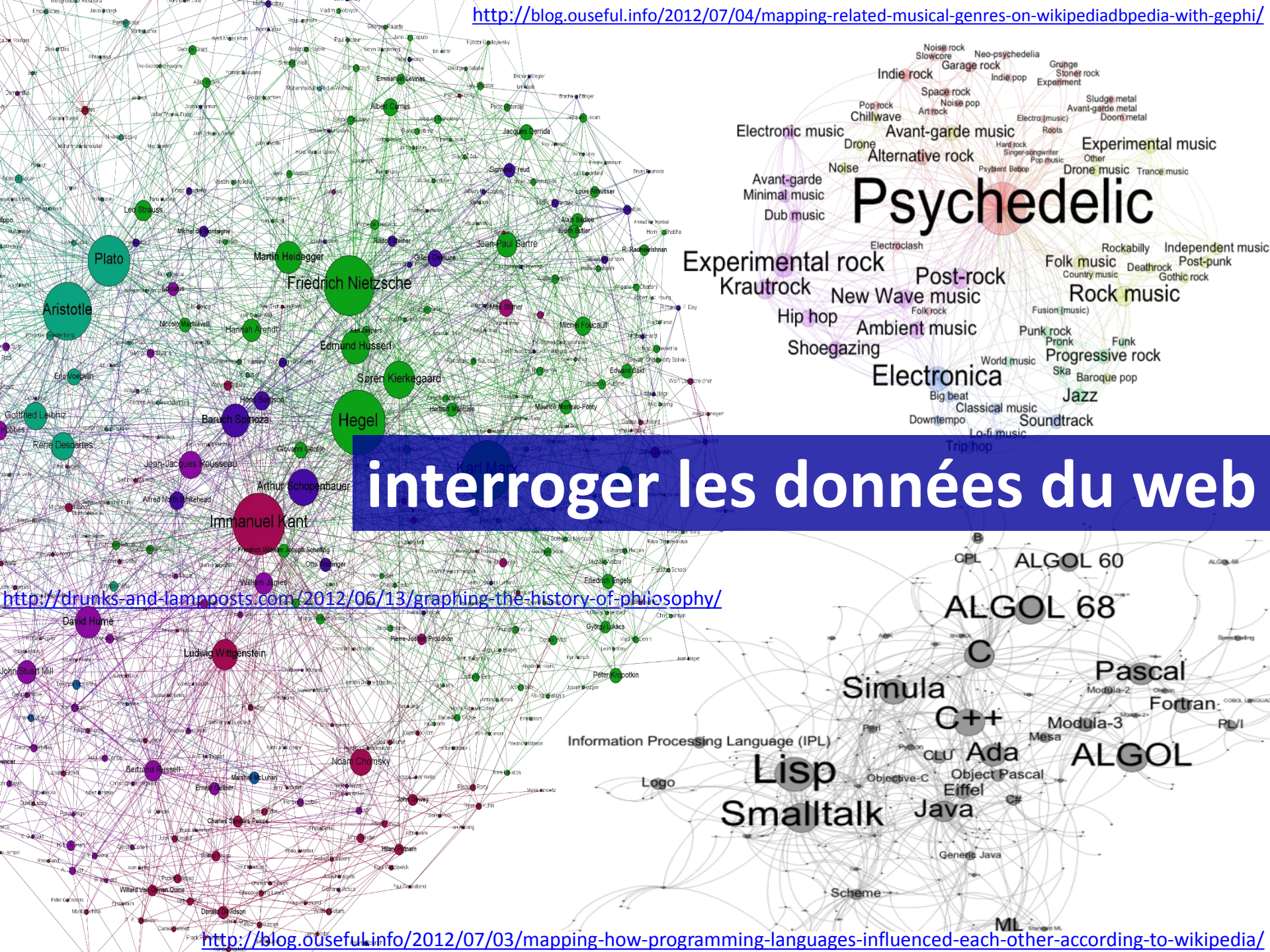
RDF Request Graph

<http://blog.ouseful.info/2012/07/04/mapping-related-musical-genres-on-wikipedia-bpedia-with-gephi/>

<http://drunks-and-lampposts.com/2012/06/13/graphing-the-history-of-philosophy/>

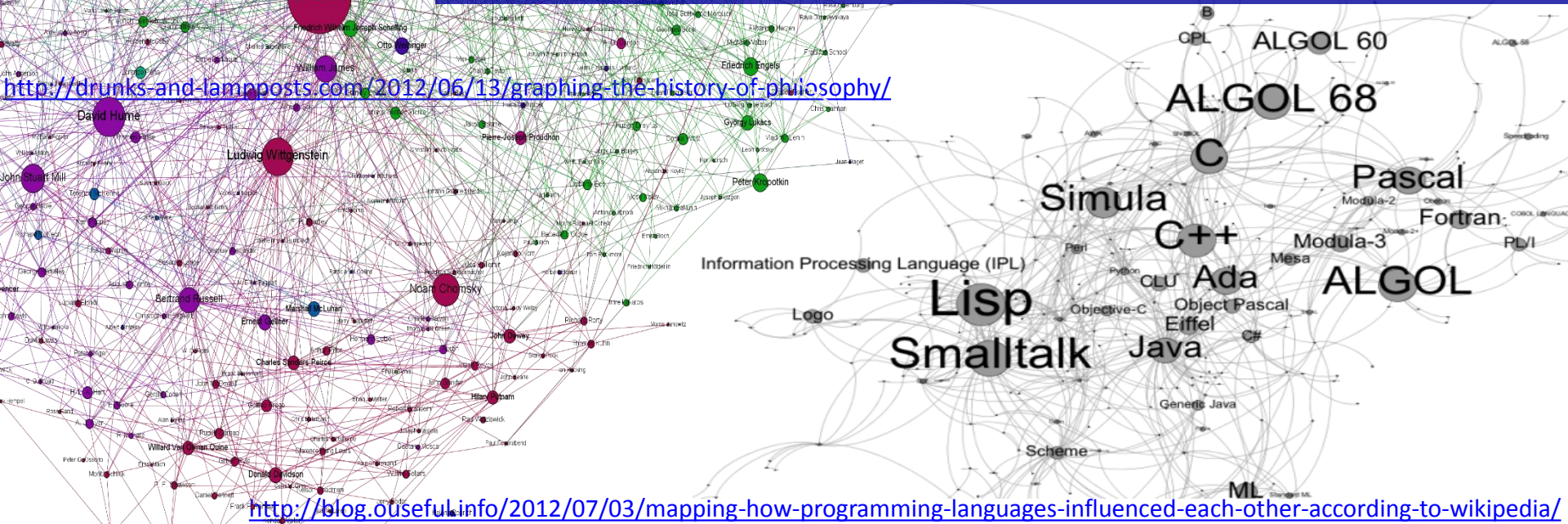
<http://blog.ouseful.info/2012/07/03/mapping-how-programming-languages-influenced-each-other-according-to-wikipedia/>

interroger les données du web



interroger les données du web

<http://drunks-and-lampposts.com/2012/06/13/graphing-the-history-of-philsophy/>



<http://blog.ouseful.info/2012/07/03/mapping-how-programming-languages-influenced-each-other-according-to-wikipedia/>

QA
KiS

Question Answering
wiKiframework-based
System

Type your question here ... !

get answers

clear

DBpedia to query :



DBpedia FR examples



DBpedia EN examples



DBpedia DE examples





HTTP GET

SPARQL

HTTP GET

SPARQL

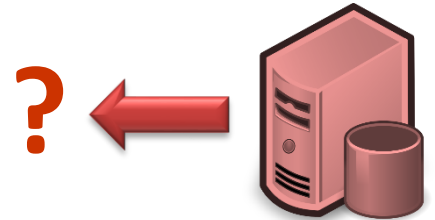
Linked Data Platform

accès HTTP complet aux ressources

consulter, ajouter, modifier, effacer.

```
GET /people/fab HTTP/1.1
```

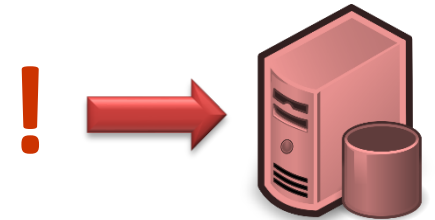
```
Host: data.inria.fr
```



```
PUT http://data.inria.fr/people/fab HTTP/1.1
```

```
Host: data.inria.fr
```

```
Content-Type: text/turtle
```



```
<fab> a foaf:Person ;
```

```
    rdfs:label "Fabien" ;
```

```
    foaf:mbox <fabien.gandon@inria.fr> .
```



ouvrez vos données
à ceux qui pourraient les utiliser

W3C ©



#WatchDogs #WeAreData @ubisoft

- bases de graphes et requêtage
 - lien avec les bases de données
 - protocoles et transferts efficaces
 - distribution, fédération, hétérogénéité
 - opérateurs dédiés (ex. chemins)
 - contrôle d'accès
- etc.

recherche...

