









Daniel Roe

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hello 

 nuxt.com •  nitro.unjs.io •  page-speed.dev •  regexp.dev  
 fontaine.sh •  elk.zone •  firstcommit.is •  react-to-nuxt.com



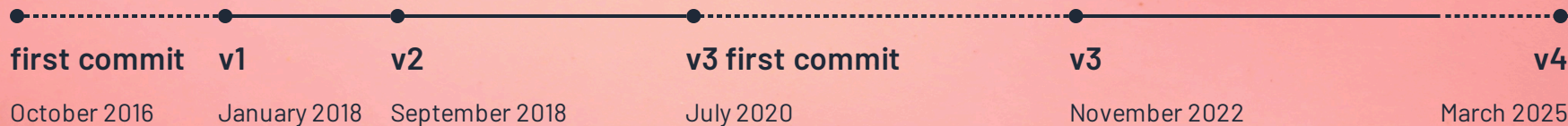


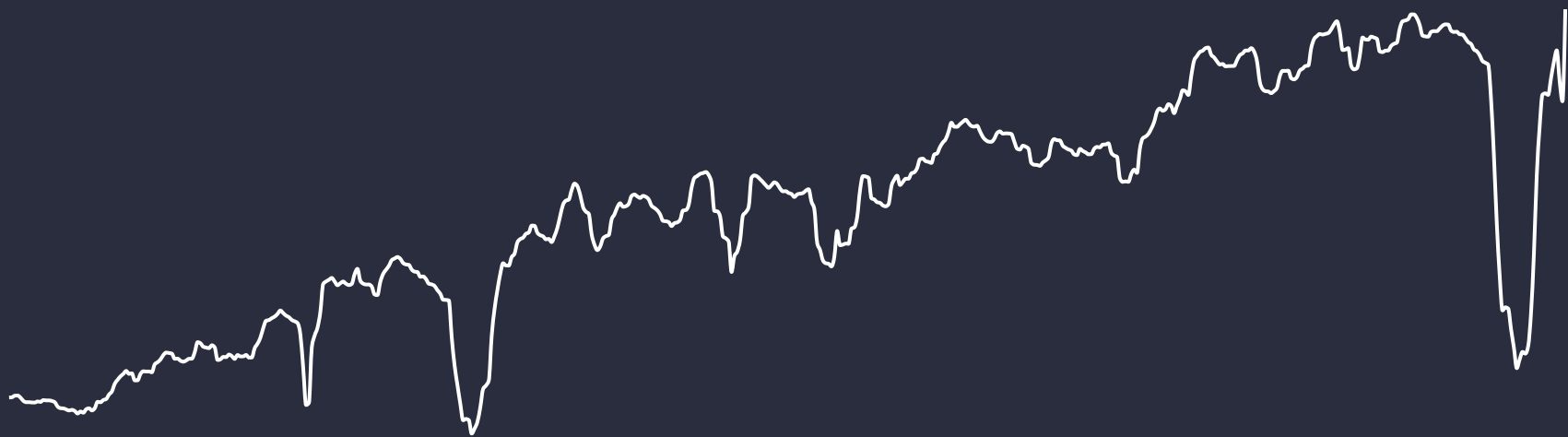




# what is nuxt?

- ✦ a **progressive** framework built on **vue.js** and **nitro**
- ✦ **zero-effort** start with great dx
- ✦ **best practices** built-in
- ✦ fully **configurable** & easily **extensible**





**55.7** k

★ STARS

**33.9** MILLION

📈 DOWNLOADS





810+  
CONTRIBUTORS



javascript is  
**useful**



**expanding possibilities**



expanding possibilities

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="/style.css" type="text/css">
    <title>A truly incredible site</title>
  </head>
  <body>
    <div id="app">
      <!-- -->
    </div>
    <script type="module" src="/app.js"></script>
  </body>
</html>
```

# style inlining

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="stylesheet" href="/style.css" type="text/css">
    <link rel="stylesheet" href="/pages/index.css" type="text/css">
    <link rel="stylesheet" href="/components/MyComponent.css" type="text/css">
    <title>A truly incredible site</title>
  </head>
  <!-- -->
</html>
```

1

## style inlining

pages/index.vue

```
// .output/server/chunks/build/styles.mjs
export default {
  'pages/index.vue': () => import('./index-styles.Bq7mhkrp.mjs'),
  // ...
}

// nuxt/dist/runtime/nitro/renderer.js
function renderInlineStyles (usedModules: Set<string> | string[]) {
  const styleMap = await getSSRStyles()
  const inlinedStyles = new Set<string>()
  for (const mod of usedModules) {
    if (mod in styleMap && styleMap[mod]) {
      for (const style of await styleMap[mod]()) {
        inlinedStyles.add(style)
      }
    }
  }
  return Array.from(inlinedStyles).map(style => ({ innerHTML: style }))
}
```

