

Web Semântica para desenvolvedores:

RDFa, JSON-LD e schema.org



@newtonclegari
W3C Brasil

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Brasil

ceweb.br

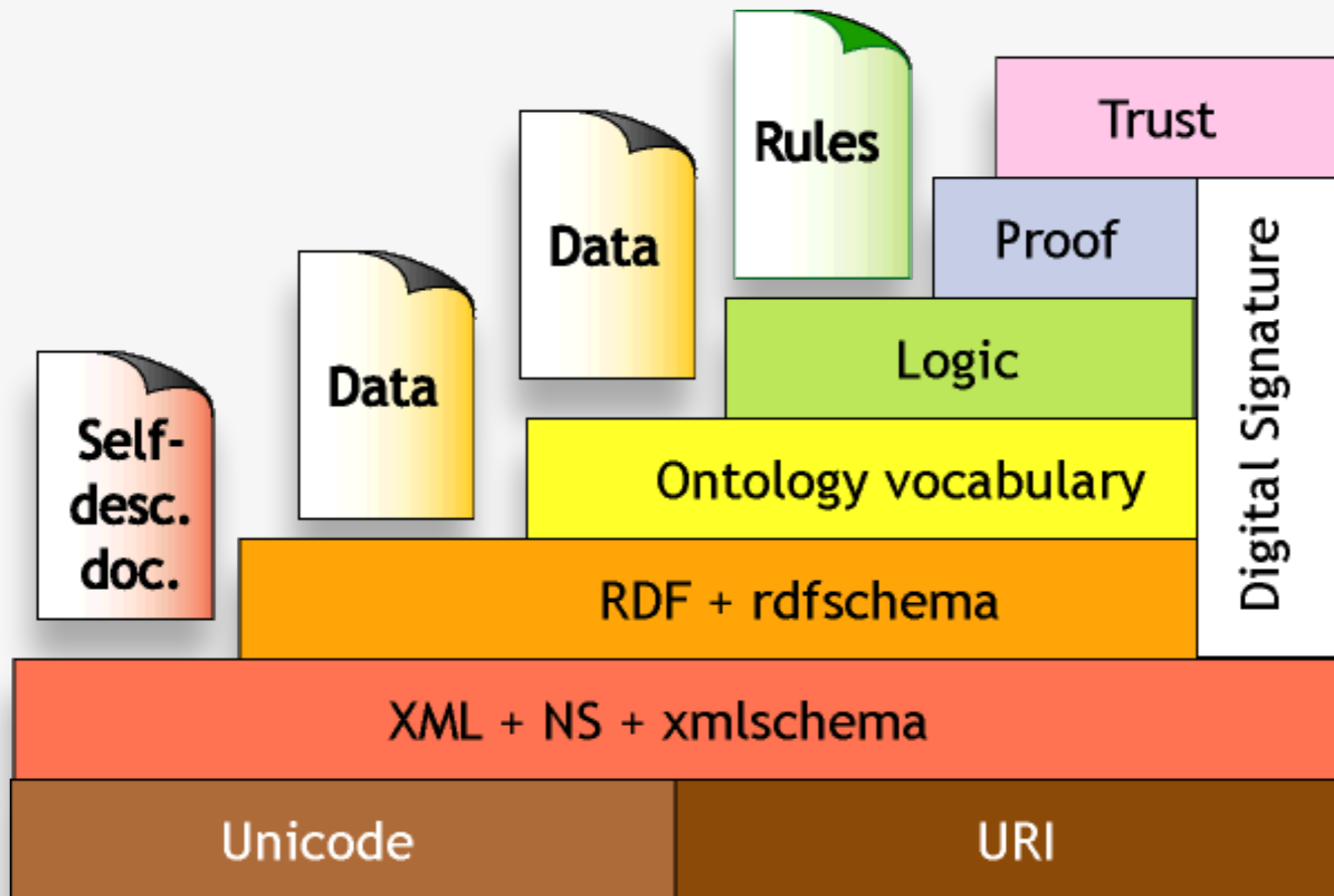
Centro de Estudos sobre
Tecnologias Web