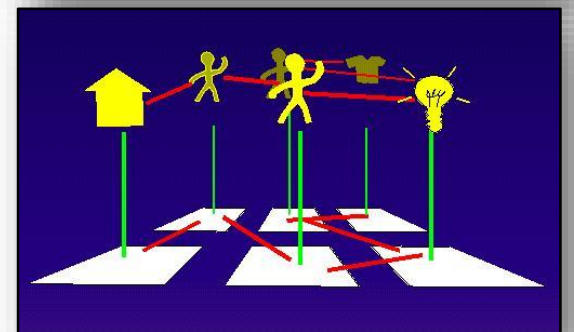
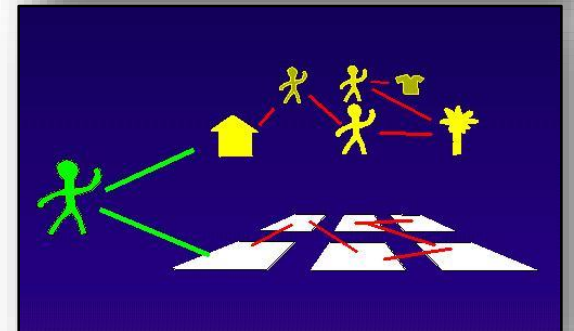
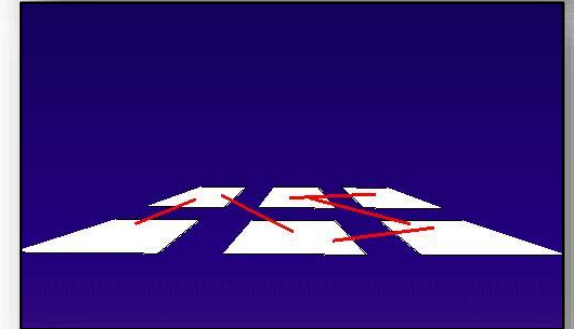
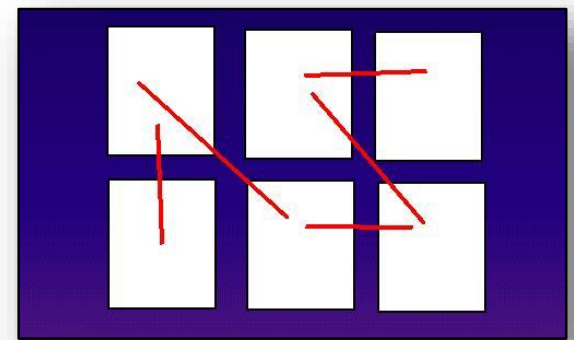


UN WEB SÉMANTIQUE

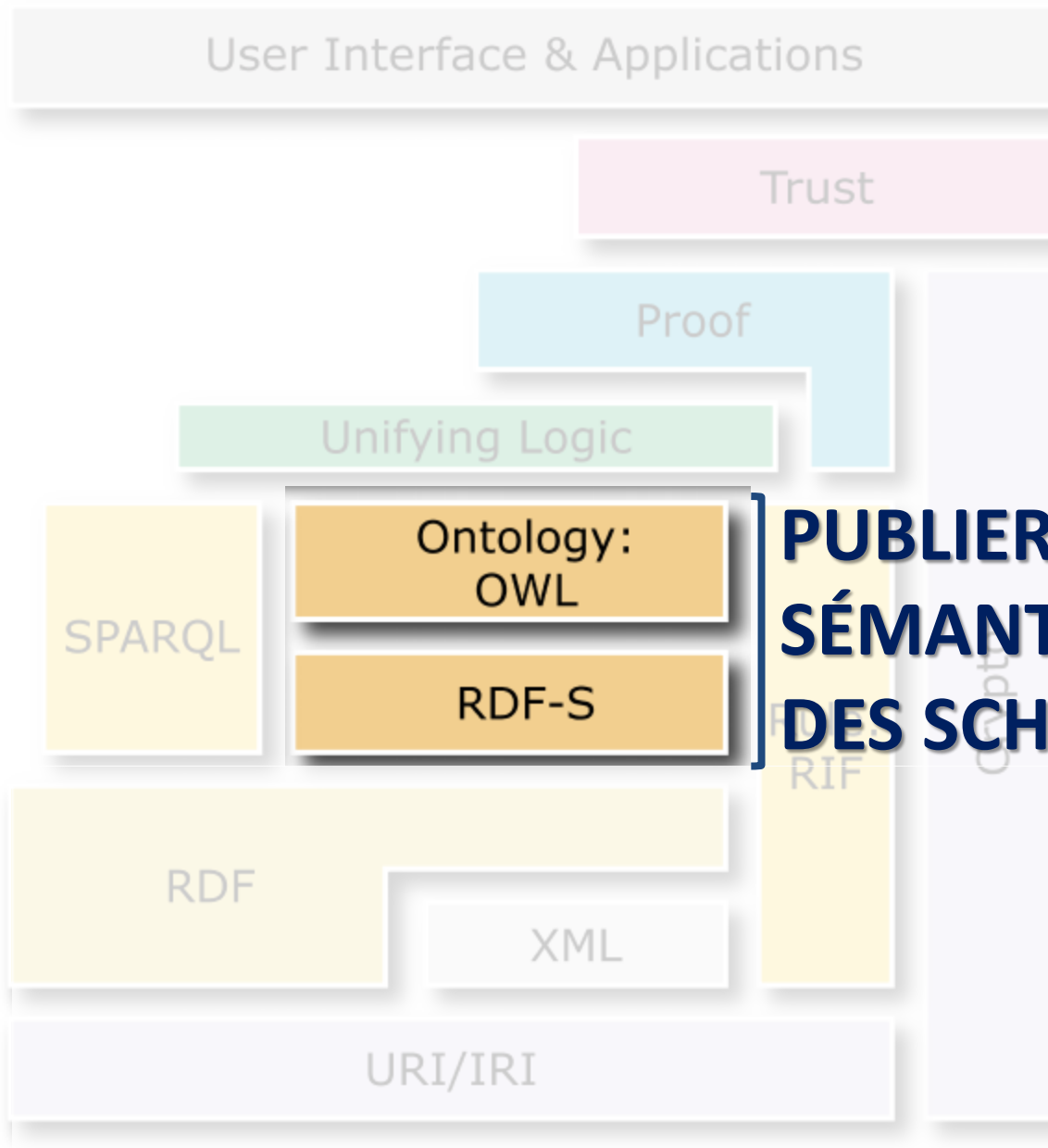


web sémantique

mentionné par Tim BL
en **1994** à WWW



[[Tim Berners-Lee](http://www.w3.org/Talks/WWW94Tim/) 1994, <http://www.w3.org/Talks/WWW94Tim/>]

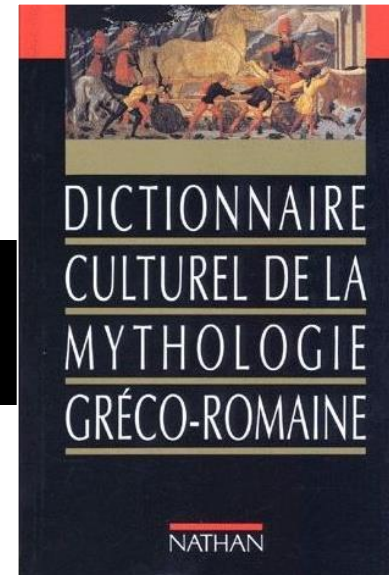


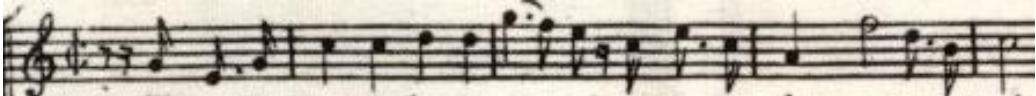
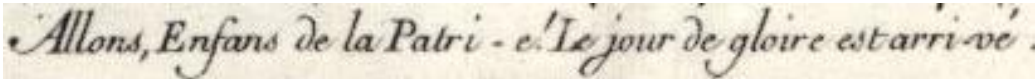
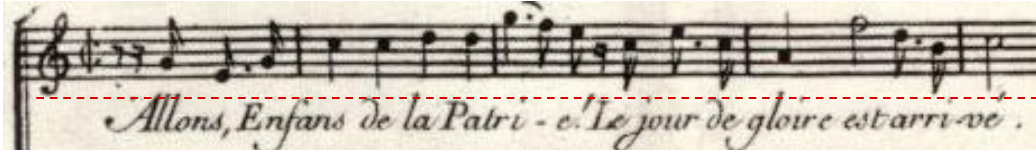
**PUBLIER LA
SÉMANTIQUE
DES SCHÉMAS**

180°C +  = ?



