

# How I made the web more responsive

Real-world case studies of INP optimizations



Andrea Verlicchi  
Web Performance GDE  
@verlok

we  speed

## T-Shirt Details

This t-shirt is made from 100% organic cotton. It is available in various sizes and colors.

## Shipment Details

## Return Policy



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# What you'll learn

by the end of this talk

- How interactions are **measured**
- How to **debug slow interactions...**
- ...with and without **Real User Monitoring data**
- What's the **most common cause** of high INP
- Other **mistakes** and how to **avoid** them

# Andrea Verlicchi

Web Performance Engineer

- Web developer
- Frontend
- Ecommerce





Progressive Web App

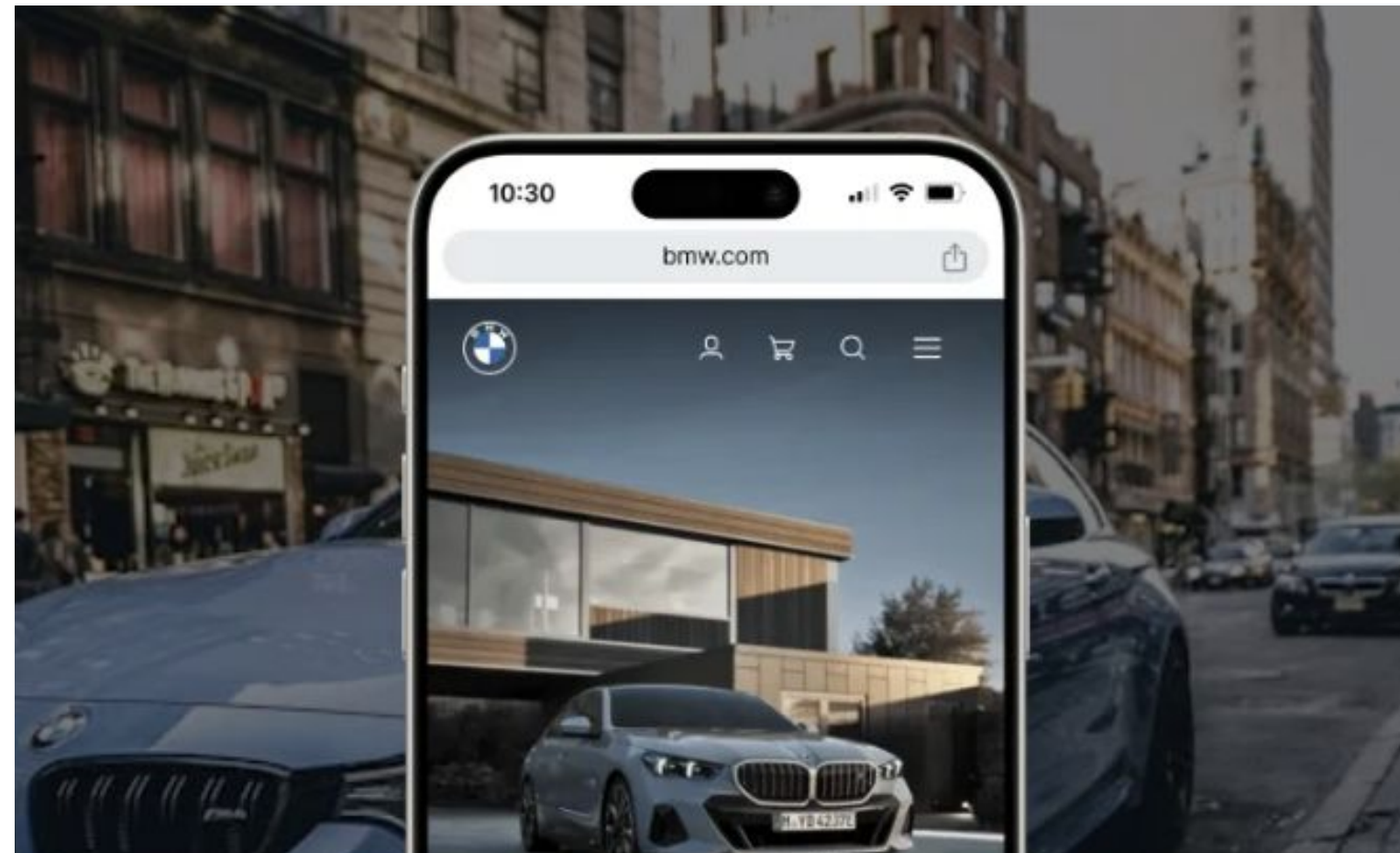
- Fast and reliable
  - 1. Page load is fast enough on mobile networks
    - 2. Web page load is always fast or is optimized for slow networks. Load all the resources in parallel and defer non-critical resources to load later.
  - 2. Content page does not require a 3G or slower offline
  - 3. Work on slow, not require with a 3G or slower offline
    - 4. Display is fast on slow 3G, not require offline
- Installable
  - 1. Uses HTTPS
  - 2. Does not require a service worker that controls page data that can't be updated
  - 3. Web app manifest does not need the mandatory requirements
    - 4. Provides a short-cut "launcher" icon to the user's home screen, app drawer, notification shade or task tray, home
- Push Optimized
  - 1. Features HTTPS, HTTPS, and HTTPS
  - 2. Is not configured for a custom 300x100px icon
    - 3. Features: Notification icon for home or task tray or at least 72px, rounded square icon, background, and manifest icon not same theme color
  - 3. Does not use an app icon that doesn't use the manifest icon
    - 4. Features: Notification icon not same theme color, do not reuse same theme color, do not use manifest icon for the app icon

Staging

Google Hackathon, London

# Speed Kit

An all-in-one page speed tool to accelerate your website & revenue.

