Semântica na Web

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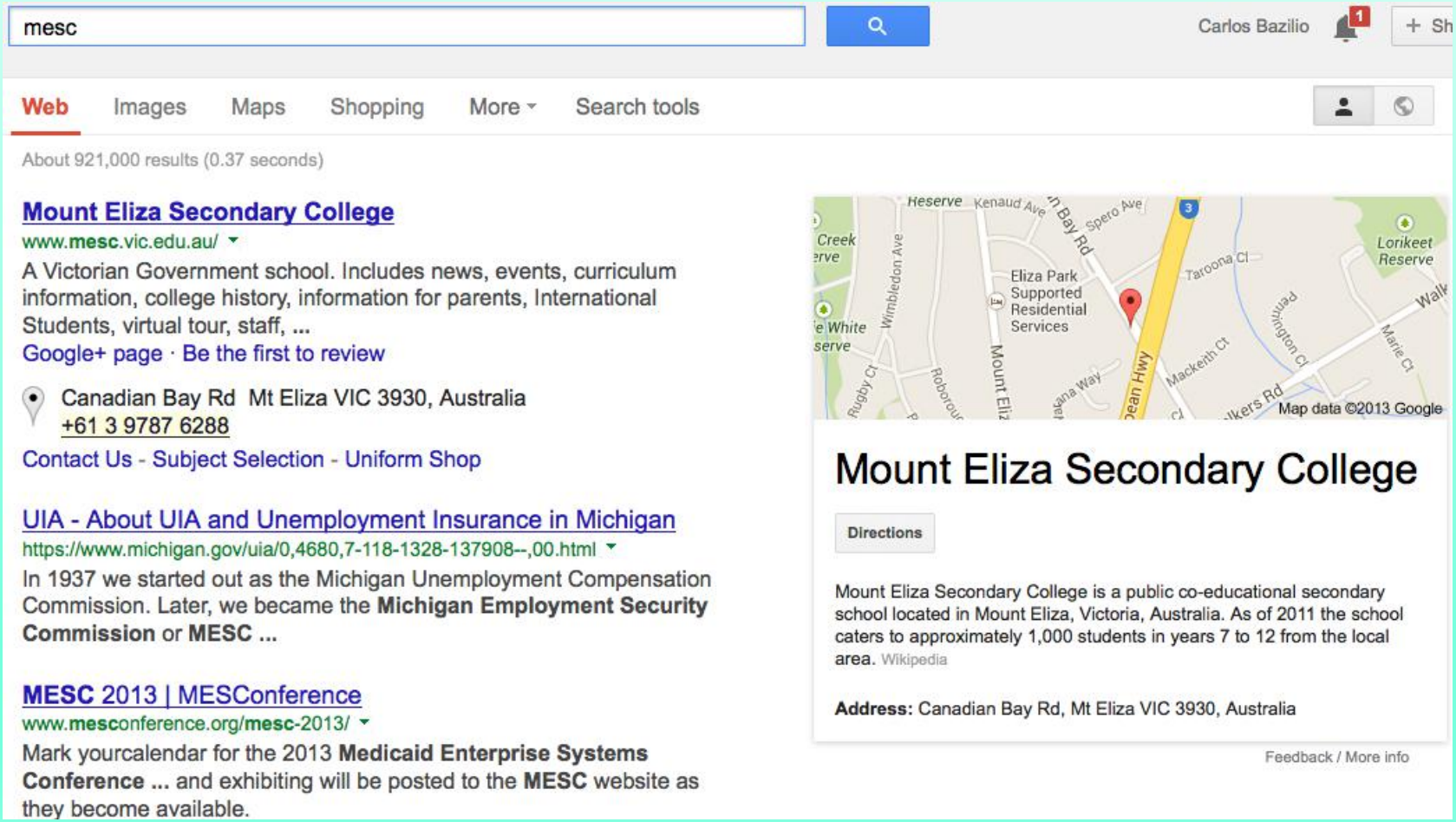
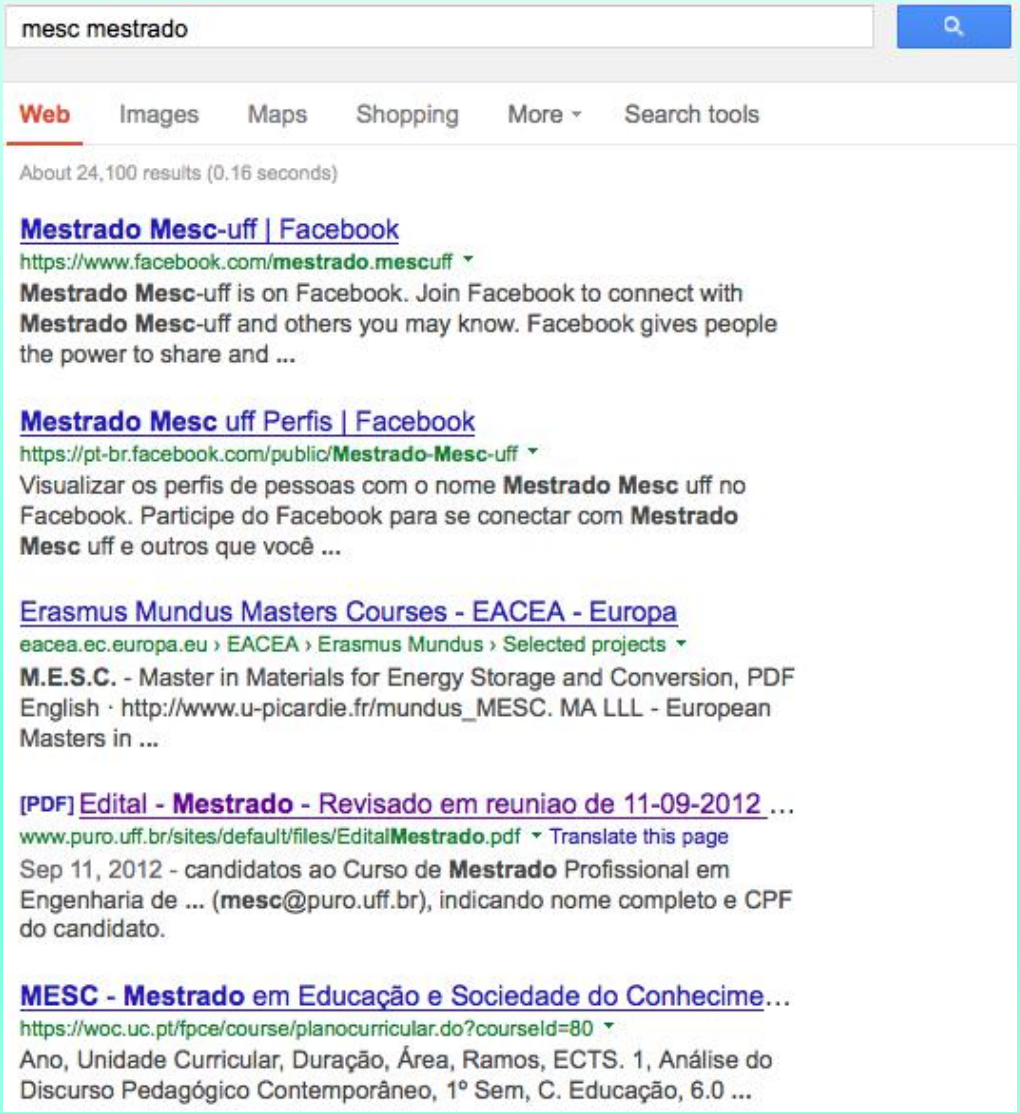
Motivação


mesc
Carlos Bazilio
Web
Images
Maps
Shopping
More
Search tools
About 921,000 results (0.37 seconds)
Mount Eliza Secondary College
www.mesc.vic.edu.au/
A Victorian Government school. Includes news, events, curriculum information, college history, information for parents, International Students, virtual tour, staff, ...
Google+ page · Be the first to review
Canadian Bay Rd Mt Eliza VIC 3930, Australia
+61 3 9787 6288
Contact Us - Subject Selection - Uniform Shop
UIA - About UIA and Unemployment Insurance in Michigan
https://www.michigan.gov/uia/0,4680,7-118-1328-137908--,00.html
In 1937 we started out as the Michigan Unemployment Compensation Commission. Later, we became the Michigan Employment Security Commission or MESC ...
MESC 2013 | MESConference
www.mesconference.org/mesc-2013/
Mark yourcalendar for the 2013 Medicaid Enterprise Systems Conference ... and exhibiting will be posted to the MESC website as they become available.
Eliza Park Supported Residential Services
Lorikeet Reserve
Map data ©2013 Google
Mount Eliza Secondary College
Directions
Mount Eliza Secondary College is a public co-educational secondary school located in Mount Eliza, Victoria, Australia. As of 2011 the school caters to approximately 1,000 students in years 7 to 12 from the local area. Wikipedia
Address: Canadian Bay Rd, Mt Eliza VIC 3930, Australia
Feedback / More info

