

MERKLE

Alexis Sanders

Merkle Inc

Advanced and Practical Structured Data



```
<script type="application/ld-json">
 "@context": "http://schema.org",
 "@type": "Product",
 "name": "Super Product!"
 "offers": {
  "@type": "Offers",
  "priceCurrency": "USD", "price": "12.99",
</script>
```

Find 5 errors in this JSON-LD.



```
<script type="application/ld+json">
"@context": "http://schema.org",
"@type": "Person",
"name": "Alexis Sanders",
"jobTitle": "Technical SEO Manager",
 "sameAs": "https://twitter.com/AlexisKSanders",
 "worksFor": {
          "@type": "Organization",
         "name": "Merkle",
          "url": "https://www.merkleinc.com"
"url": "https://technicalseo.expert"
</script>
```

Merkle SEO team works across a vast array of clients



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I'm Sophia's #ProudAunt too.

```
"relatedTo": {
    "@type": "Person",
    "name": "Sophia"
}
```



```
"@context": "http://schema.org",
"@type": "Product", ← Straight quote
"name": "Super Product!" ← Comma after property
"offers": {
 "@type": "Offer

", ← Offer
```

</script>

Answers

Moral of Story: It's easy to make small errors, always validate!

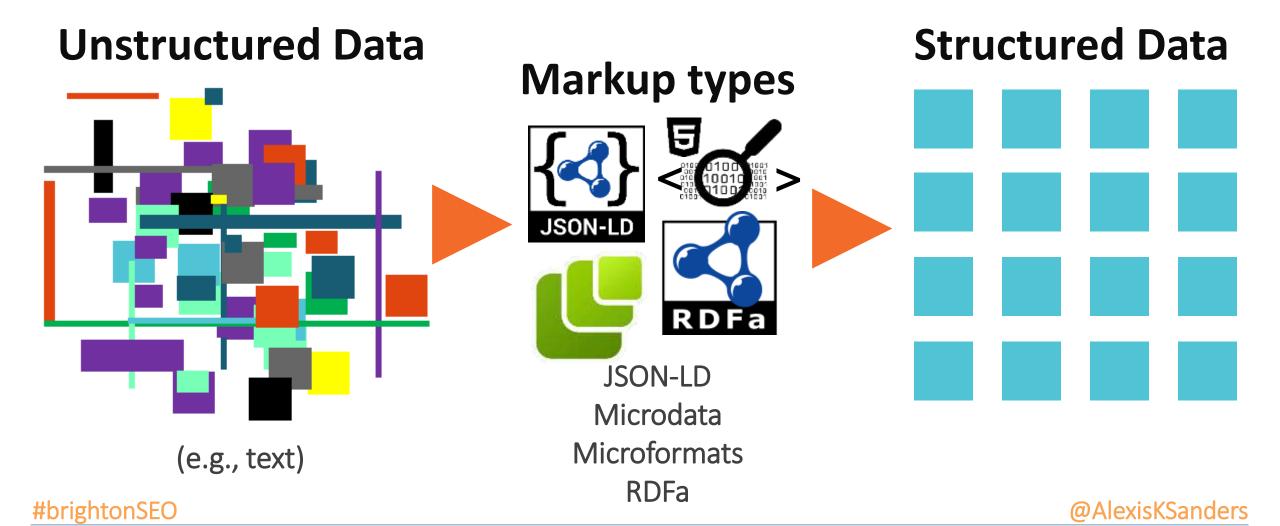
Agenda

- Overview
- Why we <3 it
- Practical
- Advanced
- Implementing A-Z
 (hopefully not zzz)
- Common pitfalls



Structured data n. Information with a high degree of organization.

Conceptual visualization of structured data for web



Schema.org is a vocabulary (of many), but really is more comparable to a dictionary.

Each type (thing you markup) has a definition

schema.org

(Item) type

Product

Canonical URL: http://schema.org/Product

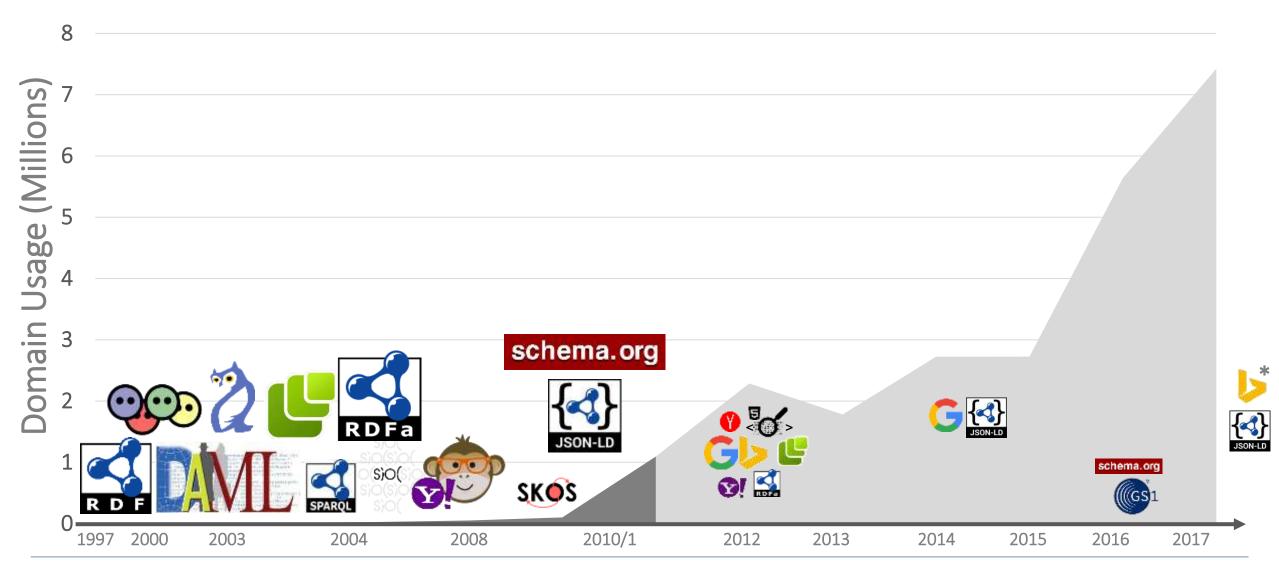
Thing > Product

Definition

Any offered product or service. For example: a pair of shoes; a concert ticket; the rental of a car; a haircut; or an episode of a TV show streamed online.