Web de Documentos

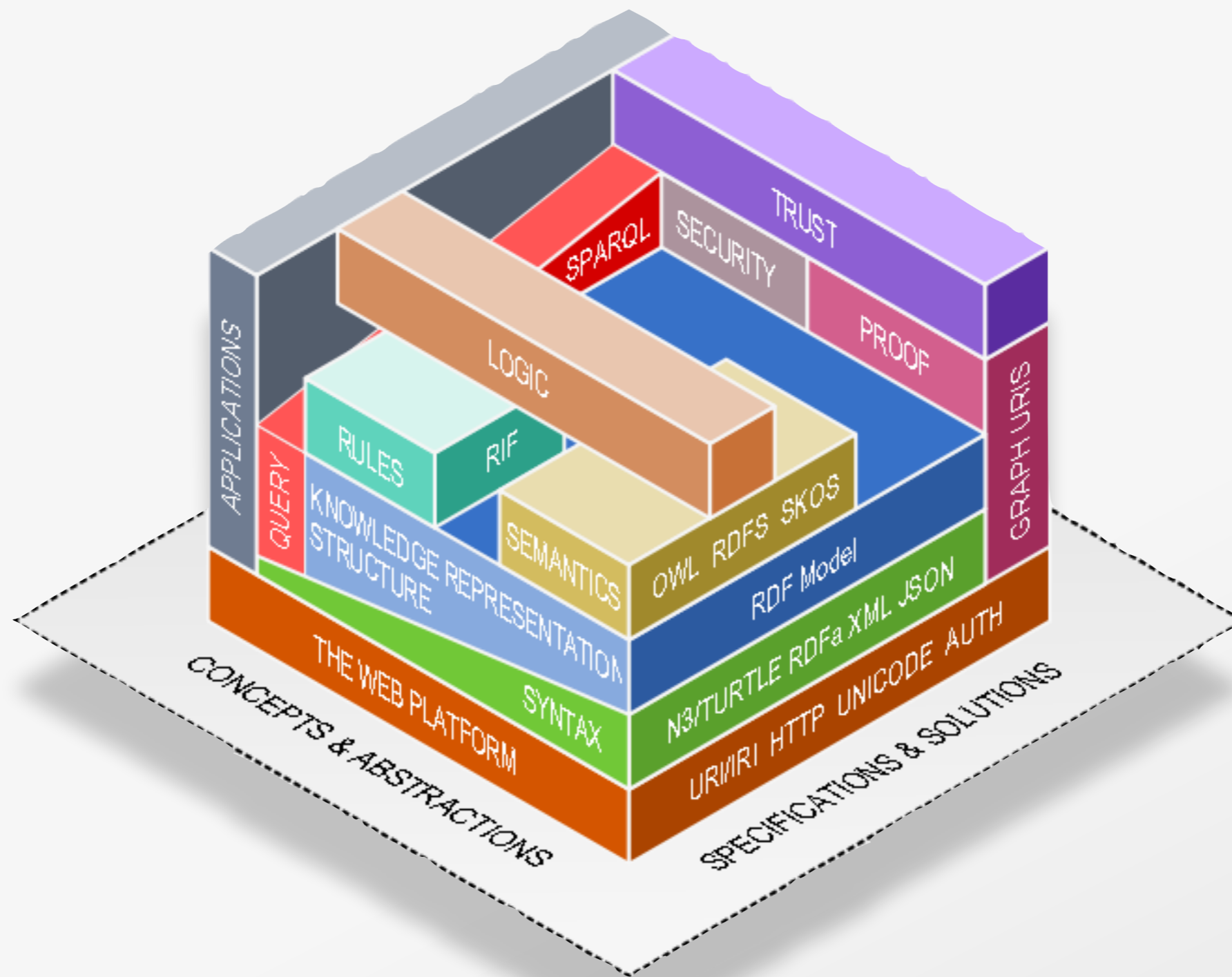
Web de Datos

“The Semantic Web aims to describe the meaning of information published on the Web to enable retrieval based on an accurate understanding of that information’s semantics”

