STRIX

Instant navigation

Resource preloading and Speculation rules API

Pushing
boundaries
in digital commerce

Strix

Optimizing Page Speed with Instant Navigation and Speculation Rules API.

Meet the speaker

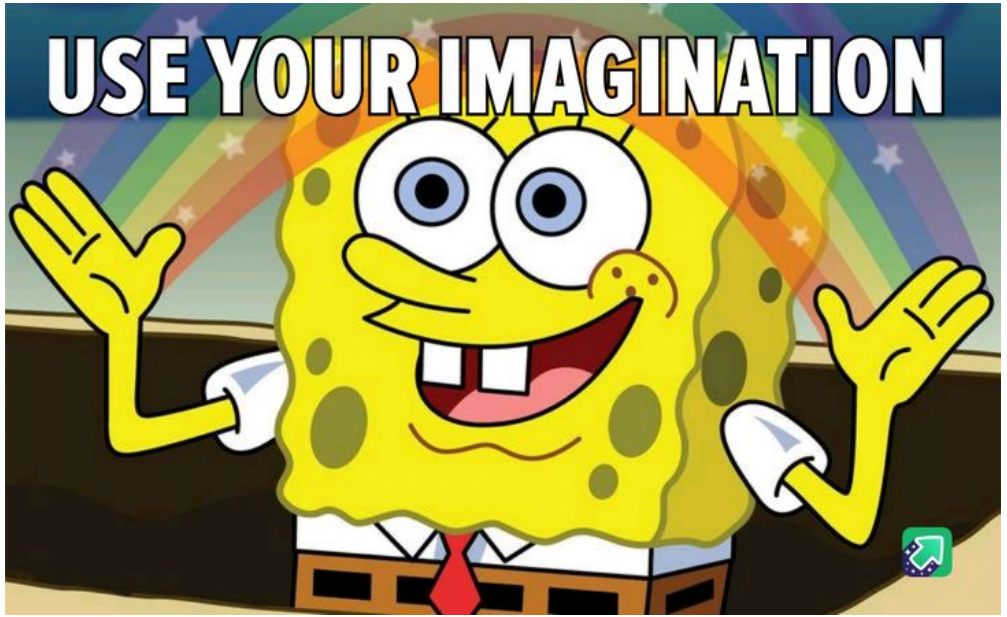
Toon van Doorn

Technical Consultant

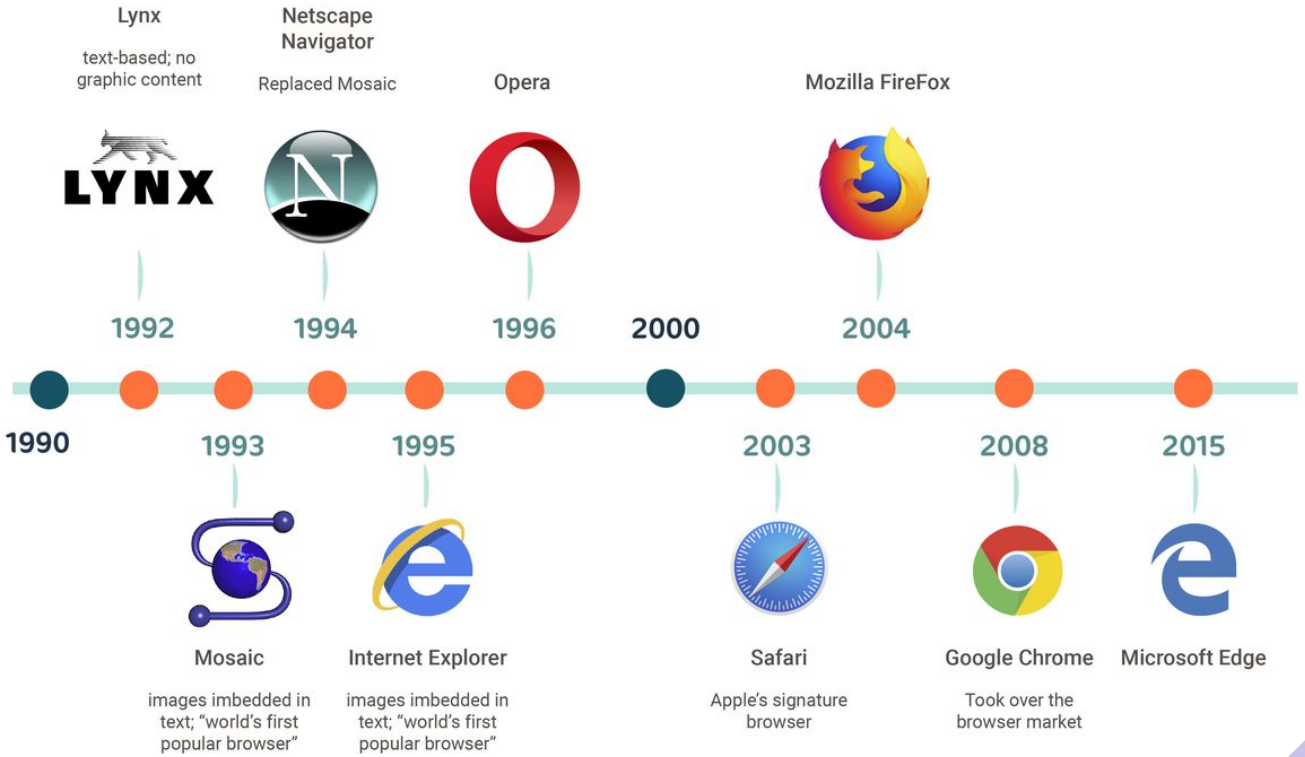
We are Strix and

we are pushing boundaries in commerce.