Contexto ...


mesc mestrado
Web
Images
Maps
Shopping
More
Search tools
About 24,100 results (0.16 seconds)
Mestrado Mesc-uff | Facebook
https://www.facebook.com/mestrado.mescuff
Mestrado Mesc-uff is on Facebook. Join Facebook to connect with Mestrado Mesc-uff and others you may know. Facebook gives people the power to share and ...
Mestrado Mesc uff Perfis | Facebook
https://pt-br.facebook.com/public/Mestrado-Mesc-uff
Visualizar os perfis de pessoas com o nome Mestrado Mesc uff no Facebook. Participe do Facebook para se conectar com Mestrado Mesc uff e outros que você ...
Erasmus Mundus Masters Courses - EACEA - Europa
eacea.ec.europa.eu › EACEA › Erasmus Mundus › Selected projects
M.E.S.C. - Master in Materials for Energy Storage and Conversion, PDF English · http://www.u-picardie.fr/mundus_MESC. MA LLL - European Masters in ...
[PDF] Edital - Mestrado - Revisado em reuniao de 11-09-2012 ...
www.puro.uff.br/sites/default/files/EditalMestrado.pdf Translate this page
Sep 11, 2012 - candidatos ao Curso de Mestrado Profissional em Engenharia de ... (mesc@puro.uff.br), indicando nome completo e CPF do candidato.
MESC - Mestrado em Educação e Sociedade do Conhecime...
https://woc.uc.pt/fpce/course/planocurricular.do?courseId=80
Ano, Unidade Curricular, Duração, Área, Ramos, ECTS. 1, Análise do Discurso Pedagógico Contemporâneo, 1º Sem, C. Educação, 6.0 ...

Problemas na Web Atual

- Pouca integração de informações
  - Site de loja realiza de venda de carros
  - Site de fabricante descreve dados dos carros
- Interação essencialmente homem-máquina
  - Obtenção “manual” de dados da web
- Redundância de dados
  - Representação de dados distinta
  - Possível inconsistência de dados
- Não classificação dos dados disponíveis

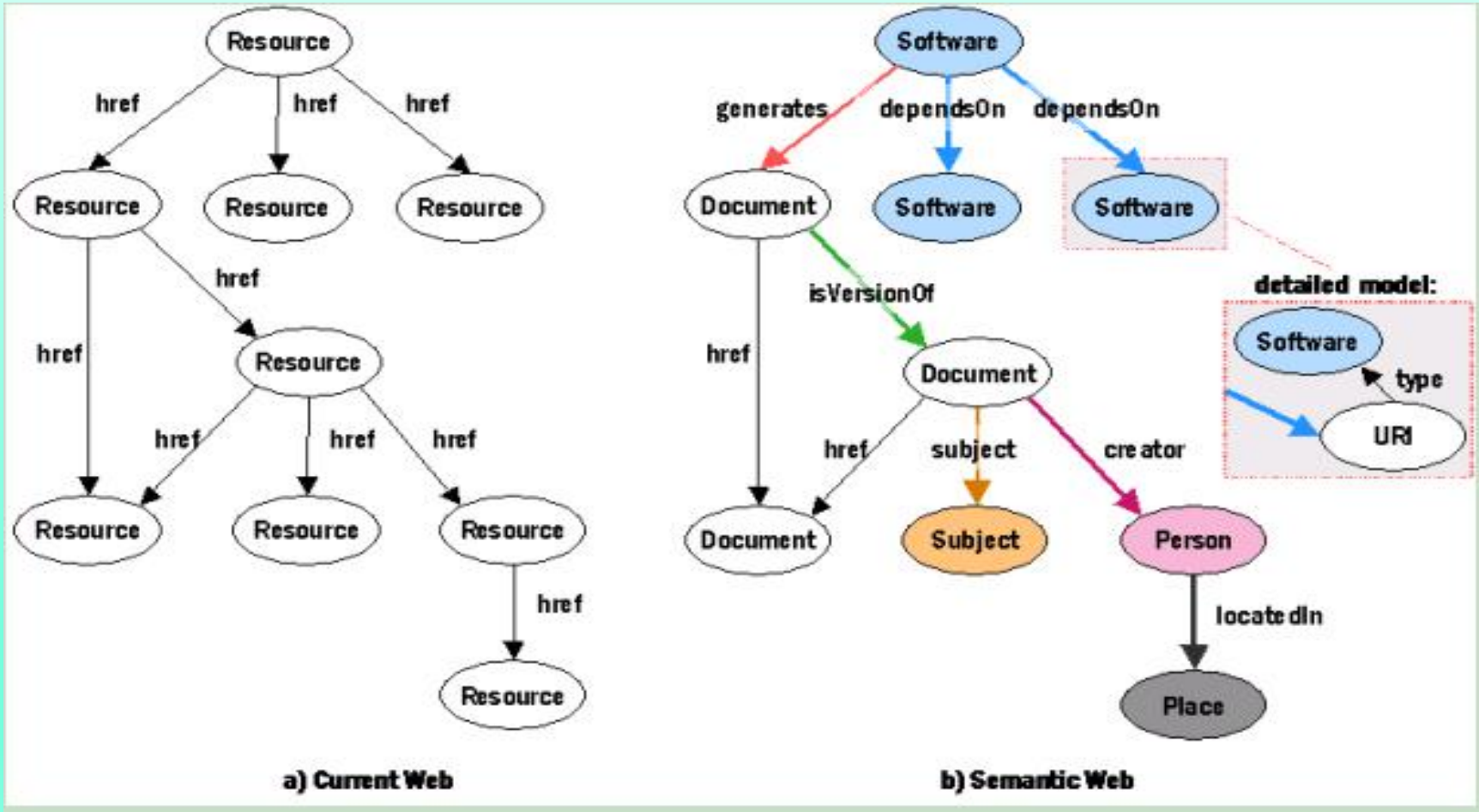
Algumas Iniciativas

- Disseminação de serviços (APIs)
- Classificação e padronização dos dados
  - Definição de ontologias
  - Onto (o que existe) + Logos (conhecimento sobre)
- Uso de linguagens para representação dos dados
  - XML/JSON, RDF, OWL, RDFa, Microdata, JSON-LD ...
- Disponibilização de repositórios (datasets) e vocabulários: DBPedia [4], GeoNames [3], DBLP, FOAF, ...

Algumas Iniciativas

- Schema.org
- WolframAlpha
  - Siri
- Google Knowledge Graph
- Open Graph Protocol (Facebook)
- Satori Knowledge Base (Bing, Microsoft)
- Yahoo!, Baidu, …

Hoje e Amanhã [1]



O que é a Web Semântica

"The Semantic Web is an extension of the current web in which information is given well-defined meaning, better enabling computers and people to work in cooperation." [5]

Problemas com XML, JSON, ...

```
<cursos>
    <nome>MESC</nome>
    <universidade>UFF</universidade>
</cursos>
```

```
<universidade>
    <nome>UFF</nome>
    <cursos>
        <mestrado>MESC</mestrado>
    </cursos>
</universidade>
```

Página Exemplo

```
1  <html>
2      <head>
3          <title>Barack Info</title>
4      </head>
5      <body>
6          <p>Barack Obama, the 44th President of the United States is the husband of
           Michelle Obama.</p>
7      </body>
8  </html>
```

Exemplo em RDFa/Schema.org

```
<html>
    <head>
        <title>Barack Info</title>
    </head>
    <body>
        <div vocab="http://schema.org/" typeof="Person">
            <span property="name">Barack Obama</span>, the
            <span property="disambiguatingDescription">44th President of the United
            States</span> is the husband of
            <div property="spouse" typeof="Person">
              <span property="name">Michelle Obama</span>.
            </div>
          </div>
    </body>
</html>
```

Exemplo em JSON-LD/Schema.org

```
<html>
    <head>
        <title>Barack Info</title>
        <script type="application/ld+json">
            {
              "@context": "http://schema.org",
              "@type": "Person",
              "name": "Barack Obama",
              "disambiguatingDescription": "44th President of the United States",
              "spouse": {
                "@type": "Person",
                "name": "Michelle Obama"
              }
            }
        </script>
    </head>
    <body>
        <p>Barack Obama, the 44th President of the United States is the husband of
        Michelle Obama.</p>
    </body>
</html>
```