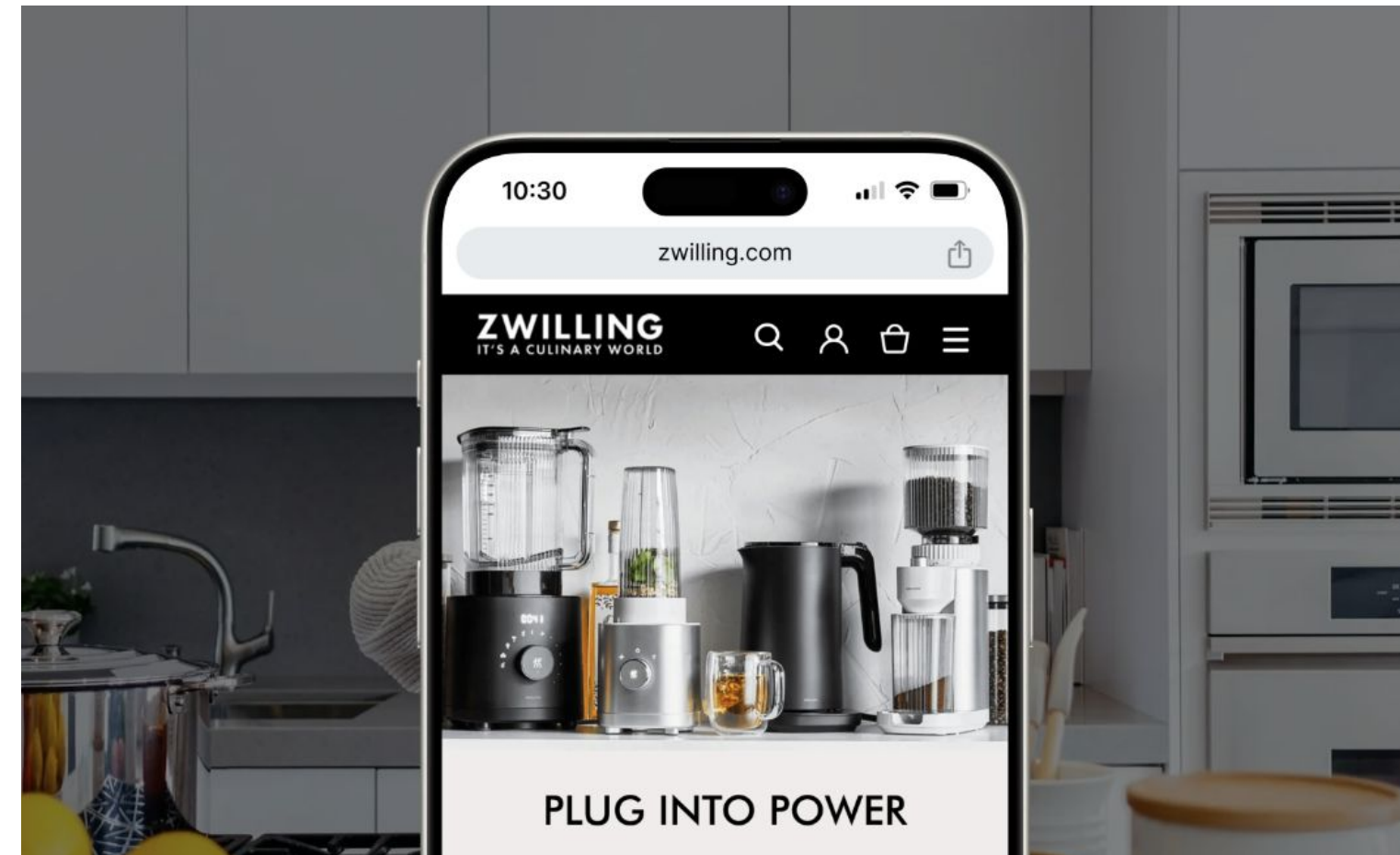


" [...] rolled out for 118 countries and achieved a **1.5x faster LCP** overall."

BMW Group

**1.5x faster**

**118 countries**

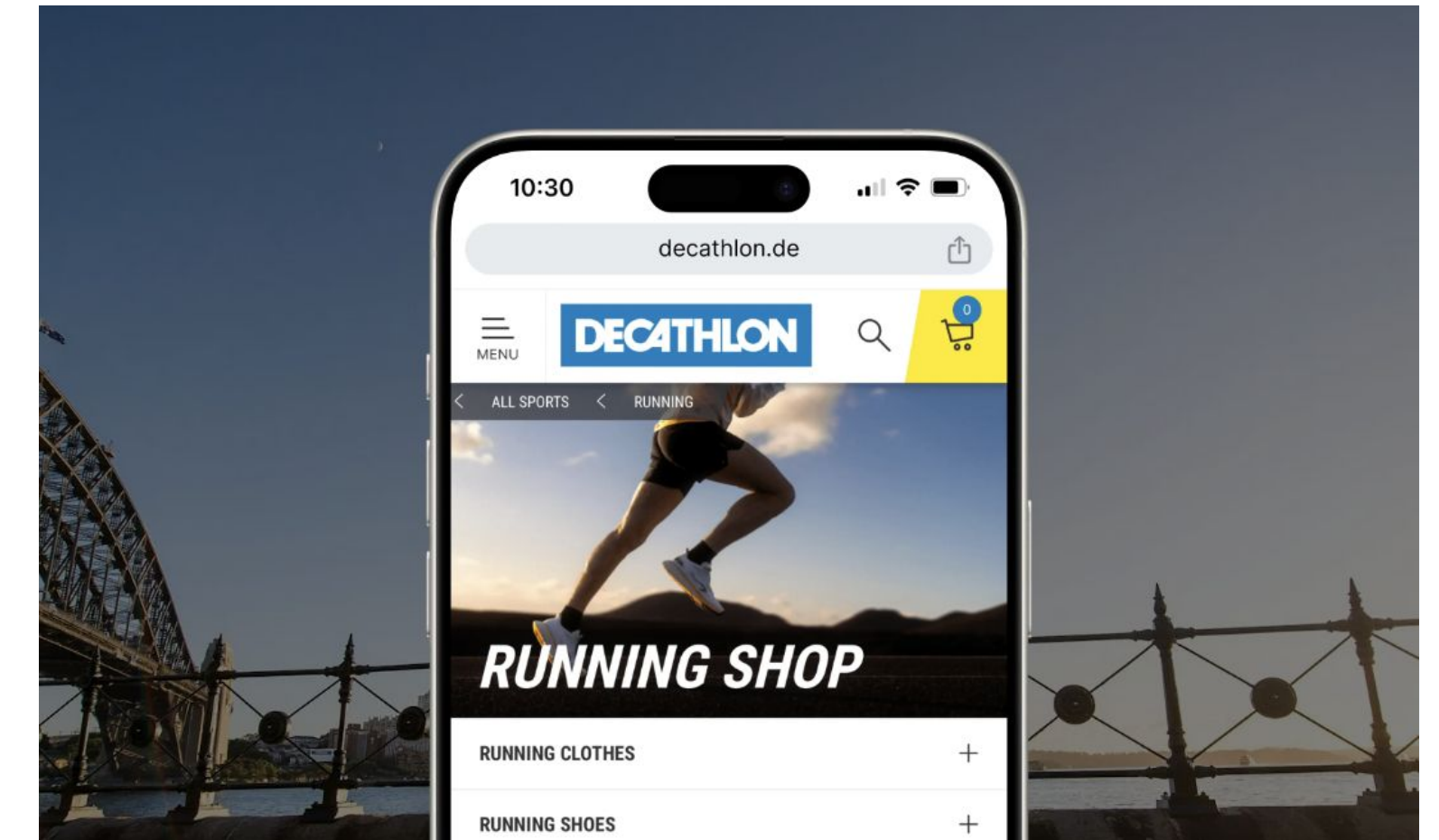


"Shorter loading times lead to a **sizeable increase** in revenue."

Florian Nagel, Head of Consumer Solutions

**1.4x faster**

**+5% revenue**



"After a long partnership, we still **highly recommend** Speed Kit."

Florian Bischoff, Chief Digital Officer

**300 ms faster**

**+2% revenue**



carhartt  
WORK IN PROGRESS

TUI Cruises

snipes

GANT

coop

TOM TAILOR

condor

+ AUTODOC

Speed Kit turns slow website visitors into fast customers.



What is Interaction  
to Next Paint (INP)?



Debugging slow  
interactions



Identified mistakes  
and solutions





What is Interaction  
to Next Paint (INP)?