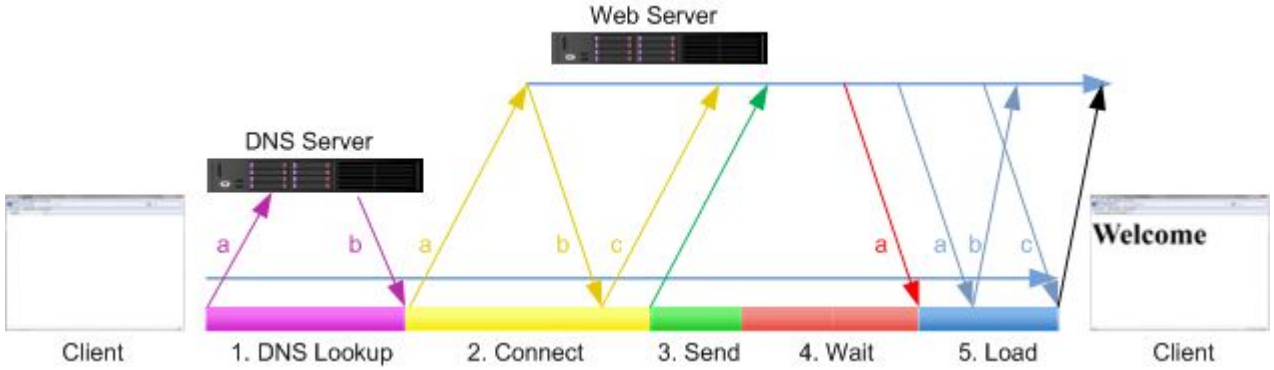
The Challenge of Web Performance



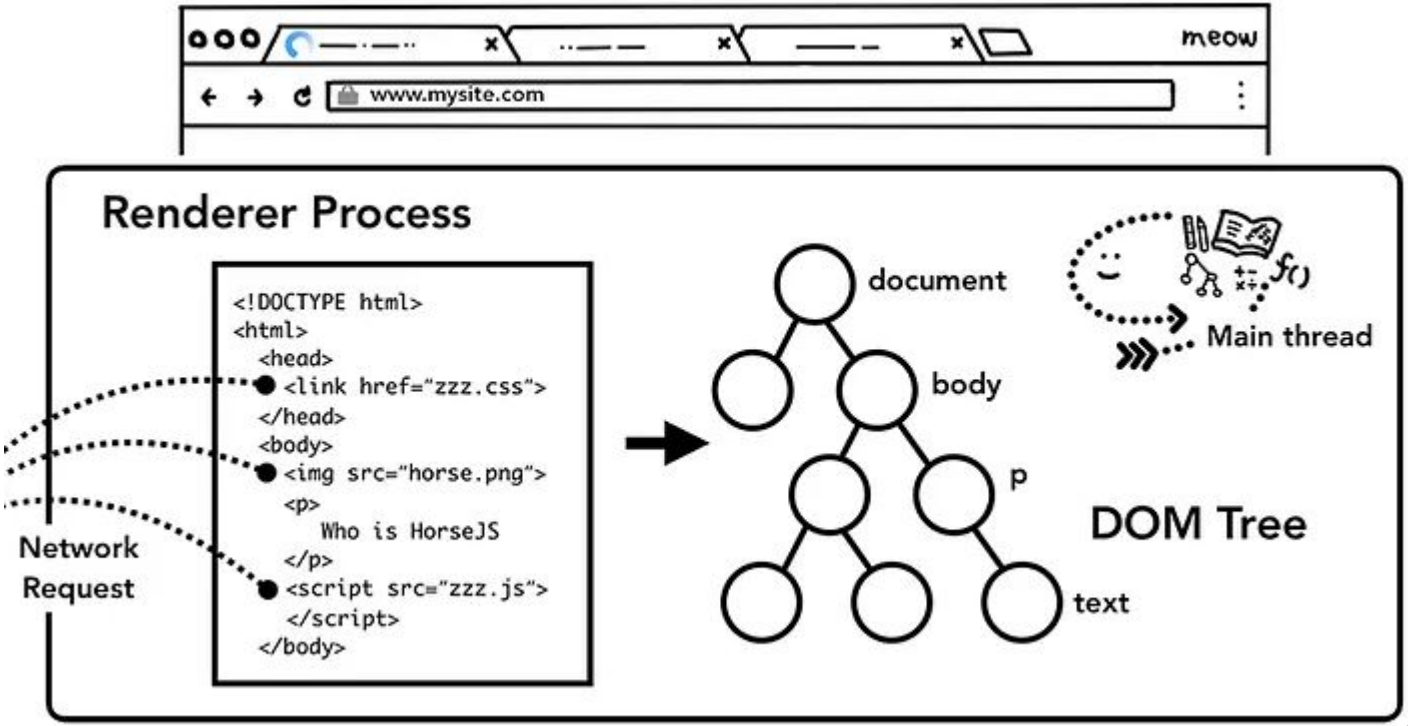
Imagine: You are a web browser . . .