(RODRÍGUEZ-ROCHA et al., 2015)



Tim Berners Lee, 2000



Benjamin Nowack, 2009

RDF



sujeito

predicado

objeto



<http://fb.com/italowaxman>

foaf:knows

<http://cironunes.com/>



Vocabulário FOAF

Full Hierarchy

Schema.org is defined as two hierarchies: one for textual property values, and one for the things that they describe.

Thing

This is the main schema.org hierarchy: a collection of types (or "classes"), each of which has one or more parent types. Some types have more than one super-type, here we show each type in one branch of the tree only. There is also a parallel hierarchy for textual property values.

Select vocabulary view:

- Core vocabulary Core plus all extensions

Core plus extension vocabularies

- Thing
 - Action
 - AchieveAction
 - LoseAction
 - TieAction
 - WinAction
 - AssessAction
 - ChooseAction

Google Rich Snippets

Console de Videogame Microsoft Xbox One 500 GB - 36 ...

www.buscapede.com.br/microsoft-xbox-one-500-gb.html ▼

★★★★★ Classificação: 10/10 - 238 votos

Console de Videogame Microsoft **Xbox One** 500 GB no Buscapé. Compare preços e economize até 36% comprando agora! Detalhes, opiniões e reviews de ...

A partir de - Positivas - Negativas - Usuários E-bit

Xbox One - Oferta de consoles XBox One - Americanas.com

www.americanas.com.br/linha/347990/games/console-xbox-one ▼

Xbox One com Kinect pelo melhor preço só na Americanas.com. Aqui, tem **Xbox One** em até 12x sem juros. Aproveite agora!

Console Xbox One 500GB ... - Acessórios Xbox One

XBOX One - Oferta de Consoles Xbox One - Submarino.com ...

www.submarino.com.br/linha/347988/games/console-xbox-one ▼

XBOX One em oferta e em até 12x sem juros na loja de Games do Submarino.com.br.

Clique e agarre seu Console **Xbox One**!

<https://developers.google.com/structured-data/rich-snippets/>

Google Rich Snippets

MICRODATA

RDFA

JSON-LD

```
<div vocab="http://schema.org/" typeof="Review">
  <div property="itemReviewed" typeof="Restaurant">
    <span property="name">Legal Seafood</span>
  </div>
  <span property="reviewRating" typeof="http://schema.org/Rating">
    <span property="ratingValue">4</span>
  </span> stars -
  <b>"<span property="name">A good seafood place.</span>" </b>
  <span property="author" typeof="http://schema.org/Person">
    <span property="name">Bob Smith</span>
  </span>
  <span property="reviewBody">The seafood is great.</span>
  <div property="publisher" typeof="Organization">
    <meta property="name" content="Washington Times">
  </div>
</div>
```

<https://developers.google.com/structured-data/rich-snippets/>

Google Email Markup



<https://developers.google.com/gmail/markup/>

Google Email Markup

JSON-LD

MICRODATA

```
<script type="application/ld+json">
{
  "@context": "http://schema.org",
  "@type": "EmailMessage",
  "potentialAction": {
    "@type": "ViewAction",
    "target": "https://watch-movies.com/watch?movieId=abc123",
    "name": "Watch movie"
  },
  "description": "Watch the 'Avengers' movie online"
}
</script>
```

<https://developers.google.com/gmail/markup/>

Google Knowledge Graph



filmes liam neeson



Newton



Web

Vídeos

Notícias

Imagens

Shopping

Mais ▾

Ferramentas de pesquisa



Liam Neeson / Filmes

Mais pop



Liam Neeson - AdoroCinema

www.adorocinema.com/personalidade/personalidade-5568/ ▾

Todas as notícias, filmes, vídeos e fotos de Liam Neeson (William John Neeson), Ator.

