Schema.org in Two Parts: From Use to Extension

Part 2: Extending Potential Possibilities

Richard Wallis
Evangelist and Founder
Data Liberate
richard.wallis@dataliberate.com
@rjw
Richard Wallis  
richard.wallis@dataliberate.com — @rjw
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

• Schema Bib Extend W3C Community Group
  • Schema.org for bibliographic data
  • bib.schema.org

Richard Wallis  richard.wallis@dataliberate.com — @rjw
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

• Schema Bib Extend W3C Community Group
  • Schema.org for bibliographic data
  • bib.schema.org

• BiblioGraph.net
  • Bibliographic Schema.org extension vocabulary

Richard Wallis  richard.wallis@dataliberate.com — @rjw
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

- Schema Bib Extend W3C Community Group
  - Schema.org for bibliographic data
  - bib.schema.org
- BiblioGraph.net
  - Bibliographic Schema.org extension vocabulary
- Schema Architypes W3C Community Group
  - Schema.org for archives data
  - archives.schema.org?

Richard Wallis  richard.wallis@dataliberate.com — @rjw
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

• Schema Bib Extend W3C Community Group
  • Schema.org for bibliographic data
  • bib.schema.org

• BiblioGraph.net
  • Bibliographic Schema.org extension vocabulary

• Schema Architypes W3C Community Group
  • Schema.org for archives data
  • archives.schema.org

Currently Working With:

• Google – on the Schema.org site and vocabulary
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

• Schema Bib Extend W3C Community Group
  • Schema.org for bibliographic data
  • bib.schema.org

• BiblioGraph.net
  • Bibliographic Schema.org extension vocabulary

• Schema Architypes W3C Community Group
  • Schema.org for archives data
  • archives.schema.org

Currently Working With:

• Google – on the Schema.org site and vocabulary
• OCLC - Global library cooperative

Richard Wallis
richard.wallis@dataliberate.com — @rjw
Independent Consultant, Evangelist & Founder
Data Liberate

Chair of:

• Schema Bib Extend W3C Community Group
  • Schema.org for bibliographic data
  • bib.schema.org
• BiblioGraph.net
  • Bibliographic Schema.org extension vocabulary
• Schema Architypes W3C Community Group
  • Schema.org for archives data
  • archives.schema.org

Currently Working With:

• Google – on the Schema.org site and vocabulary
• OCLC - Global library cooperative
• FIBO – Financial Industry Business Ontology

Richard Wallis  richard.wallis@dataliberate.com — @rjw
Introducing schema.org: Search engines come together for a richer web

Posted: Thursday, June 02, 2011

Webmaster Level: All

Today we're announcing schema.org, a new initiative from Google, Bing and Yahoo! to create and support a common set of schemas for structured data markup on web pages. Schema.org aims to be a one stop resource for webmasters looking to add markup to their pages to help search engines better understand their websites.

At Google, we've supported structured markup for a couple years now. We introduced rich snippets in 2009 to better represent search results describing people or containing reviews. We've since expanded to new kinds of rich snippets, including products, events, recipes, and more.

Example of a rich snippet: a search result enhanced by structured markup. In this case, the rich snippet contains a picture, reviews, and cook time for the recipe.

Adoption by the webmaster community has grown rapidly, and today we're able to show rich snippets in search results more than ten times as often as when we started two years ago.

We want to continue making the open web richer and more useful. We know that it takes time and effort to add this markup to your pages, and adding markup is much harder if every search engine asks for data in a different way. That's why we've come together with other search engines to support a common set of schemas, just as we came together to support a common standard for Sitemaps in 2006. With schema.org, site owners can improve how their sites appear in search results not only on Google, but on Bing, Yahoo! and potentially other search engines as well in the future.

Now let's discuss some of the details of schema.org relevant to you as a webmaster.
Introducing schema.org: Search engines come together for a richer web

Posted: Thursday, June 02, 2011

Webmaster Level: All

Today we’re announcing a new initiative to provide a common set of schema.org markup. In this case, the rich snippet contains a Recipe type of item. In this recipe, the rich snippet contains a"[{"type":"webpage","id":"https://schema.org","title":"Introducing schema.org: Search engines come together for a richer web"}]

We’ve added more than 100 new types as well as ported over all of the existing rich snippets types. If you’ve looked at adding rich snippets markup before but none of the existing types were relevant for your site, it’s worth taking another look. Here are a few popular types:

- Creative works: CreativeWork, Book, Movie, MusicRecording, Recipe, TVSeries
- Embedded non-text objects: AudioObject, ImageObject, VideoObject
- Review, AggregateRating
- org, org, org
- Place, LocalBusiness, Restaurant
- Product, Offer, AggregateOffer
- Or, view a full list of all schema.org types.

The new markup types may be used for future rich snippets formats as well as other types of improvements to help people find your content more easily when searching.

Now let’s discuss some of the details of schema.org relevant to you as a webmaster.
Introducing schema.org: Search engines come together for a richer web

Posted: Thursday, June 02, 2011

Webmaster Level: All

By we're announcing a common set of schemas to

We've added more than 100 new types as well as ported over all of the existing rich snippets types. If you've

Creative works: CreativeWork, Book, Movie, MusicRecording, Recipe, TVSeries

Embedded non-text objects: AudioObject, ImageObject, VideoObject

Event

Organization

Person

Place, LocalBusiness, Restaurant

Product, Offer, AggregateOffer

Review, AggregateRating

Or, view a full list of all schema.org types. The new types are designed to make the open web richer and more useful. We know that it takes a lot of effort to come together with other search engines to support a common set of schemas, just as we can

Sheriff, LocalBusiness, Restaurant

Review, AggregateRating

You asked for a one-page printable version of my step-by-step Green Mango
Salad recipe, so here it is! This salad will blow you away with its ...
Introducing Schema.org
Introducing Schema.org
Schema.org

- A [Linked Data] vocabulary
Schema.org

• A [Linked Data] vocabulary
• RDF (triples)
Introducing Schema.org

- A [Linked Data] vocabulary
- RDF (triples)
- URIs / string values
Schema.org

- A [Linked Data] vocabulary
- RDF (triples)
- URIs / string values
- Types / Properties / Enumerations
Introducing Schema.org

- A [Linked Data] vocabulary
- RDF (triples)
- URIs / string values
- Types / Properties / Enumerations
- Not strongly typed
Introducing Schema.org

- A [Linked Data] vocabulary
- RDF (triples)
- URIs / string values
- Types / Properties / Enumerations
- Not strongly typed
- RangeIncludes / DomainIncludes
Schema.org

• A [Linked Data] vocabulary
• RDF (triples)
• URIs / string values
• Types / Properties / Enumerations
• Not strongly typed
• RangeIncludes / DomainIncludes
• Three serialisations
  - Microdata, RDFa, JSON-LD
Schema.org

- A [Linked Data] vocabulary
- RDF (triples)
- URIs / string values
- Types / Properties / Enumerations
- Not strongly typed
- RangeIncludes / DomainIncludes
- Three serialisations
  - Microdata, RDFa, JSON-LD
- A web vocabulary to describe stuff!
Knowledge Graph
Introducing the Knowledge Graph: things, not strings
May 16, 2012

Cross-posted on the Inside Search Blog

Search is a lot about discovery—the basic human need to learn and broaden your horizons. But searching still requires a lot of hard work by you, the user. So today I’m really excited to launch the Knowledge Graph, which will help you discover new information quickly and easily.

Take a query like [taj mahal]. For more than four decades, search has essentially been about matching keywords to queries. To a search engine the words [taj mahal] have been just that—two words.

But we all know that [taj mahal] has a much richer meaning. You might think of one of the world’s most beautiful monuments, or a Grammy Award-winning musician, or possibly even a casino in Atlantic City, NJ. Or, depending on when you last ate, the
Introducing the Knowledge Graph: things, not strings

May 16, 2012

Cross-posted on the Inside Search Blog

Search is a lot about discovery—the basic human need to learn and broaden horizons. But searching still requires a lot of hard work by you, the user. So we’re really excited to launch the Knowledge Graph, which will help you discover information quickly and easily.

Take a query like [taj mahal]. For more than four decades, search has been about matching keywords to queries. To a search engine the words [taj mahal] have been just that—two words.

But we all know that [taj mahal] has a much richer meaning. You might think of the world’s most beautiful monuments, or a Grammy Award-winning musician, or possibly even a casino in Atlantic City, NJ. Or, depending on when you last ate, the
Google Knowledge Graph: things, not strings

The basic human need to learn and broaden our understanding of the world is underpinned by a lot of hard work by you, the user. So today, we’re excited to introduce you to the knowledge graph, which will help you discover even more.

Over the past four decades, search has evolved from a simple query to a search engine the words [the user] might later search for themselves. But the user is no longer the only one who needs to know something. Through the knowledge graph, you are provided with a richer meaning. You might search for Michael Bolton — a Grammy Award-winning musician, or maybe, you’re in Atlantic City, NJ. Or, depending on when you last ate, the

Bart Simpson
Fictional Character

Bartholomew Joseph “Bart” Simpson is a fictional character in the American animated television series The Simpsons and part of the Simpson family.