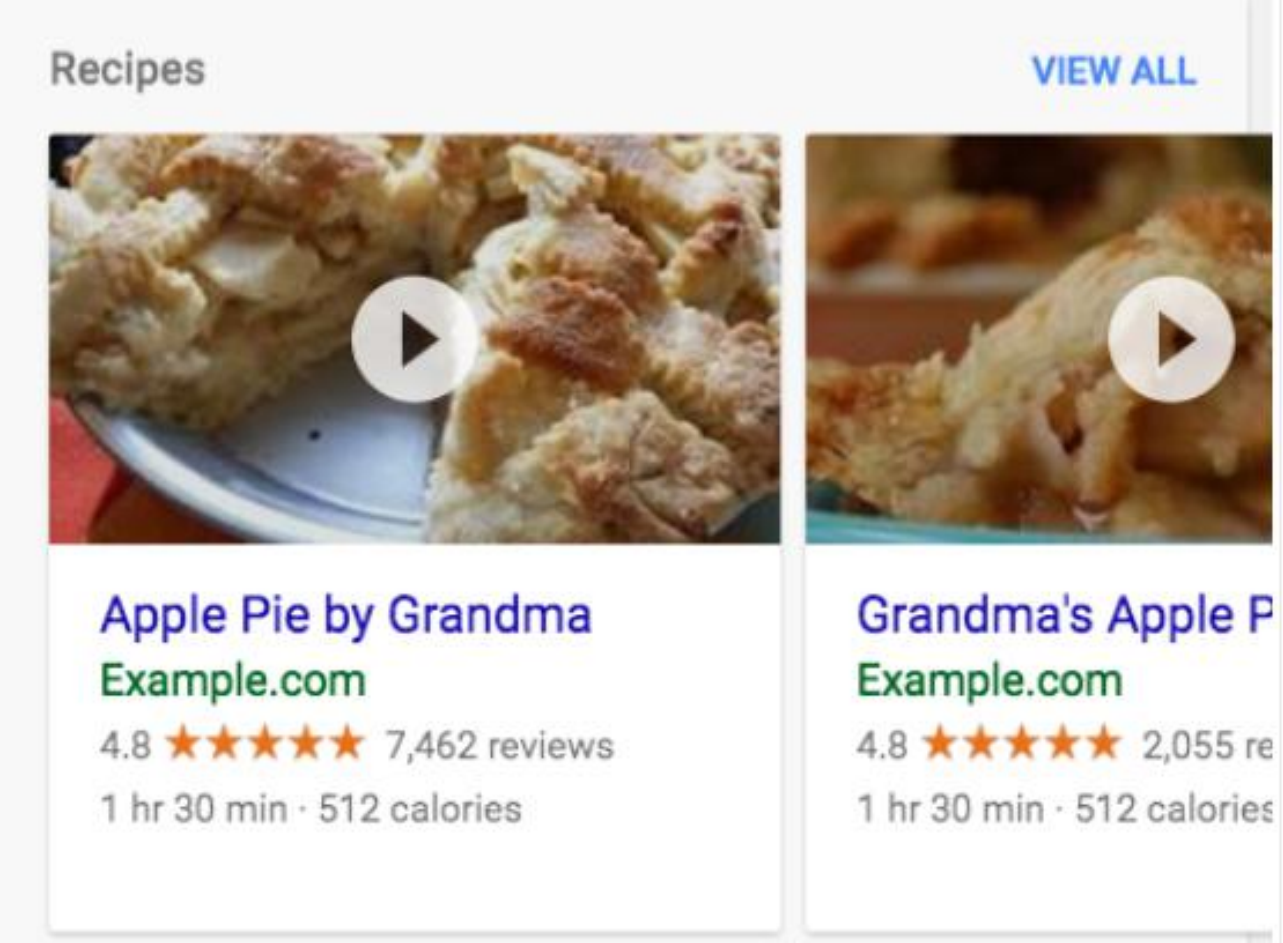
JSON-LD

- Recomendação do Google para estruturação de páginas
- Importante para o buscador melhor identificar o conteúdo
- Melhora índice nas buscas (SEO)

Exemplo JSON-LD

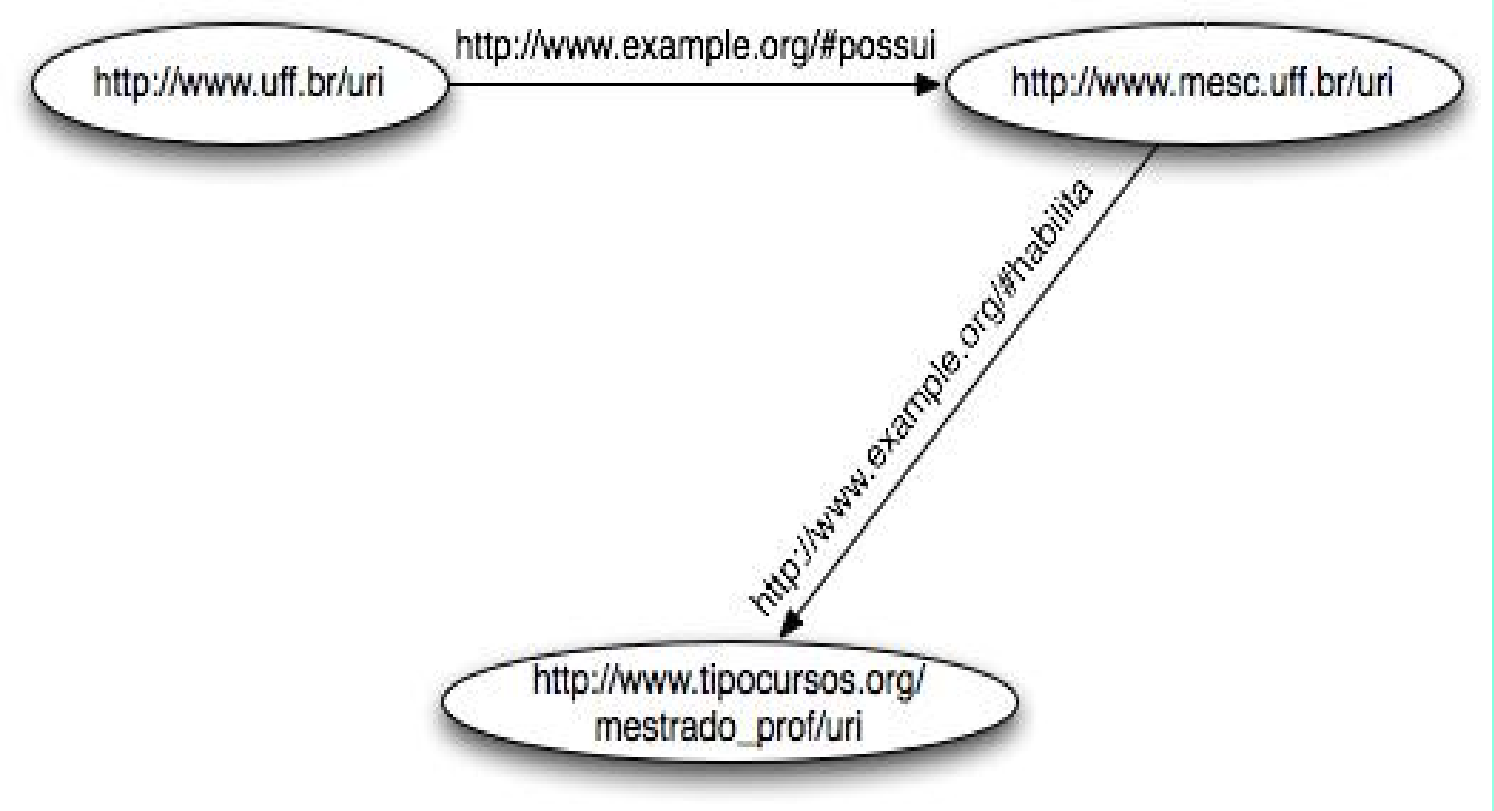
```
<html>
  <head>
    <title>Party Coffee Cake</title>
    <script type="application/ld+json">
    {
      "@context": "https://schema.org/",
      "@type": "Recipe",
      "name": "Party Coffee Cake",
      "author": {
        "@type": "Person",
        "name": "Mary Stone"
      },
      "datePublished": "2018-03-10",
      "description": "This coffee cake is awesome and perfect for parties.",
      "prepTime": "PT20M"
    }
    </script>
  </head>
  <body>
  <h2>Party coffee cake recipe</h2>
  <p>
    This coffee cake is awesome and perfect for parties.
  </p>
  </body>
</html>
```

Exemplo JSON-LD



RDF

- Uso de grafos direcionados como modelo de dados



RDF

- RDF (Resource Description Framework) é uma linguagem para expressão de informações de forma comum e processáveis por máquina
- É um modelo de dados:
  - Motivação inicial para a definição de metadados de páginas web
  - Provê informação estruturada
  - Sintaxe principal baseada em XML

RDF: Conceitos Básicos

- Bloco básico: tripla (objeto-atributo-valor)
  - É chamada de sentença (*statement*)
  - "*A UFF possui um curso chamado MESC*"
    - Objeto: UFF
    - Atributo: possui
    - Valor: Curso MESC

RDF: Conceitos Básicos (2)

- Componentes fundamentais de RDF:
  - Recursos: qualquer coisa definida através de uma URI
    - http://www.uff.br/uri
  - Propriedades: recursos que descrevem uma relação (binária)
    - universidades:possuiCurso
  - Sentenças: associa um valor a uma propriedade de um recurso específico
    - <#univ1102 universidades:possuiCurso "http://www.mesc.uff.br/uri">