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Story of web structured data: less ended up being more.



Mircodata*

```
<div itemscope itemtype="http://schema.org/Event">
 <span itemprop="name">BrightonSEO</span>
 <meta itemprop="url"
content="https://www.brightonseo.com/" />
<meta itemprop="startDate" content="2018-04-26T7:00" />
<meta itemprop="endDate" content="2018-04-27T16:15" />
</div>
```

JSON-LD*

```
<script type="application/ld+ison">
  "@context": "http://schema.org/",
  "@type": "Event",
  "name": "BrightonSEO",
  "url": "https://www.brightonseo.com/",
  "startDate": "2018-04-26T7:00",
  "endDate": "2018-04-27T16:15"
</script>
```



Microdata versus JSON-LD





What is it?



JavaScript



Support













Implementation

Can be easier for templated pages



Easier to copy and paste on page

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Nesting n. organizing information in layers; adding objects in objects.

Match Nest Me!

Rated 4.5 out of 5

75 reviews

JĀSÖN

\$7.29 (USD)

Super Shine Apricot Shampoo



Product

name:

aggregateRating:

@type: AggregateRating

ratingValue :

reviewCount:

offers:

@type : Offer

price:

priceCurrency :

brand:

@type : Thing

name:

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Match Nest Me!

Rated 4.5 out of 5

75 reviews

JĀSÖN

\$7.29 (USD)

Super Shine Apricot Shampoo



Product

Super Shine Apricot Shampoo name:

aggregateRating:

@type: AggregateRating

7.29

4.5 ratingValue:

reviewCount:

75

USD

offers:

@type : Offer

price:

priceCurrency :

brand:

@type : Thing

name:

JĀSÖN

#brightonSEO

Match Nest Me!

Rated 4.5 out of 5

75 reviews

JĀSÖN

\$7.29 (USD)

Super Shine Apricot Shampoo



```
<script type="application/ld+json">
 "@context": "http://schema.org/",
 "@type": "Product",
 "name : " Super Shine Apricot Shampoo
 aggregateRating : {
       "@type":"AggregateRating ",
       "ratingValue": " 4.5 ",
       "reviewCount ! " 75 " },
 'offers" : {
       "@type":"Offer",
       "price": " 7.29 ",
       "priceCurrency!" USD " },
 brand: ̄{
       "@type":"Thing
       "name": " JĀSÖN " }
  </script>
```

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Benefits: Why < 3 Structured Data

1. Enhanced SERP Results



Rick and Morty Hats The New US Animation Rick Caps Dad Hat ...

https://www.aliexpress.com/.../Rick-and-Morty-Hats...Rick...Hat.../32814989517.html >

★★★★★ Rating: 4.8 - 268 reviews - \$4.62

Cheap snapback quality, Buy Quality bone snapback directly from China dad hat Suppliers: **Rick and Morty Hats** The New US Animation Rick Caps Dad Hat Adjustable High Quality Cotton Baseball Cap Black Beige Bone Snapback.

Block aliexpress.com

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1. Enhanced SERP Results



Shakira Tickets | Shakira Tour Dates 2018 and Concert Tickets - viagogo

https://www.viagogo.com/Concert-Tickets/Rock-and-Pop/Shakira-Tickets ▼
Shakira tickets now available from \$52.06 as of 18 Feb 2018 - viagogo, world's largest ticket marketplace - All tickets 100% guaranteed!

Fri, Aug 3 United Center, Chicago, USA

Sat, Aug 4 Little Caesars Arena, Detroit, USA

Fri, Aug 10 Madison Square Garden, New York, USA

Block viagogo.com

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Google's featured snippets with rich results





Article



BlogPosting



Book*



BreadcrumbList



ClaimReview*



Course

Dataset*



Event

ImageObject



ItemList



JobPosting

LocalBusiness*



Movie

(WatchAction*)



MusicAlbum*



MusicArtist*



MusicGroup*



NewsArticle





Organization (Contact Point

(ContactPoint, logo, sameAs)



Person (sameAs)

Product (Offer)

Rating



AggregateRating



Recipe



Review*

SoftwareAppplication*



TVEpisode



(WatchAction*)



TVSeason (WatchAction*)



TVSeries (WatchAction*)





(isAccessibleForFree for

Paywall Content)

WebSite (*Setan, music express) interest



2. CTR for rich results = higher than without (in most cases)



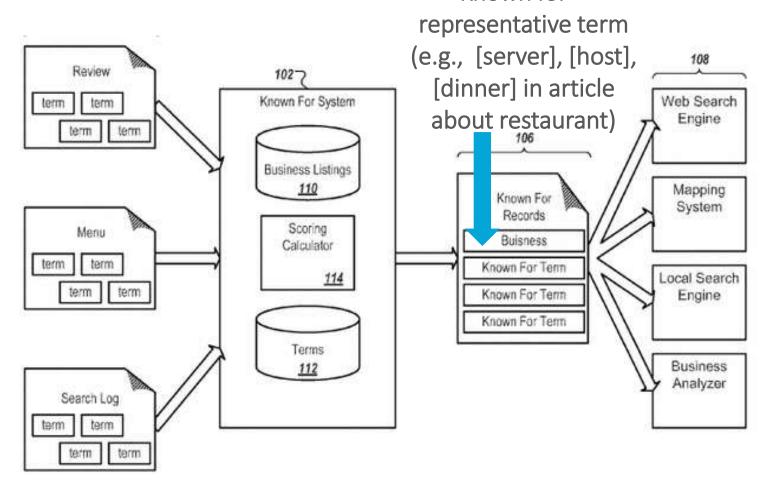
Rich Results vs Non-Rich Results Comparison			
	RR CTR	No RR CTR	CTR % Diff ▼
eCommerce Site 1	2%	0%	∞
eCommerce Site 2	9%	4%	139%
eCommerce Site 3	6%	3%	109%
eCommerce Site 4	11%	6%	82%
eCommerce Site 5	8%	5%	64%
eCommerce Site 6	3%	2%	32%
eCommerce Site 7	3%	4%	-19%

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3. Offers potential to improve confidence in relevance

Example of Associating Terms with Business Listing

"Known for" =



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"I want to live in a world where schema is not that important, but currently, we need it...