Played by: Nancy Cartwright
Born: April 1, 1979
Creator: Matt Groening
Gender: Male

People also search for
Homer Simpson Marge Simpson Lisa Simpson Maggie Simpson Moe

Books

Prolegomena to Library Classifications, 1937
The Five Laws of Library Science, 1934
Library Book Selection, 1952
Classified Catalogue Code: Wit... 1988
Documents, Gender and Deve...
Knowledge Graph

Powered by the Graph
Knowledge Graph

Powered by the Graph
schema.org
• In use on over 10 million domains
• In use on over 10 million domains
• Broad vocabulary v2.2:
In use on over 10 million domains

Broad vocabulary v2.2:
- Types: 642 Properties: 992 Values: 219
• In use on over 10 million domains
• Broad vocabulary v2.2:
  - Types: 642   Properties: 992   Values: 219
• Extensions published:
• In use on over 10 million domains
• Broad vocabulary v2.2:
  - Types: 642    Properties: 992    Values: 219
• Extensions published:
  - auto.schema.org
• In use on over 10 million domains
• Broad vocabulary v2.2:
  - Types: 642  Properties: 992  Values: 219
• Extensions published:
  - auto.schema.org
  - bib.schema.org
A de facto vocabulary for structured data on the web

schema.org
Welcome to Schema.org

Schema.org is a collaborative, community activity with a mission to create, maintain, and promote schemas for structured data on the Internet, on web pages, in email messages, and beyond.

Schema.org vocabulary can be used with many different encodings, including RDFa, Microdata and JSON-LD. These vocabularies cover entities, relationships between entities and actions, and can easily be extended through a well-documented extension model. Over 10 million sites use Schema.org to markup their web pages and email messages. Many applications from Google, Microsoft, Pinterest, Yandex and others already use these vocabularies to power rich, extensible experiences.

Schema.org is sponsored by Google, Microsoft, Yahoo and Yandex. The vocabularies are developed by an open community process, using the public-schemaorg@w3.org mailing list and through GitHub.

A shared vocabulary makes it easier for webmasters and developers to decide on a schema and get the maximum benefit for their efforts. It is in this spirit that the sponsors, together with the larger community have come together, to provide a shared collection of schemas.

We invite you to get started!

View our blog at blog.schema.org or see release history.
Organization of Schemas

The schemas are a set of 'types', each associated with a set of properties. The types are arranged in a hierarchy. The core vocabulary currently consists of 642 Types, 992 Properties, and 219 Enumeration values.

Browse the full hierarchy:
- One page per type
- Full list of types, shown on one page

Or you can jump directly to a commonly used type:
- Creative works: CreativeWork, Book, Movie, MusicRecording, Recipe, TVSeries ...
- Embedded non-text objects: AudioObject, ImageObject, VideoObject
- Event
- Health and medical types: notes on the health and medical types under MedicalEntity.
- Organization
- Person
- Place, LocalBusiness, Restaurant ...
- Product, Offer, AggregateOffer
- Review, AggregateRating
- Action

Using the extension mechanism the core vocabulary is extended by the following hosted extensions:
- auto.schema.org
- bib.schema.org

See also the releases page for recent updates and project history.

We also have a small set of primitive data types for numbers, text, etc. More details about the data model, etc. are available here.
**Thing**

**Thing**

The most generic type of item.

**Usage:** Between 100,000 and 250,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>additionalType</td>
<td>URL</td>
<td>An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax – the 'typeof' attribute – for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally.</td>
</tr>
<tr>
<td>alternateName</td>
<td>Text</td>
<td>An alias for the item.</td>
</tr>
<tr>
<td>description</td>
<td>Text</td>
<td>A short description of the item.</td>
</tr>
<tr>
<td>image</td>
<td>ImageObject</td>
<td>An image of the item. This can be a URL or a fully described ImageObject.</td>
</tr>
<tr>
<td>mainEntityOfPage</td>
<td>CreativeWork   or URL</td>
<td>Indicates a page (or other CreativeWork) for which this thing is the main entity being described.</td>
</tr>
<tr>
<td>name</td>
<td>Text</td>
<td>The name of the item.</td>
</tr>
<tr>
<td>potentialAction</td>
<td>Action</td>
<td>Indicates a potential Action, which describes an idealized action in which this thing would play an 'object' role.</td>
</tr>
<tr>
<td>sameAs</td>
<td>URL</td>
<td>URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Freebase page, or official website.</td>
</tr>
<tr>
<td>url</td>
<td>URL</td>
<td>URL of the item.</td>
</tr>
</tbody>
</table>
CreativeWork

Thing > CreativeWork

The most generic kind of creative work, including books, movies, photographs, software programs, etc.

Usage: Between 250,000 and 500,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>about</td>
<td>Thing</td>
<td>The subject matter of the content.</td>
</tr>
<tr>
<td>accessibilityAPI</td>
<td>Text</td>
<td>Indicates that the resource is compatible with the referenced accessibility API (WebSchemas wiki lists possible values).</td>
</tr>
<tr>
<td>accessibilityControl</td>
<td>Text</td>
<td>Identifies input methods that are sufficient to fully control the described resource (WebSchemas wiki lists possible values).</td>
</tr>
<tr>
<td>accessibilityFeature</td>
<td>Text</td>
<td>Content features of the resource, such as accessible media, alternatives and supported enhancements for accessibility (WebSchemas wiki lists possible values).</td>
</tr>
<tr>
<td>accessibilityHazard</td>
<td>Text</td>
<td>A characteristic of the described resource that is physiologically dangerous to some users. Related to WCAG 2.0 guideline 2.3 (WebSchemas wiki lists possible values).</td>
</tr>
<tr>
<td>accountablePerson</td>
<td>Person</td>
<td>Specifies the Person that is legally accountable for the CreativeWork.</td>
</tr>
<tr>
<td>aggregateRating</td>
<td>AggregateRating</td>
<td>The overall rating, based on a collection of reviews or ratings, of the item.</td>
</tr>
<tr>
<td>alternativeHeadline</td>
<td>Text</td>
<td>A secondary title of the CreativeWork.</td>
</tr>
<tr>
<td>associatedMedia</td>
<td>MediaObject</td>
<td>A media object that encodes this CreativeWork. This property is a synonym for encoding.</td>
</tr>
<tr>
<td>audience</td>
<td>Audience</td>
<td>An intended audience, i.e. a group for whom something was created. Supersedes serviceAudience.</td>
</tr>
<tr>
<td>audio</td>
<td>AudioObject</td>
<td>An embedded audio object.</td>
</tr>
<tr>
<td>author</td>
<td>Person or Organization</td>
<td>The author of this content. Please note that author is special in that HTML 5 provides a special mechanism for indicating authorship via the rel tag. That is equivalent to this and may be used interchangeably.</td>
</tr>
<tr>
<td>award</td>
<td>Text</td>
<td>An award won by or for this item. Supersedes awards.</td>
</tr>
<tr>
<td>character</td>
<td>Person</td>
<td>Fictional person connected with a creative work.</td>
</tr>
<tr>
<td>citation</td>
<td>Text or Person</td>
<td>A citation or reference to another creative work, such as another publication, web page, scholarly article, etc.</td>
</tr>
</tbody>
</table>
### Properties from Thing

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>additionalType</td>
<td>URL</td>
<td>An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax – the <code>type</code> attribute – for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally. An alias for the item.</td>
</tr>
<tr>
<td>alternateName</td>
<td>Text</td>
<td>A short description of the item.</td>
</tr>
<tr>
<td>description</td>
<td>Text</td>
<td>An image of the item. This can be a URL or a fully described ImageObject.</td>
</tr>
<tr>
<td>image</td>
<td>URL or ImageObject</td>
<td>Indicates a page (or other CreativeWork) for which this thing is the main entity being described. See background notes for details. Inverse property: mainEntity.</td>
</tr>
<tr>
<td>mainEntityOfPage</td>
<td>URL or CreativeWork</td>
<td>The name of the item.</td>
</tr>
<tr>
<td>name</td>
<td>Text</td>
<td>Indicates a potential Action, which describes an idealized action in which this thing would play an 'object' role.</td>
</tr>
<tr>
<td>potentialAction</td>
<td>Action</td>
<td>URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Freebase page, or official website.</td>
</tr>
<tr>
<td>sameAs</td>
<td>URL</td>
<td>URL of the item.</td>
</tr>
</tbody>
</table>

### Instances of CreativeWork may appear as values for the following properties

<table>
<thead>
<tr>
<th>Property</th>
<th>On Types</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>cheatCode</td>
<td>VideoGameSeries or VideoGame</td>
<td>Cheat codes to the game.</td>
</tr>
<tr>
<td>citation</td>
<td>CreativeWork</td>
<td>A citation or reference to another creative work, such as another publication, web page, scholarly article, etc.</td>
</tr>
<tr>
<td>discusses</td>
<td>UserComments</td>
<td>Specifies the CreativeWork associated with the UserComment. The CreativeWork encoded by this media object.</td>
</tr>
<tr>
<td>encodesCreativeWork</td>
<td>MediaObject</td>
<td>A creative work that this work is an example/instance/realization/derivation of. Inverse property: workExample.</td>
</tr>
<tr>
<td>exampleOfWork</td>
<td>CreativeWork</td>
<td>A creative work that this work is an example/instance/realization/derivation of. Inverse property: workExample.</td>
</tr>
<tr>
<td>gameTip</td>
<td>VideoGame</td>
<td>Links to tips, tactics, etc.</td>
</tr>
<tr>
<td>hasPart</td>
<td>CreativeWork</td>
<td>Indicates a CreativeWork that is (in some sense) a part of this CreativeWork. Inverse property: isPartOf.</td>
</tr>
<tr>
<td>isPartOf</td>
<td>CreativeWork</td>
<td>Indicates a CreativeWork that this CreativeWork is (in some sense) part of. Inverse property: hasPart.</td>
</tr>
<tr>
<td>license</td>
<td>CreativeWork</td>
<td>A license document that applies to this content, typically indicated by URL.</td>
</tr>
</tbody>
</table>
Available properties in extensions

- From CreativeWork: publisherImprint, translationOfWork, workTranslation

More specific Types

- Article
- Blog
- Book
- Clip
- Code
- Comment
- CreativeWorkSeason
- CreativeWorkSeries
- DataCatalog
- Dataset
- Diet
- EmailMessage
- Episode
- ExercisePlan
- Game
- Map
- MediaObject
- Movie
- MusicComposition
- MusicPlaylist
- MusicRecording
- Painting
- Photograph
- PublicationIssue
- PublicationVolume
- Question
- Recipe
- Review
- Sculpture
- Season
- Series
- SoftwareApplication
- SoftwareSourceCode
- TVSeason
- TVSeries
- VisualArtwork
- WebPage
- WebPageElement
Product details
224 pages
Publisher: Little, Brown, and Company - May 1, 1991
Language: English
ISBN-10: 0316769487
Reviews:
5 stars - "A masterpiece of literature" by John Doe. Written on May 4, 2006
I really enjoyed this book. It captures the essential challenge people face as they try make sense of their lives and grow to adulthood.
4 stars - "love it LOLOL11!!" by Bob Smith. Written on June 15, 2006
Catcher in the Rye is a fun book. It's a good book to read.