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <style>
      div[data-v-471925bb] {
        background-color: #f0f0f0;
        border: 1px solid #ccc;
        margin: 20px;
        padding: 20px
      }
    </style>
    <link rel="stylesheet" href="/style.css" type="text/css">
    <title>A truly incredible site</title>
  </head>
  <!-- -->
</html>
```





## acknowledging user input

ht: @rick\_viscomi

## acknowledging user input

the cost of static

- ✦ every prerendered page gets a 'payload' and a dedicated URL

```
<link rel="preload" as="fetch" crossorigin="anonymous" href="/ama/_payload.json?abcb8c3b-7e6f">
```

# 2

```
const data = {
  "data": shallowReactive({
    "LayoutTheSiteFooter_rzlfFWPwq6": island({
      "key": "LayoutTheSiteFooter_rzlfFWPwq6",
      "result": {
        "head": {
          "link": [],
          "style": []
        }
      }
    }),
    "StaticMarkdownRender_lKTrT3sQQ0": island({
      "key": "StaticMarkdownRender_lKTrT3sQQ0",
      "result": {
        "head": {
          "link": [],
          "style": []
        }
      }
    })
  }),
  "prerenderedAt": 1731576433964
}
```


```
import { defineNuxtPlugin, useRouter } from 'nuxt/app'


export default defineNuxtPlugin(() => {
  useRouter().beforeResolve(async () => {
    await new Promise((resolve) => {
      setTimeout(resolve, 100)
      requestAnimationFrame(() => {
        setTimeout(resolve, 0)
      })
    })
  })
})
```



← Blog / Engineering

# Demystifying INP: New tools and actionable insights

 Malte Ubi, CTO, Vercel

 9 min read

A technical guide exploring real-world strategies used to improve performance on Vercel's websites.

In March 2024 Interaction to Next Paint (INP) became part of Google's Core Web Vitals.

## web font optimisation

- ✦ font configuration doesn't respond to *usage*
- ✦ third-party origins + preconnects
- ✦ font waterfalls
- ✦ contribution to layout shift



## web font optimisation

- ✦ [unjs/unifont](#)
- ✦ [unjs/fontaine](#)

```
@font-face {  
  font-family: 'Oswald';  
  src: local("Oswald Regular"), local("Oswald"),  
    url("/_fonts/<hash>.woff2") format(woff2);  
  font-display: swap;  
  unicode-range: U+0100-02AF,U+0304,<more>,  
  font-weight: 400;  
  font-style: normal;  
}
```

```
@font-face {  
  font-family: "Oswald Fallback: Arial";  
  src: local("Arial");  
  size-adjust: 81.4265%;  
  ascent-override: 146.5125%;  
  descent-override: 35.4921%;  
  line-gap-override: 0%;  
}
```

```
h1 {  
  font-family: 'Oswald', 'Oswald Fallback: Arial', sans-serif;  
}
```



## chunking async refreshes experimental

```
// virtual:asyncGeneratedChunk_123
export default async (route) => {
  const repo = await $fetch(`https://api.github.com/repos/${route.params.owner}/${route.params.repo}`)
  return repo
}

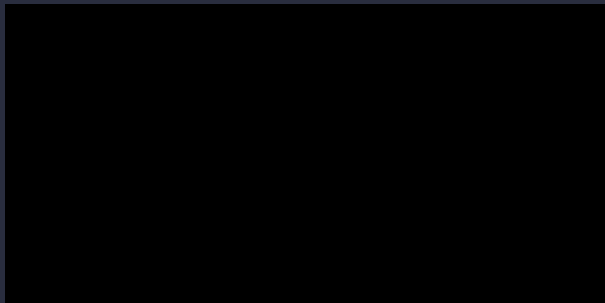
// MyComponent.vue
export default defineComponent({
  async setup () {
    const route = useRoute()
    const { data: repo } = await useAsyncData(() => import('virtual:asyncGeneratedChunk_123').then(r => r(route)))
  }
})
```

**-39 %**  
TOTAL JS

**-66 %**  
UNUSED JS

## third-party scripts

built-in facade components



## third-party scripts

nuxt/scripts

- ✦ cookie consent
- ✦ defer loading until interactive
- ✦ preconnect hints
- ✦ script preloading

You may not need Google Tag Manager with Nuxt Scripts. GTM is 82kb and will slow down your site. Nuxt Scripts provides many features you can easily implement within your Nuxt app.

[scripts.nuxt.com](https://scripts.nuxt.com)

## third-party scripts

bundling

```
const { load } = useScript('/_scripts/[hash].js', {  
  bundle: true,  
  trigger: 'manual'  
})
```

# 6

## rebundling initial load experimental

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link rel="preload" as="fetch" crossorigin="anonymous" href="/_payload.json?c5943ca5-b255-4abc-9e46-6014c3b9fff6">
    <script type="importmap">{
      "imports": {
        "_": "/_rebundle/fV19iUTNxh.js",
        "/_nuxt/BKQMxkHa.js": "data:text/javascript;base64,aW1wb3J0e0REZk9Uaw96fWZyb20iXyI7ZXhwb3J0IGRlZmF1bHQgRERmT1Rpb3ouZGVm
        ...
      }
    }</script>
    <script type="module" src="/_rebundle/fV19iUTNxh.js"></script>
    <title>A truly incredible site</title>
  </head>
  <body>
```



