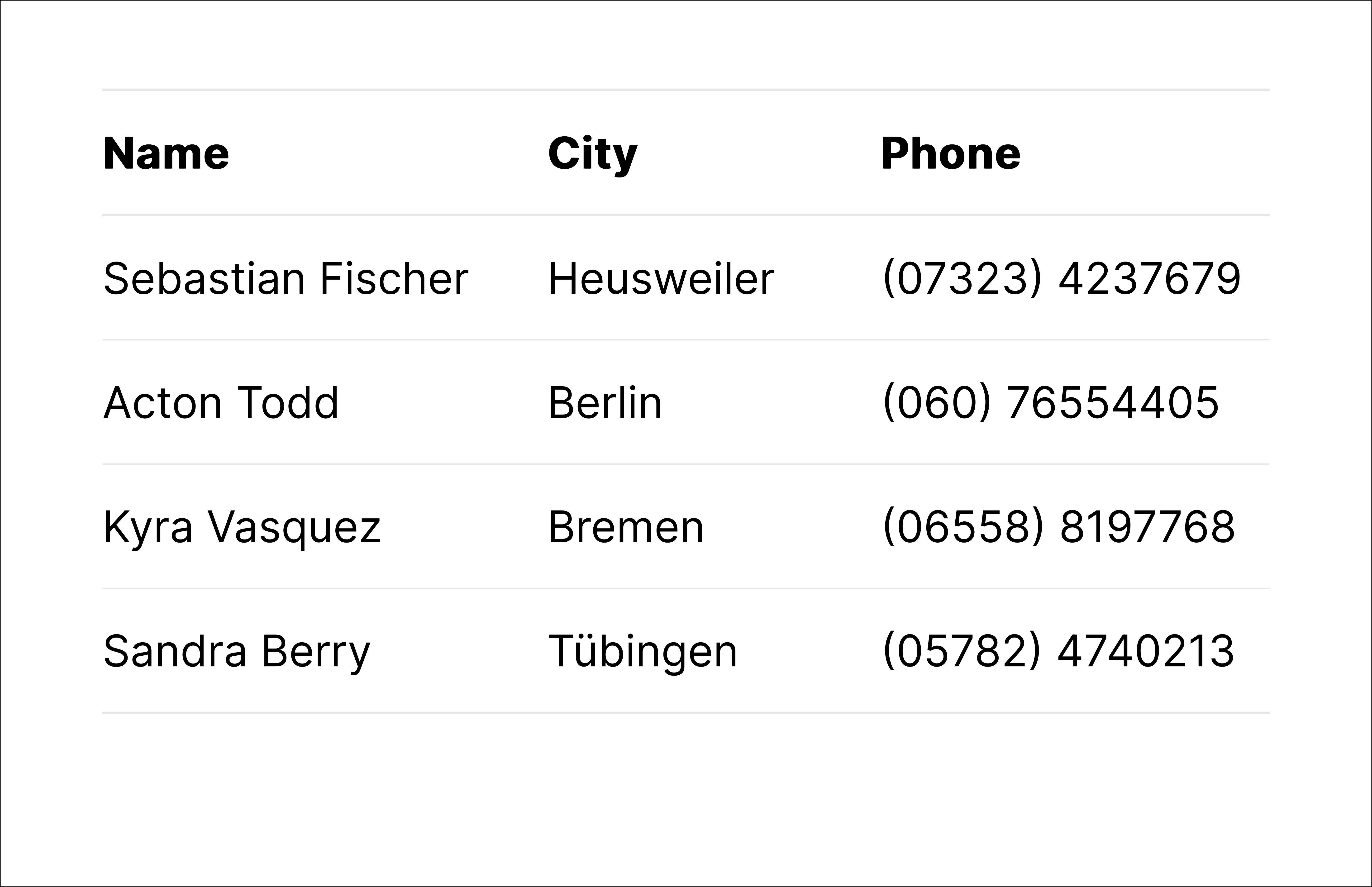
What is structured data?

Structured data is data that has a **standardized format** for efficient access by software and humans alike. It is typically tabular with rows and columns that clearly define data attributes. Computers can **effectively process** structured data for insights due to its quantitative nature.