RDF/XML

- Um documento RDF pode ser representado por um elemento XML com a tag **rdf:RDF**
- O conteúdo desta tag é uma lista de descrições, as quais utilizam tags **rdf:Description**
- Cada descrição contém uma sentença para um recurso, identificado de 2 formas:
  - atributo **rdf:about** para referenciar uma descrição
  - atributo **rdf:ID** para criação de uma nova descrição

Exemplo em RDF [2]

```
<?xml version="1.0"?>
<rdf:RDF
xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
xmlns:cd="http://www.recshop.fake/cd#"
xmlns:cntrs="http://www.planet.org/countries#">

    <rdf:Description rdf:about="http://www.recshop.fake/cd/Empire
Burlesque">
        <cd:artist>Bob Dylan</cd:artist>
        <cntrs:country>USA</cntrs:country>
        <cd:company>Columbia</cd:company>
        <cd:price>10.90</cd:price>
        <cd:year>1985</cd:year>
    </rdf:Description>

    <rdf:Description rdf:about="http://www.recshop.fake/cd/Hide your heart">
        <cd:artist>Bonnie Tyler</cd:artist>
        <cntrs:country>UK</cntrs:country>
        <cd:company>CBS Records</cd:company>
        <cd:price>9.90</cd:price>
        <cd:year>1988</cd:year>
    </rdf:Description>
...
</rdf:RDF>
```

Exemplo em RDF [3]
N-triples

<http://www.recshop.fake/cd/Empire Burlesque">
<http://www.recshop.fake/cd/artist> “Bob Dylan”

<http://www.recshop.fake/cd/Empire Burlesque">
<http://www.planet.org/countries/country> “USA”

<http://www.recshop.fake/cd/Empire Burlesque">
<http://www.recshop.fake/cd/company> “Columbia”

<http://www.recshop.fake/cd/Empire Burlesque">
<http://www.recshop.fake/cd/price> “10.90”

<http://www.recshop.fake/cd/Empire Burlesque">
<http://www.recshop.fake/cd/year> “1985”

Exemplo em RDF [4]
Turtle

<http://www.recshop.fake/cd/Empire Burlesque">
    <http://www.recshop.fake/cd/artist> “Bob Dylan” ;
    <http://www.planet.org/countries/country> “USA” ;
    <http://www.recshop.fake/cd/company> “Columbia” ;
    <http://www.recshop.fake/cd/price> “10.90” ;
    <http://www.recshop.fake/cd/year> “1985” .

SPARQL

- *Simple Protocol And RDF Query Language*
- Linguagem de consulta de documentos RDF
- Padronização similar a XQuery para XML

SPARQL – Exemplo

```
PREFIX
    abc: <http://mynamespace.com/example#>
SELECT ?capital ?country
WHERE {
    ?x abc:cityname ?capital.
    ?y abc:countryname ?country.
    ?x abc:isCapitalOf ?y.
    ?y abc:isInContinent abc:africa.
}
```

SPARQL

- Variáveis são prefixadas com ?
- ?capital e ?country são os retornos
- O retorno da consulta são todos os dados que satisfazem as 4 triplas RDF (WHERE)

```
PREFIX
        abc: <http://mynamespace.com/example#>
SELECT ?capital ?country
WHERE {
        ?x abc:cityname ?capital.
        ?y abc:countryname ?country.
        ?x abc:isCapitalOf ?y.
        ?y abc:isInContinent abc:africa.
}
```

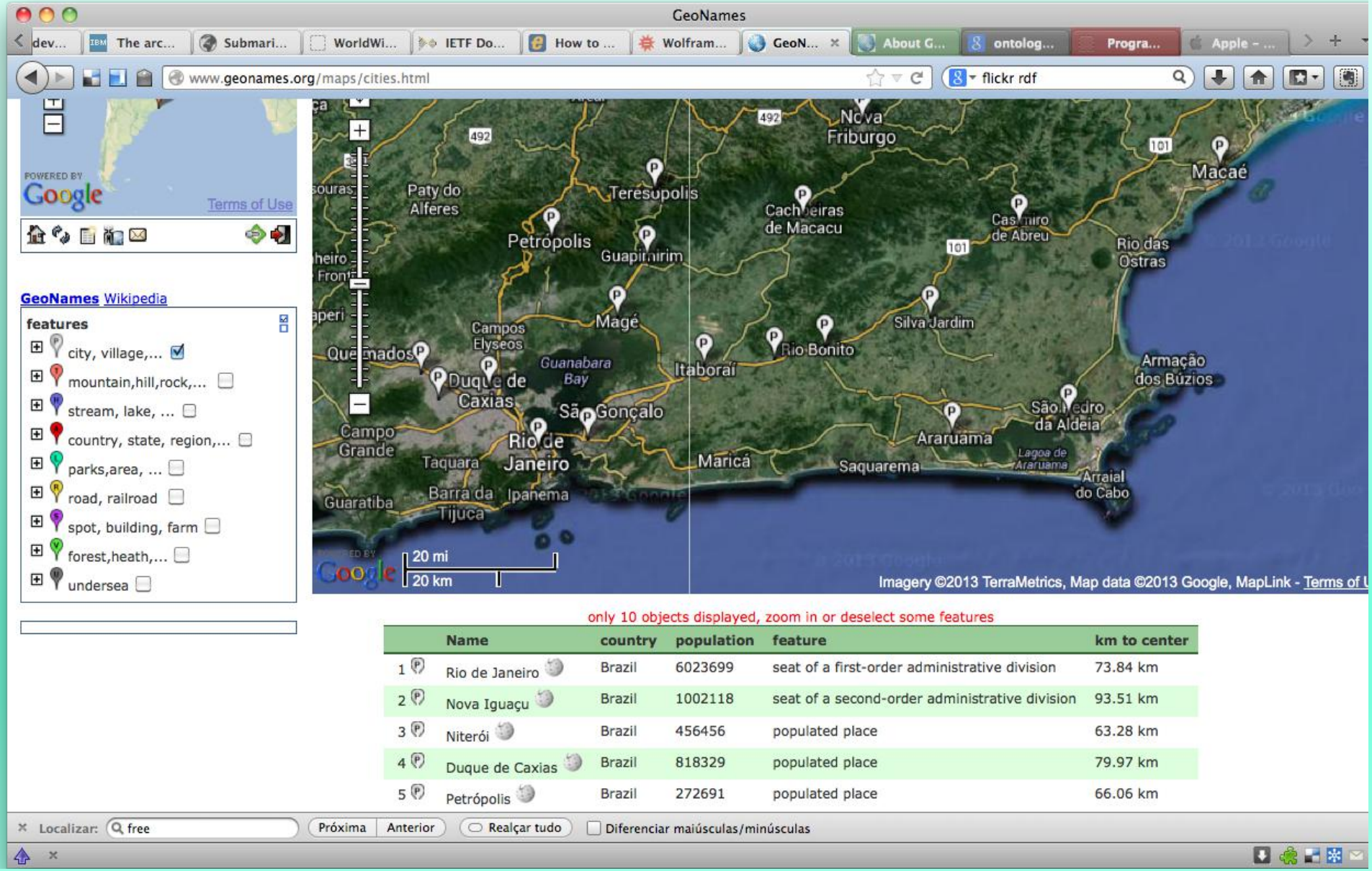
SPARQL – Tutorial

http://www.cambridgesemantics.com/semantic-university/sparql-by-example

Linked Data

- Uma das principais aplicações de RDF
- Define boas práticas para publicação e conexão de dados estruturados na Web usando URIs e RDF
- Exemplos: DBpedia, GeoNames, US Census, EuroStat, MusicBrainz, BBC Programmes, Flickr, DBLP, PubMed, UniProt, FOAF, SIOC, OpenCyc, UMBEL, Virtual Observatories, freebase,...

GeoNames



only 10 objects displayed, zoom in or deselect some features

	Name	country	population	feature	km to center
1	Rio de Janeiro	Brazil	6023699	seat of a first-order administrative division	73.84 km
2	Nova Iguaçu	Brazil	1002118	seat of a second-order administrative division	93.51 km
3	Niterói	Brazil	456456	populated place	63.28 km
4	Duque de Caxias	Brazil	818329	populated place	79.97 km
5	Petrópolis	Brazil	272691	populated place	66.06 km

GeoNames Web Services

GeoNames WebServices overview

	WebService	XML	JSON	RDF	CSV	TXT	RSS	KML
1	astergdem	XML	JSON			TXT		
2	children	XML	JSON					
3	cities	XML	JSON					
4	contains	XML	JSON					
5	countryCode	XML	JSON			TXT		
6	countryInfo	XML	JSON		CSV			
7	countrySubdivision	XML	JSON					
8	earthquakes	XML	JSON					
9	extendedFindNearby	XML						
10	findNearby	XML	JSON					
11	findNearbyPlaceName	XML	JSON					
12	findNearbyPostalCodes	XML	JSON					
13	findNearbyStreets	XML	JSON					
14	findNearbyStreetsOSM	XML	JSON					
15	findNearByWeather	XML	JSON					
16	findNearbyWikipedia	XML	JSON				RSS	
17	findNearestAddress	XML	JSON					
18	findNearestIntersection	XML	JSON					
19	findNearestIntersectionOSM	XML	JSON					

GeoNames Web Services

Places

Cities and Placenames

Webservice Type : REST
Url : api.geonames.org/citiesJSON?
Parameters :
north,south,east,west : coordinates of bounding box
callback : name of javascript function (optional parameter)
lang : language of placenames and wikipedia urls (default = en)
maxRows : maximal number of rows returned (default = 10)

Result : returns a list of cities and placenames in the bounding box, ordered by relevancy (capital/population). Placenames close together are filterered out and only the larger name is included in the resulting list.