Debugging slow  
interactions



Identified mistakes  
and solutions





# Have you heard of INP before?



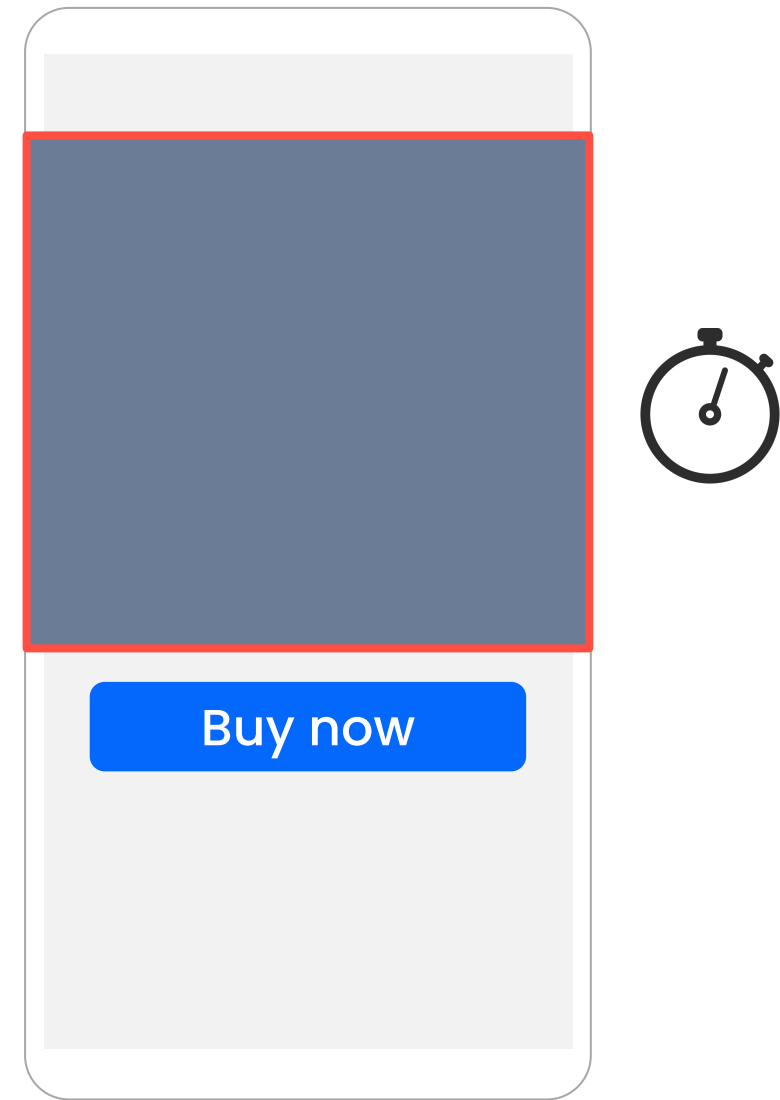
Heard of it today for the first time

Know the basic concepts of it

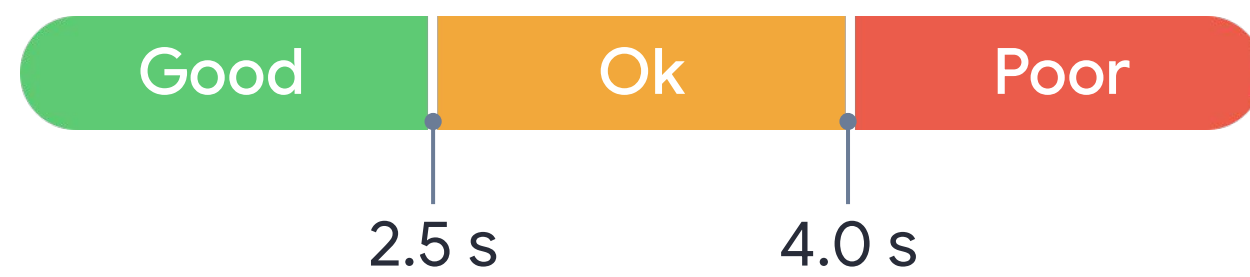
Know exactly what it is and how it's measured



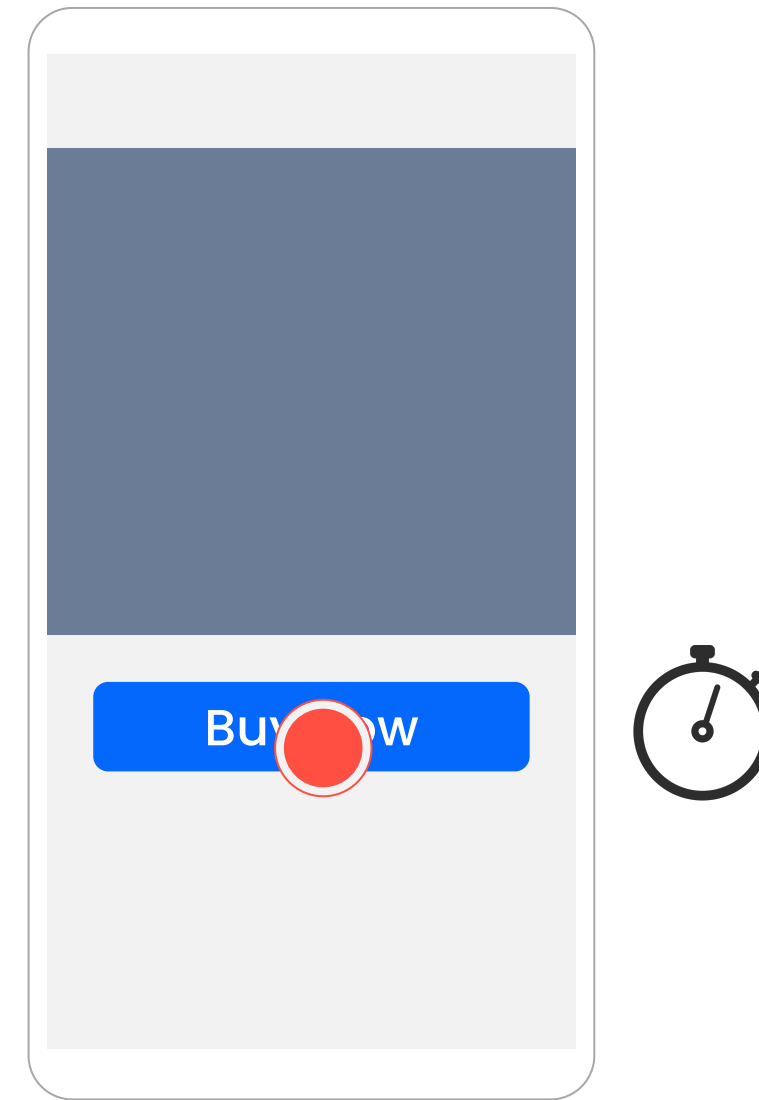
## Loading



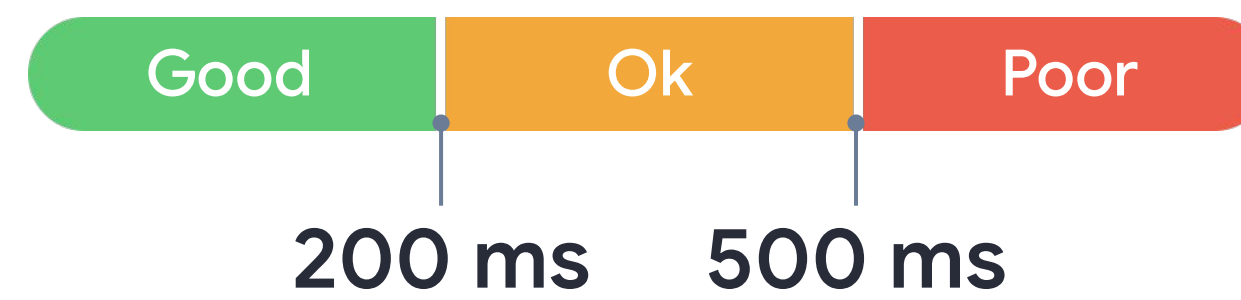
Largest Contentful Paint (LCP)