publier les schémas des données



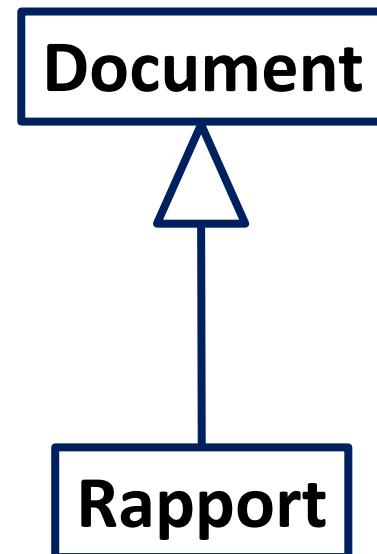

+ 
= 



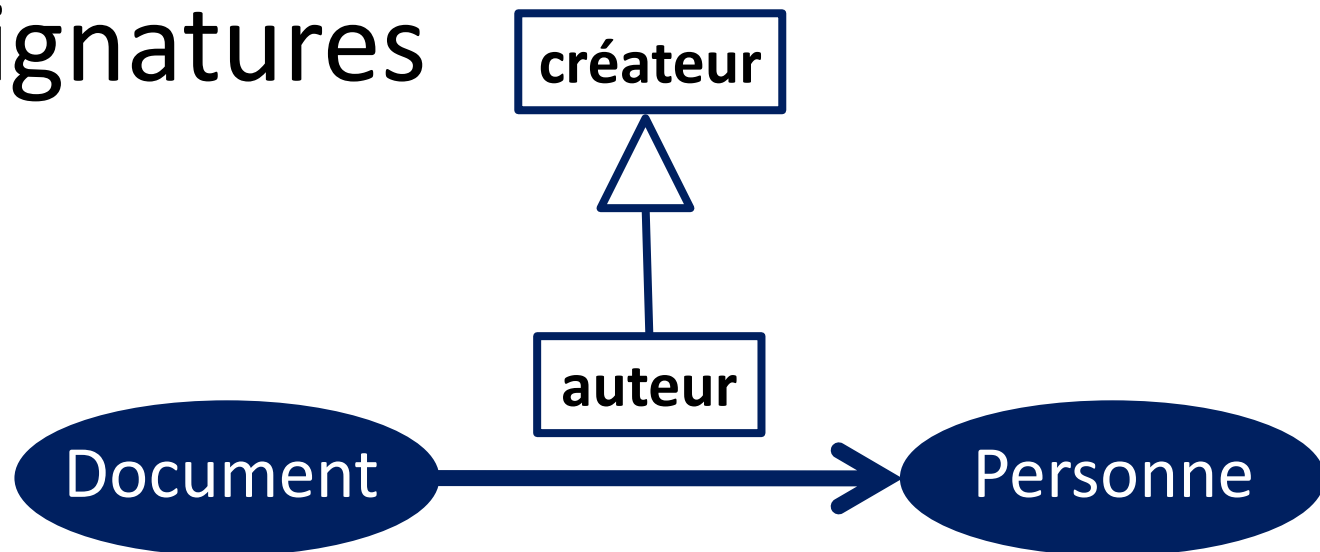
RDFS signifie **R****D****F** Schema



RDFS pour définir les classes de ressources et organiser leur hiérarchie



RDFS pour définir les relations,
leur hiérarchie et leurs
signatures

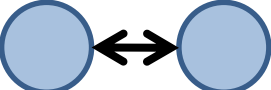


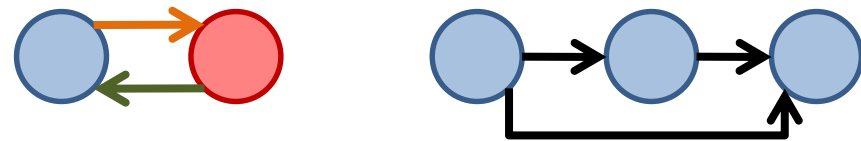


OWL fournit des primitives
supplémentaires pour des
ontologies plus lourdes

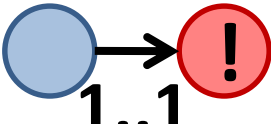


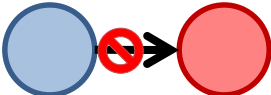
OWL in one...

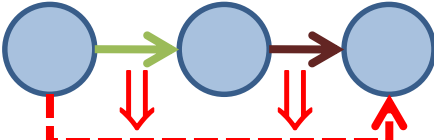
 prop. algébriques



 prop. disjointes

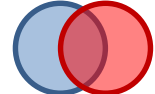
 cardinalité qualifiée

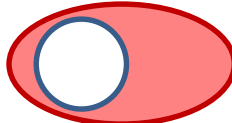
 négation prop. indiv

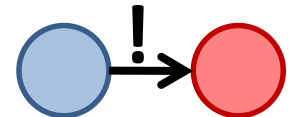
 prop. chaînées

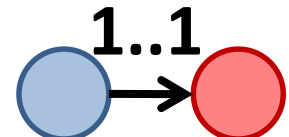
 par union

 la disjonction

 par intersection

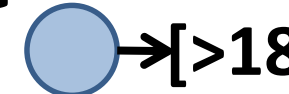
 par complément

 par restriction

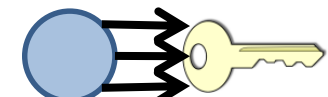
 par cardinalité

 par équivalence

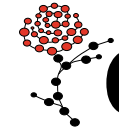
 par énumération

 restrict. valeur

 union disjointe

 clefs

...



CORESE/ KGRAM

Corese/KGRAM GUI - v2.4.2.6 - 2010-11-11

File Edit Engine Debug ?

System +

Loaded files:

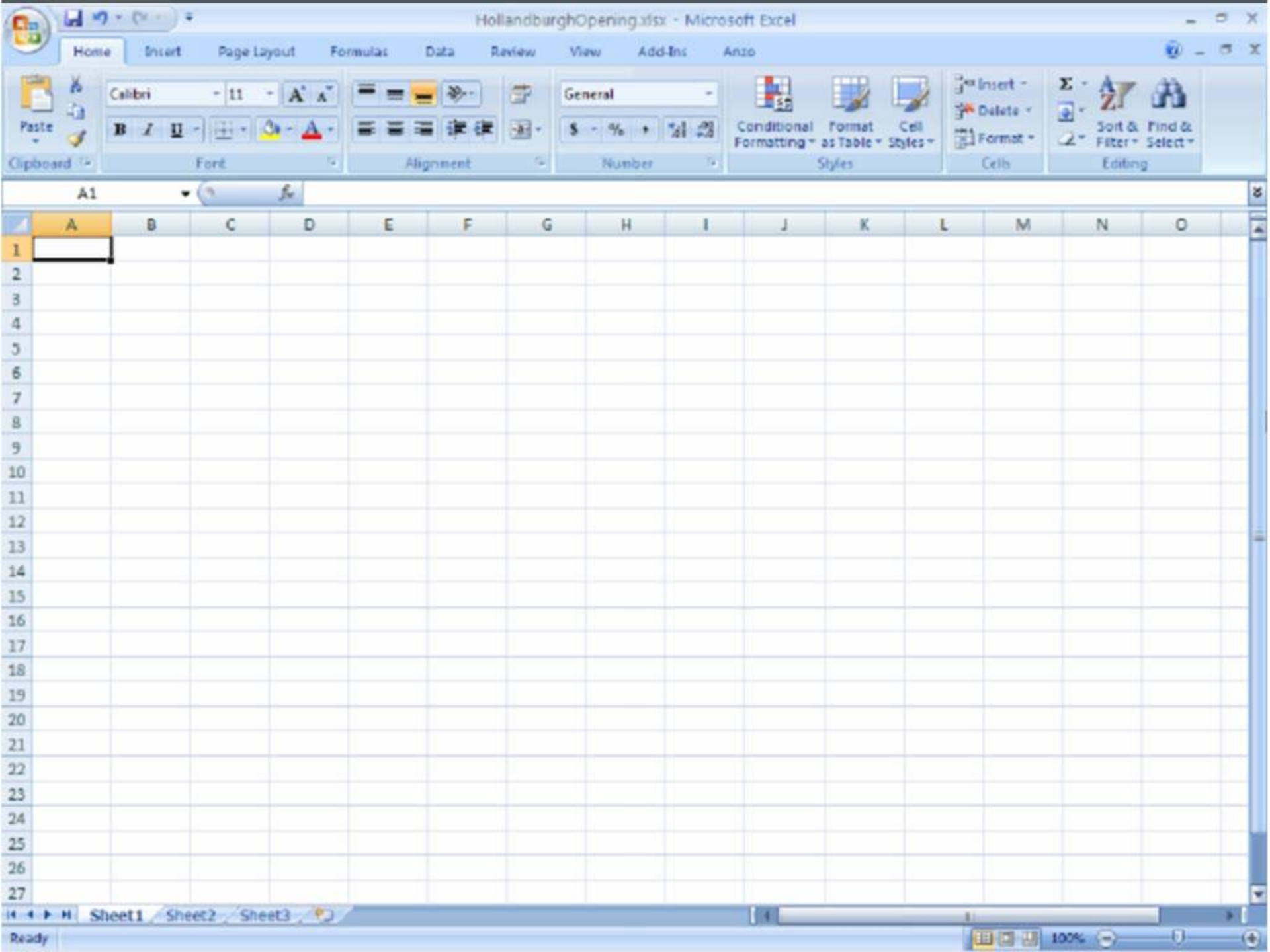
Debug

Reload

Logs:

```
reset...
RDFS/Rules : 0.00 s
Load Triples : 488
Load Relations : 423
Load Concepts : 135

done.
```





- Dublin core
- Creative Commons
- FOAF

...



Welcome to LOV, your entry point to the growing ecosystem of linked open vocabularies (RDFS or OWL ontologies) used in the [Linked Data Cloud](#). Here you will find vocabularies [listed](#) and [individually described](#) by metadata, [classified](#) by vocabulary spaces, interlinked using the dedicated vocabulary [VOAF](#).

You will enjoy querying the LOV dataset either at [vocabulary level](#) or at [element level](#), exploring the vocabulary content using full-text faceted [search](#), and finding [metrics](#) about the use of vocabularies in the Semantic Web.

Not finding your favourite one? [Suggest a new vocabulary](#) to add to LOV!

[Read more ...](#)



Metadata:

Property	Value
Creator	Bernard Vatant , Pierre-Yves Vandenbussche
Publisher	Mondeca
SPARQL Endpoint	http://lov.okfn.org/endpoint/lov
RDF dump File	http://lov.okfn.org/dataset/lov/lov.rdf
Last modified	2012-09-10
Status	Work in progress



Help us and suggest a new vocabulary !

Vocabulary spaces (285):

Classifying vocabularies is a brand new challenge for Library Science, and no existing classification scheme seems to fit the need so far. Unless we missed something, and in that case we are open to suggestions from the librarian community.

