



JavaScript SEO

Training Course



Hi! We're Gray Dot Co

We're into JavaScript SEO. And Headless SEO.
And, really, all manner of needlessly complicated software stuff.



SAM TORRES

Chief Digital Officer
Data & dev nerd
SEO mermaid™



TORY GRAY

Founder & CEO
SEO & data nerd
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On behalf of Sitebulb & WTS

The very best sponsors a girl could ask for...



Sitebulb

Site Auditing Tool

Desktop & Cloud crawling

Famously swearsy release notes



WTS

Global Community

Tech SEO Nerds

Home to best members of all time



What this series covers

- Understanding JavaScript SEO
- Auditing JS for SEO
- Prioritizing & Explaining JS SEO Issues
- **Bonus:** Live Auditing Q&A (Exclusive to #WTS)



Prioritizing & Explaining JavaScript SEO Issues



4 tiers of JavaScript SEO issues...



#1 No unique, indexable URLs





#2 No content on pages (or some critical content is missing)





#3 Content is accessible, but requires rendering



[Reading: SSR v CSR Case Studies](#)

#4 Critical errors: timeouts, breaking the head







How to think about issues

All content available, everywhere

No content available anywhere



Important content is available upon rendering

Some important content is missing upon rendering

Remember. Critical SEO Fields

Remember. Critical SEO Pages



Product Management for SEO and JavaScript



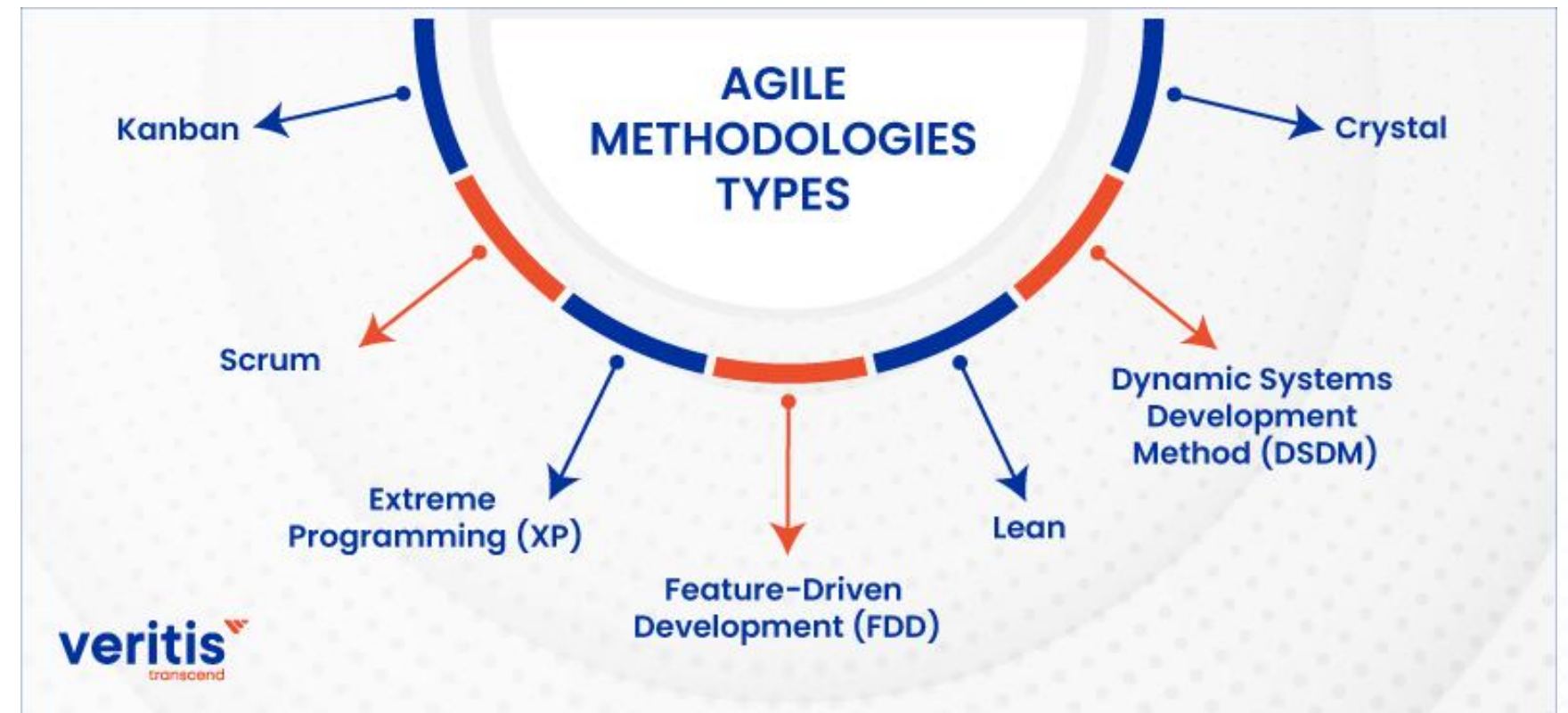
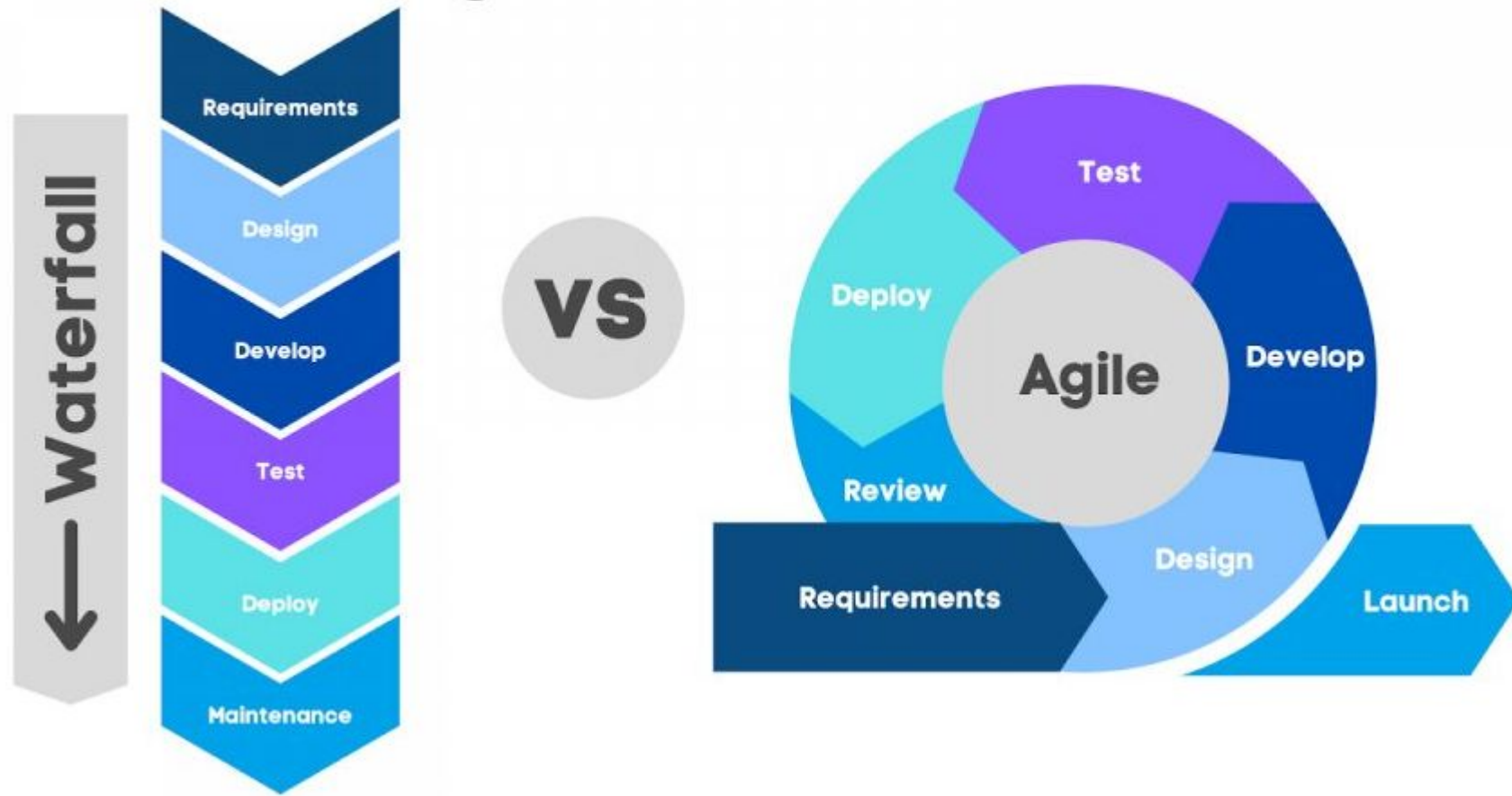
Use your team's language