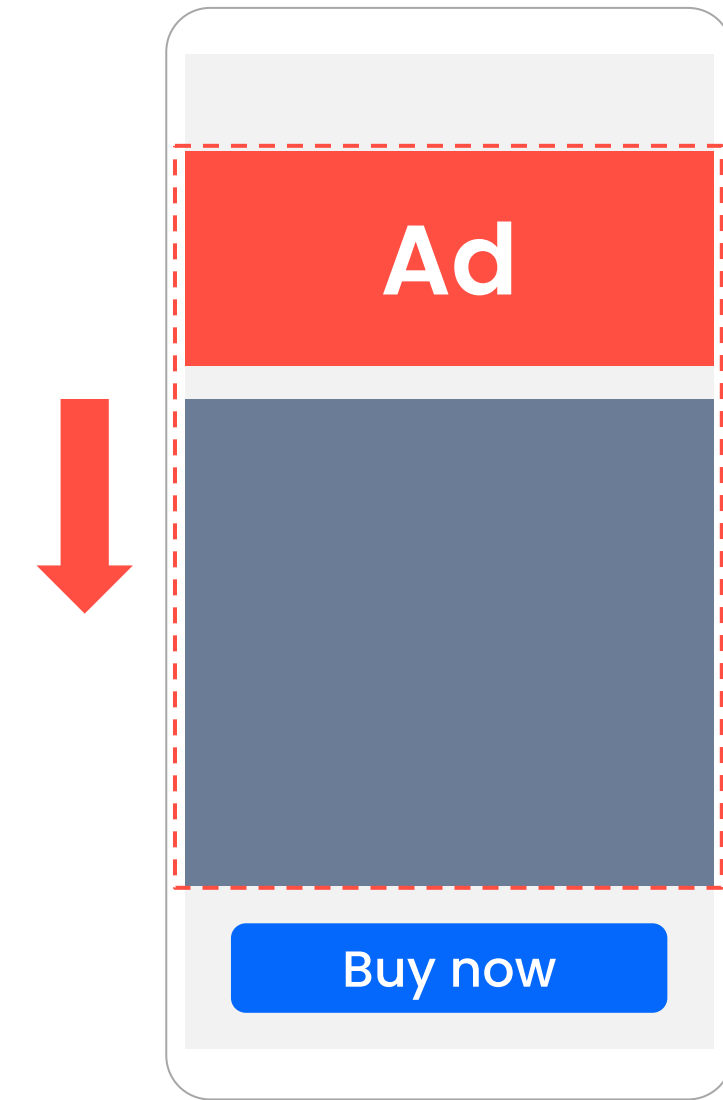
## Interactivity



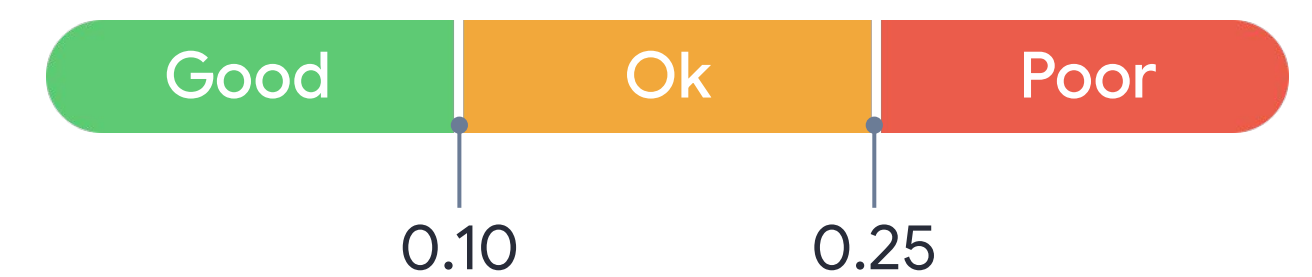
Interaction to Next Paint (INP)



## Visual Stability

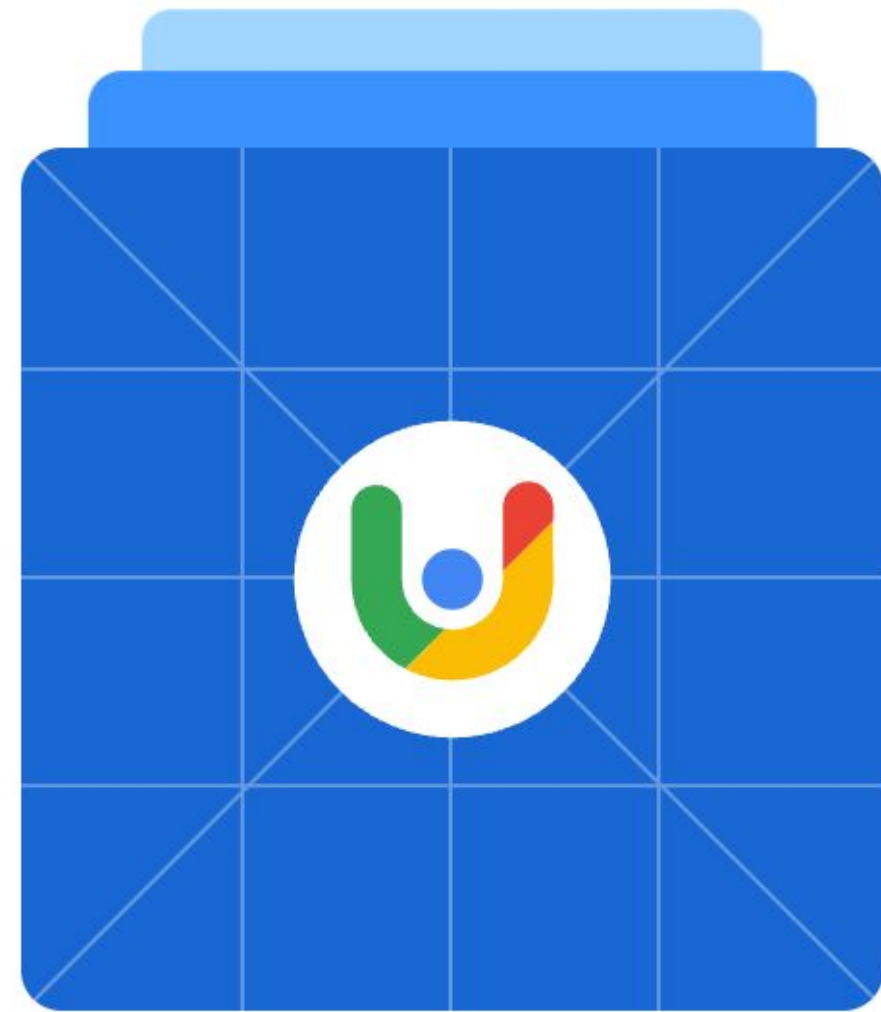


Cumulative Layout Shift (CLS)

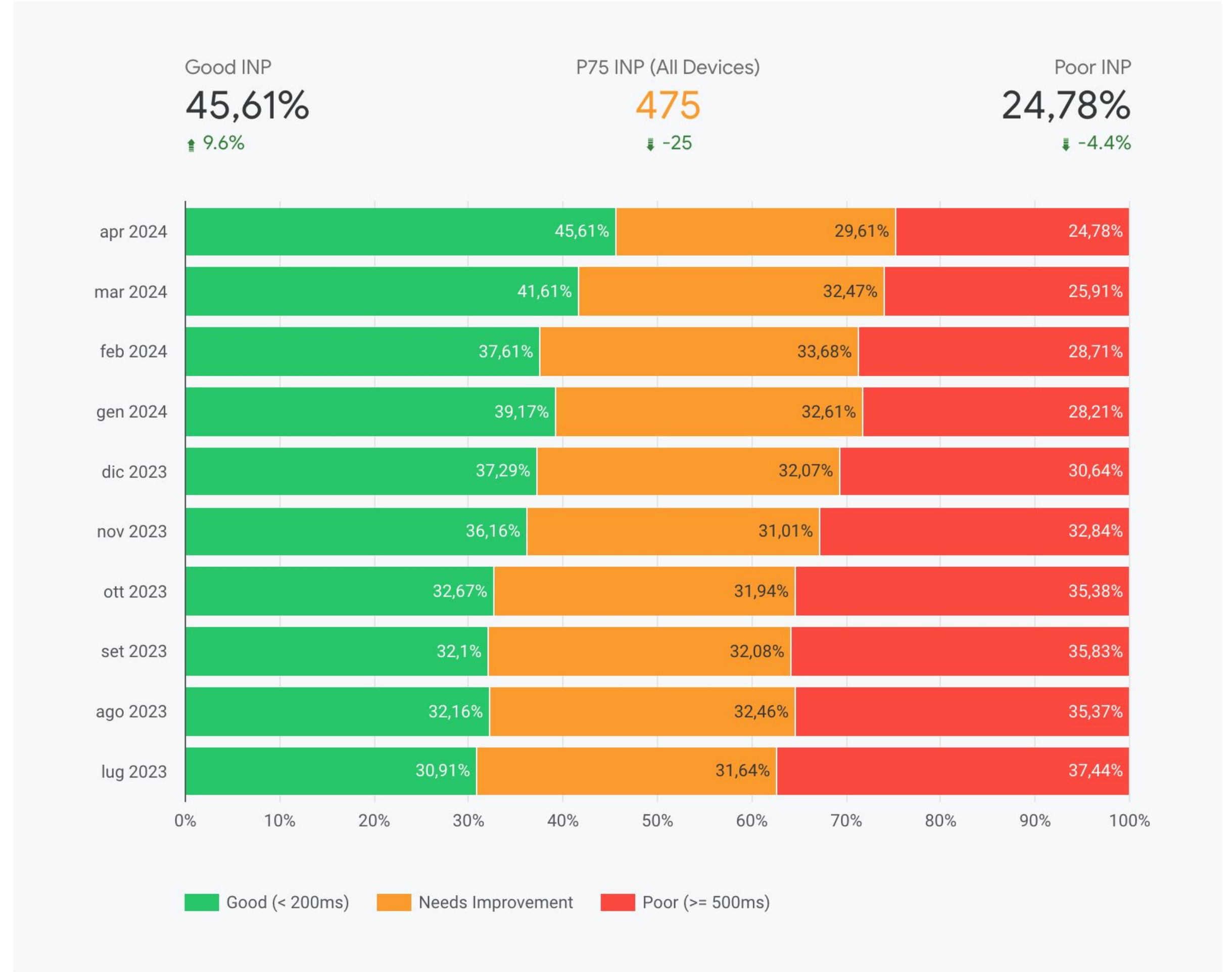




Chrome



Chrome User Experience (CrUX)



Chrome User Experience Report (CrUX report)



Discover what your real users are experiencing

This URL

Origin



Core Web Vitals Assessment: **Failed** ?