Simple
Knowledge
Organization
System

thesaurus,
classifications,
sujets, taxinomies,
folksonomies, ...
vocabulaires
contrôlés

expression naturelle pour
dénoter un concept



inria:CorporateSemanticWeb

```
skos:prefLabel "corporate semantic web"@en;  
skos:prefLabel "web sémantique d'entreprise"@fr;  
skos:altLabel "corporate SW"@en;  
skos:altLabel "CSW"@en;  
skos:hiddenLabel "web semantique d'entreprise"@fr.
```

relations



entre concepts

inria:CorporateSemanticWeb

skos:broader w3c:SemanticWeb;

skos:narrower inria:CorporateSemanticWiki;

skos:related inria:KnowledgeManagement.

notes

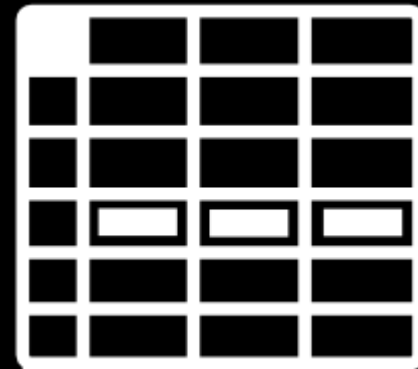
inria:CorporateSemanticWeb

```
skos:scopeNote "only within KM community";  
skos:definition "a semantic web on an intranet";  
skos:example "Nokia's internal use of RDF gateway";  
skos:historyNote "semantic intranet until 2006";  
skos:editorialNote "keep wikipedia def. uptodate";  
skos:changeNote "acronym added by fabien".
```

- expressivité, complexité, décidabilité, complétude
 - apprentissage / extraction
 - alignement de schémas
 - validation, vérification
 - efficacité et passage à l'échelle
- etc.

recherche...





ÉTENDRE À D'AUTRES SOURCES

du web sémantique à toute forme de données

ACTIVE GROUPS

[RDF Working Group](#)[Linked Data Platform Working Group](#)[Data on the Web Best Practices Working Group](#)[CSV on the Web Working Group](#)[Government Linked Data Working Group](#)[Semantic Web Interest Group](#)[Semantic Web Health Care and Life Sciences Interest Group](#)[Data Activity Coordination Group](#)

NEARBY

[Data Activity Blog](#)[Activity Statement](#)[The Digital Publishing Activity](#)[The XML Activity](#)

ASSOCIATED PROJECTS

[Crosscloud](#)[Smart Open Data](#)[Share-PSI 2.0](#)

W3C DATA ACTIVITY *Building the Web of Data*

More and more Web applications provide a means of accessing data. From simple visualizations to sophisticated interactive tools, there is a growing reliance on the availability of data which can be “big” or “small”, of diverse origin, and in different formats; it is usually published without prior coordination with other publishers — let alone with precise modeling or common vocabularies. The Data Activity recognizes and works to overcome this diversity to facilitate potentially Web-scale data integration and processing. It does this by providing standard data exchange formats, models, tools, and guidance.

The overall vision of the Data Activity is that people and organizations should be able to share data as far as possible using their existing tools and working practices but in a way that enables others to derive and add value, and to utilize it in ways that suit them. Achieving that requires a focus not just on the interoperability of data but of communities.

Questions? Contact [Phil Archer](#) <phila@w3.org>, W3C Data Activity Lead.

Context & Vision

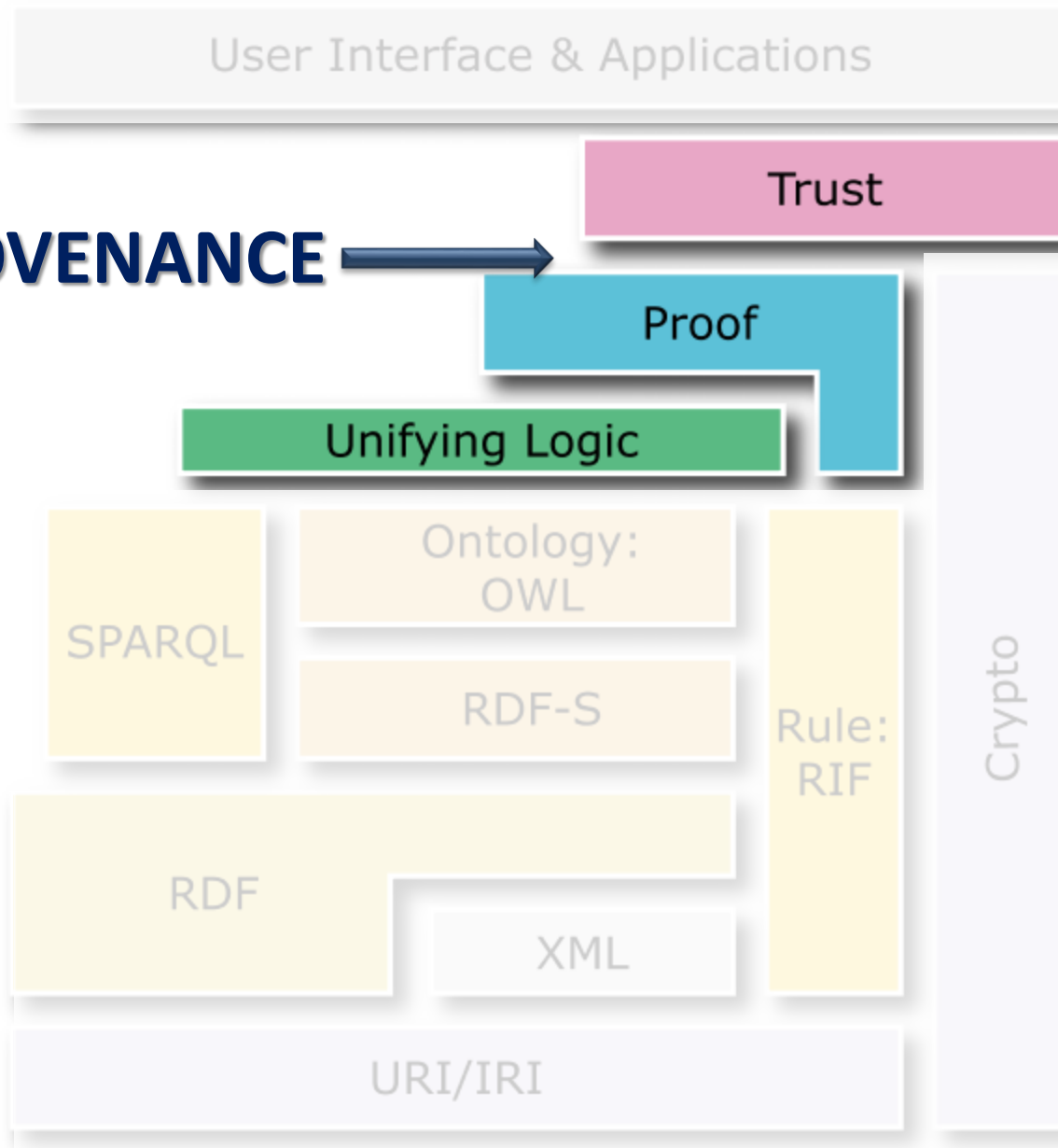
The Data Activity merges and builds upon the [eGovernment](#) and [Semantic Web Activities](#). The eGovernment Activity comprised an interest group that offered members a series of interesting talks from well placed speakers in governments around the world, including from countries that are often under-represented at W3C such as Jordan and Uganda. Primary topics have been the use of social media for citizen engagement and open data. The Semantic Web Activity was launched in 2001 to lead the use of the Web as an exchange medium for data as well as documents. That overall aim, along with a series of associated activities by W3C and others, has been highly successful — although not necessarily in the way originally envisioned. For example, the vision was that organizations and individuals would publish data in

vocabularies, which the user community sees as critical companions to Web standards such as XML, RDF and HTML.