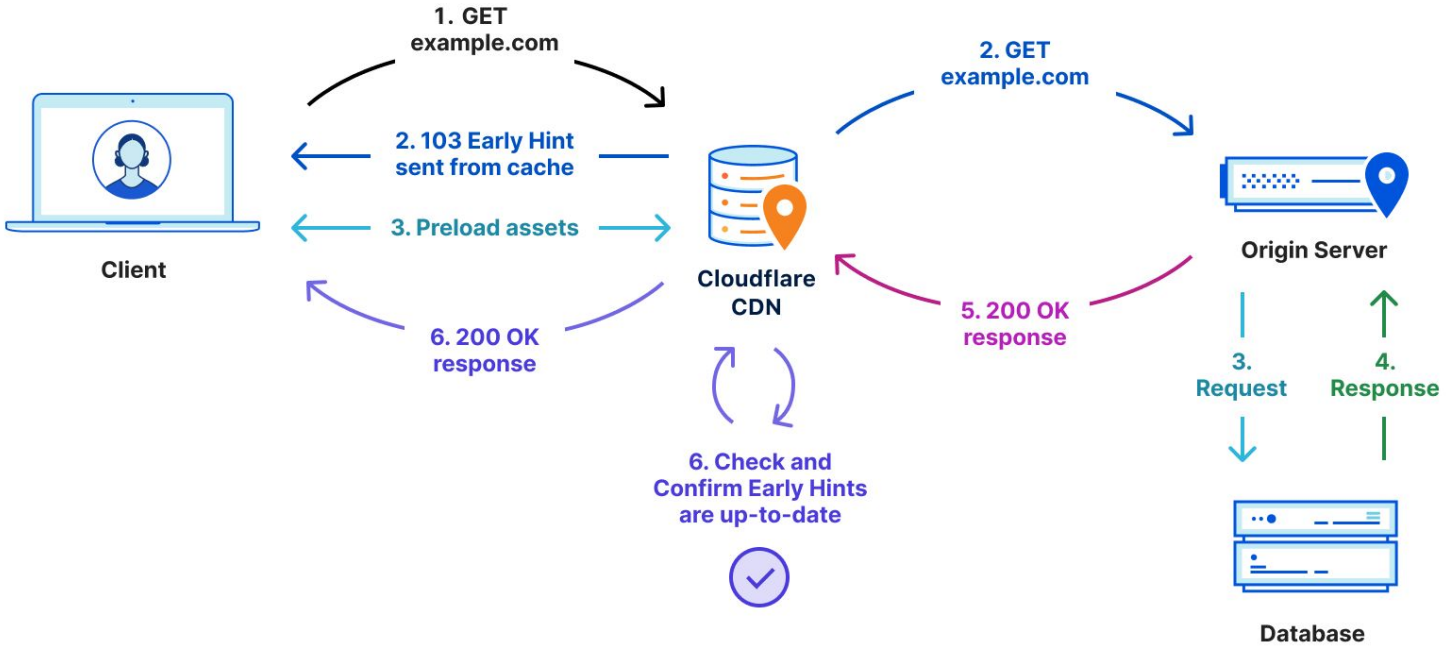
First Steps as a Browser



Resource Gathering



The Optimized Journey



Core Web Vitals

(Loading)

LCP

Largest Contentful Paint

(Interactivity)

INP

Interaction to Next Paint

(Visual Stability)

CLS

Cumulative Layout Shift

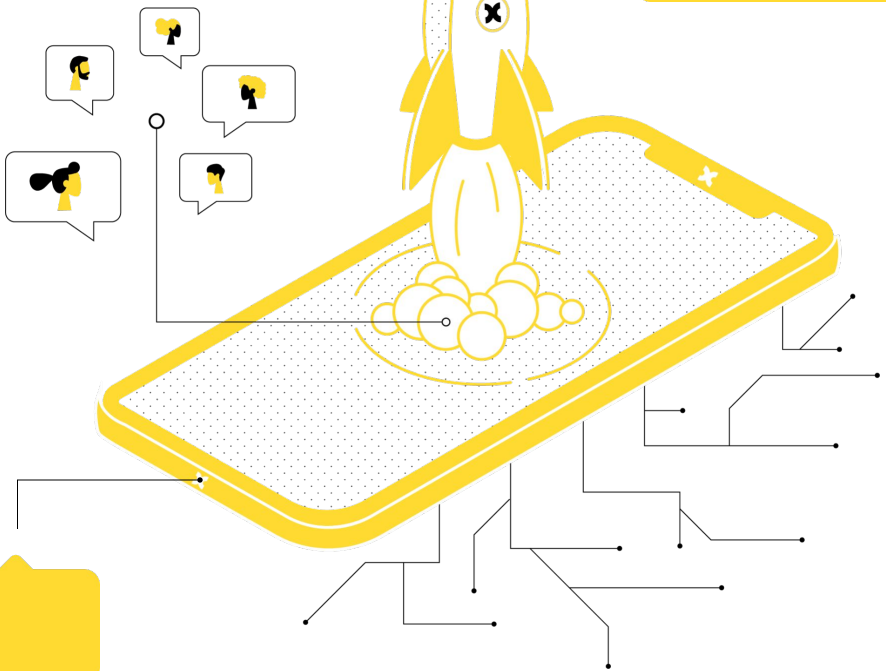
	Good	Poor	Percentile
Largest Contentful Paint	**<2500ms**	**>4000ms**	**75**
Interaction to Next Paint	**<200ms**	**>500ms**	**75**
Cumulative Layout Shift	**<0.1**	**>0.25**	**75**

Core Web Vitals

Load faster

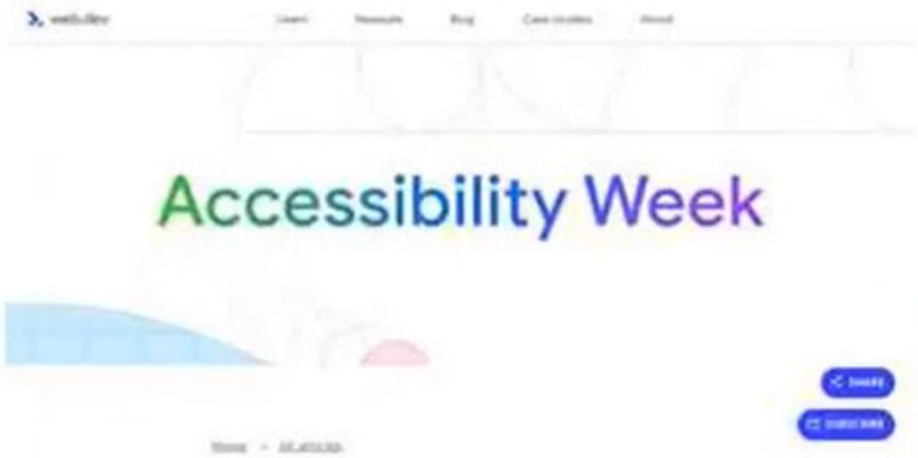
Content
optimized media (img video)