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**removing polyfills**

unplugin-purge-polyfills

is-nur

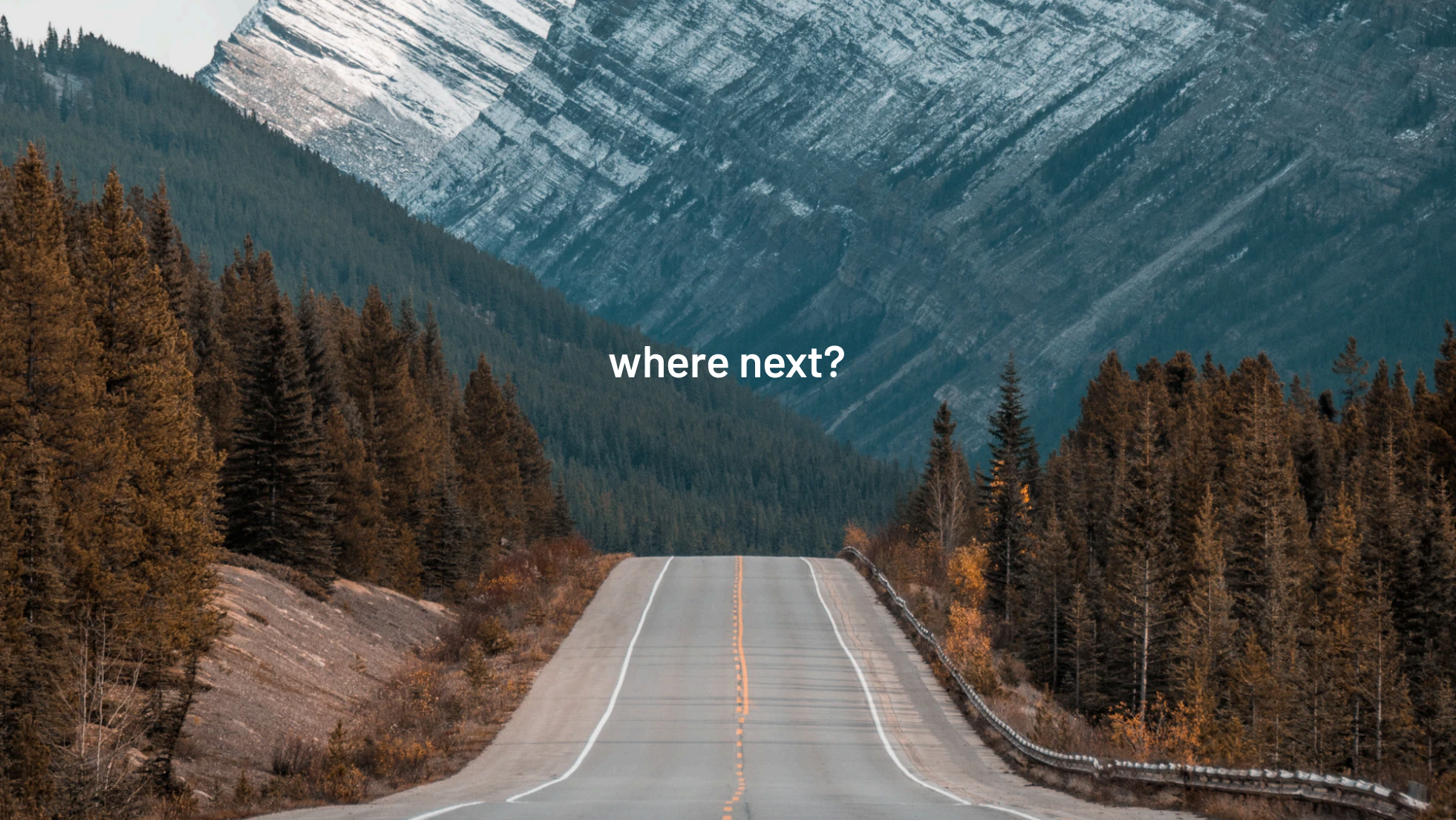


## script reduction

skip generating js that isn't needed

```
export default defineNuxtConfig({  
  features: {  
    noScripts: true  
  },  
  // or instead  
  routeRules: {  
    '/marketing/**': { experimentalNoScripts: true }  
  }  
})
```



A scenic landscape photograph featuring a two-lane asphalt road that stretches from the bottom center towards the horizon. The road has a dashed yellow center line and solid white edge lines. On either side of the road are dense forests of evergreen trees, some with autumnal yellow and orange foliage. In the background, a massive, steep mountain rises, its upper sections covered in snow and showing distinct horizontal geological strata. The sky is a pale, overcast blue.

where next?



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## interested ... ?

- ✦ check out the docs on [nuxt.com](https://nuxt.com)
- ✦ follow [@nuxt.com](https://nuxt.com) on Bluesky
- ✦ join [chat.nuxt.dev](https://chat.nuxt.dev) to discuss
- ✦ and a final offer 🙏

[roe.dev/chat](https://roe.dev/chat)