Expand view

● Largest Contentful Paint (LCP)

1.4 s



▲ Interaction to Next Paint (INP)

535 ms



■ Cumulative Layout Shift (CLS)

0.22



OTHER NOTABLE METRICS

● First Contentful Paint (FCP)

1.4 s



● First Input Delay (FID) ⓘ

25 ms



■ Time to First Byte (TTFB) ?

0.9 s



📅 Latest 28-day collection period

📱 Various mobile devices

👥 Many samples ([Chrome UX Report](#))

🕒 Full visit durations

🌐 Various network connections

🔄 All Chrome versions



🔍 Che cosa stai cercando?



## Festa della Mamma

Domenica 12 maggio, esprimi il tuo amore con i nostri fiori!

Scopri di più



Consegna seleziona una data ✓



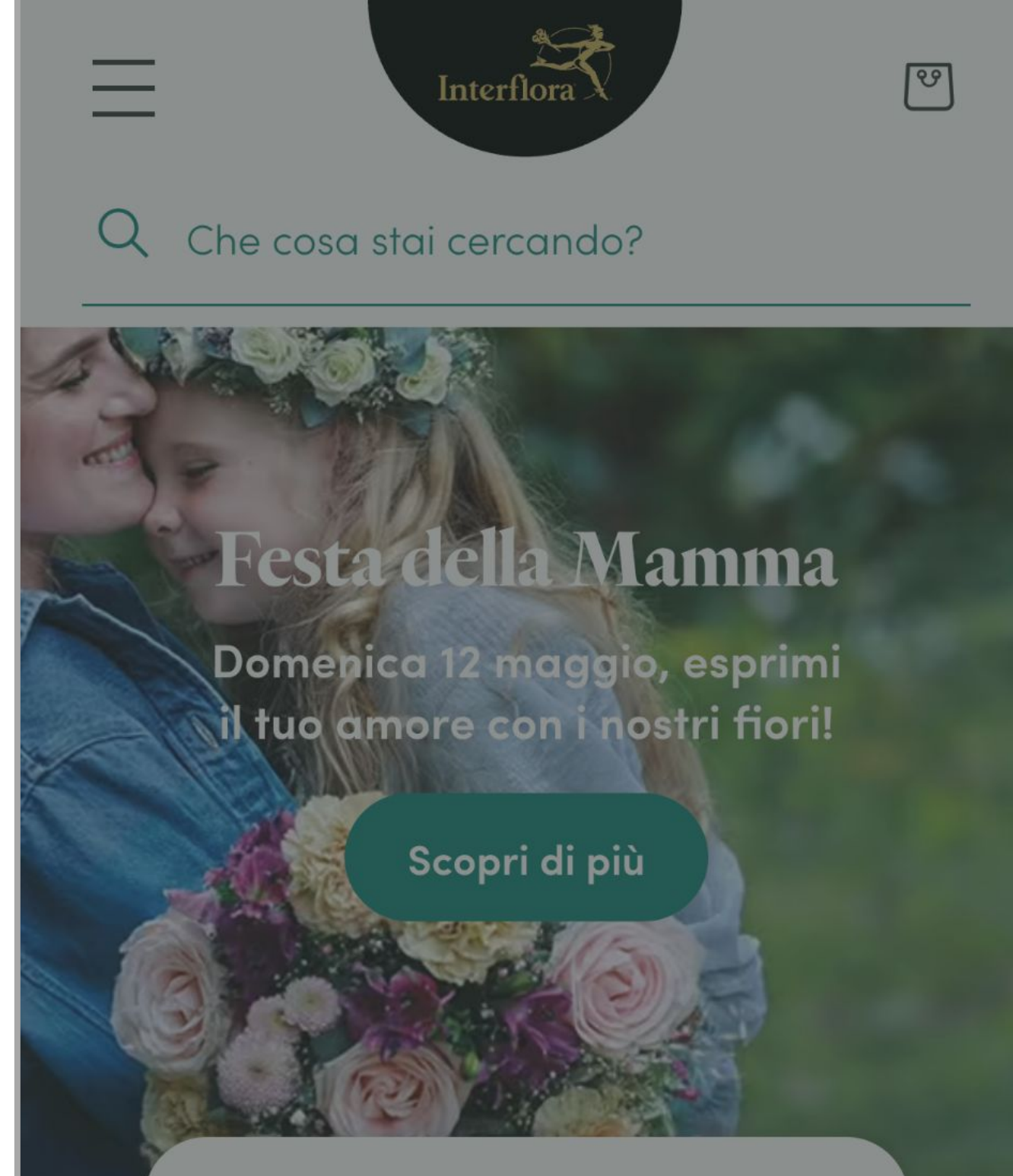
Per festa della m ✓



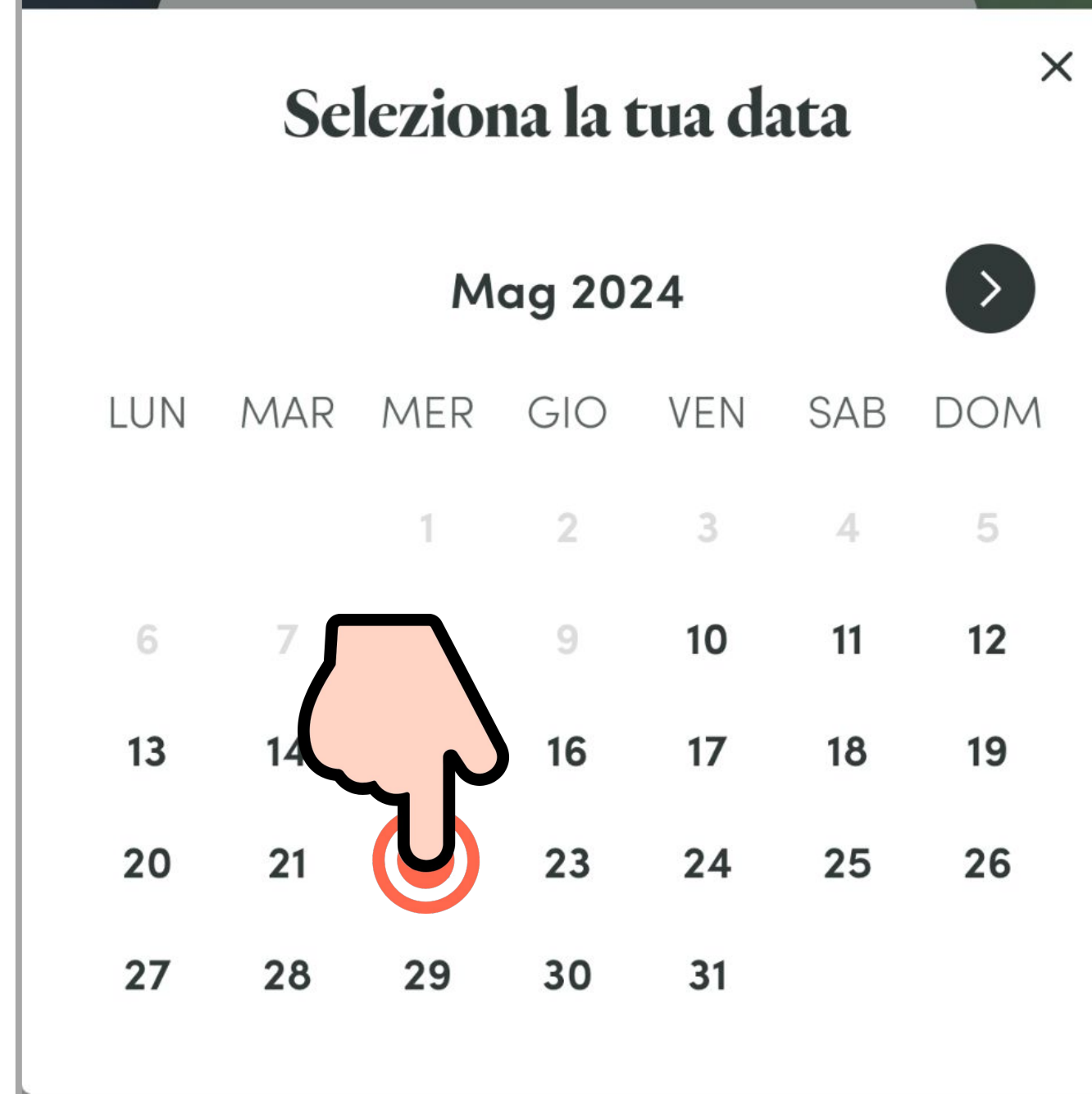
Vedi la selezione

Sorprendi con un regalo speciale!