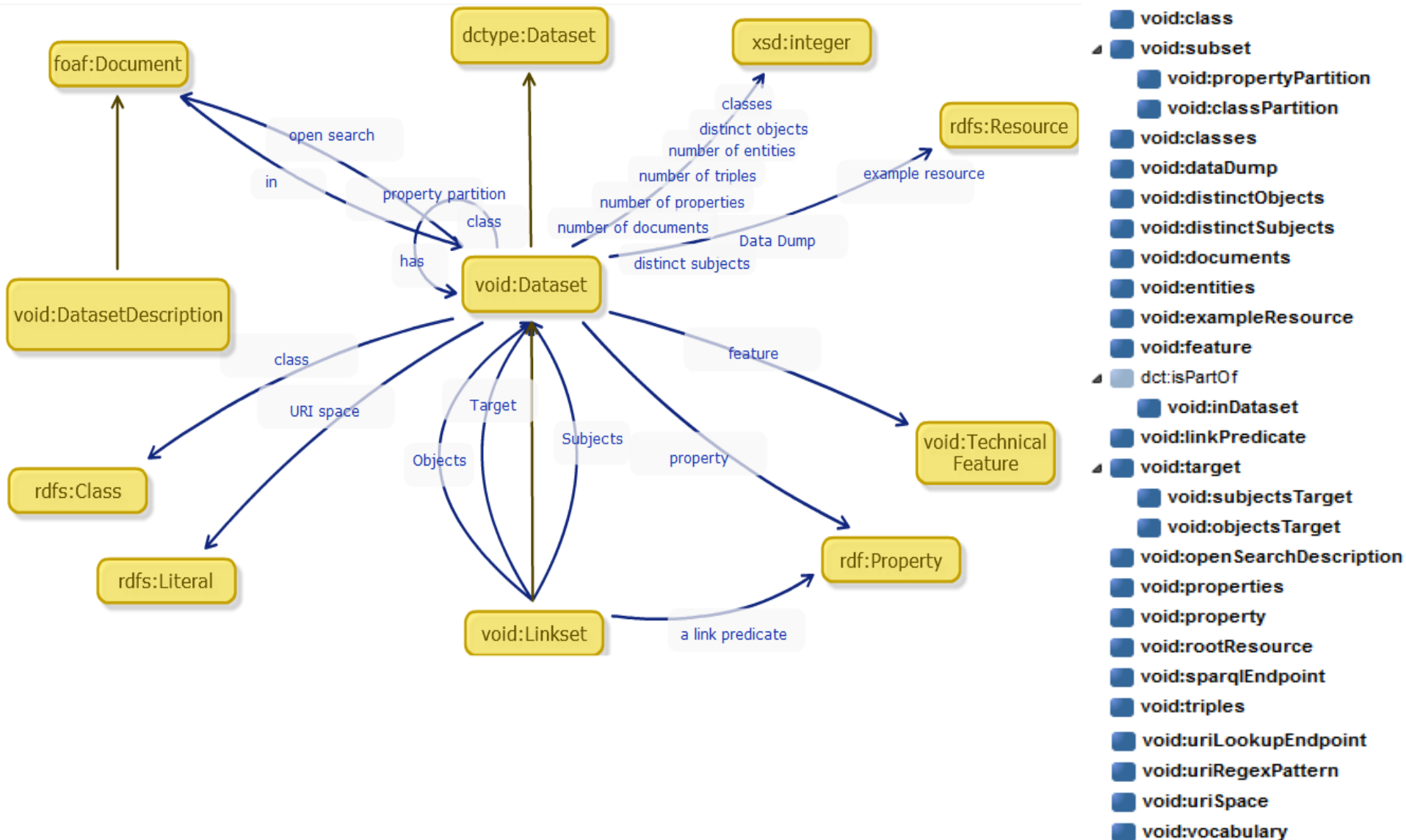
The use of the Web as a platform for delivering data has been driven by policy as much as by technology. The [G8 Open Data Charter](#) being a prime example. Other examples include President Obama’s [Executive Order](#) and the European Union’s [revised PSI Directive](#). These policies apply equally to the areas of government information, scientific research, and cultural heritage and that creates a further source of diversity of workflows, people and the technologies they use.

The W3C Data Activity will support technologists tasked with responding to this political pressure. It will do so in a way that works for those individuals and at the same time delivers maximum return on the political and financial