Examples:

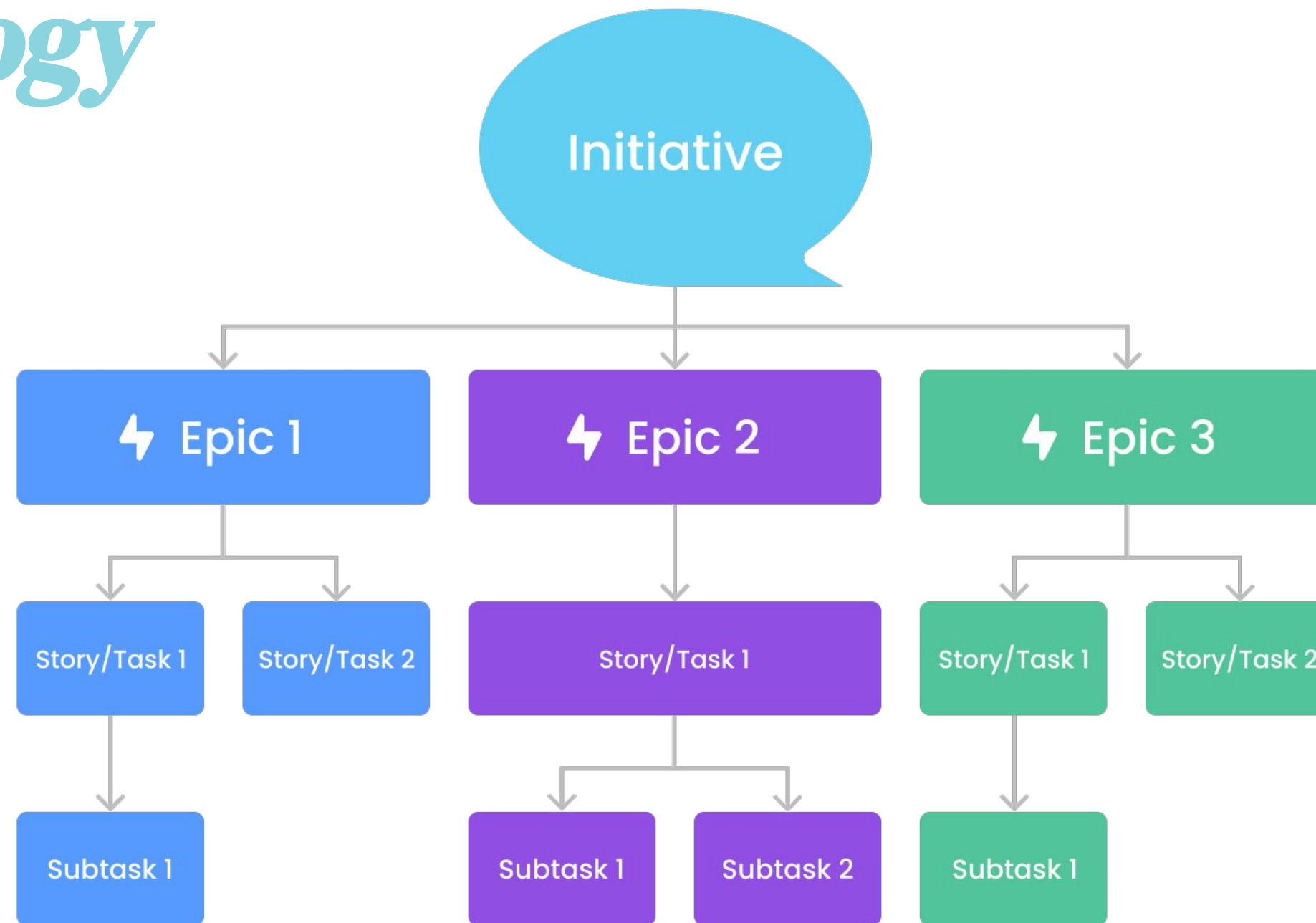
- Tags
 - Tag name
 - Attribute
 - Value
 - Text node
- Web components
 - Slot(s)
- DOM
 - Light DOM
 - Shadow DOM
 - Virtual DOM
- Stage, Production
- Rendering (and types)