150 ms





🔍 Che cosa stai cercando?



## Festa della Mamma

Domenica 12 maggio, esprimi il tuo amore con i nostri fiori!

Scopri di più



Consegna [mercoledì 22 maggio 2024](#) ▾



Per [festa della mamma](#) ▾

Vedi la selezione

### Sorprendi con un regalo speciale!



150 ms

300 ms

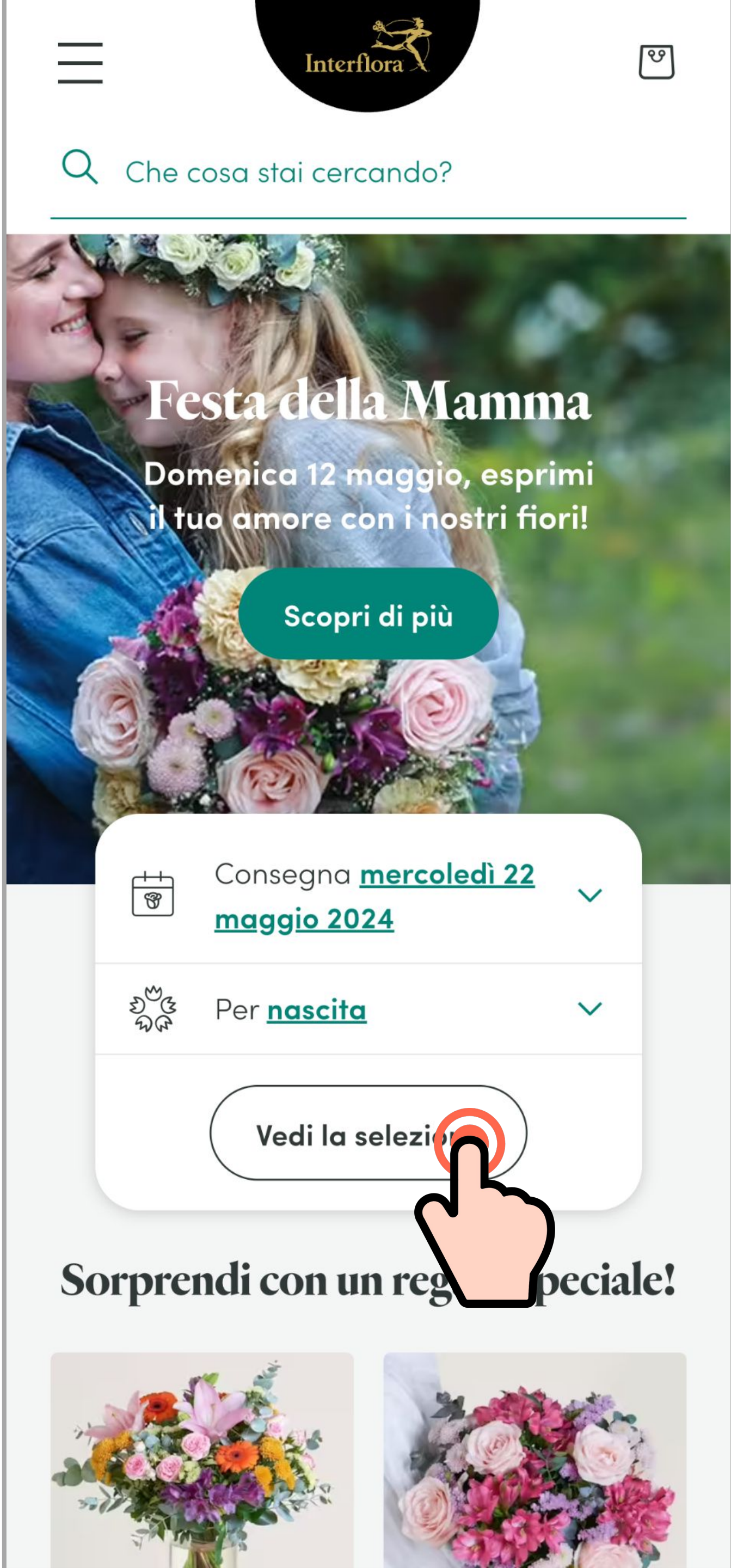


150 ms

300 ms

200 ms





INP measures the time taken to **update the screen** after a user interaction.

All user interactions within a page are considered: **pointer events** (click / tap), and **keyboard** interactions.

The **slowest interaction** is reported as the Interaction to Next Paint (INP) for the current page view.