Caching



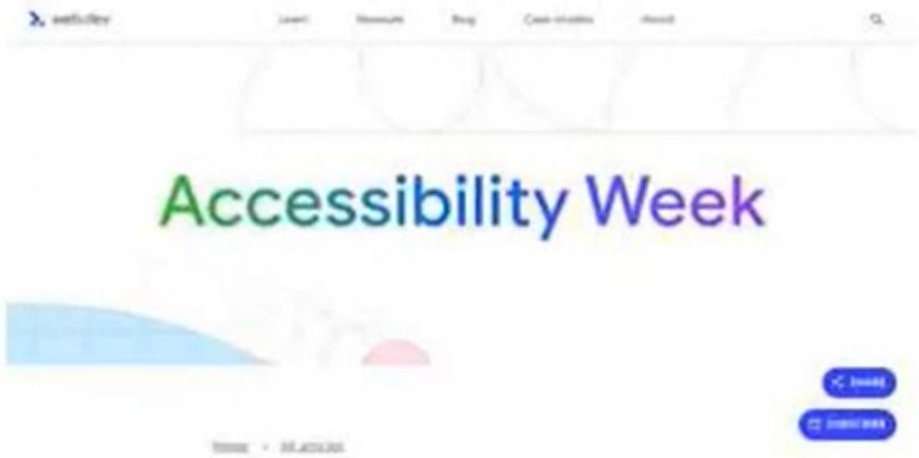
Faster
Webserver

No Prerender



1.6

With Prerender



0.2

shopware
PLATINUM
PARTNER

"Preload, prefetch or prerender"

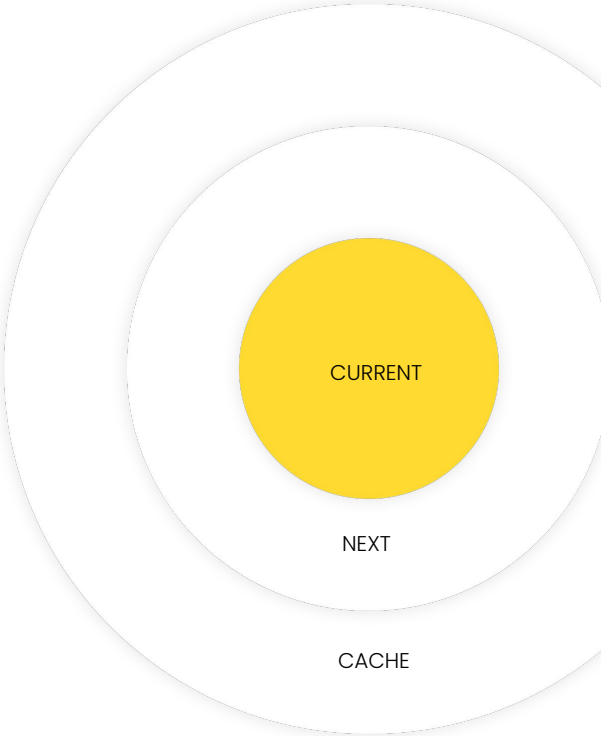
Combining

Improve user experience

- Preload
- Prerender
- Cache

You can let the browser know what resources to preload for the current page visit.

1. <link rel=preload for style and script
2. transmit a resource link in the header response
3. send out a 103 early hint (before 200OK)

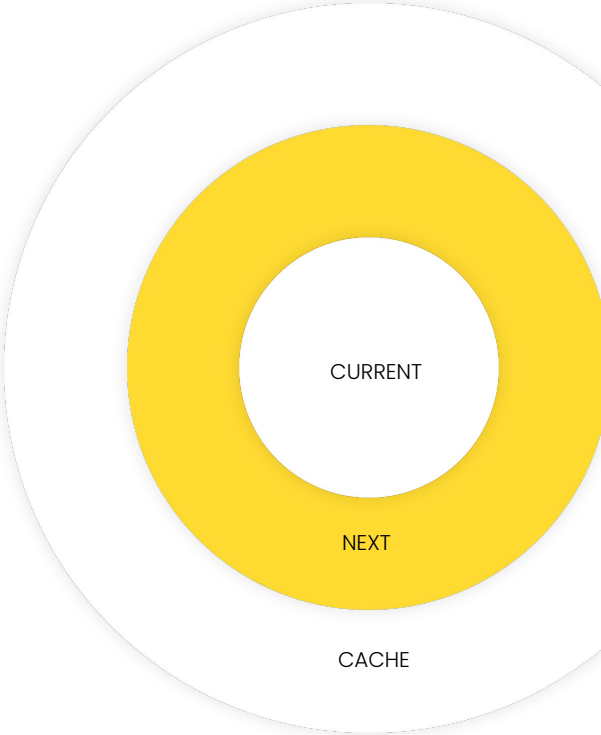


Prerender next page

- Preload
- Prerender
- Cache

For the next page visit in the same site you can instruct the browser to prefetch it, or fully prender the next page.

Clicking the link makes an instant navigation.

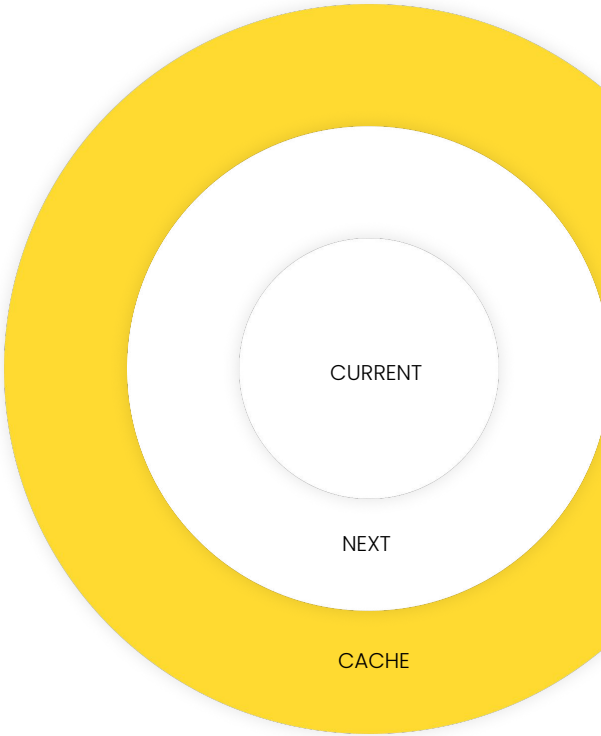


Cache on all possible levels

Gain advantage

- Preload
- Prerender
- Cache

- Application Cache
- HTTP Cache
- Edge Cache
- Browser Cache
- Back and Forward Cache (BF-Cache)