Example : http://api.geonames.org/citiesJSON?north=44.1&south=-9.9&east=-22.4&west=55.2&lang=de&username=demo

This service is also available in XML output :
Example : http://api.geonames.org/cities?north=44.1&south=-9.9&east=-22.4&west=55.2&username=demo

GeoNames Web Services


```
{"geonames":[{"fcodeName":"capital of a political entity","toponymName":"Mexico
City","countrycode":"MX","fcl":"P","fclName":"city, village,...","name":"Mexiko-Stadt","wikipedia":"en.wikipedia.org/wiki
/Mexico_City","lng":-99.12766456604,"fcode":"PPLC","geonameId":3530597,"lat":19.428472427036,"population":12294193},
{"fcodeName":"capital of a political entity","toponymName":"Manila","countrycode":"PH","fcl":"P","fclName":"city,
village,...","name":"Manila","wikipedia":"en.wikipedia.org/wiki
/Manila","lng":120.9822,"fcode":"PPLC","geonameId":1701668,"lat":14.6042,"population":10444527},{"fcodeName":"capital of
a political entity","toponymName":"Dhaka","countrycode":"BD","fcl":"P","fclName":"city,
village,...","name":"Dhaka","wikipedia":"en.wikipedia.org/wiki
/Dhaka","lng":90.40743827819824,"fcode":"PPLC","geonameId":1185241,"lat":23.710395616597037,"population":10356500},
{"fcodeName":"capital of a political entity","toponymName":"Seoul","countrycode":"KR","fcl":"P","fclName":"city,
village,...","name":"Seoul","wikipedia":"en.wikipedia.org/wiki
/Seoul","lng":126.977834701538,"fcode":"PPLC","geonameId":1835848,"lat":37.5682561388953,"population":10349312},
{"fcodeName":"capital of a political entity","toponymName":"Jakarta","countrycode":"ID","fcl":"P","fclName":"city,
village,...","name":"Jakarta","wikipedia":"en.wikipedia.org/wiki
/Jakarta","lng":106.84513092041016,"fcode":"PPLC","geonameId":1642911,"lat":-6.214623197035775,"population":8540121},
{"fcodeName":"capital of a political entity","toponymName":"Tokyo","countrycode":"JP","fcl":"P","fclName":"city,
village,...","name":"Tokyo","wikipedia":"en.wikipedia.org/wiki
/Tokyo","lng":139.69171,"fcode":"PPLC","geonameId":1850147,"lat":35.6895,"population":8336599},{"fcodeName":"capital of
a political entity","toponymName":"Taipei","countrycode":"TW","fcl":"P","fclName":"city,
village,...","name":"Taipeh","wikipedia":"en.wikipedia.org/wiki
/Taipei_Railway_Station","lng":121.531846,"fcode":"PPLC","geonameId":1668341,"lat":25.047763,"population":7871900},
{"fcodeName":"capital of a political entity","toponymName":"Bogotá","countrycode":"CO","fcl":"P","fclName":"city,
village,...","name":"Bogotá","wikipedia":"en.wikipedia.org/wiki/Bogot
%C3%A1","lng":-74.08175468444824,"fcode":"PPLC","geonameId":3688689,"lat":4.609705849789108,"population":7674366},
{"fcodeName":"capital of a political entity","toponymName":"Beijing","countrycode":"CN","fcl":"P","fclName":"city,
village,...","name":"Peking","wikipedia":"en.wikipedia.org/wiki
/Beijing","lng":116.397228240967,"fcode":"PPLC","geonameId":1816670,"lat":39.9074977414405,"population":7480601},
{"fcodeName":"capital of a political entity","toponymName":"Hong Kong","countrycode":"HK","fcl":"P","fclName":"city,
village,...","name":"Hong Kong","wikipedia":"en.wikipedia.org/wiki
/Hong_Kong","lng":114.157691001892,"fcode":"PPLC","geonameId":1819729,"lat":22.2855225817732,"population":7012738}]}
```

GeoSPARQL

```
PREFIX co: <http://www.geonames.org/countries/#>
PREFIX xsd: <http://www.w3.org/2001/XMLSchema#>
PREFIX geo: <http://www.w3.org/2003/01/geo/wgs84_pos#>

SELECT ?link ?name ?pop  ?lat ?lon
WHERE  {
   ?link gs:within(-23.024132 -43.690338 -21.591043 -41.089325) .
   ?link gn:name ?name .
   ?link gn:population ?pop  .
   ?link geo:lat ?lat .
   ?link geo:long ?lon
}
```