150 ms

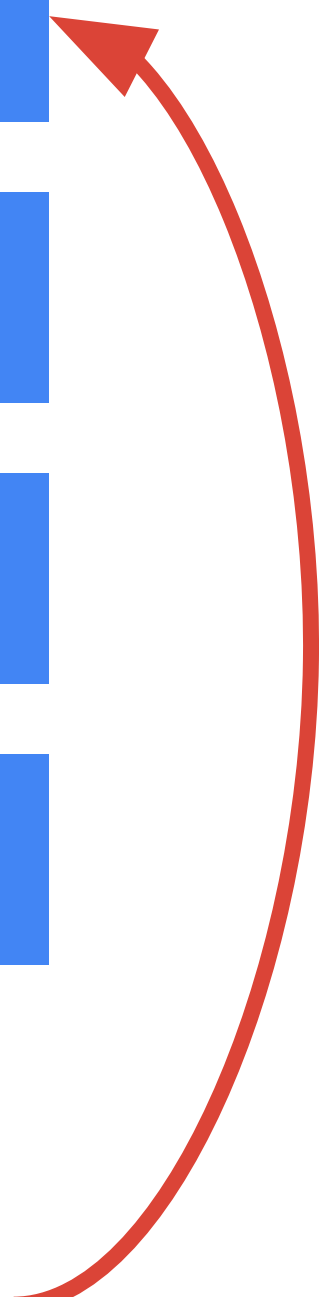
300 ms

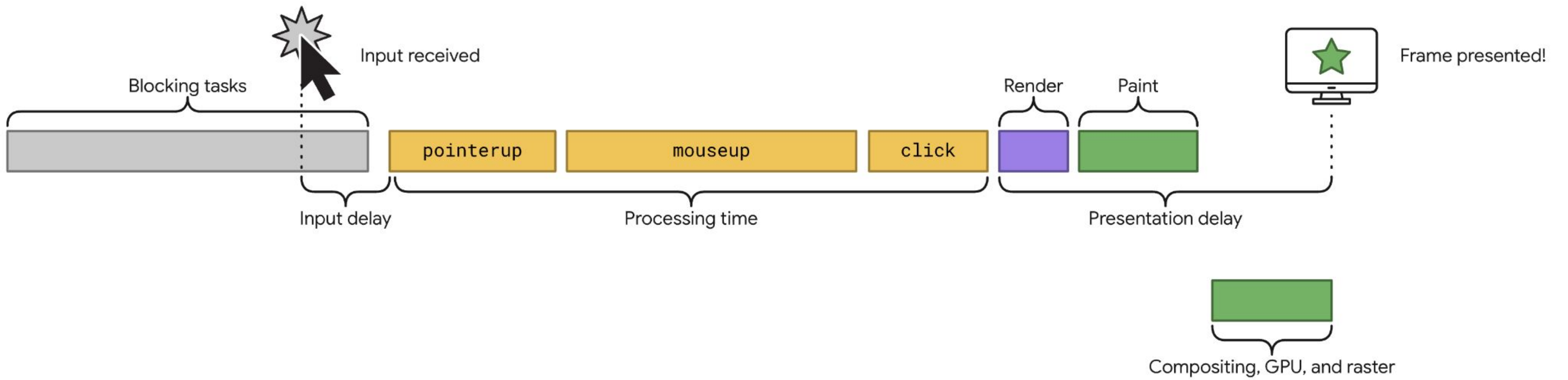
200 ms

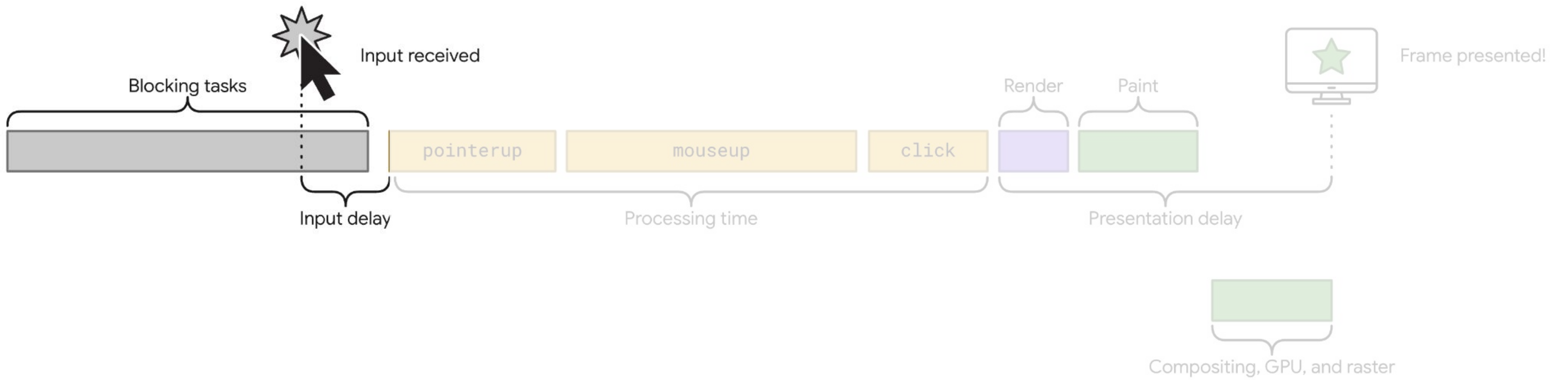
250 ms

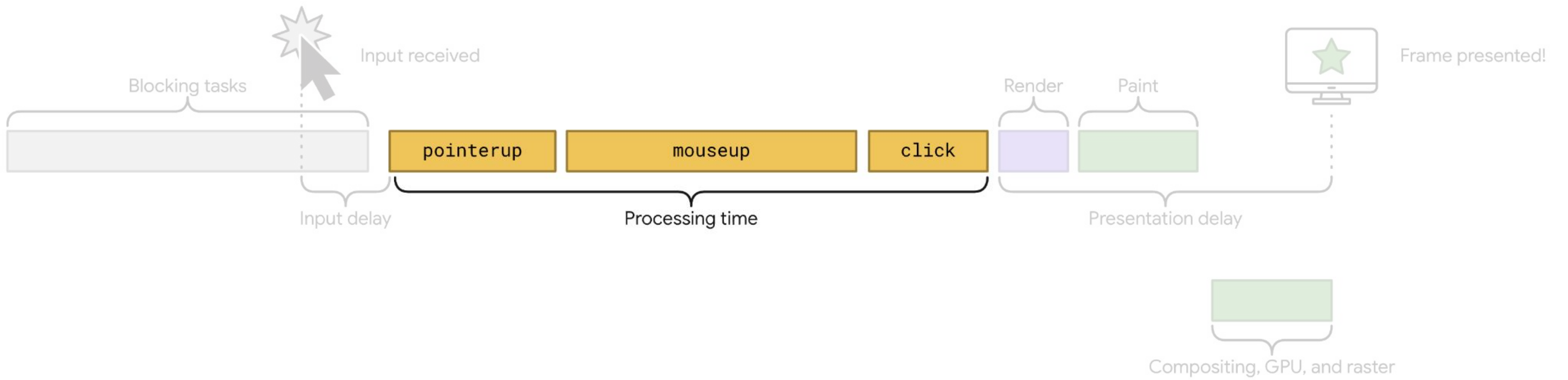
150 ms

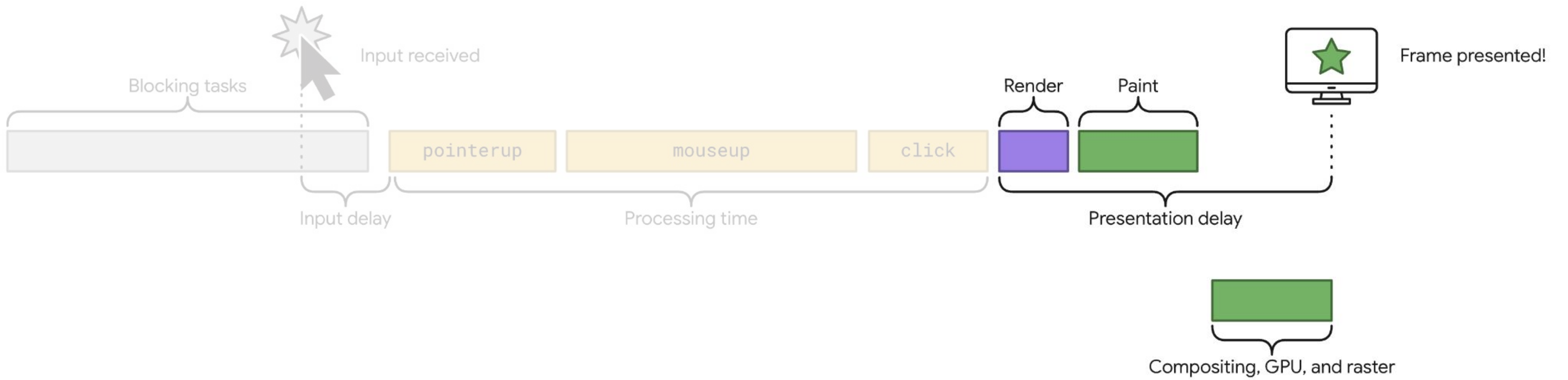
Reported INP value

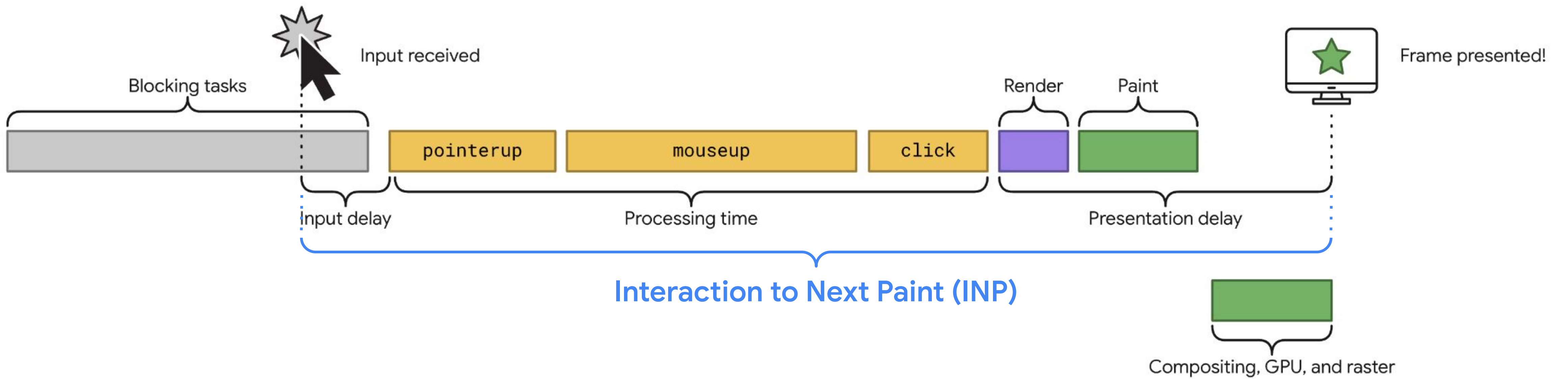














What is Interaction to Next Paint (INP)?