Speculation rules API browser support

Browser compatibility

api.Document.prerendering

Report problems with this compatibility data on GitHub

	Chrome	Edge	Firefox	Opera	Safari	Chrome Android	Firefox for Android	Opera Android	Safari on iOS	Samsung Internet	WebView Android
`prerendering`	✓ 108	✓ 108	✗ No	✓ 94	✗ No	✓ 108	✗ No	✓ 73	✗ No	✓ 21.0	✓ 108

How does Speculation Rules API work

```
<script type="speculationrules">
{
  "prerender": [
    {
      "urls": ["next.html", "next2.html"]
    }
  ]
}
</script>
```

```
<script type="speculationrules">
{
  "prerender": [{
    "where": {
      "and": [
        { "href_matches": "/*" },
        { "not": {"href_matches": "/wp-admin"}},
        { "not": {"href_matches": "/*\\?*(^|&)add-to-cart=*"}},
        { "not": {"selector_matches": ".do-not-prerender"}},
        { "not": {"selector_matches": "[rel~=nofollow]"}}
      ]
    }
  }]
}
</script>
```

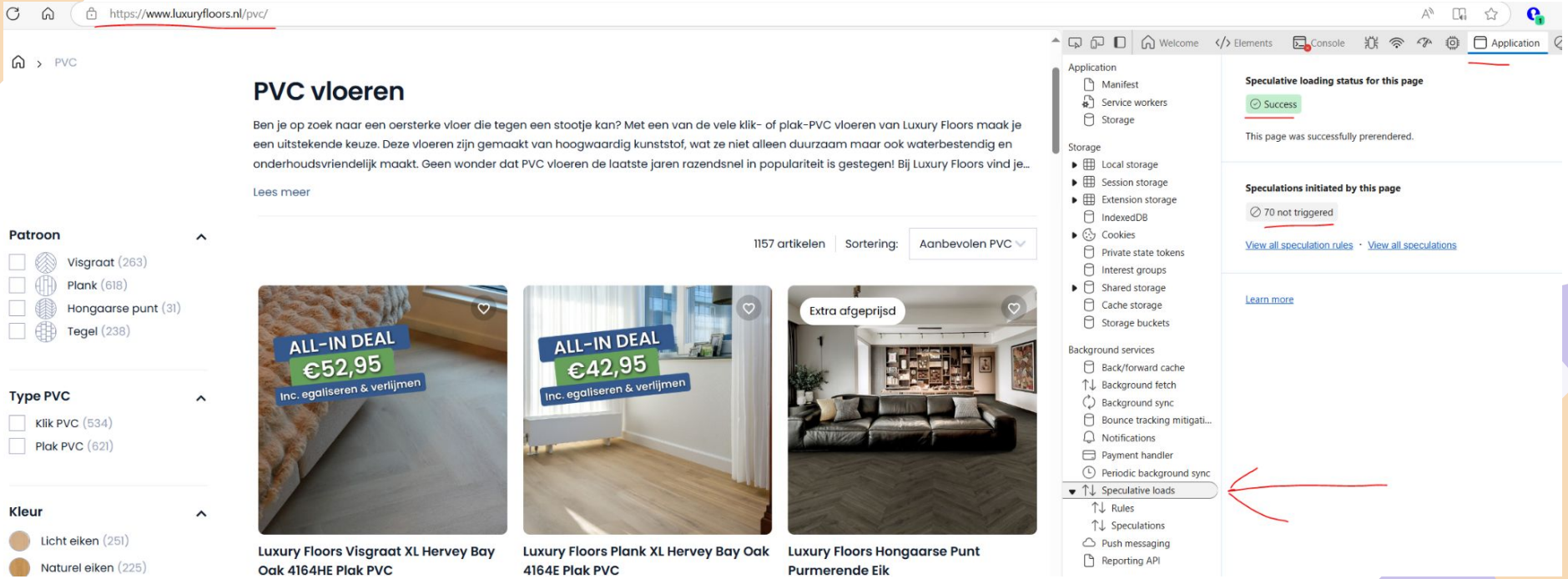
When to prefetch or prerender

Chrome limits

Chrome has limits in place to prevent overuse of the Speculation Rules API:

eagerness	Prefetch	Prerender
`immediate` / `eager`	50	10
`moderate` / `conservative`	2 (FIFO)	2 (FIFO)

See it working



You hover a link

Speculative loading status for this page

Success

This page was successfully prerendered.

Speculations initiated by this page

69 not triggered | 1 success

View all speculation rules · View all speculati

Learn more

Speculative loading status for this page

Success

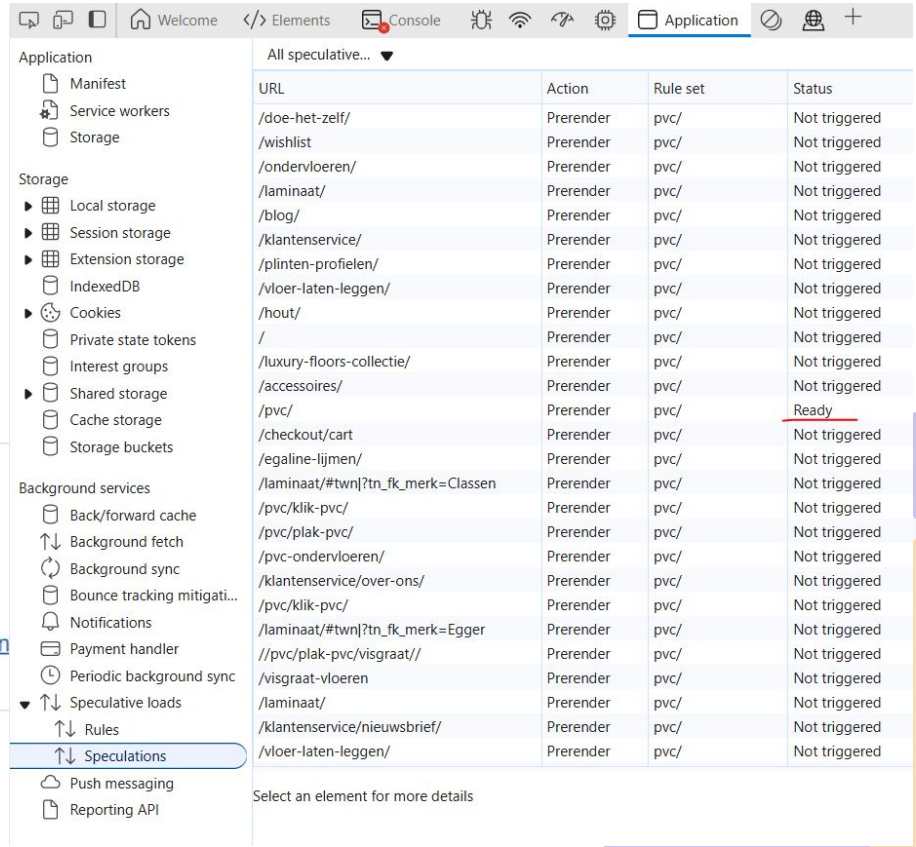
This page was successfully prerendered.