http://geosparql.org/

GeoSPARQL Resultado

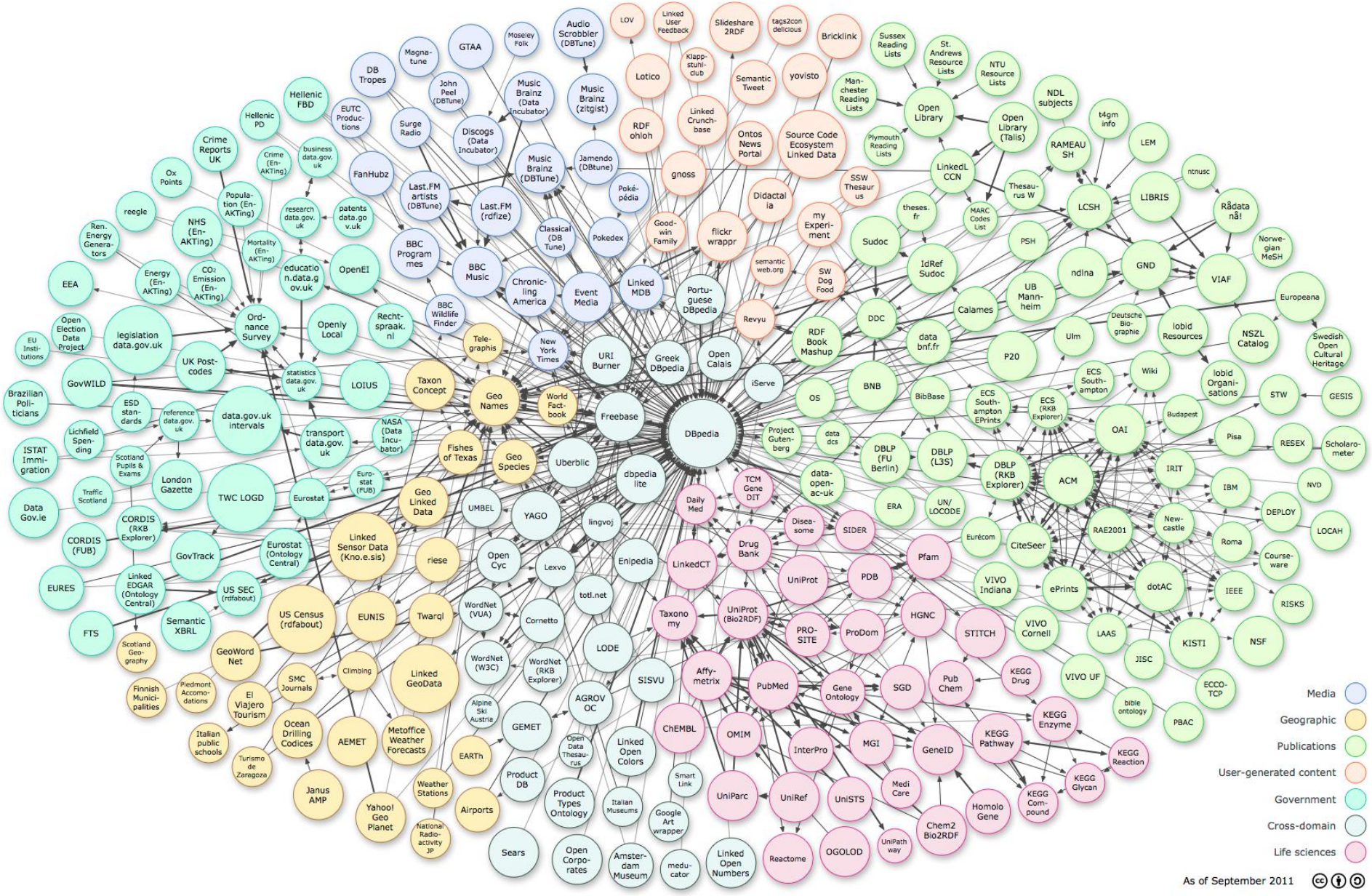
Query=4332002 | XML | KML | Home

link	name	pop	lat	lon
<http://sws.geonames.org/3445433/>	"Vassouras"	"21174"	"-22.40388889"	"-43.6625"
<http://sws.geonames.org/3460132/>	"Japeri"	"95101"	"-22.64305556"	"-43.65333333"
<http://sws.geonames.org/3452073/>	"Queimados"	"135741"	"-22.71611111"	"-43.55527778"
<http://sws.geonames.org/3457191/>	"Miguel Pereira"	"23850"	"-22.45388889"	"-43.46888889"
<http://sws.geonames.org/3456160/>	"Nova Iguaçu"	"1002118"	"-22.75916667"	"-43.45111111"
<http://sws.geonames.org/3454827/>	"Paty do Alferes"	"20659"	"-22.42861111"	"-43.41861111"
<http://sws.geonames.org/3456290/>	"Nilópolis"	"147281"	"-22.8075"	"-43.41388889"
<http://sws.geonames.org/3448877/>	"São João de Meriti"	"454849"	"-22.80388889"	"-43.37222222"
<http://sws.geonames.org/3459505/>	"Juiz de Fora"	"470193"	"-21.76416667"	"-43.35027778"
<http://sws.geonames.org/3464374/>	"Duque de Caxias"	"818329"	"-22.78555556"	"-43.31166667"
<http://sws.geonames.org/3455141/>	"Paraíba do Sul"	"35517"	"-22.16194444"	"-43.29277778"
<http://sws.geonames.org/3446065/>	"Três Rios"	"71944"	"-22.11666667"	"-43.20916667"
<http://sws.geonames.org/3451190/>	"Rio de Janeiro"	"6023699"	"-22.90277778"	"-43.2075"
<http://sws.geonames.org/3454031/>	"Petrópolis"	"272691"	"-22.505"	"-43.17861111"
<http://sws.geonames.org/3456283/>	"Niterói"	"456456"	"-22.88333333"	"-43.10361111"
<http://sws.geonames.org/3461949/>	"Guapimirim"	"31202"	"-22.53722222"	"-42.98194444"
<http://sws.geonames.org/3446606/>	"Teresópolis"	"123979"	"-22.41222222"	"-42.96555556"
<http://sws.geonames.org/3460950/>	"Itaboraí"	"182498"	"-22.74444444"	"-42.85944444"
<http://sws.geonames.org/3457708/>	"Maricá"	"79551"	"-22.91944444"	"-42.81861111"
<http://sws.geonames.org/3446974/>	"Tanguá"	"23740"	"-22.73027778"	"-42.71416667"
<http://sws.geonames.org/3451261/>	"Rio Bonito"	"35997"	"-22.70861111"	"-42.60972222"
<http://sws.geonames.org/3456166/>	"Nova Friburgo"	"153361"	"-22.28194444"	"-42.53111111"
<http://sws.geonames.org/3448011/>	"Saquarema"	"62056"	"-22.92"	"-42.51027778"
<http://sws.geonames.org/3447591/>	"Silva Jardim"	"16888"	"-22.65083333"	"-42.39166667"
<http://sws.geonames.org/3465527/>	"Cordeiro"	"15601"	"-22.02861111"	"-42.36083333"
<http://sws.geonames.org/3466763/>	"Casimiro de Abreu"	"19087"	"-22.48055556"	"-42.20416667"
<http://sws.geonames.org/3448351/>	"São Pedro da Aldeia"	"55014"	"-22.83916667"	"-42.10277778"
<http://sws.geonames.org/3460774/>	"Itaocara"	"16762"	"-21.66916667"	"-42.07611111"
<http://sws.geonames.org/3451205/>	"Rio das Ostras"	"46618"	"-22.52694444"	"-41.945"
<http://sws.geonames.org/3458266/>	"Macaé"	"143029"	"-22.37083333"	"-41.78694444"
<http://sws.geonames.org/3449195/>	"São Fidélis"	"27793"	"-21.64611111"	"-41.74694444"
<http://sws.geonames.org/3467693/>	"Campos"	"387417"	"-21.75"	"-41.3"
<http://sws.geonames.org/3468425/>	"Cachoeiras de Macacu"	"46177"	"-22.4625"	"-42.65305556"
<http://sws.geonames.org/3468615/>	"Cabo Frio"	"108239"	"-22.87944444"	"-42.01861111"
<http://sws.geonames.org/3470142/>	"Belford Roxo"	"466096"	"-22.76416667"	"-43.39944444"
<http://sws.geonames.org/3471451/>	"Arraial do Cabo"	"26163"	"-22.96611111"	"-42.02777778"
<http://sws.geonames.org/3471487/>	"Armação de Búzios"	"23463"	"-22.74694444"	"-41.88166667"
<http://sws.geonames.org/3471715/>	"Araruama"	"109637"	"-22.87277778"	"-42.34305556"
<http://sws.geonames.org/3472609/>	"Além Paraíba"	"33907"	"-21.88777778"	"-42.70444444"

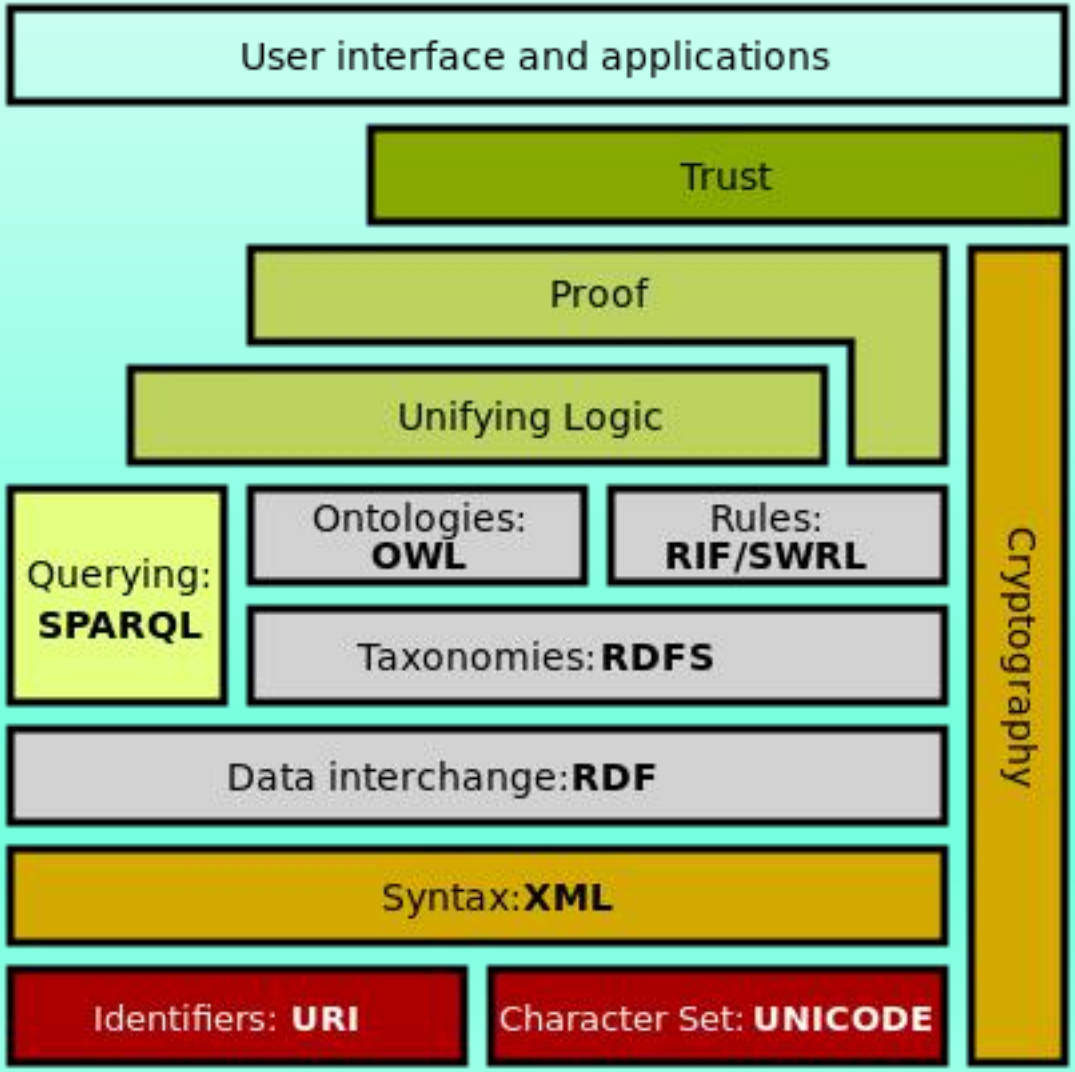
Linked Data x Web API

- Muitas fontes de dados da web, como Amazon, Ebay, Twitter, Google, oferecem acesso a seus dados através de APIs
- Estes dados são informados por inúmeras maneiras
- Linked Data utiliza um conjunto restrito de tecnologias para publicação de dados:
  - URIs para identificação