... If a team at Google recommends it, you probably should make use of it, as schema helps us understand the content on the page,

Gary Illyes

Google

...and it is used in certain search features (but not in rankings algorithms)."



Schema can help us extract entities better



Google doesn't mind if people markup nonsupported markup (change in SERP may not be noticeable) @JohnMu

John Mueller

Google

We don't use Schema.org as a quality factor



4. Product Merchant Center Feed updates (2017)

https://support.goog le.com/merchants/an swer/6069143

Benefits:

- Automatic item updates
- Google Sheets Merchant Center add-on

Structured data markup must be present in the HTML returned from the web server (i.e., no JavaScript generated tags)

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5. Future: Support Voice (hypothesis)

Google Mini pulls web answers from featured snippets. Featured snippets appear when Google has high confidence in usefulness of response. Structured data can support confidence ratings.



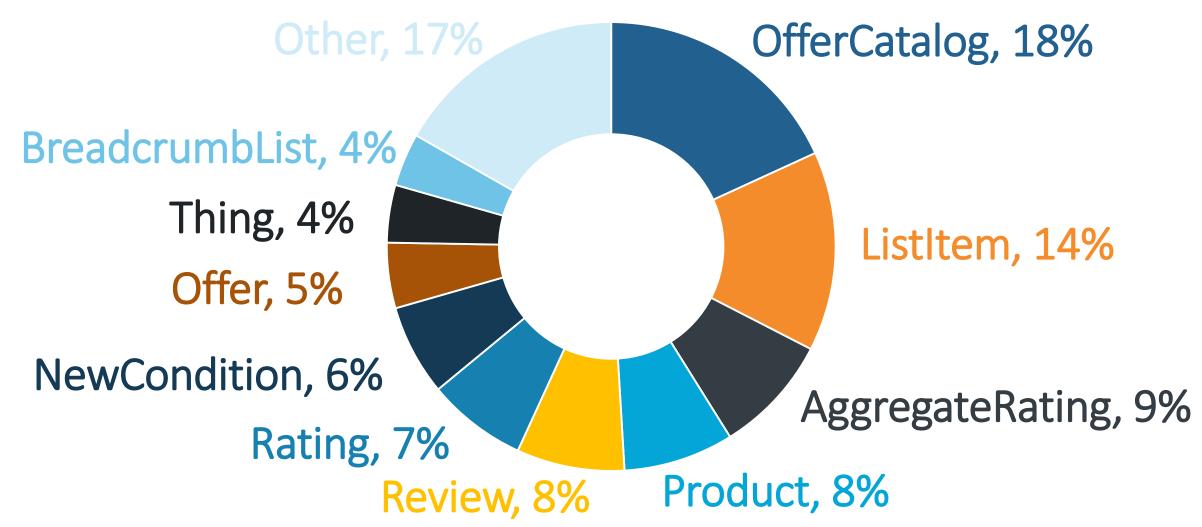
+25K eCommerce URLs populating with featured snippets:

- Microdata: 76%
- JSON-LD: <u>25%</u>
- OGP: <u>68%</u>
- Twitter Summary Cards: 27%

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Important Note: Correlation does <u>not</u> imply causation.

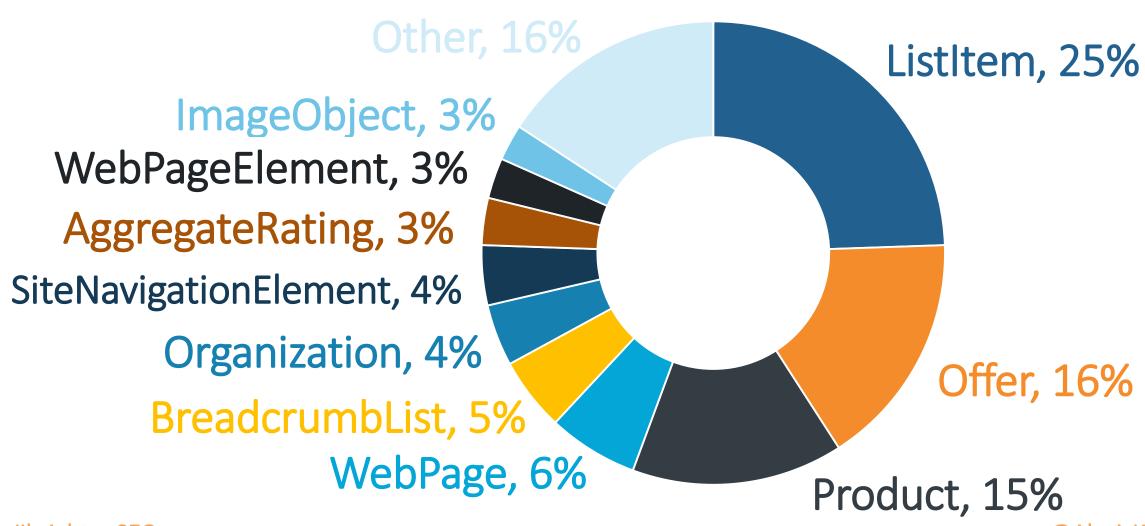
Top Occurring Microdata for eCom with Snippet



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36 Huge thanks to

Top Occurring JSON-LD for eCom with Snippet



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37 Huge thanks to

6. Future: Support Voice (speculative)

http://pending.schema.org/SpeakableSpecification http://pending.schema.org/speakable



SpeakableSpecification	0 ERRORS 0 WARNINGS ^		
ID: http://money.cnn.com/2018/02/	18/media/black-panther-box-office/index.html		
@type	SpeakableSpecification		
@id	http://money.cnn.com/2018/02/18/media		
wid	/black-panther-box-office/index.html		
cssSelector	.speakable		
	'Black Panther' brings in a record-breaking		
	box office weekend All hail the king. "		
	Black Panther," Marvel's first film directed		
	by an African-American, brought in an		
	estimated \$192 million for its three-day		
value	debut in North America this weekend.		
	That's the fifth biggest opening of all time.		
	The opening for the film starring Chadwick		
	Boseman and Michael B. Jordan did not		
	just shatter expectations, it broke multiple		
	box office records too.		