Speculations initiated by this page

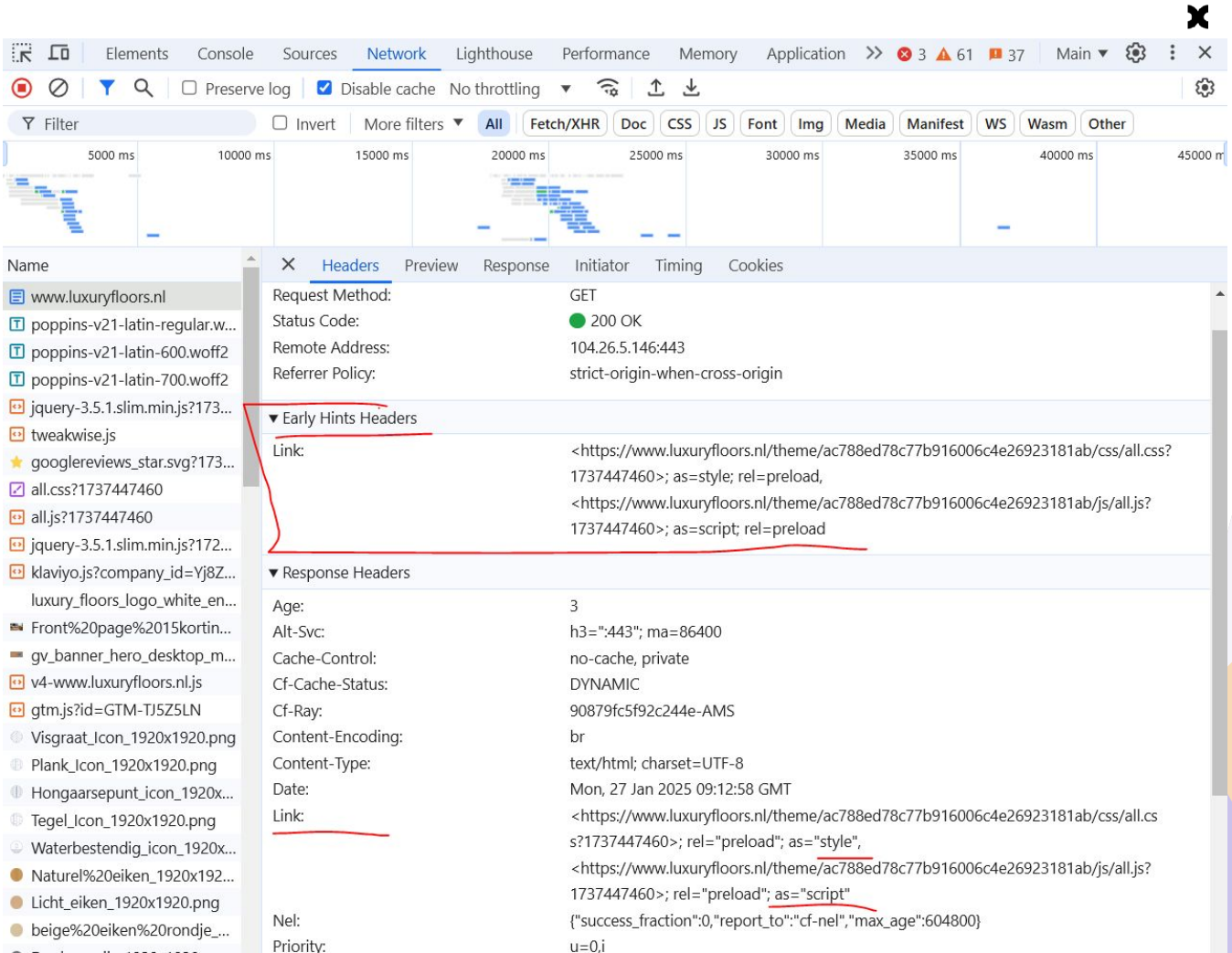
68 not triggered | 2 success

View all speculation rules · View all speculation

Learn more

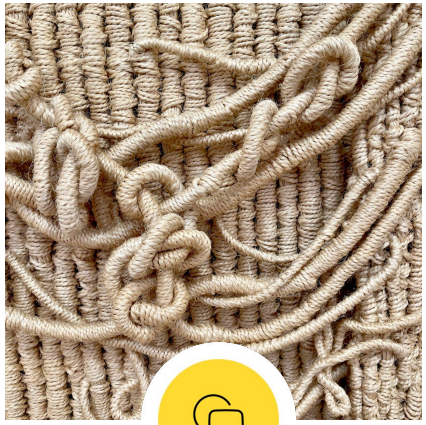


Preload assets

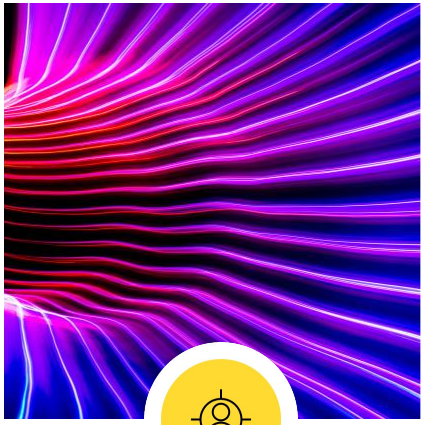


Strix Instant Navigation plugin

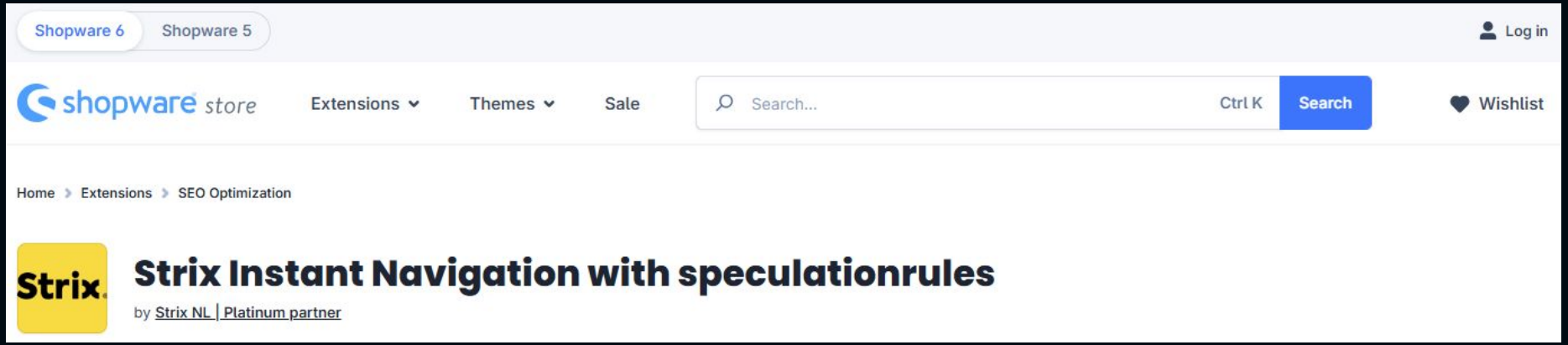
Preload



Link header



Prerender


Shopware 6
Shopware 5
Log in
shopware store
Extensions
Themes
Sale
Search...
Ctrl K
Search
Wishlist
Home
Extensions
SEO Optimization
Strix.
Strix Instant Navigation with speculationrules
by Strix NL | Platinum partner

Demo

Real User Metrics

Historic Core Web Vitals data

Core Web Vitals assessment: passed

Page: homepage | all pages • Device: mobile | desktop | all • Data: Absolute | Distribution

Largest Contentful Paint

improving

75th percentile at 2025-01-25 was 1.01 seconds

Interaction to Next Paint