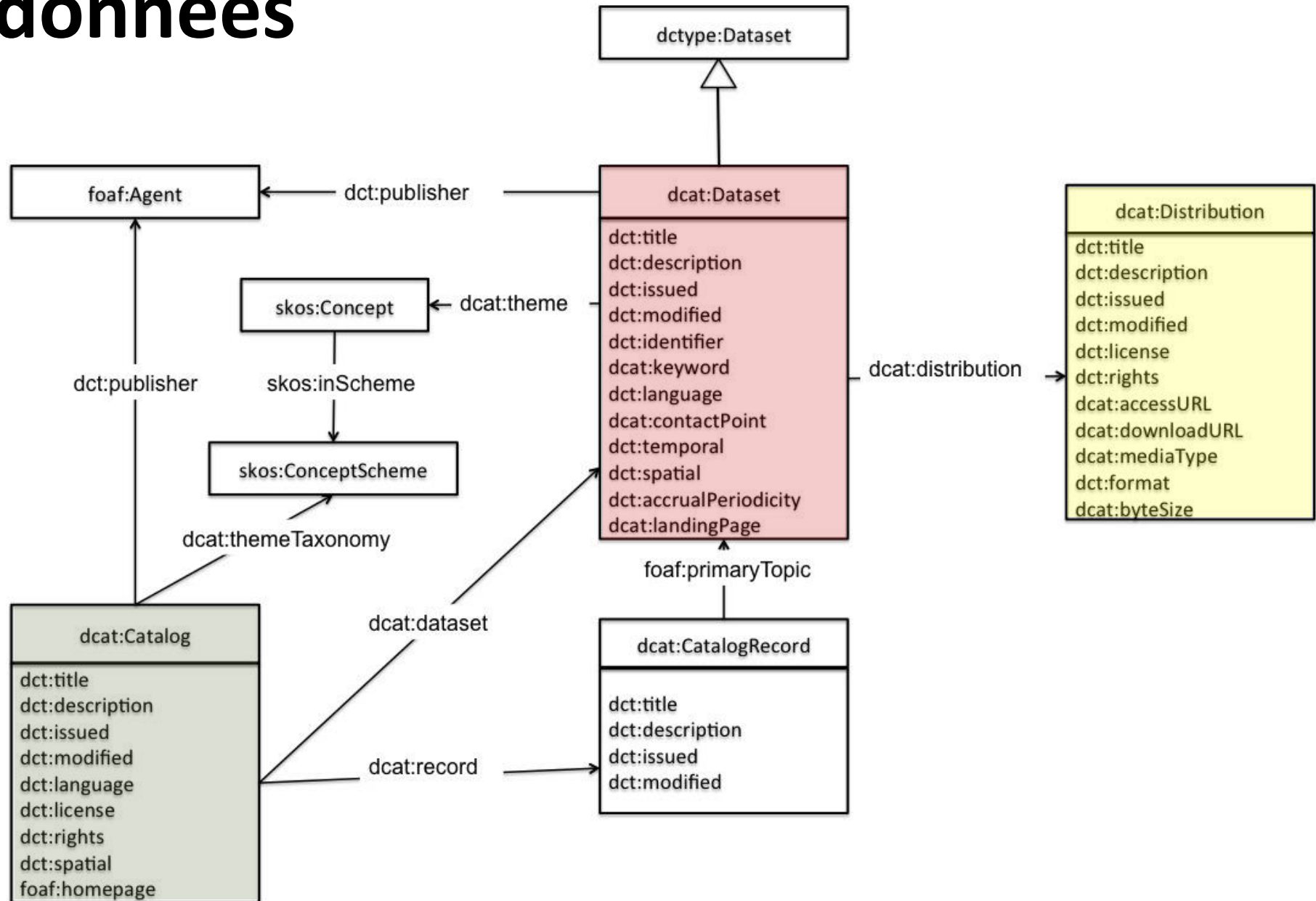
PROVENANCE



VoID: décrire jeux de données RDF

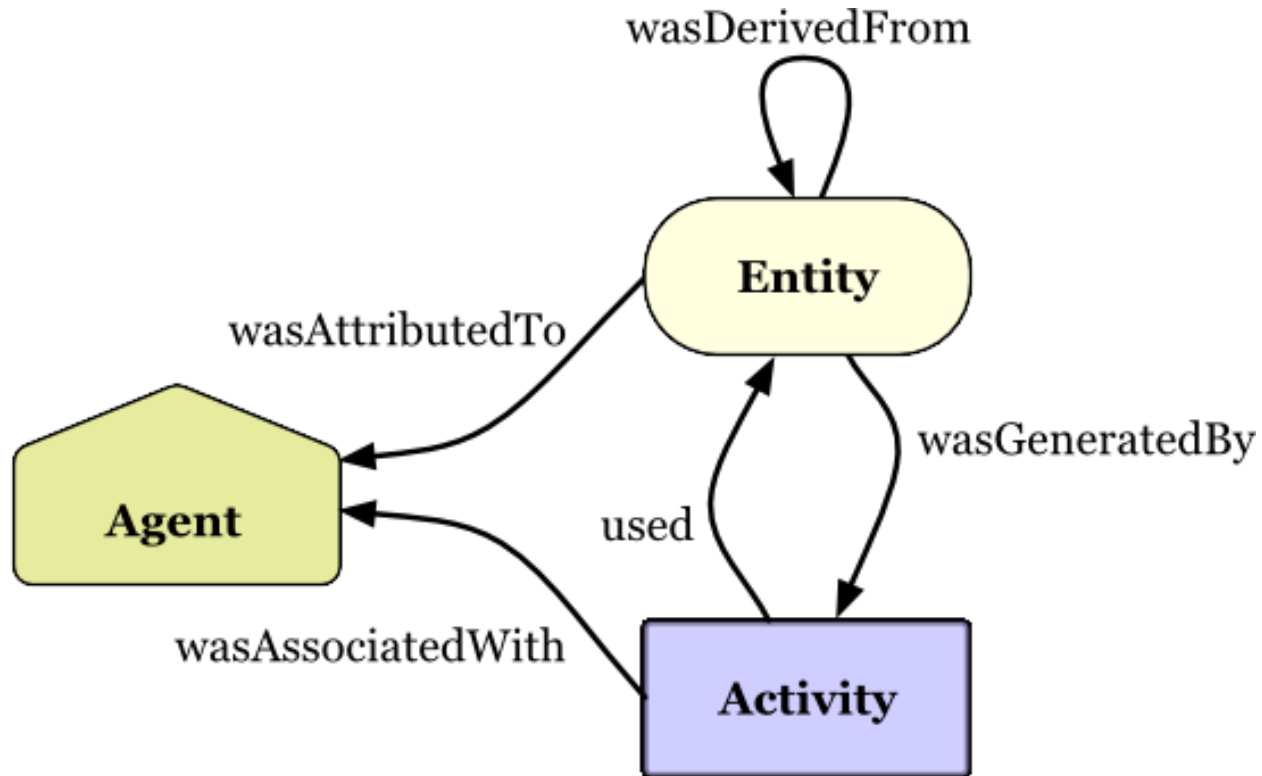


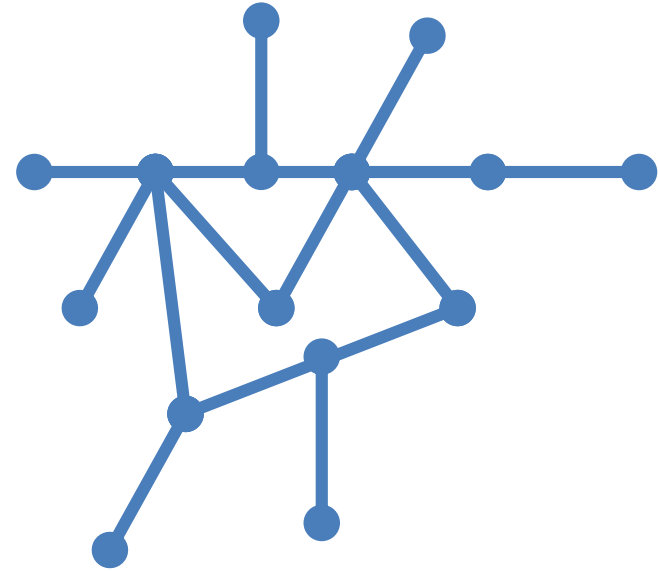
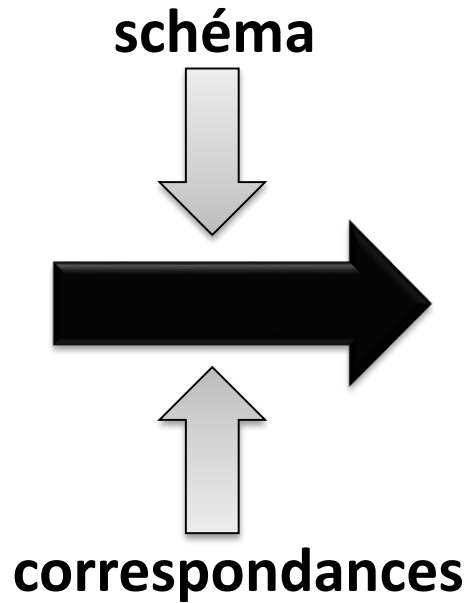
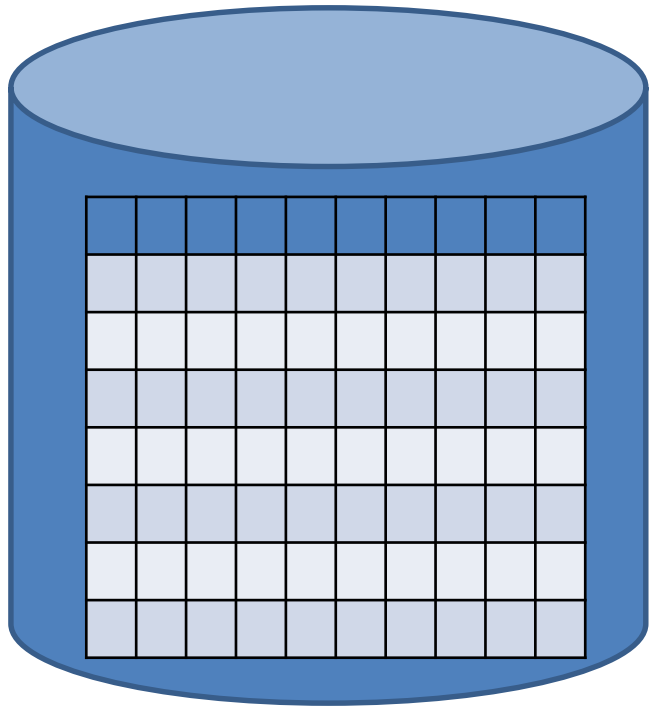
DCAT: décrire n'importe quel jeu de données



Provenance: PROV-DM & PROV-O

décrire les entités et activités impliquées dans la création d'une ressource





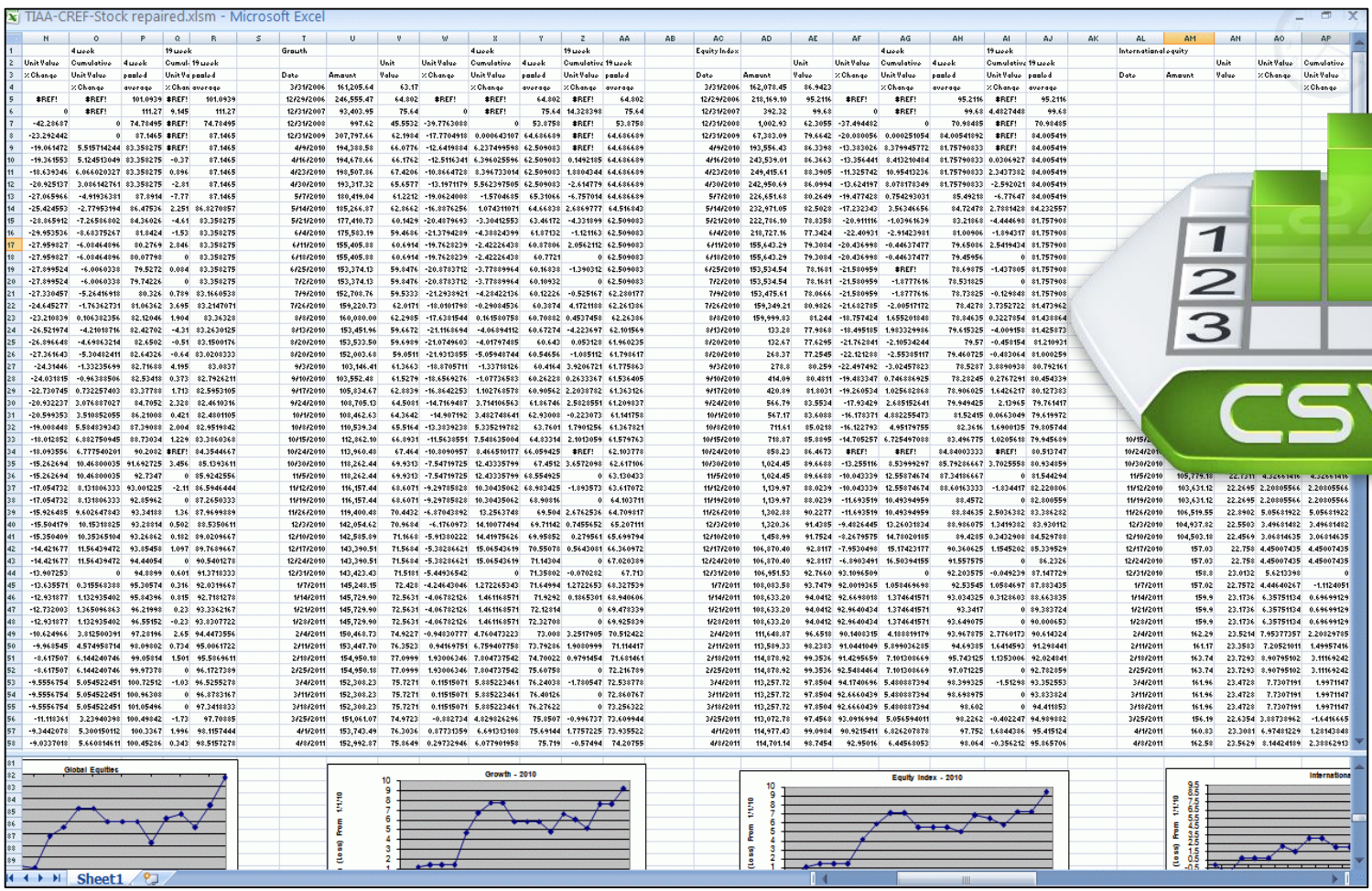
R2RML

standard de transformation de
bases de données en RDF

CSV-LD & Linked CSV

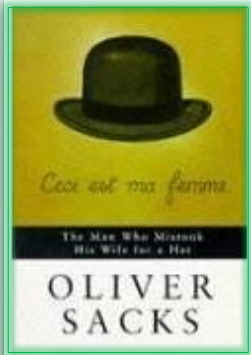
contextes pour interpréter et générer du CSV

convertisseurs pour lier et publier des fichiers CSV



beaucoup de données

dans beaucoup de pages



The Man Who Mistook His Wife for a Hat (Picador) (Paperback)

by [Oliver Sacks](#) (Author)

★★★★★ ☒ (19 customer reviews)

RRP: £8.99

Price: £6.99 & eligible for **Free UK delivery** on orders over £15 with Super Saver Delivery. [See details and conditions](#)

You Save: £2.00 (22%)

Availability: In stock.

Note: this item will be delivered in time for Christmas in the UK. For orders from our third-party sellers, please refer to the seller's page for delivery information. For destinations outside the UK, please see [last-order dates](#). Dispatched from and sold by Amazon.co.uk.