Linking Open Data [6]



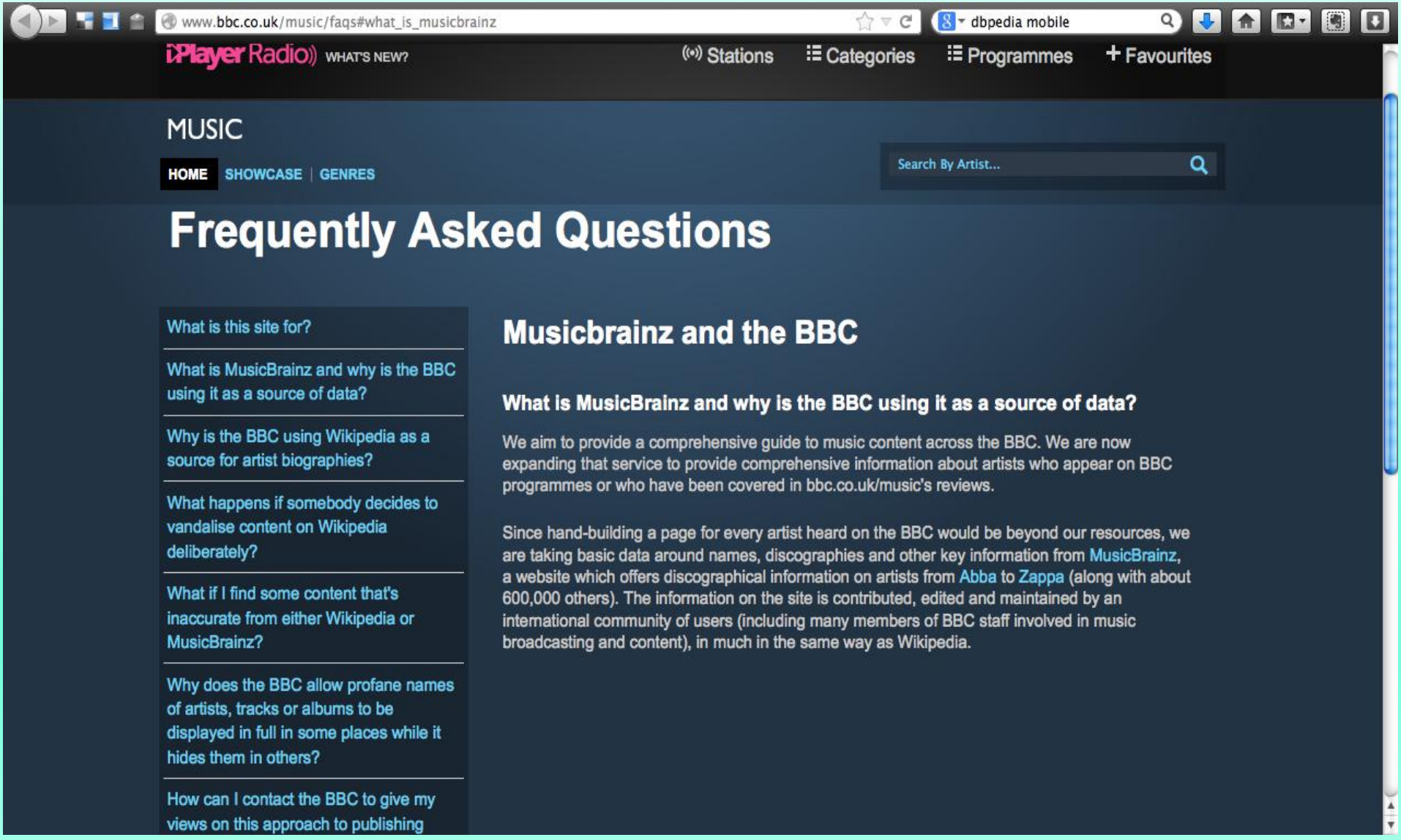
Camadas da Web Semântica [1]



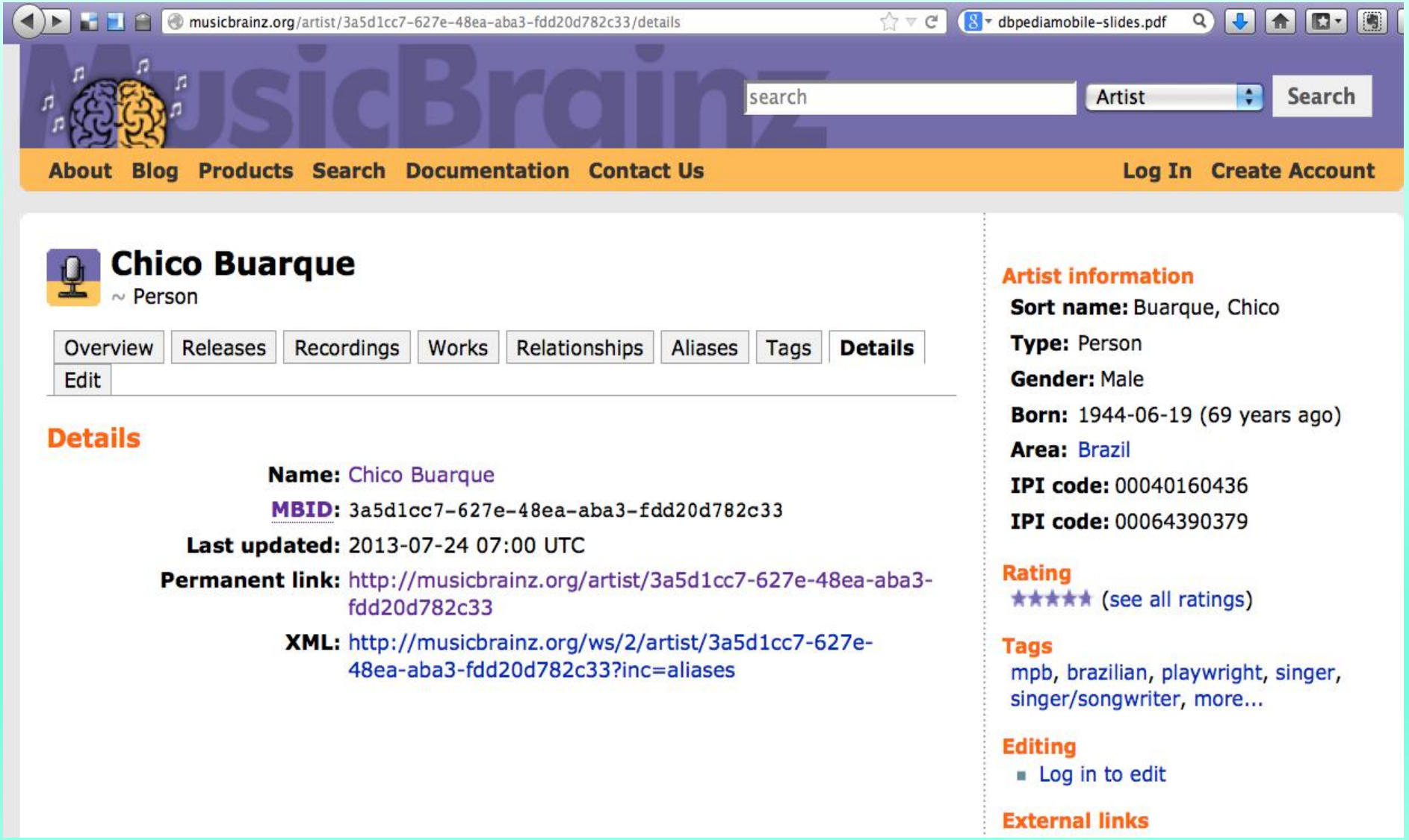
Aplicações


www.bbc.co.uk/music/artists/3a5d1cc7-627e-48ea-aba3-fdd20d782c33
dbpedia mobile
BBC
Sign in
News
Sport
Weather
iPlayer
TV
Radio
More...
Search
iPlayer Radio
WHAT'S NEW?
Stations
Categories
Programmes
+ Favourites
MUSIC
HOME | SHOWCASE | GENRES
Chico Buarque
Born 19 junho 1944.
PLAYED MOST ON BBC RADIO 3
Share This Page
Share
More BBC Music Highlights
BBC AT GLASTONBURY
Biography
Latest Tracks Played On The BBC