Use your team's processes

Agile vs Waterfall



Use your team's project organization methodology



Crafting defect tickets that get implemented

Elements:

- Title
- Affected sections/features
- Affected URLs
- Defect Description
- Actual Behavior
- Expected Behavior
- Impact
- Steps to reproduce
- Context, technical notes & references
- Testing notes
- Acceptance criteria

Example Engineering Defect Ticket

Example Defect Ticket

Ticket Title:

DEFECT - SEO - Hyperlink Handling: Non-standard HTML

Affected Feature(s):

- Locations Listings
- Services Listings

Affected URL(s):

- <https://www.example.com/locations/all>
 - Including all sub-paths with listings
 - ex. <https://www.example.com/locations/tampa>
- <https://www.example.com/services/all>
 - Including all sub-paths with listings
 - Ex. <https://www.example.com/services/consulting>

Defect Description:

Search engines are not able to crawl links in non-standard HTML tags. Links must be contained within an anchor <a href> tag. Spans, onclick events, and custom web components will not register properly as links preventing search engines from discovering those links.



More PM resources

- Worth learning from: Vanda Pokecz, Holly Miller Anderson, Gus Palogia, Adam Gent, Eli Schwartz, Gray Dot Company
- SEO Roadmap
 - <https://thegray.company/blog/how-to-build-seo-roadmap>
- SEO Business Case
 - <https://thegray.company/blog/seo-product-management-business-case>
- Product Requirements Documentation
 - <https://thegray.company/blog/seo-product-requirements-how-to-template>



Documentation

What documentation should cover: rendering

- **Rendering types** (<https://web.dev/articles/rendering-on-the-web>)
 - Which types are available to your brand (current type & potential types)
 - How those types may affect a search engine's ability to crawl/render/rank your site
 - Onely: [Rendering Queue: Google Needs 9X More Time To Crawl JS Than HTML](#)
 - Anticipated differences in performance between the types



What documentation should cover: errors

- **Serving accurate HTTP status codes**

- <https://developers.google.com/search/docs/crawling-indexing/javascript/javascript-seo-basics#use-meaningful-http-status-codes>
- <https://thegraycompany.com/blog/single-page-application-spas-404s-seo>

- **Soft 404s**

- <https://developers.google.com/search/docs/crawling-indexing/javascript/javascript-seo-basics#avoid-soft-404s>

What documentation should cover: site structure

- **URL creation** – avoid fragments (e.g. “#” – hashes – or “#!” – called hash bangs – neither of which are recommended.)
 - <https://developers.google.com/search/docs/crawling-indexing/javascript/javascript-seo-basics#use-history-api>
- **Pagination**
 - <https://developers.google.com/search/docs/crawling-indexing/javascript/lazy-loading#paginated-infinite-scroll>
 - <https://developers.google.com/search/docs/specialty/ecommerce/pagination-and-incremental-page-loading>
- **Menu/Navigation**
- **Filters, Facets & Sorting**