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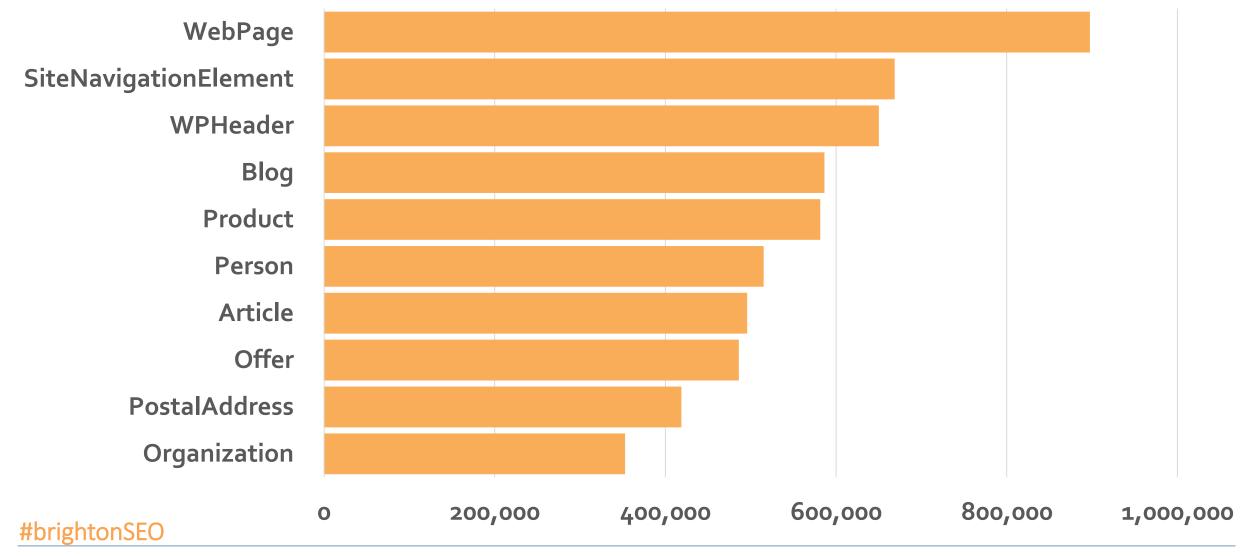


Practical schema for pragmatic, busy people



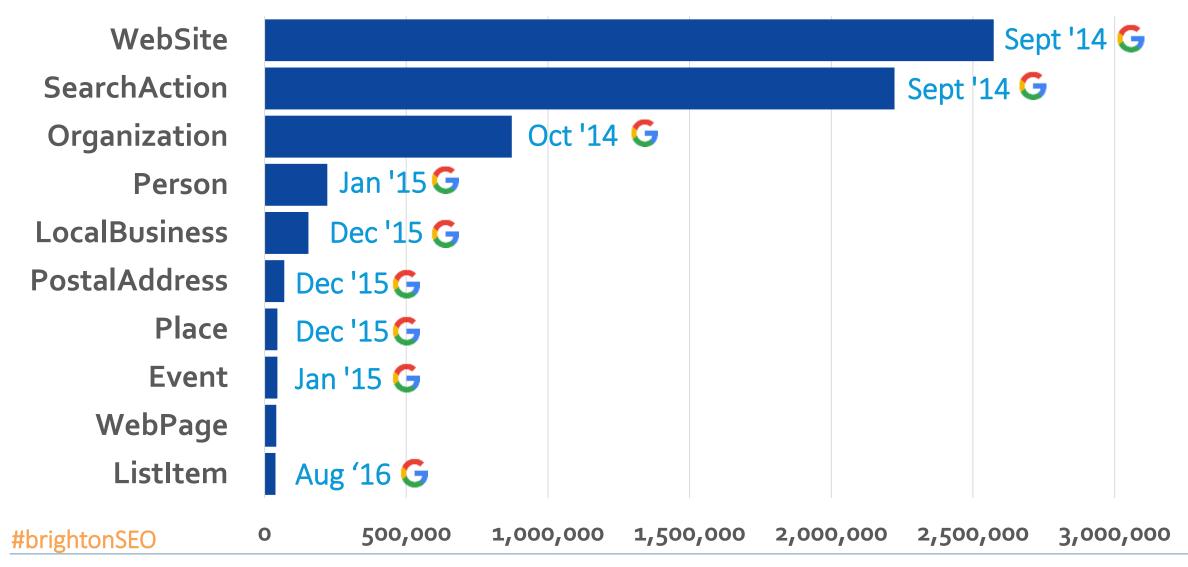
Popular Schema: Top 10 Microdata by Domain





Popular Schema: Top 10 JSON-LD by Domain





Practical Schema: Most sites

	Marking up	Туре	Properties
•	Organization	Organization	logo, contactPoint, sameAs
2	Sitelink Searchbox	WebSite	potentialAction
	Breadcrumbs	BreadcrumbList	itemListElement
26 Pr	Carousel Lists	ItemList	itemListElement
8	Person	Person	sameAs
#brigh	itonSEO		@AlexisKSanders

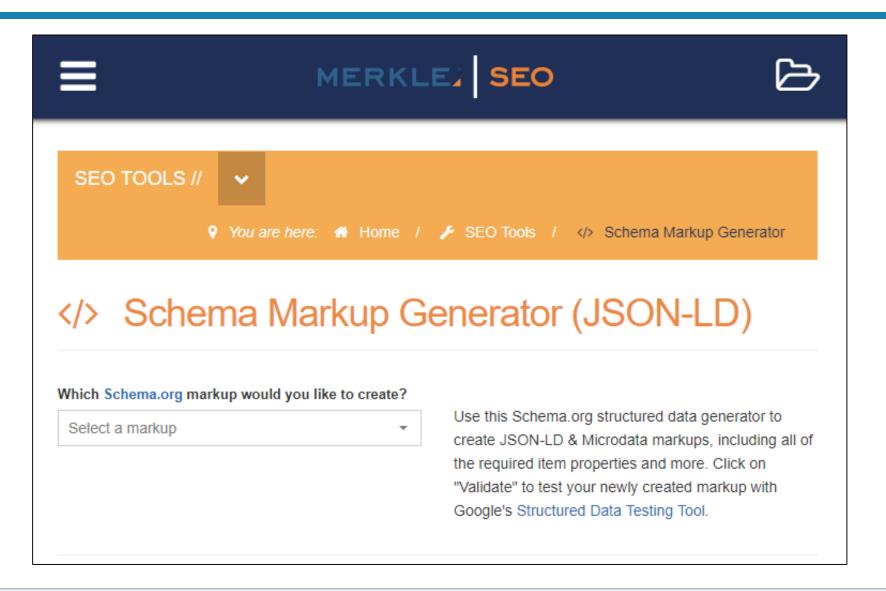
Implementing Practical Schema - Beginner