Without Markup  Microdata  RDFa  JSON-LD

<div itemscope itemtype="http://schema.org/CreativeWork">
  <img itemprop="image" alt="Fall of Man cover art" src="videogame.jpg" />
  <span itemprop="name">Resistance 3: Fall of Man</span>
  by <span itemprop="author">Sony</span>,
  Platform: Playstation 3
  Rated: <span itemprop="contentRating">Mature</span>
</div>

Without Markup  Microdata  RDFa  JSON-LD

<div>
  <dt>Name:</dt>
  <dd>Holt Physical Science</dd>
  <dt>Brief Synopsis:</dt>
  <dd>NIMAC-sourced textbook</dd>
  <dt>Long Synopsis:</dt>
  <dd>N/A</dd>
  <dt>Book Quality:</dt>
  <dd>Publisher Quality</dd>
  <dt>Book Size:</dt>
  <dd>598 Pages</dd>
  <dd>9780030426599</dd>
  <dt>Publisher:</dt>
</div>
Product details
224 pages
Publisher: Little, Brown, and Company - May 1, 1991
Language: English
ISBN-10: 0316769487
Reviews:
5 stars - <b>"A masterpiece of literature"</b> by John Doe. Written on May 4, 2006
I really enjoyed this book. It captures the essential challenge people face as they try to make sense of their lives and grow to adulthood.
4 stars - <b>"love it LOLOL111!"</b> by Bob Smith, Written on June 15, 2006
Catcher in the Rye is a fun book. It's a good book to read.
Product details
224 pages
Publisher: Little, Brown, and Company - May 1, 1991
Language: English
ISBN-10: 0316769487
Reviews:
5 stars - <b>"A masterpiece of literature"</b><br>by John Doe. Written on May 4, 2006
I really enjoyed this book. It captures the essential challenge people face as they try make sense of their lives and grow to adulthood.
4 stars - <b>"love it LOLLOL111!"</b><br>by Bob Smith, Written on June 15, 2006
Catcher in the Rye is a fun book. It's a good book to read.

```json
{
  "@context": "http://schema.org",
  "@type": "CreativeWork",
  "author": "Sony",
  "contentRating": "Mature",
  "image": "videogame.jpg",
  "name": "Resistance 3: Fall of Man"
}
</script>
```
**Book**

*Thing > CreativeWork > Book*

A book.

Usage: Between 10,000 and 50,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bookFormat</td>
<td>BookFormatType</td>
<td>The format of the book.</td>
</tr>
<tr>
<td>illustrator</td>
<td>Person</td>
<td>The illustrator of the book.</td>
</tr>
<tr>
<td>numberOfPages</td>
<td>Integer</td>
<td>The number of pages in the book.</td>
</tr>
</tbody>
</table>

**Properties from CreativeWork**

<table>
<thead>
<tr>
<th>Property</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>about</td>
<td>Thing</td>
<td>The subject matter of the content.</td>
</tr>
<tr>
<td>accessibilityAPI</td>
<td>Text</td>
<td>Indicates that the resource is compatible with the referenced accessibility API (<a href="#">WebSchemas wiki lists possible values</a>).</td>
</tr>
<tr>
<td>accessibilityControl</td>
<td>Text</td>
<td>Identifies input methods that are sufficient to fully control the described resource (<a href="#">WebSchemas wiki lists possible values</a>).</td>
</tr>
<tr>
<td>accessibilityFeature</td>
<td>Text</td>
<td>Content features of the resource, such as accessible media, alternatives and supported enhancements for accessibility (<a href="#">WebSchemas wiki lists possible values</a>).</td>
</tr>
<tr>
<td>accessibilityHazard</td>
<td>Text</td>
<td>A characteristic of the described resource that is physiologically dangerous to some users. Related to WCAG 2.0 guideline 2.3 (<a href="#">WebSchemas wiki lists possible values</a>).</td>
</tr>
<tr>
<td>accountablePerson</td>
<td>Person</td>
<td>Specifies the Person that is legally accountable for the CreativeWork.</td>
</tr>
<tr>
<td>aggregateRating</td>
<td>AggregateRating</td>
<td>The overall rating, based on a collection of reviews or ratings, of the item.</td>
</tr>
<tr>
<td>alternativeHeadline</td>
<td>Text</td>
<td>A secondary title of the CreativeWork.</td>
</tr>
<tr>
<td>associatedMedia</td>
<td>MediaObject</td>
<td>A media object that encodes this CreativeWork. This property is a synonym for encoding.</td>
</tr>
<tr>
<td>audience</td>
<td>Audience</td>
<td>An intended audience, i.e. a group for whom something was created. Supersedes serviceAudience.</td>
</tr>
</tbody>
</table>
Person

A person (alive, dead, undead, or fictional).

Usage: Over 1,000,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>additionalName</td>
<td>Text</td>
<td>An additional name for a Person, can be used for a middle name. Physical address of the item.</td>
</tr>
<tr>
<td>address</td>
<td>Text or PostalAddress</td>
<td>An organization that this person is affiliated with. For example, a school/university, a club, or a team.</td>
</tr>
<tr>
<td>affiliation</td>
<td>EducationalOrganization or Organization</td>
<td>An organization that the person is an alumni of. Inverse property: alumni.</td>
</tr>
<tr>
<td>alumniOf</td>
<td></td>
<td>An award won by or for this item. Supersedes awards.</td>
</tr>
<tr>
<td>birthDate</td>
<td>Date</td>
<td>Date of birth. The place where the person was born.</td>
</tr>
<tr>
<td>birthPlace</td>
<td>Place</td>
<td>The brand(s) associated with a product or service, or the brand(s) maintained by an organization or business person. A child of the person.</td>
</tr>
<tr>
<td>brand</td>
<td>Brand or Organization</td>
<td>A colleague of the person. Supersedes colleagues.</td>
</tr>
<tr>
<td>children</td>
<td>Person</td>
<td>A contact point for a person or organization. Supersedes contactPoints. Date of death. The place where the person died.</td>
</tr>
<tr>
<td>colleague</td>
<td>Person</td>
<td>The Dun &amp; Bradstreet DUNS number for identifying an organization or business person. Email address.</td>
</tr>
<tr>
<td>contactPoint</td>
<td>ContactPoint</td>
<td>Email address.</td>
</tr>
<tr>
<td>deathDate</td>
<td>Date</td>
<td>Family name. In the U.S., the last name of an Person. This can be used along with givenName instead of the</td>
</tr>
</tbody>
</table>
## Person

### Thing > Person

A person (alive, dead, undead, or fictional).

Usage: Over 1,000,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>additionalName</td>
<td>Text</td>
<td>An additional name for a Person, can be used for a middle name. Physical address of the item.</td>
</tr>
<tr>
<td>address</td>
<td>Text or PostalAddress</td>
<td>An organization that this person is affiliated with. For example, a school/university, a club, or a team.</td>
</tr>
<tr>
<td>affiliation</td>
<td>EducationalOrganization or Organization</td>
<td>An organization that the person is an alumni of. Inverse property: alumni.</td>
</tr>
<tr>
<td>alumniOf</td>
<td>Text</td>
<td>An award won by or for this item. Supersedes awards.</td>
</tr>
<tr>
<td>award</td>
<td>Date</td>
<td>Date of birth. The place where the person was born. The brand(s) associated with a product or service, or the brand(s) maintained by an organization or business person. A child of the person. A colleague of the person. Supersedes colleagues. A contact point for a person or organization. Supersedes contactPoints. Date of death. The place where the person died. The Dun &amp; Bradstreet DUNS number for identifying an organization or business person. Email address. Family name. In the U.S., the last name of an Person. This can be used along with givenName instead of the</td>
</tr>
<tr>
<td>birthDate</td>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>birthPlace</td>
<td>Place</td>
<td></td>
</tr>
<tr>
<td>brand</td>
<td>Brand or Organization</td>
<td></td>
</tr>
<tr>
<td>children</td>
<td>Person</td>
<td></td>
</tr>
<tr>
<td>colleague</td>
<td>Person</td>
<td></td>
</tr>
<tr>
<td>contactPoint</td>
<td>ContactPoint</td>
<td></td>
</tr>
<tr>
<td>deathDate</td>
<td>Date</td>
<td></td>
</tr>
<tr>
<td>deathPlace</td>
<td>Place</td>
<td></td>
</tr>
<tr>
<td>duns</td>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>email</td>
<td>Text</td>
<td></td>
</tr>
<tr>
<td>familyName</td>
<td>Text</td>
<td></td>
</tr>
</tbody>
</table>
### LocalBusiness

A particular physical business or branch of an organization. Examples of LocalBusiness include a restaurant, a particular branch of a restaurant chain, a branch of a bank, a medical practice, a club, a bowling alley, etc.