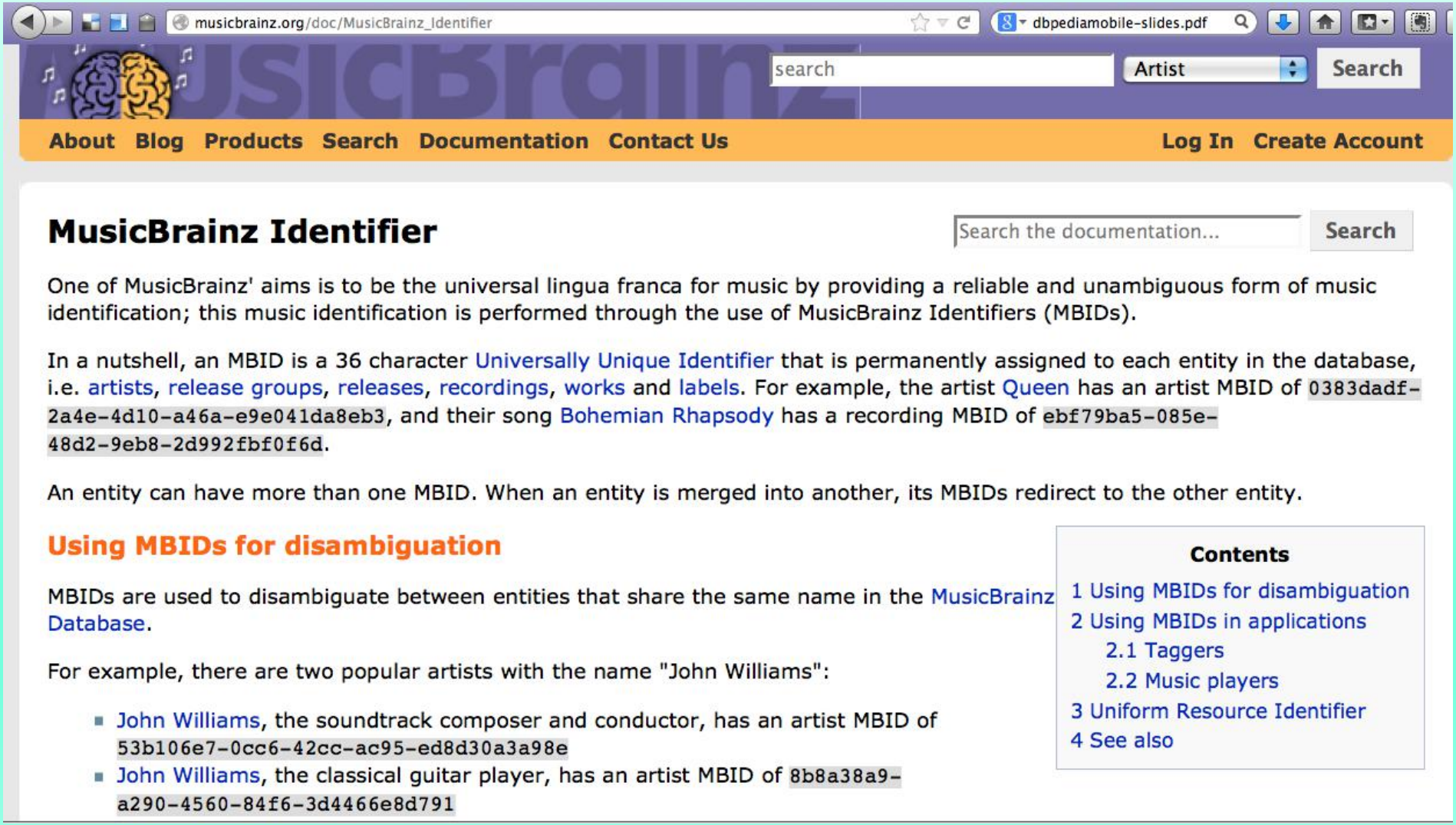
Aplicações


www.bbc.co.uk/music/faqs#what_is_musicbrainz
dbpedia mobile
iPlayer Radio
WHAT'S NEW?
Stations
Categories
Programmes
Favourites
MUSIC
HOME
SHOWCASE | GENRES
Search By Artist...
Frequently Asked Questions
What is this site for?
What is MusicBrainz and why is the BBC using it as a source of data?
Why is the BBC using Wikipedia as a source for artist biographies?
What happens if somebody decides to vandalise content on Wikipedia deliberately?
What if I find some content that's inaccurate from either Wikipedia or MusicBrainz?
Why does the BBC allow profane names of artists, tracks or albums to be displayed in full in some places while it hides them in others?
How can I contact the BBC to give my views on this approach to publishing
Musicbrainz and the BBC
What is MusicBrainz and why is the BBC using it as a source of data?
We aim to provide a comprehensive guide to music content across the BBC. We are now expanding that service to provide comprehensive information about artists who appear on BBC programmes or who have been covered in bbc.co.uk/music's reviews.
Since hand-building a page for every artist heard on the BBC would be beyond our resources, we are taking basic data around names, discographies and other key information from MusicBrainz, a website which offers discographical information on artists from Abba to Zappa (along with about 600,000 others). The information on the site is contributed, edited and maintained by an international community of users (including many members of BBC staff involved in music broadcasting and content), in much in the same way as Wikipedia.

Aplicações


musicbrainz.org/artist/3a5d1cc7-627e-48ea-aba3-fdd20d782c33/details
dbpediamobile-slides.pdf
search
Artist
Search
About Blog Products Search Documentation Contact Us
Log In Create Account
Chico Buarque
~ Person
Overview Releases Recordings Works Relationships Aliases Tags Details Edit
Details
Name: Chico Buarque
MBID: 3a5d1cc7-627e-48ea-aba3-fdd20d782c33
Last updated: 2013-07-24 07:00 UTC
Permanent link: http://musicbrainz.org/artist/3a5d1cc7-627e-48ea-aba3-fdd20d782c33
XML: http://musicbrainz.org/ws/2/artist/3a5d1cc7-627e-48ea-aba3-fdd20d782c33?inc=aliases
Artist information
Sort name: Buarque, Chico
Type: Person
Gender: Male
Born: 1944-06-19 (69 years ago)
Area: Brazil
IPI code: 00040160436
IPI code: 00064390379
Rating
(see all ratings)
Tags
mpb, brazilian, playwright, singer, singer/songwriter, more...
Editing
Log in to edit
External links

Aplicações


musicbrainz.org/doc/MusicBrainz_Identifier
dbpediamobile-slides.pdf
search
Artist
Search
About Blog Products Search Documentation Contact Us
Log In Create Account
MusicBrainz Identifier
Search the documentation...
Search
One of MusicBrainz' aims is to be the universal lingua franca for music by providing a reliable and unambiguous form of music identification; this music identification is performed through the use of MusicBrainz Identifiers (MBIDs).
In a nutshell, an MBID is a 36 character Universally Unique Identifier that is permanently assigned to each entity in the database, i.e. artists, release groups, releases, recordings, works and labels. For example, the artist Queen has an artist MBID of 0383dadf-2a4e-4d10-a46a-e9e041da8eb3, and their song Bohemian Rhapsody has a recording MBID of ebf79ba5-085e-48d2-9eb8-2d992fbf0f6d.
An entity can have more than one MBID. When an entity is merged into another, its MBIDs redirect to the other entity.
Using MBIDs for disambiguation
MBIDs are used to disambiguate between entities that share the same name in the MusicBrainz Database.
For example, there are two popular artists with the name "John Williams":
John Williams, the soundtrack composer and conductor, has an artist MBID of 53b106e7-0cc6-42cc-ac95-ed8d30a3a98e
John Williams, the classical guitar player, has an artist MBID of 8b8a38a9-a290-4560-84f6-3d4466e8d791
Contents
1 Using MBIDs for disambiguation
2 Using MBIDs in applications
2.1 Taggers
2.2 Music players
3 Uniform Resource Identifier
4 See also

Aplicações
DBPedia Mobile [8]

Referências

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[2] *"The Semantic Web", Tim Berners Lee et al,* Scientific American, Maio 2001.

[3] "Schema.org: Evolution of Structured Data on the Web": http://queue.acm.org/detail.cfm?ref=rss&id=2857276

[4] Wikipedia: https://en.wikipedia.org/wiki/Semantic_Web

[5] Recomendação do Google: https://developers.google.com/search/docs/guides/intro-structured-data#search-appearance

[6] *"Linking Open Data cloud diagram"*, Richard Cyganiak and Anja Jentzsch. http://lod-cloud.net/

Referências

[7] http://geosparql.org/

[8] *"Exploring the Geospatial Semantic Web with DBpedia Mobile",* Becker, Christian and Bizer, Christian, Web Semantic Journal, Dez, 2009

[9] *"Schema.org: Evolution of Structured Data on the Web"*: http://queue.acm.org/detail.cfm?ref=rss&id=2857276

[10] *Wikipedia*:https://en.wikipedia.org/wiki/Semantic_Web