What documentation should cover: links

- **Linking**

- <https://developers.google.com/search/docs/crawling-indexing/links-crawlable>

- **Major takeaway: No `<a href>`, no link.**

- Can follow: `Anchor Text`
- Can't follow:
 - ``
 - ``
 - ``

What documentation should cover: rich media

- **Rich media**

- <https://developers.google.com/search/docs/appearance/google-images#semantic-html>
- <https://developers.google.com/search/docs/appearance/video#help-google-find>

- **Major takeaway: No ``, no `image`.**

- Can follow: ``
- Can't follow: `<div style="background-image:url(puppy.jpg)">`

What documentation should cover: (more) on-page

- **Page copy**

- Text nodes:

- `<div description="something">This is a Text Node</div>`
- `<h1 class="class-name">This is also a Text Node that's an H1</h1>`
- `This is also a Text Node that's Anchor Text`
- `<h1 description="class-name"> ` ← That's not page copy!

- **Lazy loading**

- <https://developers.google.com/search/docs/crawling-indexing/javascript/lazy-loading>

- **Structured data**

- <https://developers.google.com/search/docs/appearance/structured-data/generate-structured-data-with-javascript#testing>

What documentation should cover: web components

- Web components
 - <https://developers.google.com/search/docs/crawling-indexing/javascript/javascript-seo-basics#web-components>
- Parts of a Tag: Tag Name, Attribute(s), Value, Text Node

```
<custom-component description="This is a Value" custom-attribute>  
  <p>This is a text node.</p>  
  This is also a text node.  
</custom-component>
```

More about web components

- **No Text Node = no page copy** (attributes, values don't count!)

```
<my-custom-component description="This is a Value"  
custom-attribute content="This is not page copy">  
</my-custom-component>
```

- **No Text Node (Anchor text) = links ONLY in the code, not on the page**

```
<my-custom-component description="This is a Value"  
custom-attribute><slot><a href="/valid-url-path">  
</a></slot>  
</my-custom-component>
```

Examples (good ones!): Groupon

▼ `<div class="relative md:hidden">`

▶ `<div class="flex items-center justify-center gap-2 p-2">`  `</div>`

▼ `<div data-testid="mob-category-nav" class="relative w-full overflow-hidden border-b border-separator">`

▼ `<div class="hide-scrollbar flex items-center gap-5 overflow-x-auto">` 

```
...  
<a id="mobileNavigationItem:beauty-and-spas" class="shrink-0 whitespace-nowrap border-b-[1px] border-b-transparent pb-4 pt-2 text-center text-sm font-semibold first:ml-4 last:mr-4" data-bhc="mobileNavigationItem:beauty-and-spas" href="https://www.groupon.com/local/kitchener-waterloo/beauty-and-spas">  
Beauty & Spas</a> == $0
```

```
<a id="mobileNavigationItem:gifts" class="shrink-0 whitespace-nowrap border-b-[1px] border-b-transparent pb-4 pt-2 text-center text-sm font-semibold first:ml-4 last:mr-4" data-bhc="mobileNavigationItem:gifts" href="https://www.groupon.com/gift">Gifts</a>
```

```
<a id="mobileNavigationItem:auto-and-home-improvement" class="shrink-0 whitespace-nowrap border-b-[1px] border-b-transparent pb-4 pt-2 text-center text-sm font-semibold first:ml-4 last:mr-4" data-bhc="mobileNavigationItem:auto-and-h
```

Examples (good ones!): Vox

```
▼ <div class="q92cap0 _1agbrixf">
  ▶ <div class="q92cap1">⋮</div>
  ▼ <div class="q92cap2">
    ▼ <div class="duet--content-cards--content-card _1agz5xb1 _1agz5xb0 q92cap3 qcd9z0"> flex
      ▶ <div class="_1agz5xb6 _1agz5xb5 _1agz5xbb _1agz5xbf">⋮</div>
      ▼ <div class="_1agz5xbg">
        ▼ <div class>
          ▼ <div>
            ▶ <div class="_1k0rii2 _1k0rii0">⋮</div>
            ▼ <div>
              ▼ <div class="xkp0cg7 _1neefee4 _1neefee1">
                ▼ <a class="qcd9z1" href="/down-to-earth/372277/digital-sequence-information-dsi-cop16-explained"> = $0
                  ::before
                    "DNA from wild organisms could save your life – but there's a catch"
                  </a>
                </div>
              </div>
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>
  ▼ <div class="duet--content-cards--content-card _1agz5xb1 _1agz5xb0 q92cap3 qcd9z0"> flex
```