Filmografia - Top filmes e séries - Biografia - Fotos

Filmografia de Liam Neeson - AdoroCinema

www.adorocinema.com/personalidade/personalidade-5568/filmografia/ ▾

+70 itens - Conheça todos os filmes (e séries) de Liam Neeson dos ...

Ano.	Título.	Personagem.
2014	Love Thy Nature	Narrator.
2015	Entourage: Fama e Amizade	Liam Neeson

Liam Neeson

Ator

Liam John Neeson é um ator irlandês nascido na Irlanda do Norte. Ficou bastante conhecido principalmente por atuar como Oskar Schindler no filme Schindler's List, ao lado do diretor Steven Spielberg. [Wikipédia](#)

Nascimento: 7 de junho de 1952 (63 anos), [Ballymena](#)

Altura: 1,93 m





RDFa 1.1 Primer - Third Edition

Rich Structured Data Markup for Web Documents

W3C Working Group Note 17 March 2015

This version:

<http://www.w3.org/TR/2015/NOTE-rdfa-primer-20150317/>

Latest published version:

<http://www.w3.org/TR/rdfa-primer/>

Latest editor's draft:

<http://www.w3.org/2010/02/rdfa/sources/rdfa-primer/Overview-src.html>

Previous version:

<http://www.w3.org/TR/2013/NOTE-rdfa-primer-20130822/>

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Alguns atributos básicos RDFa

vocab

property

typeof

content

@vocab



```
<p vocab="http://schema.org/">  
  0 FrontIn Aracaju será no dia 28/11/2015!  
</p>
```



@typeof



```
<p vocab="http://schema.org/" typeof="Event">  
  0 FrontIn Aracaju será no dia 28/11/2015!  
</p>
```


@property

```
<p vocab="http://schema.org/" typeof="Event">  
  0  
  <span property="name">FrontIn Aracaju</span>  
  será no dia 28/11/2015!  
</p>
```



@content

```
<p vocab="http://schema.org/" typeof="Event">  
  0  
  <span property="name">FrontIn Aracaju</span>  
  será no dia  
  <span property="startDate" content="2015-11-28">28/11/2015</  
  span>!  
</p>
```





JSON-LD 1.0

A JSON-based Serialization for Linked Data

W3C Recommendation 16 January 2014

This version:

<http://www.w3.org/TR/2014/REC-json-ld-20140116/>

Latest published version:

<http://www.w3.org/TR/json-ld/>

Previous version:

<http://www.w3.org/TR/2013/PR-json-ld-20131105/>

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Simplicidade e Compatibilidade

```
{  
  "name": "Newton Calegari",  
  "homepage": "http://newtoncalegari.com"  
  "image": "http://newtoncalegari.com/imgs/n01.png"  
}
```



```
{  
  "http://schema.org/name": "Newton Calegari",  
  ...  
  "http://schema.org/image": "http://.../n01.png"  
}
```

Simplicidade e Compatibilidade

```
{  
  "name": "Newton Calegari",  
  "homepage": "http://newtoncalegari.com"  
  "image": "http://newtoncalegari.com/imgs/n01.png"  
}
```



```
{  
  "http://schema.org/name": "Newton Calegari",  
  ...  
  "http://schema.org/image": "http://.../n01.png"  
}
```

```
{  
  "@context": "http://schema.org/",  
  "@type": "Person",  
  "name": "Jane Doe",  
  "jobTitle": "Professor",  
  "telephone": "(425) 123-4567",  
  "url": "http://www.janedoe.com"  
}
```

@context


```
{  
  "@context": "http://json-ld.org/contexts/person.jsonld",  
  "name": "Manu Sporny",  
  "homepage": "http://manu.sporny.org/",  
  "image": "http://manu.sporny.org/images/manu.png"  
}
```

JSON-LD e RDFa são simples!



Cheers



@newtoncalegari