https://technicalseo.com/ seo-tools/schemamarkup-generator



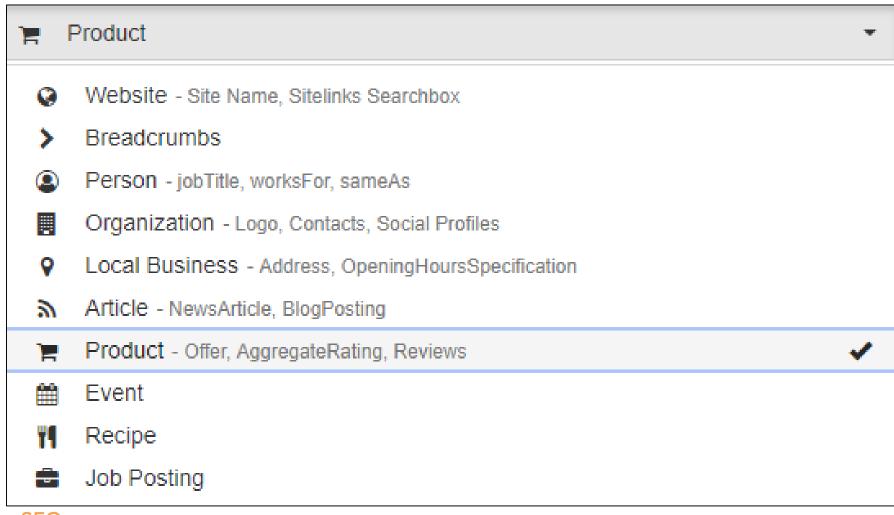


Step 1: Navigate to JSON-LD Schema Markup Generator





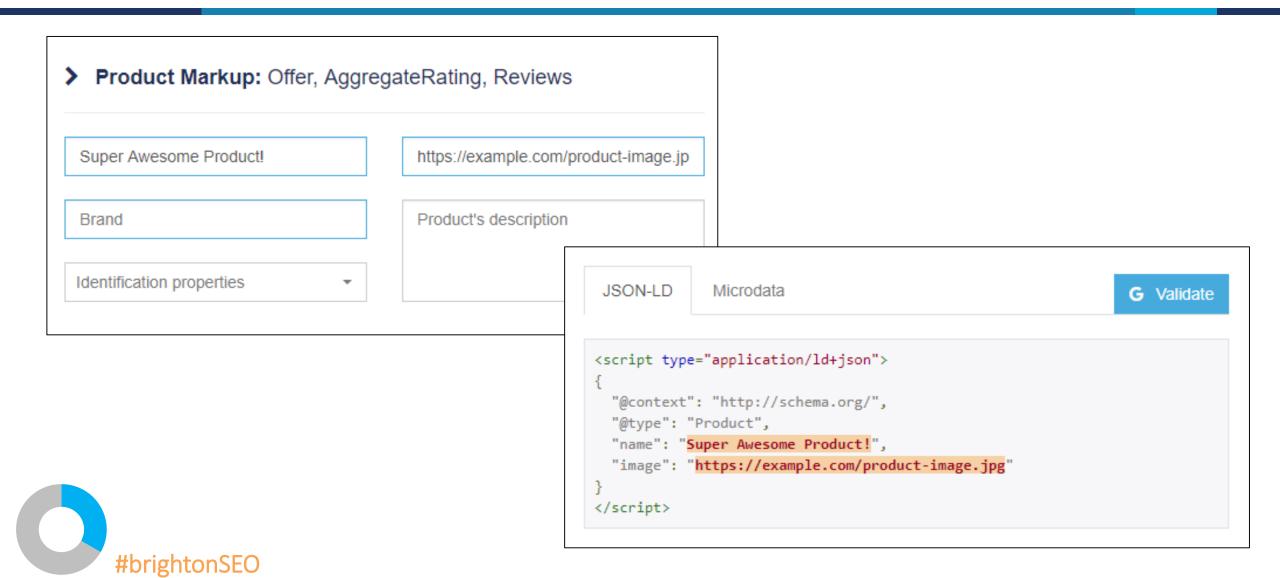
Step 2: Select your Item Type from Dropdown Menu





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Step 3: Fill-in-the-Blank



Step 4: Test in Google's Structured Data Testing Tool

G Validate •••• Google Structured Data Testing Tool



Implementing Practical Schema - Intermediate

Introduction

Structured data

About Search features

Search feature gallery

Introduction to structured data

Enhance your site's attributes

Mark up your content items

Build, test, & release structured data

Structured data general guidelines

Feature guides

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Step 1: Read Guidelines



Rules

Opportunities



Guidelines

Product rich results provide users with information about a specific product, such as its price, availability, and reviewer ratings. The following guidelines apply to product markup:

- . Use markup for a specific product, not a category or list of products. For example, "shoes in our shop" is not a specific product. See also our structured data guidelines for multiple entities on the same page.
- Adult-related products are not supported.
- Reviewer's name needs to be a valid name for a Person or Team For example, "James Smith" or "CNET Reviewers." By contrast, "50% off on Black Friday" is invalid.

To include product information in Image Search, follow these guidelines for required markup:

- To show your product information in the rich image viewer: Include the name, image, price, and priceCurrency properties. Alternatively, instead of price and priceCurrency, you can include any four properties and exclude price.
- To show your product information in the Related Items feature: Include the name, image, price, priceCurrency, and availability properties.

Step 2: Review Item Properties (especially note "Required")!