Usage: Between 500,000 and 1,000,000 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
</table>
| branchCode           | Text          | A short textual code (also called "store code") that uniquely identifies a place of business. The code is typically assigned by the parentOrganization and used in structured URLs. For example, in the URL http://www.starbucks.co.uk/store-locator/etc/detail/3047 the code "3047" is a branchCode for a particular branch. The currency accepted (in ISO 4217 currency format).
| currenciesAccepted   | Text          | The opening hours for a business. Opening hours can be specified as a weekly time range, starting with days, then times per day. Multiple days can be listed with commas "," separating each day. Day or time ranges are specified using a hyphen "-".
| openingHours         | Text          | - Days are specified using the following two-letter combinations: Mo, Tu, We, Th, Fr, Sa, Su.
|                      |               | - Times are specified using 24:00 time. For example, 3pm is specified as 15:00.
|                      |               | - Here is an example: `<time itemprop="openingHours" datetime="Tu,Th 16:00-20:00">Tuesdays and Thursdays 4-8pm</time>`.
|                      |               | - If a business is open 7 days a week, then it can be specified as `<time itemprop="openingHours" datetime="Mo-Su">Monday through Sunday, all day</time>`.
| paymentAccepted      | Text          | Cash, credit card, etc.
| priceRange           | Text          | The price range of the business, for example $$$. A property-value pair representing an additional characteristics of the entity, e.g. a product feature or another characteristic for which there is no matching property in schema.org. |
ACME Home Cleaning offers a variety of services in Massachusetts, including:

<ul>
  <li>House cleaning</li>
  <li>Apartment light cleaning</li>
  <li>House light cleaning up to 2 bedrooms</li>
  <li>House light cleaning 3+ bedrooms</li>
  <li>One-time services</li>
  <li>Window washing</li>
  <li>Carpet deep cleaning</li>
  <li>Move in/out cleaning</li>
</ul>

<script type="application/ld+json">
{
  "@context": "http://schema.org",
  "@type": "LocalBusiness",
  "address": {
    "@type": "PostalAddress",
    "addressLocality": "Mexico Beach",
    "addressRegion": "FL",
    "streetAddress": "3102 Highway 98"
  },
  "description": "A superb collection of fine gifts and clothing to accent your stay in Mexico Beach.",
  "name": "Beachwalk Beachwear & Giftware",
  "telephone": "850-648-4200"
}
</script>

GreatFood
4 stars - based on 250 reviews
1901 Lemur Ave
Sunnyvale, CA 94086
--- A Library Example with Holdings ---

<body>
<h1>In search of Haydn [videorecording] / Phil Grabsky Films.com & Seventh Art Productions in association with</h1>
<h2>Record details</h2>
<ul>
</ul>

<table>
  <tr><td>Subject:</td><td>Haydn, Joseph, 1732-1809. <br>Composers > Austria > Biography.<br></td></tr>
</table>
Schema.org Hosted Extension: Auto Extension

Schema.org is a set of extensible schemas that allows webmasters to embed structured data on their web pages for use by search engines and other applications. For more details, see the homepage.

This is the front page for the Auto Extension, whose short name is: auto

You are viewing the Auto Extension within schema.org. It defines terms such as MotorizedBicycle and adds terms to Car. For more details see the W3C Automotive Ontology Working Group.

This should be considered a pre-final preview release; final changes may be made after wider community review.

Terms defined or referenced in the 'auto' extension.

Types (3)
- BusOrCoach
- Motorcycle
- MotorizedBicycle

Properties (20)
- accelerationTime
- acrissCode
- bodyType
- emissionsCO2
- engineDisplacement
- enginePower
- engineType
- fuelCapacity
- meetsEmissionStandard
- modelDate
- payload
- roofLoad
- seatingCapacity
- specialUsage
- speed
- tongueWeight
- torque
- trailerWeight
- weightTotal
- wheelbase

Terms and conditions
Schema.org Hosted Extension: Bibliographic Extension

Schema.org is a set of extensible schemas that enables webmasters to embed structured data on their web pages for use by search engines and other applications. For more details, see the [homepage](https://schema.org/).

This is the front page for the Bibliographic Extension, whose short name is: bib

You are viewing the Bibliographic Extension within [schema.org](https://schema.org/). It defines terms such as Audiobook, Thesis, ComicStory, and workTranslation. For more details see the W3C BibExtend Community Group's [wiki](https://www.w3.org/community/bibextend/wiki).

This should be considered a pre-final preview release; final changes may be made after wider community review.

Terms defined or referenced in the 'bib' extension.

Types (11)
- Atlas, Audiobook, Chapter, Collection, ComicCoverArt, ComicIssue, ComicSeries, ComicStory, CoverArt, Newspaper, Thesis

Properties (18)
- abridged, artist, colorist, duration, inSupportOf, inker, letterer, pageEnd, pageStart, pagination, penciler, publishedBy, publisherImprint, readBy, translationOfWork, translator, variantCover, workTranslation

Enumeration values (1)
- GraphicNovel
Audiobook
Defined in the bib.schema.org extension. (This is an initial exploratory release.)
Canonical URL: http://schema.org/Audiobook

An audiobook.
Usage: Fewer than 10 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>duration</td>
<td>Duration</td>
<td>The duration of the item (movie, audio recording, event, etc.) in ISO 8601 date format.</td>
</tr>
<tr>
<td>readyBy</td>
<td>Person</td>
<td>A person who reads (performs) the audiobook.</td>
</tr>
<tr>
<td>transcript</td>
<td>Text</td>
<td>If this MediaObject is an AudioObject or VideoObject, the transcript of that object.</td>
</tr>
<tr>
<td>associatedArticle</td>
<td>NewsArticle</td>
<td>A NewsArticle associated with the Media Object.</td>
</tr>
<tr>
<td>bitrate</td>
<td>Text</td>
<td>The bitrate of the media object.</td>
</tr>
<tr>
<td>contentSize</td>
<td>Text</td>
<td>File size in (mega/kilo) bytes.</td>
</tr>
<tr>
<td>contentUrl</td>
<td>URL</td>
<td>Actual bytes of the media object, for example the image file or video file.</td>
</tr>
<tr>
<td>duration</td>
<td>Duration</td>
<td>The duration of the item (movie, audio recording, event, etc.) in ISO 8601 date format.</td>
</tr>
<tr>
<td>embedUrl</td>
<td>URL</td>
<td>A URL pointing to a player for a specific video. In general, this is the information in the src element of an embed tag and should not be the same as the content of the iframe tag. The CreativeWork encoded by this media object.</td>
</tr>
<tr>
<td>encodesCreativeWork</td>
<td>CreativeWork</td>
<td>mp3, mpeg4, etc.</td>
</tr>
<tr>
<td>encodingFormat</td>
<td>Text</td>
<td>The encoding format of the media object.</td>
</tr>
<tr>
<td>expires</td>
<td>Date</td>
<td>Date the content expires and is no longer useful or available. Useful for videos.</td>
</tr>
<tr>
<td>height</td>
<td>QuantitativeValue or Distance</td>
<td>The height of the item.</td>
</tr>
</tbody>
</table>
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. Although a type may 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 data types.

Select vocabulary view:
- Core plus 'bib' extension
- Core plus all extensions
- Extension 'bib'

Core plus 'bib' extension vocabularies

- Thing
  - Action
    - AchieveAction
    - LoseAction
    - TieAction
    - WinAction
  - AssessAction
    - ChooseAction
    - VoteAction
    - IgnoreAction
    - ReactAction
      - AgreeAction
      - DisagreeAction
      - DislikeAction
      - EndorseAction
      - LikeAction
      - WantAction
    - ReviewAction
  - ConsumeAction
    - DrinkAction
    - EatAction
    - InstallAction
    - ListenAction
    - ReadAction
    - UseAction
      - WearAction
    - ViewAction
    - WatchAction
  - ControlAction
This is the main schema.org hierarchy: a collection of types (or "classes"), each of which has one or more parent types. Although a type may 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 data types.

Select vocabulary view:
- Core plus 'bib' extension
- Core plus all extensions
- Extension 'bib'

Extension: 'bib'
- Thing
  - CreativeWork
    - Atlas
    - Book
    - Audiobook
    - Chapter
    - Collection
    - ComicStory
    - ComicCoverArt
  - CreativeWorkSeries
    - Periodical
    - ComicSeries
    - Newspaper
  - MediaObject
    - AudioObject
    - Audiobook
  - PublicationIssue
    - ComicIssue
    - Thesis
  - VisualArtwork
    - CoverArt
    - ComicCoverArt

Data Types
- DataType
  - Boolean
  - False
  - True
  - Date
  - DateTime
  - Number
    - Float
    - Integer
  - Text
  - URL
  - Time

An experimental D3-compatible JSON version is also available.
Audiobook

Defined in the bib.schema.org extension. (This is an initial exploratory release.)
Canonical URL: http://schema.org/Audiobook

Thing > CreativeWork > Book > Audiobook
Thing > CreativeWork > MediaObject > AudioObject > Audiobook

An audiobook.