For example, a structured customer data table containing columns—name, address, and phone number—can provide insights like the total number of customers and the locality with the maximum number of customers. In contrast, unstructured data, like a list of social media posts, is more challenging to analyze.



Name	City	Phone
Sebastian Fischer	Heusweiler	(07323) 4237679
Acton Todd	Berlin	(060) 76554405
Kyra Vasquez	Bremen	(06558) 8197768
Sandra Berry	Tübingen	(05782) 4740213

why should we do that?

where does it help us?

- machine readable
- removes assumptions about what a thing is
- can be and is used for rich snippets in google, bing, ecosia, kagi or any other search engine
- In the current flood of AI generated content it is getting more and more important to present your content as accessible as possible. To people and machines.

a few assumptions

- content particles will be more important in the future.
- the big pillar page to group content is losing importance
- people are accessing content in a lot of different ways
  - AI Tools like ChatGPT
  - rich snippets in search engines
  - verbal feedback via different assistants
- **it is easy**

so what options do we have?

microdata - the original

development is terminated, but still very widely used

Wikipedia

```html
<div itemscope itemtype="https://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="address" itemscope itemtype="https://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@xyz.edu" itemprop="email">
    jane-doe@xyz.edu</a>

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

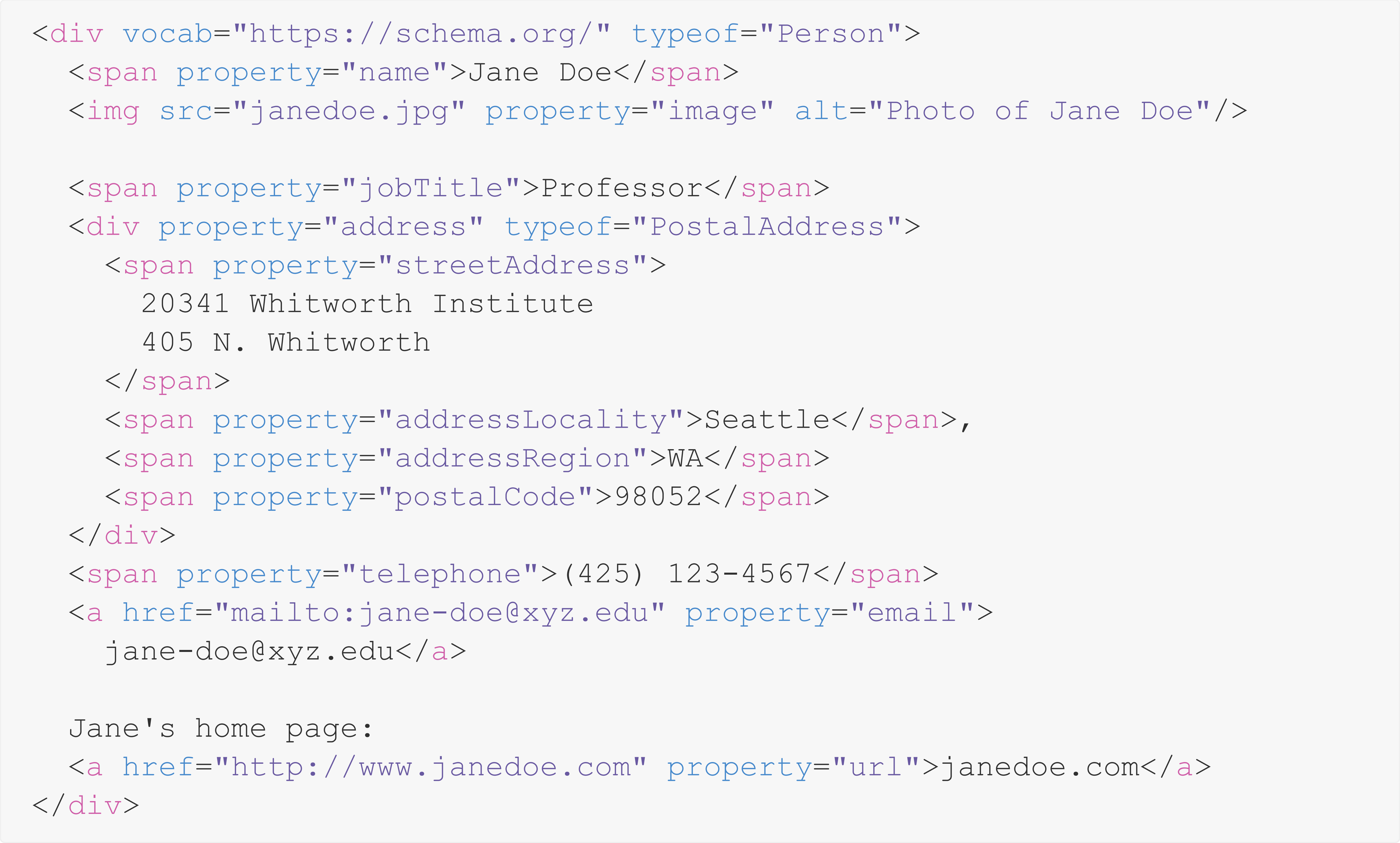
RDFa - the W3C recommendation

Wikipedia

Resource **D**escription **F**ramework in **A**ttributes

RDFa Lite

RDFa Lite is minimal subset of RDFa ... consisting of a few attributes

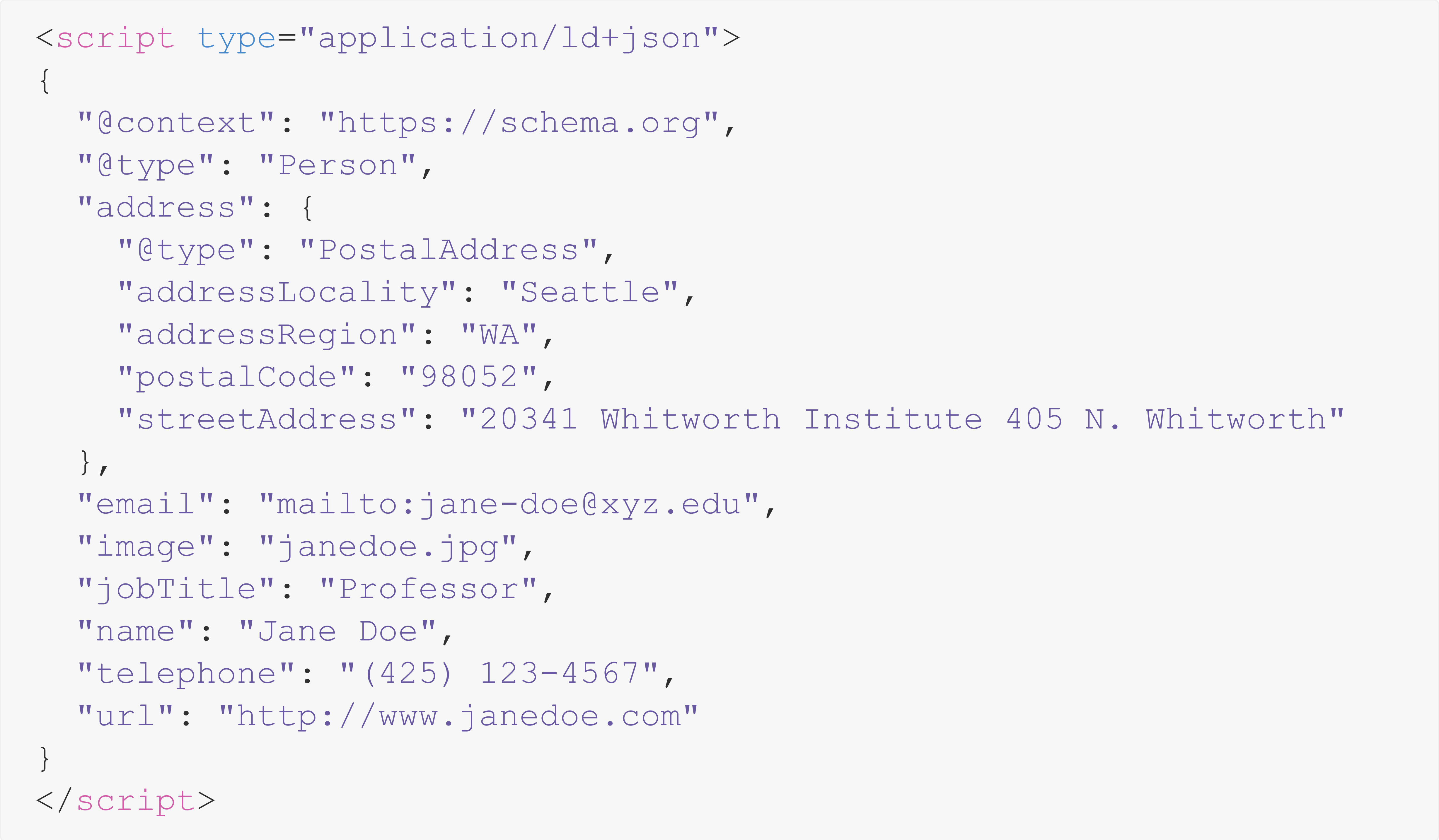