Required Properties

Product information properties

When you mark up your content for product information, use the following properties of the schema.org Product type:

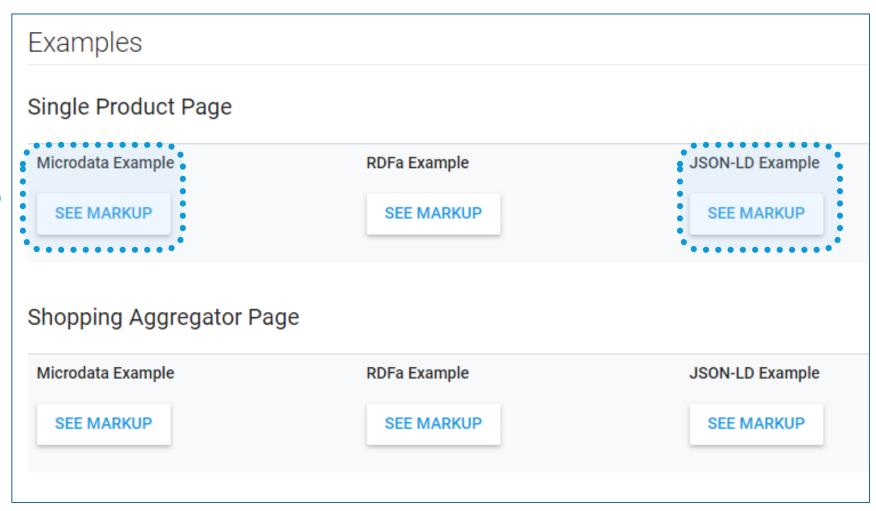
Properties			
name	Text, required		
	The name of the product.		
image	Repeated field of ImageObject or URL; required for Image Search, recommended for Search		
	The URL of a product photo. Pictures clearly showing the product (for example, against a white background) are preferred.		
	Additional image guidelines:		
	 Every page must contain at least one image (whether or not you include markup). Google will pick the best image to display in Search results based on the aspect ratio and resolution. 		
	Image URLs must be crawlable and indexable.		
	Images must represent the marked up content.		
	Images must be in .jpg, .png, or. gif format.		



Step 3: Check out Example Markups



Examples





Step 4: Reverse-engineer by replacing values



```
<script type="application/ld+json">
      "@context": "http://schema.org",
      "@type": "Restaurant",
      "image": "https://example.com/photos/1x1/photo.jpg",
      "name": "Dave's Steak House",
      "address": {
        "@type": "PostalAddress",
        "streetAddress": "148 W 51st St",
        "addressLocality": "New York",
10
        "addressRegion": "NY",
        "postalCode": "10019",
12
        "addressCountry": "US"
14
15
      "url": "http://www.example.com/restaurant-locations/manhattan",
16
      "telephone": "+12122459600",
17
      "openingHoursSpecification":
18
          "@type": "OpeningHoursSpecification",
19
          "dayOfWeek": "Monday",
          "opens": "00:00",
          "closes": "23:59"
24 }
25 </script>
```

Update values

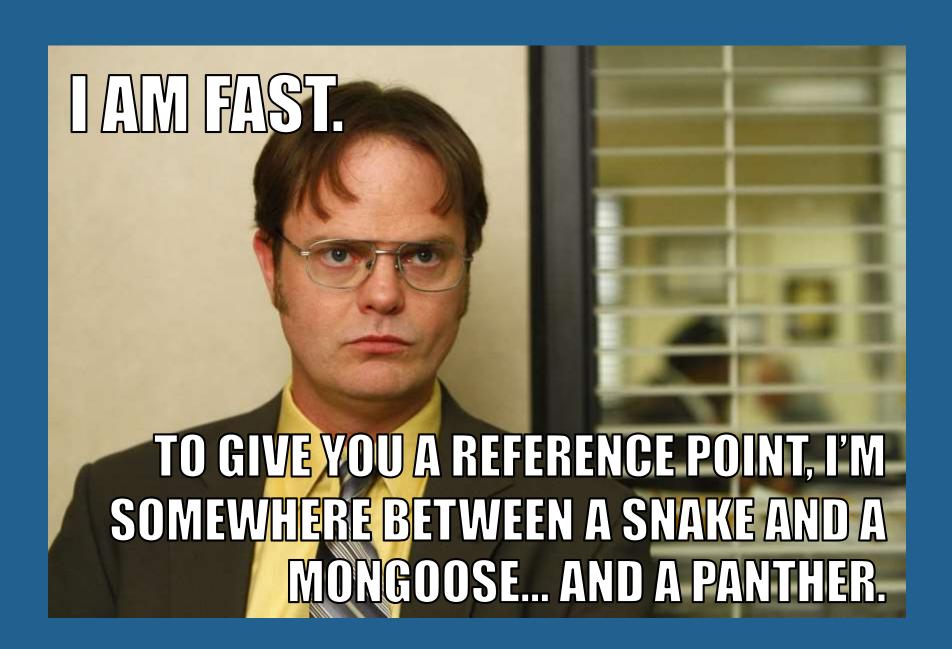


```
(script type="application/ld+json">
      "@context": "http://schema.org",
      "@type": "Restaurant",
      "image": "http://orchestriapalmcourt.com/c2.JPG",
      "name": "Orchestria Palm Court",
      "address": {
        "@type": "PostalAddress",
        "streetAddress": "27 E William St",
        "addressLocality": "San Jose",
        "addressRegion": "CA",
        "postalCode": "95112",
13
        "addressCountry": "US"
14
      "url": "http://orchestriapalmcourt.com/",
15
      "telephone": "+4082885606",
      "sameAs": "https://www.opentable.com/r/orchestria-palm-court-san-jose",
18
      "openingHoursSpecification": {
          "@type": "OpeningHoursSpecification",
19
         "dayOfWeek": ["Friday", "Saturday"],
20
         "opens": " 17:45",
         "closes": "21:00"
24
25 </script>
```