Usage: Fewer than 10 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>duration</td>
<td>Duration</td>
<td>The duration of the item (movie, audio recording, event, etc.) in ISO 8601 date format.</td>
</tr>
<tr>
<td>readyBy</td>
<td>Person</td>
<td>A person who reads (performs) the audiobook.</td>
</tr>
<tr>
<td>transcript</td>
<td>Text</td>
<td>If this MediaObject is an AudioObject or VideoObject, the transcript of that object.</td>
</tr>
<tr>
<td>associatedArticle</td>
<td>NewsArticle</td>
<td>A NewsArticle associated with the Media Object.</td>
</tr>
<tr>
<td>bitrate</td>
<td>Text</td>
<td>The bitrate of the media object.</td>
</tr>
<tr>
<td>contentSize</td>
<td>Text</td>
<td>File size in (mega/kilo) bytes.</td>
</tr>
<tr>
<td>contentUrl</td>
<td>URL</td>
<td>Actual bytes of the media object, for example the image file or video file.</td>
</tr>
<tr>
<td>duration</td>
<td>Duration</td>
<td>The duration of the item (movie, audio recording, event, etc.) in ISO 8601 date format.</td>
</tr>
<tr>
<td>embedUrl</td>
<td>URL</td>
<td>A URL pointing to a player for a specific video. In general, this is the information in the src element of an embed tag and should not be the same as the content of the loc tag.</td>
</tr>
<tr>
<td>encodesCreativeWork</td>
<td>CreativeWork</td>
<td>The CreativeWork encoded by this media object.</td>
</tr>
<tr>
<td>encodingFormat</td>
<td>Text</td>
<td>Date</td>
</tr>
<tr>
<td>expires</td>
<td>Date</td>
<td>Date the content expires and is no longer useful or available. Useful for videos.</td>
</tr>
<tr>
<td>height</td>
<td>Distance or QuantitativeValue</td>
<td>The height of the item.</td>
</tr>
<tr>
<td>playerType</td>
<td>Text</td>
<td>Player type required—for example, Flash or Silverlight.</td>
</tr>
</tbody>
</table>
Applying Schema.org
Xmas Opening Times
Sat 28th Nov – Mon 21st Dec
Saturday:
10:00 am to 4:00 pm
Sunday:
10:00 am to 4:00 pm

What's new in 2015
- Open additional days
- Enhanced musical walkways
- Sensory Play Area

BOOK GROTTO NOW!!!!

Add a little Christmas Magic to your event by hiring our Reindeer!! Visit the Reindeer Home Page for more info....

Christmas Tree Sales
Open 7 Days a week!

Reindeer Home Page
<table>
<thead>
<tr>
<th>Subject</th>
<th>Predicate</th>
<th>Object</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="http://www.smarttrees.co.uk/">http://www.smarttrees.co.uk/</a></td>
<td>rdf:usesVocabulary</td>
<td>schema:</td>
</tr>
<tr>
<td><a href="http://www.smarttrees.co.uk/">http://www.smarttrees.co.uk/</a></td>
<td>schema:address</td>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>rdf:type</td>
<td>schema:LocalBusiness</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:url</td>
<td><a href="http://smarttrees.co.uk">http://smarttrees.co.uk</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:logo</td>
<td>&quot;Smart Trees&quot;#en-GB</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:image</td>
<td><a href="http://smarttrees.co.uk/wp-content/themes/SmartTrees2014-1/images/header.png">http://smarttrees.co.uk/wp-content/themes/SmartTrees2014-1/images/header.png</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:description</td>
<td>&quot;Smart Trees - Santa Grotto - Magical Christmas Experience&quot;#en-GB</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:email</td>
<td>&quot;grootofsmarttrees.co.uk&quot;#en-GB</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:telephone</td>
<td>&quot;+44386462706&quot;</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:faxNumber</td>
<td>&quot;01386 462015&quot;#en-GB</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:sameAs</td>
<td><a href="https://www.facebook.com/Smart-Trees-212802948805553%3E">https://www.facebook.com/Smart-Trees-212802948805553&gt;</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:sameAs</td>
<td><a href="https://twitter.com/smarttreegrotto">https://twitter.com/smarttreegrotto</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:parentOrganization</td>
<td><a href="http://smartcut.co.uk">http://smartcut.co.uk</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:address</td>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:location</td>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:openingHoursSpecification</td>
<td>&lt;:_:2&gt;</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:openingHoursSpecification</td>
<td>&lt;:_:3&gt;</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:openingHoursSpecification</td>
<td>&lt;:_:4&gt;</td>
</tr>
<tr>
<td>_&lt;:1&gt;</td>
<td>schema:openingHoursSpecification</td>
<td>&lt;:_:5&gt;</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>rdf:type</td>
<td>schema:PostalAddress</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:streetAddress</td>
<td>&quot;Field Farm, Hill Purse Road&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:addressLocality</td>
<td>&quot;Bishampton, Pershore&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:addressRegion</td>
<td>&quot;Worcestershire&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:postalCode</td>
<td>&quot;WR10 2LZ&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:addressCountry</td>
<td>&quot;UK&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:email</td>
<td>&quot;grootofsmarttrees.co.uk&quot;#en-GB</td>
</tr>
<tr>
<td><a href="http://smarttrees.co.uk/#address">http://smarttrees.co.uk/#address</a></td>
<td>schema:telephone</td>
<td>&quot;+44386462706&quot;</td>
</tr>
</tbody>
</table>
Structured data validator

You can use the Microformat validator to check the semantic markup of your site to make sure that indexing robots can extract all the structured data without a problem.

The validator lets you check all the most common microformats: microdata, schema.org, microformats, OpenGraph and RDF. However, not all formats support special snippets or the use of annotated data. You can find more information on how Yandex uses annotated data in our Help Sections.

More information about the validator can be found here.

Webpage URL
http://www.smarttrees.co.uk/
Examples: Organisation address, Recipes, Reviews

or enter HTML code fragment here

Check

Results
This is how the microformat parser processes your page:

```xml
rdfanode
resource = http://www.smarttrees.co.uk/
http://schema.org/address
resource = http://smarttrees.co.uk/#address
type = http://schema.org/PostalAddress
http://schema.org/postalCode = WR10 2LS
http://schema.org/streetAddress = Field Farm, Hill Purse Road
http://schema.org/email = grotto@smarttrees.co.uk
http://schema.org/telephone = tel:+441386462706
http://schema.org/addressLocality = Bishampton, Pershore
http://schema.org/addressRegion = Worcestershire
http://schema.org/addressCountry = UK

```

```xml
```
WARNING: This is beta software, there are bugs. This tool is not yet ready for production use. That said, it’s pretty useful already, and the bugs preventing production use will be sorted out soon.

Examples: Person, Social Network, Event, Place, Product, SVG

<div vocab="http://schema.org" id="wp-footer">
  <span type="localBusiness">
    <link property="url" href="http://smarttrees.co.uk/"
    <meta property="name" content="Smart Trees" />
    <link property="logo" href="http://www.smarttrees.co.uk/wp-content/uploads/2015/09/SmartTrees-Icon-300x300.jpg" />
    <link property="image" href="http://smarttrees.co.uk/wp-content/themes/SmartTrees2014-1/images/header.png" />
    <meta property="description" content="Smart Trees Santa Grotto - Magical Christmas Experience" />
    <link property="telephone" href="tel:+441384667066" />
    <link property="faxNumber" content="01396 661213" />
    <link property="sameAs" href="https://www.facebook.com/Smart-Trees-212802948805553/"
    <meta property="parentOrganization" href="http://smartcut.co.uk/"
    <meta property="address" type="PostalAddress" href="http://smarttrees.co.uk/#Address" />
    <meta property="location" type="PostalAddress" href="http://smarttrees.co.uk/#Address" />
    <meta property="openingHoursSpecification" type="OpeningHoursSpecification" />
    <meta property="openingHoursSpecification" content="10:30"
    <meta property="OpeningHoursSpecification" content="16:00"
    <meta property="validFrom" content="2015-11-28"
    <meta property="validThrough" content="2015-11-29"

Website content, unless otherwise noted, is released into the public domain.
Enter a URL below to see what structured data your page contains. You can alternatively upload a local file or paste some markup. Read more about the Structured Data linter.

Lint by URL  Lint by File Upload  Lint by Direct Input

http://www.smarttrees.co.uk/

Submit
Verify SSL

Examples: Review ( RDFa MD ) People ( RDFa MD ) Event ( RDFa MD ) Recipe ( RDFa MD ) Product ( RDFa MD )

Enhanced search result preview

Disclaimer: this preview is only shown as an example of what a search engine might display. It is to the discretion of each search engine provider to decide whether your page will be displayed as an enhanced search result or not in their search results pages.

Raw structured data extracted from the page:

<table>
<thead>
<tr>
<th>fid</th>
<th><a href="http://www.smarttrees.co.uk/1k/">http://www.smarttrees.co.uk/1k/</a></th>
<th><a href="http://www.smarttrees.co.uk/FdAddress3">http://www.smarttrees.co.uk/FdAddress3</a></th>
<th><a href="http://www.smarttrees.co.uk/Addresss1">http://www.smarttrees.co.uk/Addresss1</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>cid</td>
<td>schema:address</td>
<td>rdfid</td>
<td>rdfid</td>
</tr>
<tr>
<td>rdf</td>
<td>schema:PostalAddress</td>
<td>schema:Thing</td>
<td>schema:Intangible</td>
</tr>
<tr>
<td>rdf</td>
<td>schema:addressCountry</td>
<td>schema:addressCity</td>
<td>schema:addressRegion</td>
</tr>
<tr>
<td>rdf</td>
<td>schema:addressRegion</td>
<td>schema:addressLocality</td>
<td>schema:addressPostOffice</td>
</tr>
<tr>
<td>rdf</td>
<td>schema:hasPostOffice</td>
<td>scheme:streetAddress</td>
<td>scheme:localBusiness</td>
</tr>
</tbody>
</table>

Smart Trees
www.smarttrees.co.uk
Field Farm, Hill Farm Road, Bishopston, Penarth, Glamorgan, UK
WIR1 5LA
an actual search result may display other content relating to your search terms here.

Smart Trees
www.smarttrees.co.uk
an actual search result may display other content relating to your search terms here.
RDFa with schema.org codelab: overview

By Dan Scott, June 27, 2014

About this codelab

In this codelab, you're going to take a variety of library web pages and enhance them so that they contain structured data. You will use the schema.org vocabulary and express it via RDFa attributes.