regressing

75th percentile at 2025-01-25 was 152 ms

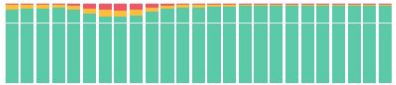
Cumulative Layout Shift

steady

75th percentile at 2025-01-25 was 0.00

First Contentful Paint

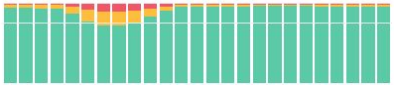
improving



75th percentile at 2025-01-25 was 0.75 seconds

Time to First Byte

steady



75th percentile at 2024-12-14 was 191 ms

Navigation types

Choose

Most popular navigation type at 2025-01-11 was navigate

Field results

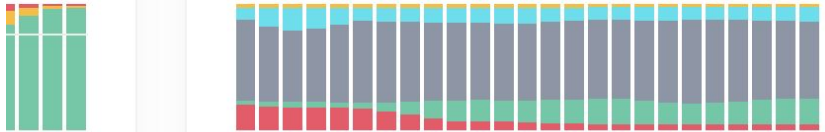
Shopware United Connect
EU CONFERENCE

Navigation types

on mobile devices
during 4-5-2024 to 1-6-2024

Navigation type distribution:

- 18% back forward
- 4.8% bfcache
- 56.4% navigate
- 0% navigate cache
- 18% prerender
- 2.8% reload
- 0% restore



Navigation types

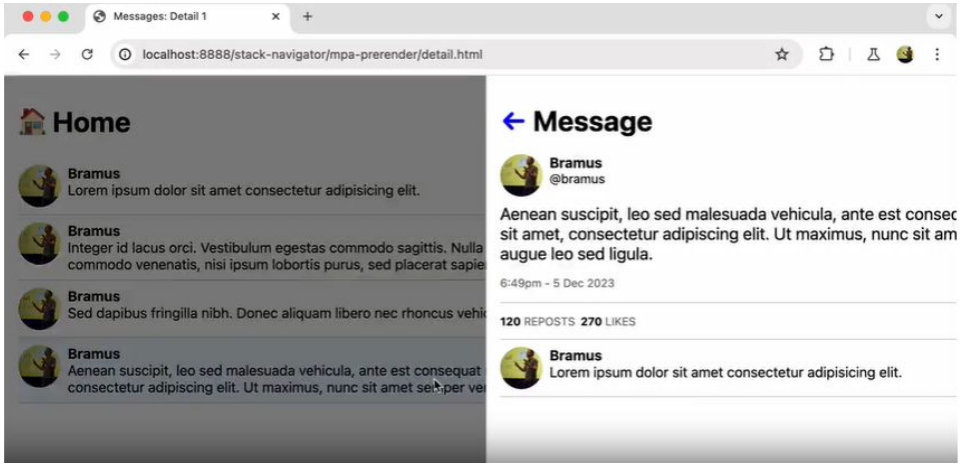
on mobile devices
during 5-10-2024 to 2-11-2024

Navigation type distribution:

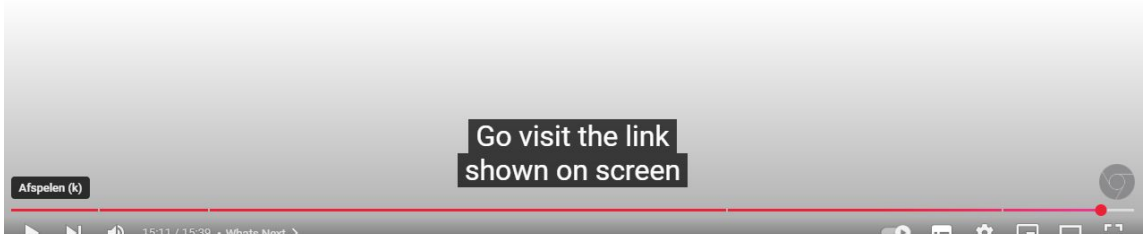
- 5.3% back forward
- 20.2% bfcache
- 61.1% navigate
- 0% navigate cache
- 11.3% prerender
- 2.2% reload
- 0% restore

@view-transition

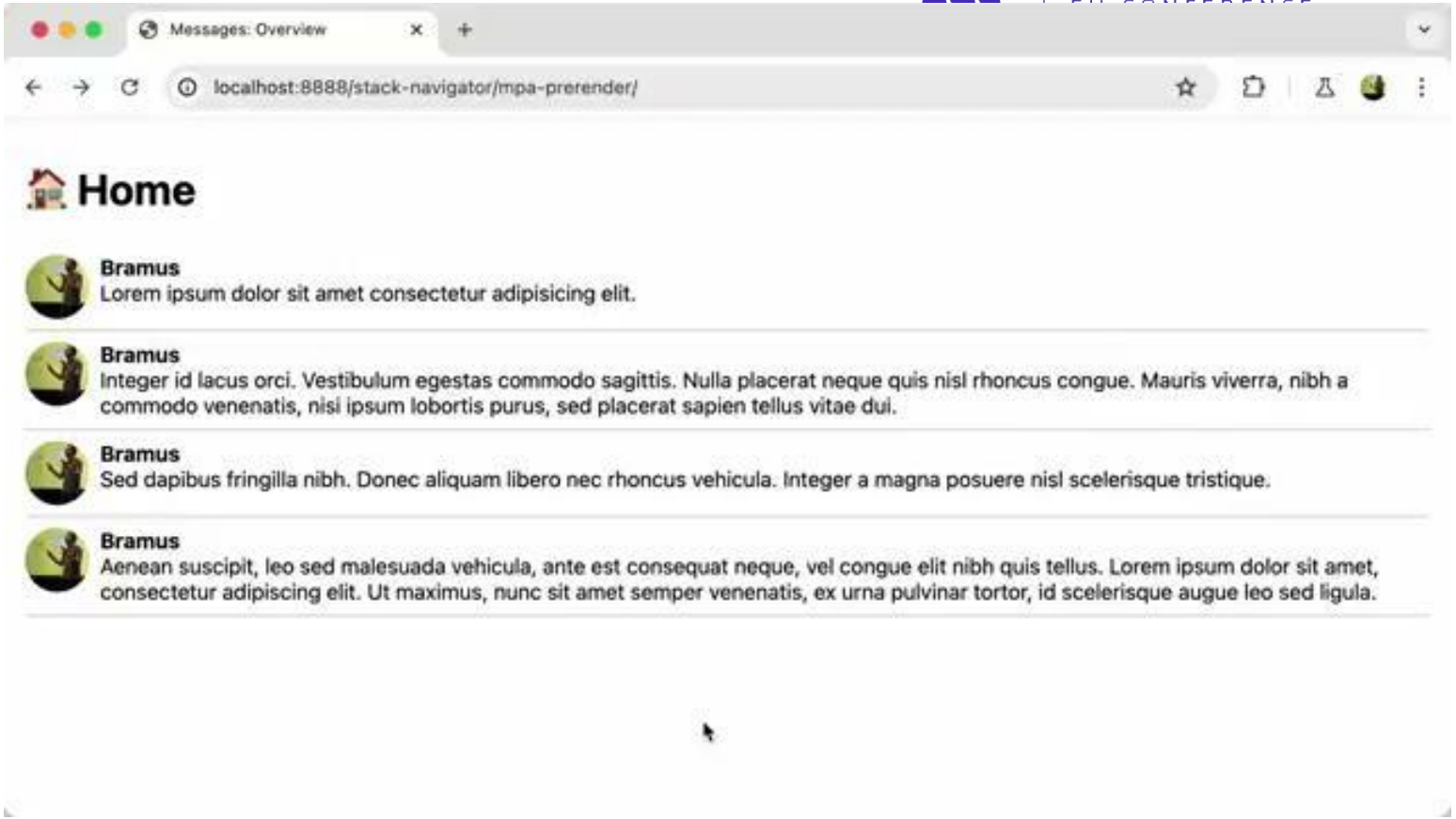

```
@view-transition {
  navigation: auto;
}
```



goo.gle/cross-doc-view-transitions



@view-transition



Sustainability

Fewer server requests → Reduced bandwidth → Lower carbon footprint.

Optimized sites
save device battery life
and load pages faster

Summary

Web Performance Challenges

- Understanding how browsers handle page loads and why optimizing this process is crucial for user experience. Use real user data instead of synthetic tests.

Key Optimization Techniques

- Leveraging resource preloading, prerendering, and caching strategies to deliver faster, seamless navigation.

Speculation Rules API

- Using modern browser capabilities to preload and prerender next-page visits effectively.

Strix Instant Navigation Plugin

- A ready-to-use solution to implement preloading and prerendering in Shopware, enhancing user experience effortlessly.

One more thing . . .

🎉 **Exclusive Offer:** The **Strix Instant Navigation Plugin** is available at a **discount this month only!**

📦 Unlock faster navigation, better performance, and happier users for less.

🔗 Scan the QR code or visit the Shopware store to claim your discount today!

One more thing . . .

Shopware Indexing Performance Breakthrough 🚀

- SWAG Language Pack installs **30 languages** by default.
- Even with a few enabled, indexing is heavily impacted.
- On a shop with **2M+ SKUs**, manual cleanup yielded:
  - **85% performance boost ⚡**
  - Indexing time cut from **0.33s** to **0.05s per product**.

Less is more! 🎉

Dank u wel!

Q & A

if there is time ;)

Or meet me later . . .