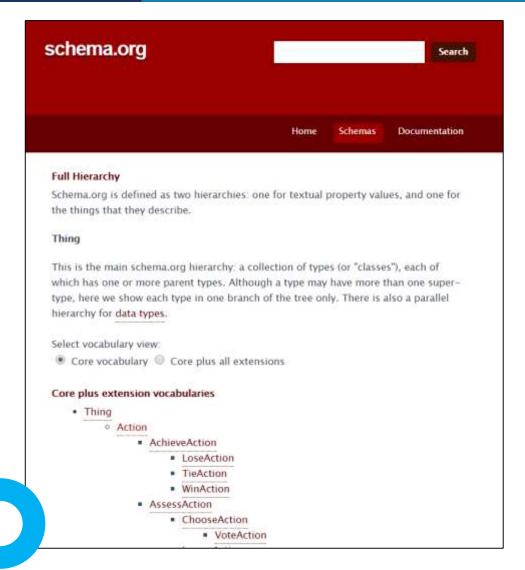


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Schema for overachievers



Schema.org (for brave souls)



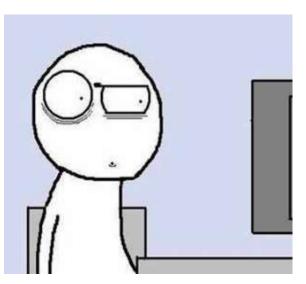
http://schema.org/docs/full.html

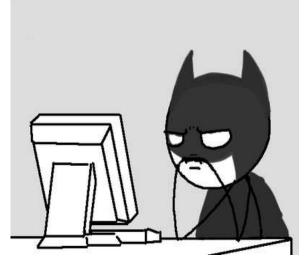
Stages of Working with Schema.org

::a ton of confused stares::

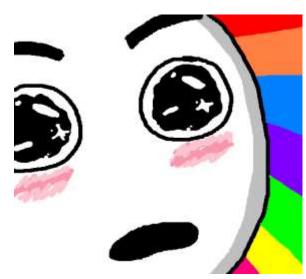
::intense concentration:: ::coffee + intense concentration::

::unlocking the eternal mysteries within Schema.org::



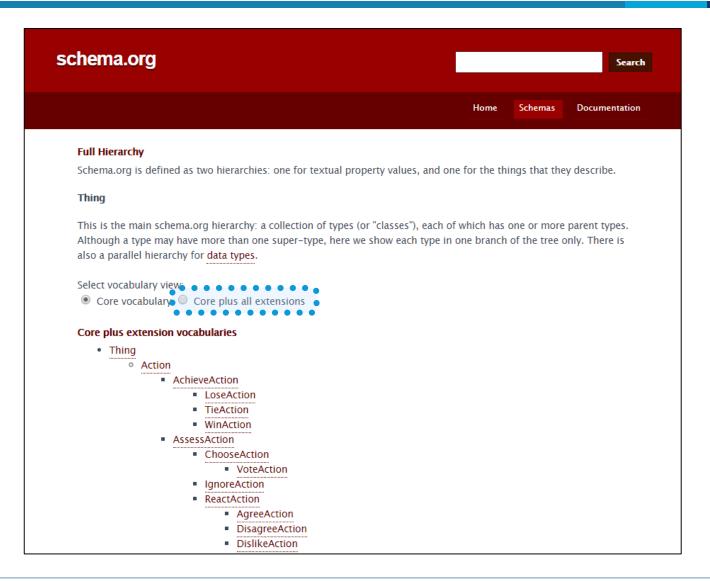






Step 1: Select Type from Schema.org's Full Hierarchy

Select "Core plus all extensions"



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Item Type Page

(Item) type Hierarchy Description Usage

Aquarium

Canonical URL: http://schema.org/Aquarium

Thing > Place > CivicStructure > Aquarium

Aquarium.

Usage: Between 10 and 100 domains

Item Properties, Expected Type, and Description

Property	Expected Type	Description	
Properties from CivicStructure			
	Text	The general 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		 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 <="" datetime="Tu,Th" itemprop="openingHours" li=""> </time>	
		16:00-20:00">Tuesdays and Thursdays 4-	
		8pm.	

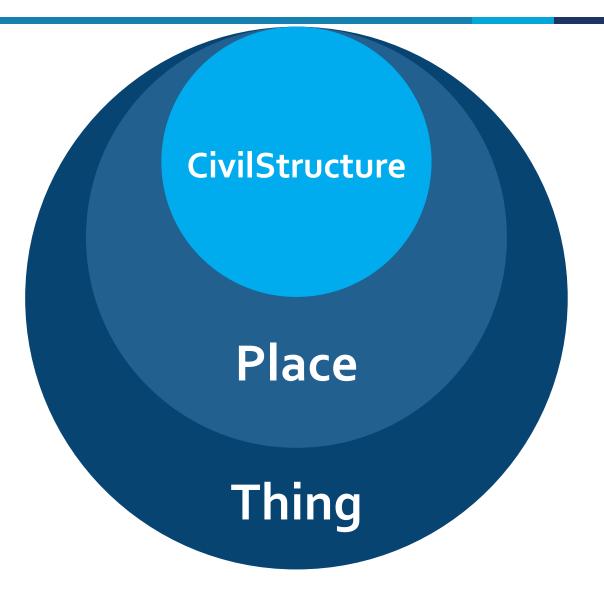
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Organization of Item Properties

Properties from CivicStructure

Properties from Place

Properties from Thing



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"Expected Type" tells you when you'll need to nest objects (think: itemscope itemtype & "@type")

If it's a data type, you don't nest

D

- Boolean
 - False
 - True
- Date
- DateTime

- Number
 - Float
 - Integer
- Text
 - URL
- Time

Don't nest me!

globalLocationNumber	Text	
hasMap	Map or URL	nest
isAccessibleForFree	Boolean	
isicV4	Text	
logo	ImageObject or URL	nest
maximumAttendeeCapacity	Integer	
openingHoursSpecification	OpeningHoursSpecification	nest
photo	ImageObject or Photograph	nest nest
publicAccess	Boolean	

Step 2: List Item Properties, Expected Type, and Values

Item Property	Expected Type	Value		
name	Text	National Aquarium		
alternateName	Text	National Aquarium in Baltimore		
telephone	Text	(410) 576-3800		
address PostalAddress http://schema.org/PostalAddress				
		Item Property	Expected Type	Value
		streetAddress	Text	501 E Pratt St
		addressLocality	Text	Baltimore
		addressRegion	Text	MD
		postalCode	Text	21202
		addressCountry	Country or Text	US