Audience: Beginner

Prerequisites: To complete this codelab, you will need a basic familiarity with HTML. The exercises can be found in codelab.zip, with the solutions found in the rdfa_exercises subdirectory. There are frequent checkpoints through the code lab, so if you get stuck at any point, you can use the checkpoint file to resume and work through this codelab at your own pace.

Codelab sections

The codelab contains a number of different types of web pages with sample markup exercises; we highly recommend that you work through the Book codelab first, as it covers all of the basics of RDFa and schema.org, before diving into any other exercises.

1. Book: This is the core exercise, introducing RDFa and schema.org. Work through this before attempting anything else.
2. Library holdings: This exercise builds on the Book exercise, adding the representation of holdings as Offers.
3. Library branch information: This exercise covers how to represent branch information such as hours of operation, location, contact information, and branch relationships.
4. Periodicals: This exercise introduces the proposed schema.org extension for periodicals.

This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License.
RDFa with schema.org codelab: Book

By Dan Scott, June 27, 2014

About this codelab

In this codelab, you're going to take a catalog page that describes a book and enhance it so that it contains structured data. You will use the schema.org vocabulary and express it via RDFa attributes.

Audience: Beginner

Prerequisites: To complete this codelab, you will need a basic familiarity with HTML. The exercises can be found in codelab.zip, with the solutions found in the rdfa_exercises subdirectory. There are frequent checkpoints through the code lab, so if you get stuck at any point, you can use the checkpoint file to resume and work through this codelab at your own pace.

Exercise 1: From basic HTML to RDFa: first steps

In this exercise, you will learn the basic steps required to add simple RDFa structured data to an existing library catalog page for a book.

1.1. View the page source HTML

Open step1/rdfa_book.html in a text editor. You should see something like the following HTML source for the web page:

```html
<!DOCTYPE html>
<html>
<head>
    <title>Las Vegas-Clark County Library District /All Locations</title>
    <style>...</style>
</head>
<body>
<div id="coverImage">
    <div class="jacket"><img src="http://store.scholastic.com/content/store/media/products/58/9780545522458_default_pdp.gif" border="0"></div>
    <div class="bibMedia"><img src="/screens/media_book.gif" alt="BOOKS"></div>
</div>
<table id="bibMedia" width="100%" border="0" cellspacing="1" cellpadding="2" class="bibDetail">
<tr>
    <td>
        <table width="100%" cellspacing="3" cellpadding="0">
            <tr>
                <td class="bibInfoLabel">Author</td>
                <td class="bibInfoData"><a href="/search-S127/aNix%2C+Carth.\anix%2C+garth/-3,-1,0,B/browse">Nix, Garth.</a></td>
            </tr>
            <tr>
                <td class="bibInfoLabel">Title</td>
                <td class="bibInfoData">Blood ties / Garth Nix and Sean Williams.</td>
            </tr>
        </table>
    </td>
</tr>
</table>
```

This article has an author, and if you check the documentation for Book you will find that there is indeed an author property. Notice that the expected type of the author property is either a Person or Organization type. For now, go ahead and add the \#property="author" attribute to the <a> element for the author's name.

Note: You might be tempted to add the attribute to the <tr> element of the HTML document, but the scope of the <tr> element includes more than just the name of the author, so you would be asserting (falsely!) that the author was "Author Nix, Garth".

1.4.9. Improve the author property

Check the results from various structured data parsers. Do they match your expectations? Look closely at the author value; you probably did not expect the value of the author property to be a URL. This is one of the subtleties of RDFa; a elements are special, in that the href attribute value is used for an RDFa property value rather than the content of the <a> element.

Let’s fix that: move the \#property="author" attribute to the td element that surrounds the a element. Run your structured data parsers again to ensure that you’re getting the results that you expect.

1.4.10. Add a datePublished property for the type

Right now a date of publication is visible on the page, but as the data just lives inside an undifferentiated string of text, it would difficult for a machine to know what the data means. To remove be this uncertainty, wrap the date in a <time> tag and add the \#property="datePublished" attribute.

Checkpoint: Your HTML page should now look like step2/check_b.html

1.4.11. Add an image property for the Book type

Every type in schema.org can have an image property. One potential use case for search engines is to use the image property to guide the search engine to choose the appropriate image from a page that might contain multiple images to provide a more visually attractive search result. Your catalog page contains an image. Add the \#property="image" attribute to the <img> element.

1.4.12. Add book-specific properties to the Book entity

When you check the documentation for the schema.org Book entity one of the properties that is specific to the page is the...
Applying Schema.org

Useful Links

- www.smarttrees.co.uk

- Green Turtle RDFa
  Google Chrome Extension

- Google Structured Data Testing Tool
  https://developers.google.com/structured-data/testing-tool/

- Yandex Structured Data Validator
  https://webmaster.yandex.com/microtest.xml

- RDFa Play
  http://rdfa.info/play/

- Structured Data Linter
  http://linter.structured-data.org/

- Dan Scott’s RDFa Codelab
  https://coffeecode.net/swib14/preconference/rdfa_exercises/
Extending Schema.org

- 1,650 commits
- 43 branches
- 2 releases
- 26 contributors

Branch: sdo-deimos

<table>
<thead>
<tr>
<th>File</th>
<th>Description</th>
<th>Last commit</th>
</tr>
</thead>
<tbody>
<tr>
<td>data</td>
<td>examples for LRMI properties</td>
<td>12 days ago</td>
</tr>
<tr>
<td>docs</td>
<td>Stray 2.x updated to 2.2</td>
<td>26 days ago</td>
</tr>
<tr>
<td>scripts</td>
<td>Update for current work</td>
<td>24 days ago</td>
</tr>
<tr>
<td>templates</td>
<td>Noted new known work-in-progress domain.</td>
<td>24 days ago</td>
</tr>
<tr>
<td>tests</td>
<td>Updated estimate of number of examples from 450 to 500 :)</td>
<td>3 months ago</td>
</tr>
<tr>
<td>.gitignore</td>
<td>gllignore</td>
<td>2 years ago</td>
</tr>
<tr>
<td>LICENSE</td>
<td>Initial commit</td>
<td>2 years ago</td>
</tr>
<tr>
<td>README.md</td>
<td>Linked intro to Github doc</td>
<td>28 days ago</td>
</tr>
<tr>
<td>RELEASING.TXT</td>
<td>Post-release activities.</td>
<td>26 days ago</td>
</tr>
<tr>
<td>SOFTWARE_README.md</td>
<td>Update SOFTWARE_README.md</td>
<td>2 months ago</td>
</tr>
<tr>
<td>api.py</td>
<td>Removed bogus global variable (dup'd one in sdoapp.py).</td>
<td>26 days ago</td>
</tr>
<tr>
<td>app.yaml</td>
<td>Setup for sdo-deimos</td>
<td>24 days ago</td>
</tr>
<tr>
<td>parsers.py</td>
<td>Revert “Removing chatty logging.”</td>
<td>3 months ago</td>
</tr>
<tr>
<td>sdoapp.py</td>
<td>Updated RELEASES.TXT for version snapshots.</td>
<td>26 days ago</td>
</tr>
</tbody>
</table>
Welcome to Schema.org

This is the Schema.org project repository. It contains all the schemas, examples and software use to publish schema.org. For the site itself, please see http://schema.org/ instead.

Issues and proposals are managed here by participants of the W3C Schema.org Community Group. See http://www.w3.org/community/schemaorg for the group. If you are interested to participate please join the group at W3C, introduce yourself and find or file issues here that engage your interest. If you are new to Git and GitHub, there's a useful introduction to GitHub in the W3C Wiki.

Issue #1 (https://github.com/schemaorg/schemaorg/issues/1) in Github is an entry point for release planning. It should provide an overview of upcoming work, in terms of broad themes, specific issues and release milestones.

Our next milestone release has the working name 'sdo-ganymede'. See https://github.com/schemaorg/schemaorg/issues/510 for an entry point, or else navigate issues via label or milestone withing Github. Every change to the site comes via discussions here. Substantive changes are recorded in our release notes. A preview of the draft new release notes can be found as part of the test site for our next release. Every month or so, after final review by the Schema.org Steering Group, we make a formal release.

Software

For most collaborators, all you need to know about the software is how to run it. Essentially you will need to have the Python version of Google App Engine SDK running on the platform of your choice. You can then make test builds of schema.org running on your own machine accessible as http://localhost:8080/ or else post them on appspot.com for collaboration. See https://cloud.google.com/appengine/docs for details.