```
<div vocab="https://schema.org/" typeof="Person">
  <span property="name">Jane Doe</span>
  <img src="janedoe.jpg" property="image" alt="Photo of Jane Doe"/>

  <span property="jobTitle">Professor</span>
  <div property="address" typeof="PostalAddress">
    <span property="streetAddress">
      20341 Whitworth Institute
      405 N. Whitworth
    </span>
    <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>
</div>
```

JSON-LD - the standalone option

JavaScript **O**bject **N**otation for **L**inked **D**ata

Wikipedia



```
<script type="application/ld+json">
{
  "@context": "https://schema.org",
  "@type": "Person",
  "address": {
    "@type": "PostalAddress",
    "addressLocality": "Seattle",
    "addressRegion": "WA",
    "postalCode": "98052",
    "streetAddress": "20341 Whitworth Institute 405 N. Whitworth"
  },
  "email": "mailto:jane-doe@xyz.edu",
  "image": "janedoe.jpg",
  "jobTitle": "Professor",
  "name": "Jane Doe",
  "telephone": "(425) 123-4567",
  "url": "http://www.janedoe.com"
}
</script>
```

so how do we do that in kirby?

available plugins

- https://plugins.getkirby.com/chrfickinger/jsonld
- https://plugins.getkirby.com/tobimori/seo
- https://plugins.getkirby.com/hashandsalt/schema
- https://plugins.getkirby.com/fabianmichael/meta

examples

using `tobimori/seo` which builds on `spatie/schema-org`

a blog page

```
$page->schema('NewsArticle')
  ->headline($page->title())
  ->datePublished($page->date()->toDate('c'))
  ->dateModified($page->date()->toDate('c'))
  ->abstract(strip_tags($page->teaser_text()->kt()))
  ->keywords($page->tags())
  ->url($page->url())
  ->image($image->thumb(['width' => 400, 'height' => 400,
'crop' => true, 'format' => 'webp'])->url())
  ->author(
    schema('Organization')
      ->name($schemaData['organization']['name'])
      ->sameAs($schemaData['organization']['url'])
      ->logo($schemaData['organization']['logo'])
  );
```

a job listing

```
$page->schema('JobPosting')
  ->title($schemaData['title'])
  ->datePosted($schemaData['datePosted'])
  ->description($schemaData['description'])
  ->hiringOrganization(
    schema('Organization')
      ->name($schemaData['organization']['name'])
      ->sameAs($schemaData['organization']['url'])
      ->logo($schemaData['organization']['logo'])
  )
  ->jobLocation(
    array_map(function ($location) {
          return schema('Place')->address(
            schema('PostalAddress')
              ->streetAddress($location['streetAddress'])
              ->addressLocality($location['city'])
              ->addressRegion($location['region'])
              ->postalCode($location['zip'])
              ->addressCountry($location['country'])
          );
        }, $schemaData['locations'])
  )
  ->employmentType($schemaData['employment_type']);
```

testing it

now that we have done all that we need to verify if everything works

https://validator.schema.org/

Google supports less:
https://developers.google.com/search/docs/appearance/structured-data/search-gallery?hl=en

but that does not mean that it will not read other things and also other engines might read different things

thank you!