Product details

Paperback: 256 pages

Publisher: Picador; New Ed edition (7 Nov 1986)

Language English

ISBN-10: 0330294911

ISBN-13: 978-0330294911

Product Dimensions: 19.7 x 13.1 x 1.9 cm

Average Customer Review: ★★★★★ (19 customer reviews)

Amazon.co.uk Sales Rank: 1,107 in Books (See [Bestsellers in Books](#))

Popular in these categories:

#1 in [Books](#) > [Health, Family & Lifestyle](#) > [Psychology & Psychiatry](#) > [Psychiatry](#)
#1 in [Books](#) > [Science & Nature](#) > [Medicine](#) > [Medical Sciences A-Z](#) > [Psychiatry](#)
#1 in [Books](#) > [Health, Family & Lifestyle](#) > [Psychology & Psychiatry](#) > [Neuropsychology](#)

(Publishers and authors: [Improve Your Sales](#))

Other Editions: [Hardcover](#) | [Paperback](#) (Large Print e.) | [All Editions](#)

RDFa signifie

RDF dans des **attributs** de HTML



```
<div xmlns:dc="http://purl.org/dc/elements/1.1/">  
  <h2 property="dc:title">The trouble with Bob</h2>  
  <h3 property="dc:creator">Alice</h3>  
  ...  
</div>
```




Search

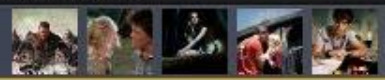
[Register](#) | [Login](#) | [Help](#)

The Internet Movie Database

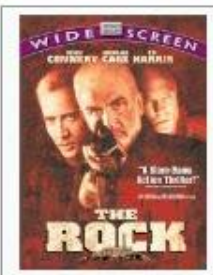
[Movies](#) ▾ [TV](#) ▾ [News](#) ▾ [Videos](#) ▾ [Community](#) ▾ [IMDbPro](#) ▾

CANNES2010

[Blog](#) [Twitter](#) [Latest Photos](#)



[IMDb](#) > [The Rock \(1996\)](#)



The Rock (1996) [More at IMDbPro](#) »

Photos ([see all 57](#) | [slideshow](#))



Videos ([see all 5](#))



[Watch It](#)

[Own the rights?](#)

[Buy it at Amazon](#)

[Rent it at Blockbuster.com](#)

[Discuss in Boards](#)

[More at IMDb Pro](#)

[Add to My Movies](#)

[Update Data](#)

Overview

User Rating: ★★★★★★★★☆☆ 7.2/10 [105,573 votes](#) »

MOVIEmeter: [Up 9%](#) in popularity this week. See [why](#) on [IMDbPro](#).

Director: [Michael Bay](#)

Writers (WGA): [David Weisberg](#) (story) & [Douglas Cook](#) (story) ...
[See more](#) »

Contact: View [company](#) contact information for The Rock on [IMDbPro](#).

Release Date: 7 June 1996 (USA) [See more](#) »

Genre: [Action](#) | [Adventure](#) | [Thriller](#) [See more](#) »

Tagline: Alcatraz. Only one man has ever broken out. Now five million lives depend on two men breaking in. [See more](#) »

Plot: A group of U.S. marines, under command of a renegade general, take over Alcatraz and threat San Francisco Bay with biological weapons. A chemical weapons specialist and the only man to have ever escaped from the Rock are the only ones who can prevent chaos. [Full summary](#) » | [Full synopsis](#) »

Plot Keywords: Spoiler alert! Rollover or vote to view plot [See more](#) »

Awards: Nominated for Oscar. Another 7 wins & 6 nominations. [See more](#) »

Share this page: [f](#) [t](#) [p](#)

[Like](#) [f](#) 333 people like this. Be the first of your friends.

Quicklinks

- Top Links**
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 - [full cast and crew](#)
 - [trivia](#)
 - [official sites](#)
 - [memorable quotes](#)

CANNES2010

[Latest Photos](#) [Blog Updates](#) [more](#) »

schema.org = **bing** + **Google** + **YAHOO!** + **Яндекс** + **Yandex**
pour améliorer index, recherche, affichage...

- **Créations:** livre, film, musique, recette...
- **Évènements:** conférence, concert...
- **Organisation:** nom, site...
- **Personnes:** nom, site...
- **Lieux:** commerce, restaurant...
- **Produits:** offres, offres comparées...
- **Avis:** évaluations, retours...

Recipes

More

Ingredients	Yes	No
tomatoes	☐	☐
fettuccine	☐	☐
marinara sauce	☐	☐
crushed red pepper	☐	☐
capers	☐	☐
penne	☐	☐
oregano	☐	☐

Any cook time
[Less than 15 min](#)
[Less than 30 min](#)
[Less than 60 min](#)

Any calories
[Less than 100 cal](#)
[Less than 300 cal](#)
[Less than 500 cal](#)

Easy Chicken Cacciatore - Chick

★★★★★ 7 reviews - 55 mins
An easy chicken cacciatore recipe with oregano. Serve this chicken cacciatore over pasta. Ingredients: onion, bell pepper, olive oil, tomato sauce.
southernfood.about.com/od/skillietchicken/

Mom's Chicken Cacciatore

★★★★★ 299 reviews - 67 mins
 Chicken pieces simmer in a tomato sauce. This mainstay is best served with pasta. Ingredients: pepper, chicken, tomato sauce.
allrecipes.com/recipe/mom-s-chicken-cacciatore/

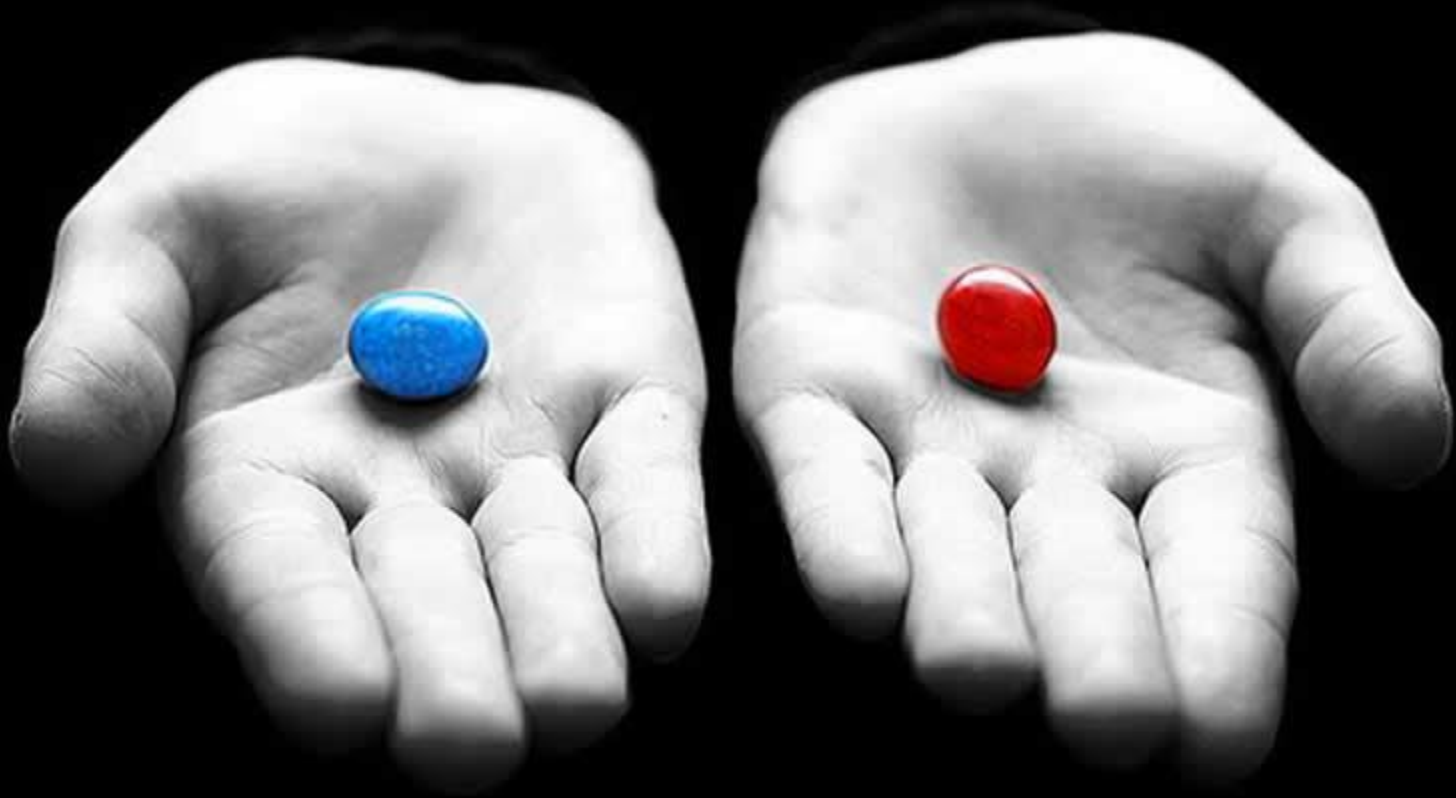
Emeril's Chicken Cacciatore

★★★★★ 41 reviews - 1 hr 40 min
Food Network invites you to try this Emeril's Chicken Cacciatore. Ingredients: chicken, flour, olive oil, onion, tomato sauce.
www.foodnetwork.com/Recipes/Chicken-Cacciatore/

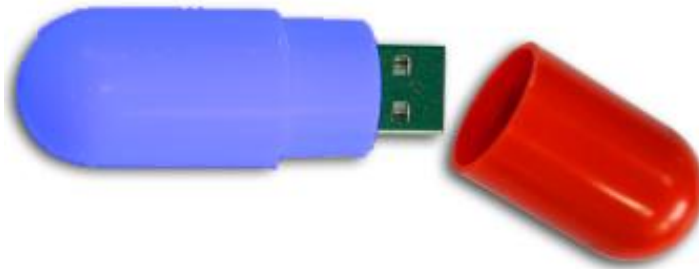
Chicken Cacciatore

★★★★★ 117 reviews - 15 mins
 'Not only is this satisfying meal, it's also easy to make. Susan Adair from Muncie, IN. Ingredients: onion, bell pepper, tomato sauce.
allrecipes.com/recipe/chicken-cacciatore/

pages || données



page && données



Tantek's Thoughts - Mozilla Firefox

FichierÉditionAffichageHistoriqueMarque-pagesScrapBookOutils?