More information about the software is also available in SOFTWARE_README.md

See also notes in the wiki: https://github.com/schemaorg/schemaorg/wiki/Contributing

Formats and standards
RJW1:WEBINAR walllissr$
RJW1:WEBINAR walllissr$ git clone https://github.com/schemaorg/schemaorg.git
RJW1:WEBINAR walllissr$
RJW1:WEBINAR walllissr$ git clone https://github.com/schemaorg/schemaorg.git
Cloning into 'schemaorg'...
remote: Counting objects: 6510, done.
remote: Total 6510 (delta 0), reused 0 (delta 0), pack-reused 6509
Receiving objects: 100% (6510/6510), 28.34 MiB | 3.36 MiB/s, done.
Resolving deltas: 100% (4151/4151), done.
Checking connectivity... done.
RJW1:WEBINAR walllissr$ ls
schemaorg
RJW1:WEBINAR walllissr$ cd schemaorg/
RJW1:schemaorg walllissr$ ls
LICENSE        app.yaml            sdoapp.py
README.md       data               templates
RELEASING.TXT   docs               tests
SOFTWARE_README.md parsers.py
api.py          scripts
RJW1:schemaorg walllissr$
<!DOCTYPE html>

<html>
  <head>
    <title>Schema.org master file: RDFS in RDFa</title>
    <meta charset="UTF-8" />
    <style type="text/css">
      span.h {
        padding-left: 0px;
        font-weight: bold;
      }
      span {
        display: block;
        padding-left: 10px;
      }
    </style>
  </head>
  <body>
    <h1>Schema.org core schema</h1>
    <p>This is the RDFa representation of the schema.org schema, the underlying representation of the schema.org vocabulary.</p>
    <p>It is represented in a form based on W3C RDF/RDFS. We encourage proposals for schema.org improvements to be expressed in this same style. For discussion please use the W3C <a href="mailto:public-vocabs@w3.org">Web schemas</a> group.</p>
    <p>See <a href="http://schema.org/docs/datamodel.html">datamodel</a> for more details.</p>
    <p>Note: the style of RDFa used here may change in the future. To see the substantive content of the schema, view the HTML source markup. We use a simple subset of RDFa for syntax, including prefixes that are declared in the <a href="http://www.w3.org/2011/rdfa-context/rdfa-1.1">RDFa initial context</a>.</p>
    <hr />
    <div typeof="rdfs:Class" resource="http://schema.org/Thing">
      <span class="h" property="rdfs:label">Thing</span>
      <span property="rdfs:comment">The most generic type of item.</span>
    </div>
  </body>
</html>
<div type="rdfs:Class" resource="http://schema.org/CreativeWork">
  <span class="h" property="rdfs:label">CreativeWork</span>
  <span property="rdfs:comment">The most generic kind of creative work, including books, movies, photographs, software programs, etc.</span>
  <span>Subclass of: <a property="rdfs:subClassOf" href="http://schema.org/Thing">Thing</a>
  Source: <a property="dc:source" href="http://www.w3.org/wiki/WebSchemas/SchemaDotOrgSources#source_rNews">rNews</a>
</div>

<div type="rdfs:Class" resource="http://schema.org/WebPage">
  <span class="h" property="rdfs:label">WebPage</span>
  <span property="rdfs:comment">A web page. Every web page is implicitly assumed to be declared to be of type WebPage, so the various properties about that webpage, such as &lt;code&gt;breadcrumb&lt;/code&gt; may be used. We recommend explicit declaration if these properties are specified, but if they are found outside of an itemscope, they will be assumed to be about the page.</span>
  <span>Subclass of: <a property="rdfs:subClassOf" href="http://schema.org/CreativeWork">CreativeWork</a>
</div>

<div type="rdfs:Class" resource="http://schema.org/AboutPage">
  <span class="h" property="rdfs:label">AboutPage</span>
  <span property="rdfs:comment">Web page type: About page.</span>
  <span>Subclass of: <a property="rdfs:subClassOf" href="http://schema.org/WebPage">WebPage</a>
</div>

<div type="rdfs:Class" resource="http://schema.org/Organization">
  <span class="h" property="rdfs:label">Organization</span>
  <span property="rdfs:comment">An organization such as a school, NGO, corporation, club, etc.</span>
  <span>Subclass of: <a property="rdfs:subClassOf" href="http://schema.org/Thing">Thing</a>
</div>

<div type="rdfs:Class" resource="http://schema.org/Place">
  <span class="h" property="rdfs:label">Place</span>
  <span property="rdfs:comment">Entities that have a somewhat fixed, physical extension.</span>
  <span>Subclass of: <a property="rdfs:subClassOf" href="http://schema.org/Thing">Thing</a>
</div>

<div type="rdfs:Class" resource="http://schema.org/LocalBusiness">
  <span class="h" property="rdfs:label">LocalBusiness</span>
  <span property="rdfs:comment">A particular physical business or branch of an organization. Examples of LocalBusiness include a restaurant, a particular branch of a restaurant chain, a branch of a bank, a medical practice, a club, a bowling alley.
Schema.org core schema

This is the RDFa representation of the schema.org schema, the underlying representation of the schema.org vocabulary.

It is represented in a form based on W3C RDF/RDFS. We encourage proposals for schema.org improvements to be expressed in this same style. For Discussion please use the W3C Web schemas group.

See datamodel for more details.

Note: the style of RDFa used here may change in the future. To see the substantive content of the schema, view the HTML source markup. We use a simple subset of RDFa for syntax, including prefixes that are declared in the RDFa initial context.

Thing
The most generic type of item.

CreativeWork
The most generic kind of creative work, including books, movies, photographs, software programs, etc.
Subclass of: Thing

Source: :News

WebPage
A web page. Every web page is implicitly assumed to be declared to be of type WebPage, so the various properties about that webpage, such as <code>breadcrumb</code> may be used. We recommend explicit declaration if these properties are specified, but if they are found outside of an itemscope, they will be assumed to be about the page.
Subclass of: CreativeWork

AboutPage
Web page type: About page.
Subclass of: WebPage

Organization
An organization such as a school, NGO, corporation, club, etc.
Subclass of: Thing

Place
Entities that have a somewhat fixed, physical extension.
Subclass of: Thing

LocalBusiness
A particular physical business or branch of an organization. Examples of LocalBusiness include a restaurant, a particular branch of a restaurant chain, a branch of a bank, a medical practice, a club, a bowling alley, etc.
Subclass of: Organization
Subclass of: Place

FinancialService
Financial services business.
Subclass of: LocalBusiness

ProfessionalService
Original definition: "provider of professional services." The general <a href="/ProfessionalService">ProfessionalService</a> type for local businesses was deprecated due to confusion with <a href="/Service">Service</a>. For reference, the types that it included were: <a href="/Dentist">Dentist</a>, <a href="/AccountingService">AccountingService</a>, <a href="/Attorney">Attorney</a>, <a href="/Notary">Notary</a>, as well as types for several kinds of <a href="/HomeAndConstructionBusiness">HomeAndConstructionBusiness</a>, <a href="/Electrician">Electrician</a>, <a href="/GeneralContractor">GeneralContractor</a>, <a href="/HousePainter">HousePainter</a>, <a href="/Locksmith">Locksmith</a>, <a href="/Plumber">Plumber</a>, <a href="/RoofingContractor">RoofingContractor</a>. <a href="/LegalService">LegalService</a> was introduced as a more inclusive supertype of <a href="/Attorney">Attorney</a>.
Subclass of: LocalBusiness

LegalService
A LegalService is a business that provides legally-oriented services, advice and representation, e.g. law firms. As a <a href="/LocalBusiness">LocalBusiness</a> it can be described as a <a href="/provider">provider</a> of one or more <a href="/Service">Service</a>s.
Subclass of: LocalBusiness

AccountingService
<div typeof="rdfs:Property" resource="http://schema.org/exerciseCourse">
  <span class="h" property="rdfs:label">exerciseCourse</span>
</div>

A sub property of location. The course where this action was taken.

Domain: <a property="http://schema.org/domainIncludes" href="http://schema.org/Place">Place</a>


---

Country of the principal offices of the production company or individual responsible for the movie or program.


---

The creator/author of this CreativeWork. This is the same as the Author property for CreativeWork.


Range: <a property="http://schema.org/Person">Person</a>

---

The currency accepted (in ISO 4217 currency format).

Domain: <a property="http://schema.org/LocalBusiness">LocalBusiness</a>

Range: <a property="http://schema.org/Text">Text</a>

---

The party placing the order or paying the invoice.

Download the Google App Engine SDK

By downloading, you agree to be bound by the Terms that govern use of the App Engine SDK.

Choose a Runtime
- Python
- Java
- PHP
- Go
- Managed VMs and Custom Runtimes [Beta]

Download the Google Plugin for Eclipse

Click here for instructions on how to download and install the Google Plugin for Eclipse.

Open Source

Mirrors of the open source App Engine SDK are available via the Google App Engine project page hosted on Google Code.
RJW1:WEBINAR walllissr$ pwd
/Users/walllissr/Development/Schema/WEBINAR
RJW1:WEBINAR walllissr$ dev_appserver.py schemaorg
WARNING 2015-12-01 16:32:59,977 simple_search_stub.py:1126] Could not read search indexes from /var/folders/8z/k425nczs6211mpghh62ppk8m0000gp/T/appengine.sdo-deimos.walllissr/search_indexes
Welcome to Schema.org

Schema.org is a collaborative, community activity with a mission to create, maintain, and promote schemas for structured data on the Internet, on web pages, in email messages, and beyond.

Schema.org vocabulary can be used with many different encodings, including RDFa, Microdata and JSON-LD. These vocabularies cover entities, relationships between entities and actions, and can easily be extended through a well-documented extension model. Over 10 million sites use Schema.org to mark up their web pages and email messages. Many applications from Google, Microsoft, Pinterest, Yandex and others already use these vocabularies to power rich, extensible experiences.

Schema.org is sponsored by Google, Microsoft, Yahoo and Yandex. The vocabularies are developed by an open community process, using the public-schemaorg@w3.org mailing list and through GitHub.

A shared vocabulary makes it easier for webmasters and developers to decide on a schema and get the maximum benefit for their efforts. It is in this spirit that the sponsors, together with the larger community have come together, to provide a shared collection of schemas.

We invite you to get started!

View our blog at blog.schema.org or see release history.