More examples (less great)

```
component-title="" component="" component-variant="
"card" tracking-enabled class="hydrated" type="Temporary">
#shadow-root (open)
<a class=""
ontainer" tabindex="1" aria-current="true" href=""
">
<div class=""_inner-container"> flex
<div class=""_headline-wrapper">
  <div class=""_headline-wrapper_location"> ... </div> flex
  <div class=""_headline-wrapper_">
    <_ title="Data Entry" modifier="none" variant="display5" component-id=""
    -heading" tracking-enabled class="hydrated">
      #shadow-root (open)
        <h5 class=""_heading--modifier-none ""_variant-display
        5">
          <slot>
            #text reveal
          </slot>
        </h5>
        "Data Entry" == $0
      </_>
    ...
```




QA & Monitoring for SEO and JavaScript



On the importance of QA: Goals

Minimize

the chances of
deploying code with
detrimental SEO impact

Catch and correct errors

that make their way
into production early

Identify opportunities

for future, related SEO
enhancements

Critical JavaScript QA list: what might **BREAK**

All normal SEO QA

- **Meta ordering**
 - Critical SEO tags sometimes (incorrectly) moved out of the head, including: title, meta desc, meta robots, canonical.
- **Custom overrides**
 - Custom, one-off changes may accidentally be overwritten.

Consider: SEO Testing Guide

Include tips, tricks, tools & resources for the QA team.



Monitoring for consistency

Cloud Projects > Project Details Search by Project Name or URL

Project: Gray Dot Co - https://thegray.company Edit Project

This project is setup as a **Bi-weekly** recurring audit. The next Audit will run on **Sep 7, 2024 3:00 PM** - [Cancel Schedule](#)

Start a New Audit Edit Settings and Schedule Enable Looker Studio Access Delete Project

Website Audit History ?

Compare Audits To compare crawls, select the two crawls you wish to compare below, then click the blue button.

| Compare | Status | | Date | Completion | Crawled | Queued | Size | |
|--------------------------|----------|--|-----------------------|------------|---------|--------|-------|--|
| <input type="checkbox"/> | Finished | | Aug 24, 2024 03:00 PM | 100% | 1,646 | 0 | 28 MB | View Audit Delete |
| <input type="checkbox"/> | Finished | | Aug 10, 2024 03:00 PM | 100% | 1,574 | 0 | 27 MB | View Audit Archive Delete |
| <input type="checkbox"/> | Finished | | Jul 27, 2024 03:00 PM | 100% | 1,415 | 0 | 26 MB | View Audit Archive Delete |
| <input type="checkbox"/> | Finished | | Jul 13, 2024 02:32 AM | 100% | 1,900 | 0 | 27 MB | View Audit Archive Delete |



Questions?

Share in the comments!



***Don't
forget!***

Final session....

Tuesday
October 4th
4pm BST (11am ET)

- Live Auditing Q&A
(Exclusive to #WTS)

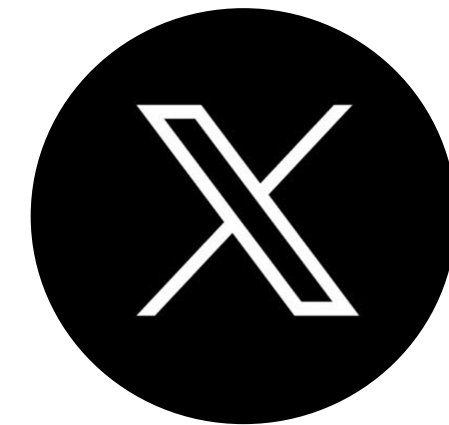


Thank you!



LinkedIn

/company/graydotco
/company/sitebulb
/company/techseowomen



X (Formerly Twitter)

@GrayDotCo
@Sitebulb
@techseowomen