←→↺⊗🏠🖨️🏷️

http://tantek.com/

using microformats

F@h Homepage📁 inria📁 my bookmarks📁 nice bookmarks📁 Google👤 Pages jaunes📄 Michelin📄 Dico CNRS📄 Le Grand Robert & C...>>

📁 Addresses (4)📁 Contacts (36)📁 Events (5)📁 Locations📁 Tagspaces (76)📁 Bookmarks📁 ResourcesOptions

Tantek's Thoughts

Tantek's Thoughts

CSS examplesfaveletsblog archivesite map

Identity facets

XFN FRIENDLY

more thoughts

wiki

twitter / faves

pownce

technorati / faves

events

upcoming (+subscribe)

pownce events (+subscribe)

media - photos & videos

flickr / photos

revver (videos)

bliptv - videos

OpenIDs

myopenid, lj

Projects

microformats to-do changes

hCard

hCalendar

hReview

XOXO

GMPG

XFN 1.1

XMDP

Technorati

Open as possible means public domain plus a strong community

1/1 7:46 PM

tags: open microsoft ie msie iemac publicdomain standards licenses freedom

My journey implementing and/or iterating/improving/creating "open" standards began almost 10 years at Microsoft when I was assigned the area of CSS support in Internet Explorer for Macintosh. Along the way I've learned a lot about the longterm value of open standards, open source, and open content, and as a result the plethora of "open" licenses out there. Having seen real difficulties that different "open" projects have had working together due to license (or even philosophical definition of "freedom") incompatibilities, limitations, friction, barriers to developing derivative materials to help "open" projects, and even FUD used inside many corporations to limit use of "open" resources, it led me inexorably to one conclusion.

» Blogs that link here

2,464 blog reactions

Technorati

Technorati search

☒ this blog☐ all blogs

Top Tags

on Tantek's Thoughts

austin flickr personal sxsw

sanfrancisco tx travel

videoheard

microformats

navlopomo sxsw2007 sxswm

sxswm2007sxswmusic

sxswmusic2007

upcoming:event=95527

videobloggingweek2007 vlog

vlogpost

Terminé

Tools

Contents [\[hide\]](#)

1 Semantic Web Development Tools

1.1 Overview

1.2 Search possibilities

1.3 Last modified/added

1.4 Tool Data in RDF

1.5 Other resources

1.6 History

Search for Tools

- Facets of tools
 - through [tool categories](#)
 - through [programming languages](#)
 - through [Recommendations and Technologies](#)
- All tools (with possibilities to edit the query)
 - [seen as a table](#) 
 - [seen as a list](#) 
- Misc
 - [tool contributors' page](#)

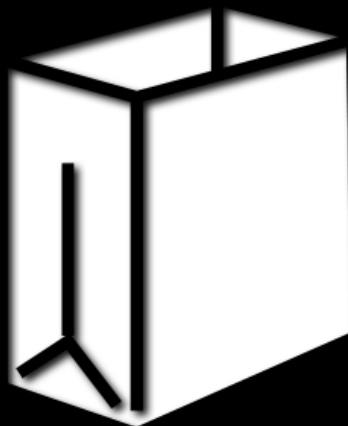
Semantic Web Development Tools

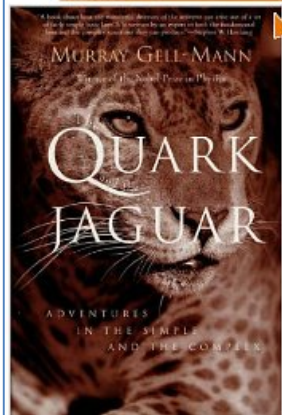
Overview

This Wiki contains a collection of tool references that can help in developing Semantic Web applications. These include complete development environments, editors, libraries or modules for various programming languages, specialized browsers, etc. The goal is to list such tools and *not* Semantic Web applications in general (the interested reader may consider looking at the [W3C SW Use Case Collection](#)  for those.)

The tool content of this wiki is still to be maintained by the community and not by the W3C staff. If you are interested in adding to and/or modifying the relevant pages, please consult the separate [Tool Contributors' page](#).

doggy-bag



Click to **LOOK INSIDE!**

The Quark and the Jaguar: Adventures in the Simple and the Complex [Paperback]

[Murray Gell-Mann](#) ☒ (Author)

★★★★☆ ☒ (30 customer reviews)

Price: **\$13.59**

In Stock.

Ships from and sold by **Amazon.com**.

Formats

	Amazon Price	New from	Used from
☒ Hardcover	--	\$13.67	\$0.55
☒ Paperback	\$13.59	\$10.01	\$7.84

☒ [Show 4 more formats](#)

Product Details

Paperback: 392 pages

Publisher: St. Martin's Griffin (September 15, 1995)

Language: English

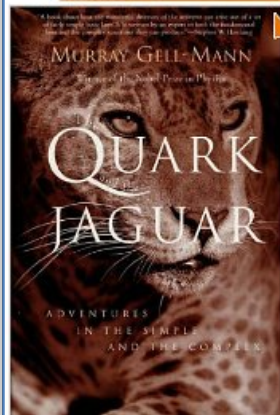
ISBN-10: 0805072535

ISBN-13: 978-0805072532

Product Dimensions: 9.1 x 6.1 x 1.2 inches

Shipping Weight: 1.2 pounds ([View shipping rates and policies](#))

web 1, 2

Click to **LOOK INSIDE!**

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Product Dimensions: 9.1 x 6.1 x 1.2 inches

Shipping Weight: 1.2 pounds ([View shipping rates and policies](#))

Average Customer Review: ★★★★★ ☒ (30 customer reviews)

Amazon Bestsellers Rank: #373,365 in Books

Customer Reviews

30 Reviews

[5 star:](#)  (9)
[4 star:](#)  (8)
[3 star:](#)  (7)
[2 star:](#)  (4)
[1 star:](#)  (2)

Average Customer Review

★★★★☆ (30 customer reviews)

web 1, 2, 3

identifier

URI

décrire et lier

RDF

interroger

HTTP, SPARQL, LDP

raisonner

RDFS & OWL

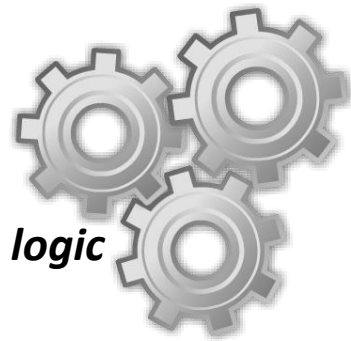
tracer

PROV-O

LES FINS ET LES MOYENS



RDFa, microdata,...



LDP, HTTP, JSON-LD, ...



R2RML, SPARQL, RDF, ...

un résumé (trop) rapide en trois-tiers



lier les données

lier le monde

world-wide way

alors que le web se diffuse dans le monde,
le monde se diffuse dans le web.





world-*wild* web

la complexité naturelle de notre monde
contamine le web

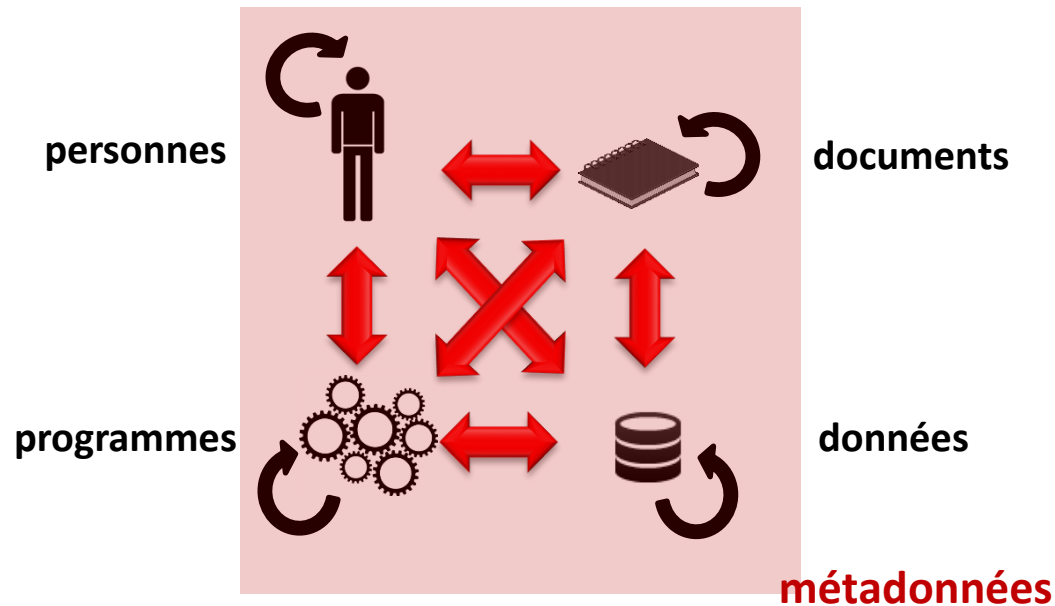
world wide web
www

mmm

méthode massivement multidisciplinaire

un et un seul web

un espace unique dans tous les sens du terme



celui qui contrôle les métadonnées contrôle le web
et à travers le *world-wide* web une part grandissante de
notre monde.



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