Terms and conditions
<div typeof="rdfs:Class" resource="http://schema.org/CreativeWork">
  <span class="h" property="rdfs:label">CreativeWork</span>
  <span property="rdfs:comment">The most generic kind of creative work, including books, movies, photographs, software programs, etc.</span>
</div>

<div typeof="rdfs:Class" resource="http://schema.org/WebPage">
  <span class="h" property="rdfs:label">WebPage</span>
  <span property="rdfs:comment">A web page. Every web page is implicitly assumed to be declared to be of type WebPage, so the various properties about that webpage, such as &lt;code&gt;breadcrumb&lt;/code&gt; may be used. We recommend explicit declaration if these properties are specified, but if they are found outside of an itemscope, they will be assumed to be about the page.</span>
</div>

<div typeof="rdfs:Class" resource="http://schema.org/MyType">
  <span class="h" property="rdfs:label">MyType</span>
  <span property="rdfs:comment">Richard's test Type.</span>
</div>

<div typeof="rdfs:Class" resource="http://schema.org/AboutPage">
  <span class="h" property="rdfs:label">AboutPage</span>
  <span property="rdfs:comment">Web page type: About page.</span>
</div>

<div typeof="rdfs:Class" resource="http://schema.org/Organization">
  <span class="h" property="rdfs:label">Organization</span>
  <span property="rdfs:comment">An organization such as a school, NGO, corporation, club, etc.</span>
</div>

<div typeof="rdfs:Class" resource="http://schema.org/Place">
  <span class="h" property="rdfs:label">Place</span>
</div>
MyType

Thing > MyType

Richard's test Type.

Usage: Fewer than 10 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Properties from MyType</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>myProperty</td>
<td>Person</td>
<td>myProperty description.</td>
</tr>
<tr>
<td><strong>Properties from Thing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>additionalType</td>
<td>URL</td>
<td>An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax – the 'typeof' attribute – for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally.</td>
</tr>
<tr>
<td>alternateName</td>
<td>Text</td>
<td>An alias for the item.</td>
</tr>
<tr>
<td>description</td>
<td>Text</td>
<td>A short description of the item.</td>
</tr>
<tr>
<td>image</td>
<td>ImageObject, URL</td>
<td>An image of the item. This can be a URL or a fully described ImageObject.</td>
</tr>
<tr>
<td>mainEntityOfPage</td>
<td>URL or CreativeWork</td>
<td>Indicates a page (or other CreativeWork) for which this thing is the main entity being described. See background notes for details. Inverse property: mainEntity. The name of the item.</td>
</tr>
<tr>
<td>name</td>
<td>Text</td>
<td>The name of the item.</td>
</tr>
<tr>
<td>potentialAction</td>
<td>Action</td>
<td>Indicates a potential Action, which describes an idealized action in which this thing would play an 'object' role. URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Freebase page, or official website.</td>
</tr>
<tr>
<td>sameAs</td>
<td>URL</td>
<td>URL of the item.</td>
</tr>
</tbody>
</table>

Schema Version 2.2
application: sdo-webinar

version: 1
runtime: python27
api_version: 1
#threadsafe: true
#threadsafe: false

handlers:

- url: /favicon.ico
  static_files: docs/favicon.ico
  upload: docs/favicon.ico
  mime_type: image/x-icon

- url: /docs/schema_org_rdfa.html
  static_files: data/schema.rdfa
  upload: data/schema.rdfa
  application_readable: True
  mime_type: text/html

- url: /docs/ThoJsonldcontext.json.*
  script: sdoapp.app

- url: /docs/full.*.html
  script: sdoapp.app

- url: /docs/schemas.html
  script: sdoapp.app

- url: /docs/tree.json.*
  script: sdoapp.app
RJW1:WEBINAR wallyisr$ appcfg.py update schemaorg
04:54 PM Application: sdo-webinar; version: 1
04:54 PM Host: appengine.google.com
04:54 PM
Starting update of app: sdo-webinar, version: 1
04:54 PM Getting current resource limits.
04:54 PM Scanning files on local disk.
04:54 PM Cloning 31 static files.
04:54 PM Cloning 90 application files.
04:54 PM Compilation starting.
04:54 PM Compilation completed.
04:54 PM Starting deployment.
04:54 PM Checking if deployment succeeded.
04:54 PM Deployment successful.
04:55 PM Checking if updated app version is serving.
# MyType

**Thing > MyType**

Richard's test Type.

Usage: Fewer than 10 domains

<table>
<thead>
<tr>
<th>Property</th>
<th>Expected Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>myProperty</td>
<td>Person</td>
<td>myProperty description.</td>
</tr>
<tr>
<td>additionalType</td>
<td>URL or ImageObject</td>
<td>An additional type for the item, typically used for adding more specific types from external vocabularies in microdata syntax. This is a relationship between something and a class that the thing is in. In RDFa syntax, it is better to use the native RDFa syntax – the 'typeof' attribute – for multiple types. Schema.org tools may have only weaker understanding of extra types, in particular those defined externally.</td>
</tr>
<tr>
<td>alternateName</td>
<td>Text</td>
<td>A short description of the item.</td>
</tr>
<tr>
<td>description</td>
<td>Text</td>
<td>An image of the item. This can be a URL or a fully described ImageObject.</td>
</tr>
<tr>
<td>image</td>
<td>URL or ImageObject</td>
<td>Indicates a page (or other CreativeWork) for which this thing is the main entity being described. See background notes for details. Inverse property: mainEntity. The name of the item.</td>
</tr>
<tr>
<td>mainEntityOfPage</td>
<td>URL or CreativeWork</td>
<td>Indicates a potential Action, which describes an idealized action in which this thing would play an 'object' role. URL of a reference Web page that unambiguously indicates the item's identity. E.g. the URL of the item's Wikipedia page, Freebase page, or official website. URL of the item.</td>
</tr>
</tbody>
</table>
Jane Doe

<img src="janedoe.jpg" alt="Photo of Jane Doe"/>

Professor
20341 Whitworth Institute
405 Whitworth
Seattle WA 98052
(425) 123-4567
<a href="mailto:jane-doe@illinois.edu">jane-doe@illinois.edu</a>

Jane's home page:
<a href="http://www.janedoe.com">janedoe.com</a>

Graduate students:
<a href="http://www.xyz.edu/students/alicejones.html">Alice Jones</a>
<a href="http://www.xyz.edu/students/bobsmith.html">Bob Smith</a>

MICRODATA:

<div itemprop="http://schema.org/Person">
  <span itemprop="name">Jane Doe</span>
  <img src="janedoe.jpg" itemprop="image" alt="Photo of Jane Doe"/>
  <span itemprop="jobTitle">Professor</span>
  <div itemprop="http://schema.org/PostalAddress">
    <span itemprop="streetAddress">20341 Whitworth Institute
405 N. Whitworth</span>
    <span itemprop="addressLocality">Seattle</span>,
    <span itemprop="addressRegion">WA</span>,
    <span itemprop="postalCode">98052</span>
  </div>
  <span itemprop="telephone">(425) 123-4567</span>
  <a href="mailto:jane-doe@illinois.edu" itemprop="email">jane-doe@illinois.edu</a>

  Jane's home page:
  <a href="http://www.janedoe.com" itemprop="url">janedoe.com</a>
</div>
<div vocab="http://schema.org" typeof="Person">

<span property="name">Jane Doe</span>

<img src="janedoe.jpg" property="image" alt="Photo of Jane Doe"/>

<span property="jobTitle">Professor</span>

<div property="address" typeof="PostalAddress">

<span property="streetAddress">20341 Whitworth Institute</span>

405 N. Whitworth

</div>

<span property="addressLocality">Seattle</span>,

<span property="addressRegion">WA</span>

<span property="postalCode">98052</span>

</div>

<span property="telephone">(425) 123-4567</span>

<a href="mailto:jane-doe@xyz.edu" property="email">

jane-doe@xyz.edu</a>

Jane's home page:

<a href="http://www.janedoe.com" property="url">janedoe.com</a>

Graduate students:

<a href="http://www.xyz.edu/students/alicejones.html" property="colleague">

Alice Jones</a>

<a href="http://www.xyz.edu/students/bobsmith.html" property="colleague">

Bob Smith</a>

</div>

JSON:

```json
{
  "@context": "http://schema.org",
  "@type": "Person",
  "address": {
    "@type": "PostalAddress",
    "addressLocality": "Seattle",
    "addressRegion": "WA",
    "postalCode": "98052",
    "streetAddress": "20341 Whitworth Institute 405 N. Whitworth"
  },
  "colleague": []
}
```
Extending Schema.org

Useful Links

• Schema.org GitHub Repository
  https://github.com/schemaorg/schemaorg

• Git client downloads
  https://git-scm.com/downloads

• Git clone command for schemaorg
  git clone https://github.com/schemaorg/schemaorg.git

• Google App Engine download
  https://cloud.google.com/appengine/downloads

• Google Developers Console
  https://console.developers.google.com

• Appspot test instance
  http://sdo-webinar.appspot.com/
Schema.org Summary

- Launched in 2011
- Now V2.2 - 643 Types, 993 Properties, 219 Values
- One significant source of data for Knowledge Graphs
- Currently 2 extensions - bib.schema.org & auto.schema.org
- Flat namespace - including extensions
- Embedded in html using Microdata, RDFa, or JSON-LD
- Several test tools/sites to help
- Source based on Google App Engine - held in GitHub
- Can extend & test locally
- Can share on free development App Engine at appspot.com
Schema.org

Useful Links

- Schema.org
  http://schema.org

- Schema.org extensions

- Schemaorg W3C Community Group / Mail List
  https://www.w3.org/community/schemaorg/

- GitHub repository
  https://github.com/schemaorg/schemaorg

- Dan Scott’s RDFa Codelab
  https://coffeecode.net/swib14/preconference/rdfa_exercises/

- Schema.org Blog
  http://blog.schema.org/

- Data Liberate Blog
  http://dataliberate.com/
Schema.org in Two Parts: From Use to Extension

Part 2:
Extending Potential Possibilities

Richard Wallis
Evangelist and Founder
Data Liberate
richard.wallis@dataliberate.com
@rjw