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Step 3: Add Syntax (JSON-LD)

```
Reginning
Type
Type
Type

"@context": "http://schema.org/",
    "@type": "Aquarium",
    "name": "National Aquarium",
    "alternateName": "National Aquarium in Baltimore",
    "telephone": "+1-410-576-3800",
    "address": {
             Type "@type": "PostalAddress",

"streetAddress": "501 E Pratt St",

"addressLocality": "Baltimore",

"addressRegion": "MD",

"postalCode": "21202",

"addressCountry": "US"
```

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Step 3: Add Syntax (Microdata)

```
Type <a href="http://schema.org/Aquarium"></a>
                 <span itemprop="name">National Aquarium</span>
Properties
                 <meta itemprop="name" content="National Aquarium in Baltimore" />
                 <span itemprop="telephone">+1-410-576-3800</span>
                 <div itemprop="address" itemscope</pre>
                                      itemtype="http://schema.org/PostalAddress">
                   <span itemprop="streetAddress">501 E Pratt St</span>
                  <span itemprop="addressLocality">Baltimore</span>
                  <span itemprop="addressRegion">MD</span>
Properties
                  <span itemprop="postalCode">21202</span>
                  <span itemprop="addressCountry">US</span>
                 </div>
```

67 http://schema.org/Aquarium

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Common Pitfalls



Pitfall #1: Syntax

- "" are not the same as ""
 - Microsoft switches "" to ""
 - Use a text editor

Mind your Commas





Pitfall #2: Vocabulary

Pay attention to required/allowed properties

 Schema.org types and properties are case sensitive reference

 Tip: Check in the Structured Data Testing Tool

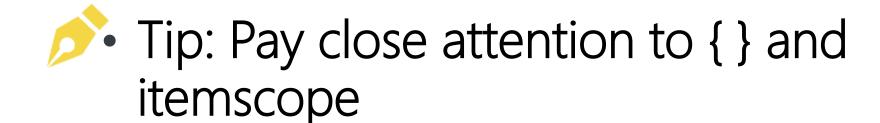
Pitfall #3: Policy Violation

Adding information that is not on the page

 Check Google's Structured Data Policies: https://developers.google.com/structureddata/policies

Pitfall #4: Nesting Errors

- Make sure to attribute properties to correct item type
 - E.g., using "name" and giving the location the event name



Future Predictions









I (like Dwight) am not a psychic

1. Top Schema.org used w/o Google webpage documentation















ContactPage

Corporation



Hotel





















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@AlexisKSanders



2. Item types that support voice efforts



SpeakableSpecification



HowTo

HowToDirection

HowToSection

HowToStep

HowToTip

HowToDirection

HowToltem

HowToSupply

HowToTool

HowToStep

HowToTip

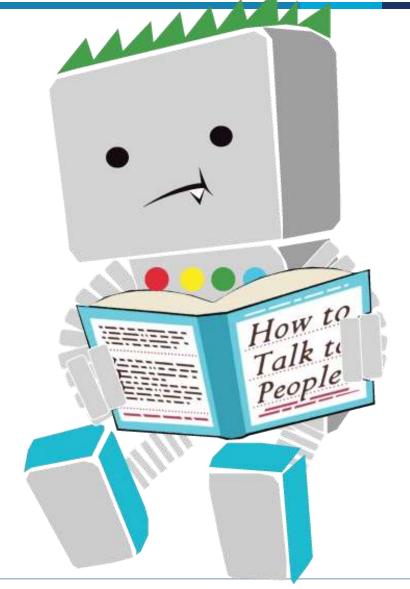


QAPage



Question

Answer



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3. More for publishing and eCommerce (especially actions)

Publishing



AnalysisNewsArticle



BackgroundNewsArticle



OpinionNewsArticle



ReportageNewsArticle



ReviewNewsArticle

eCommerce



ProductIndividualProduct



ProductModel



SomeProducts



BuyAction



QuoteAction



EmployerReview



* UserReview



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4. Things users want (e.g., medical answers from Dr. Google (http://health-lifesci.schema.org))



Proactive Health
LifestyleModificationDiet



PhysicalActivity



ExercisePlan



MedicalSignOrSymptom



🤢 MedicalSign



W VitalSign



MedicalSymptom



Reactive Health

MedicalCondition



Infectious Disease



MedicalGuideline



MedicalProcedure



DiagnosticProcedure



Physical Exam



SurgicalProcedure

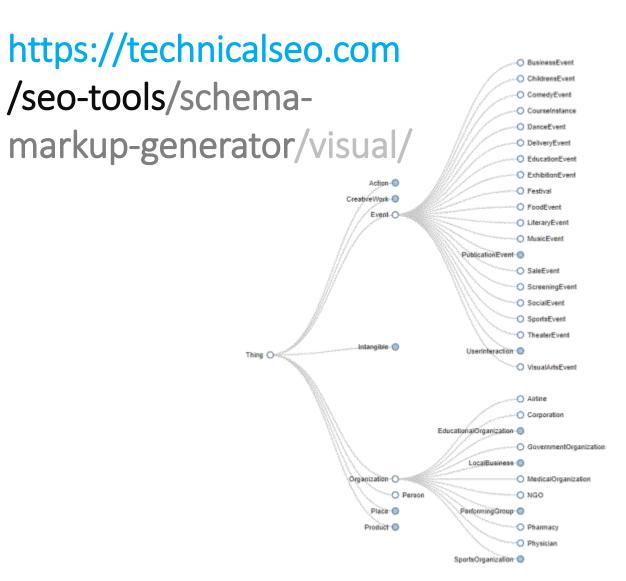


**TherapeuticProcedure

Fun stuff for you ->

https://technicalseo.com/homework/structured-data/





Experts to Follow







@JarnoVanDriel **Jarno Van Driel**



@maxxeight **Max Prin**













https://www.flaticon.com/authors/:

- dinosoftlabs
- eucalyp
- freepik
- gregor-cresnar
- maxim-basinski
- nikita-golubev
- pixel-buddha
- pixel-perfect
- popcorns-arts
- smashicons
- vectors-market
- basic-flat-icons

@AlexisKSanders



THANK YOU! SEE YOU AT THE NEXT #brightonSEO





@AlexisKSanders



/in/alexissanders