Debugging slow interactions



Identified mistakes and solutions



# Have you debugged INP before?



Never tried to debug  
slow interactions

Tried to debug it,  
didn't find the issue

Debugged and  
found the issue





# Debugging INP

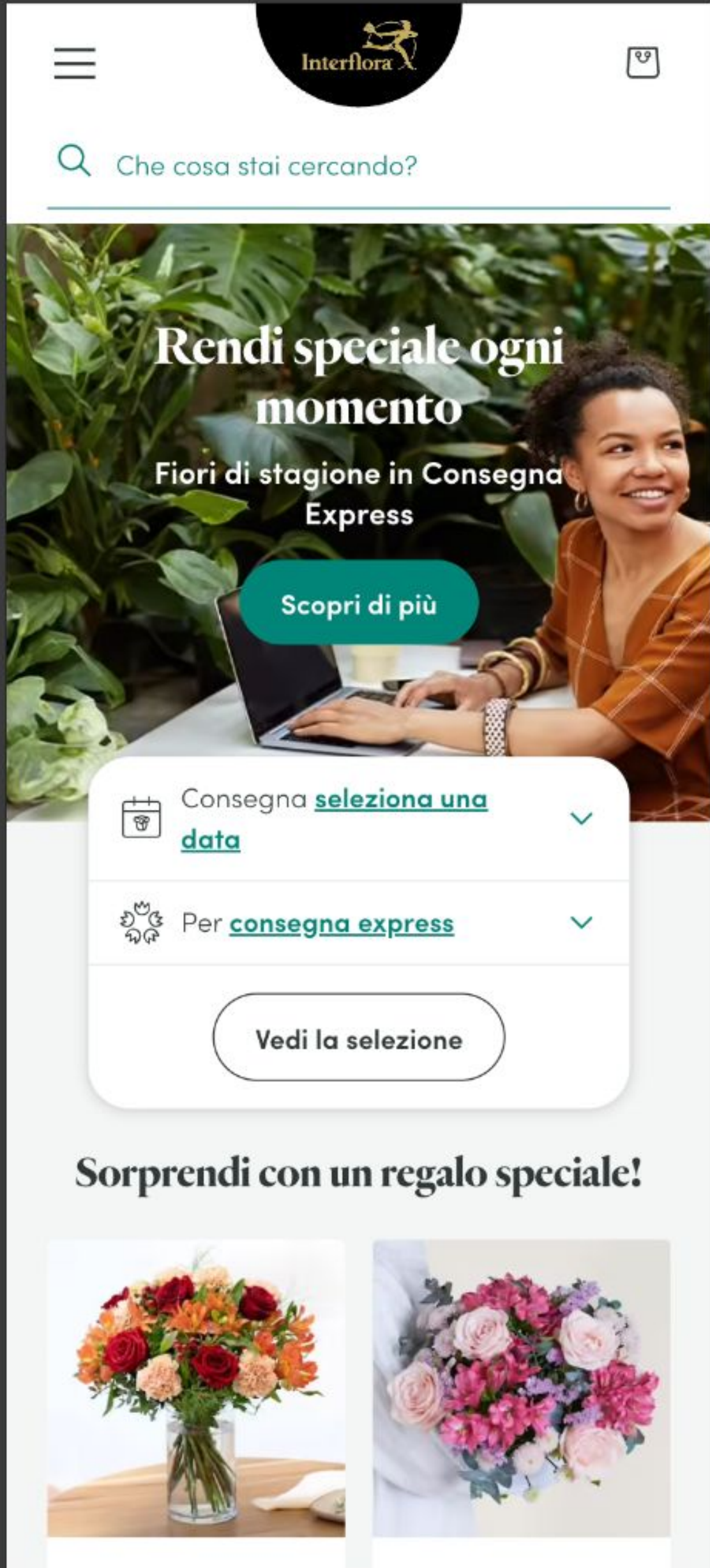
## 3 steps

1. **Find out where** the slowest interactions are occurring
  2. **Analyze the causes** of slow interactions
  3. **Fix the problem**
- a. **Manually** troubleshoot interactions
- b. **Leverage real user monitoring** data

# Debugging INP

## 3 steps

1. **Find out where** the slowest interactions are occurring
  2. **Analyze the causes** of slow interactions
  3. **Fix the problem**
- a. **Manually** troubleshoot interactions
- b. Leverage real user monitoring data



### Local metrics

Largest Contentful Paint (LCP)

120 ms

Your local LCP 120 ms is good.

LCP Element [img](#)

Cumulative Layout Shift (CLS)

0.06

Your local CLS 0.06 is good.

Interaction to Next Paint (INP)

—

Interact with the page to measure INP.

The [local metrics](#) are captured from the current page using your network connection and device.

### Next steps

Field data

See how your local metrics compare to real user data in the [Chrome UX Report](#).

Set up

### Recording settings

CPU: No throttling

Network: No throttling

Record ⌘ E

Record and reload ⌘ ⇧ E

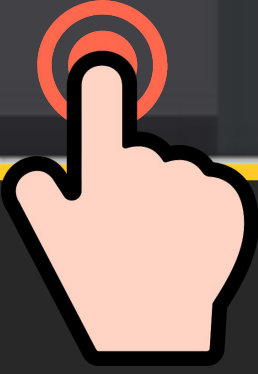
### Recording settings

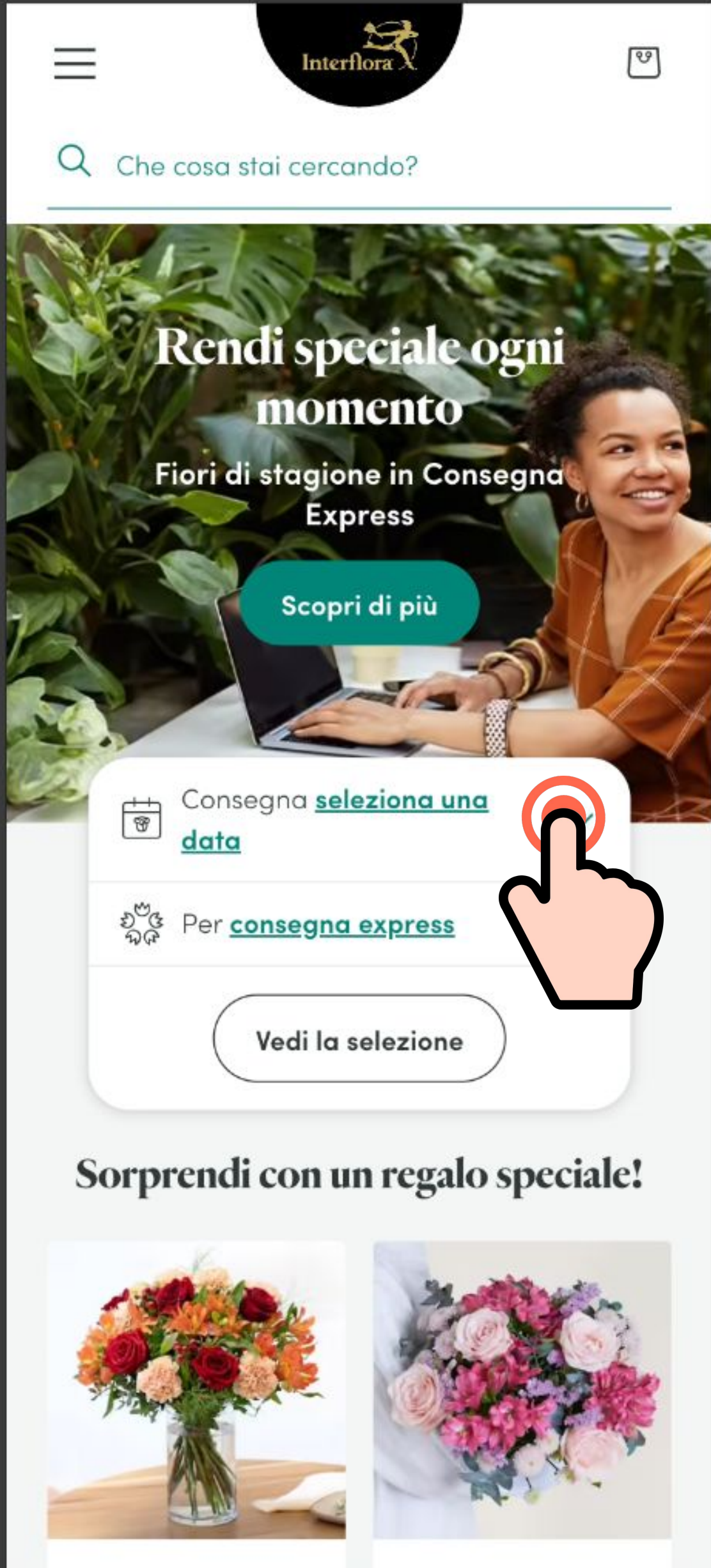
CPU: 6x slowdown ▲

No throttling ▼

4x slowdown

✓ 6x slowdown ⌘ E





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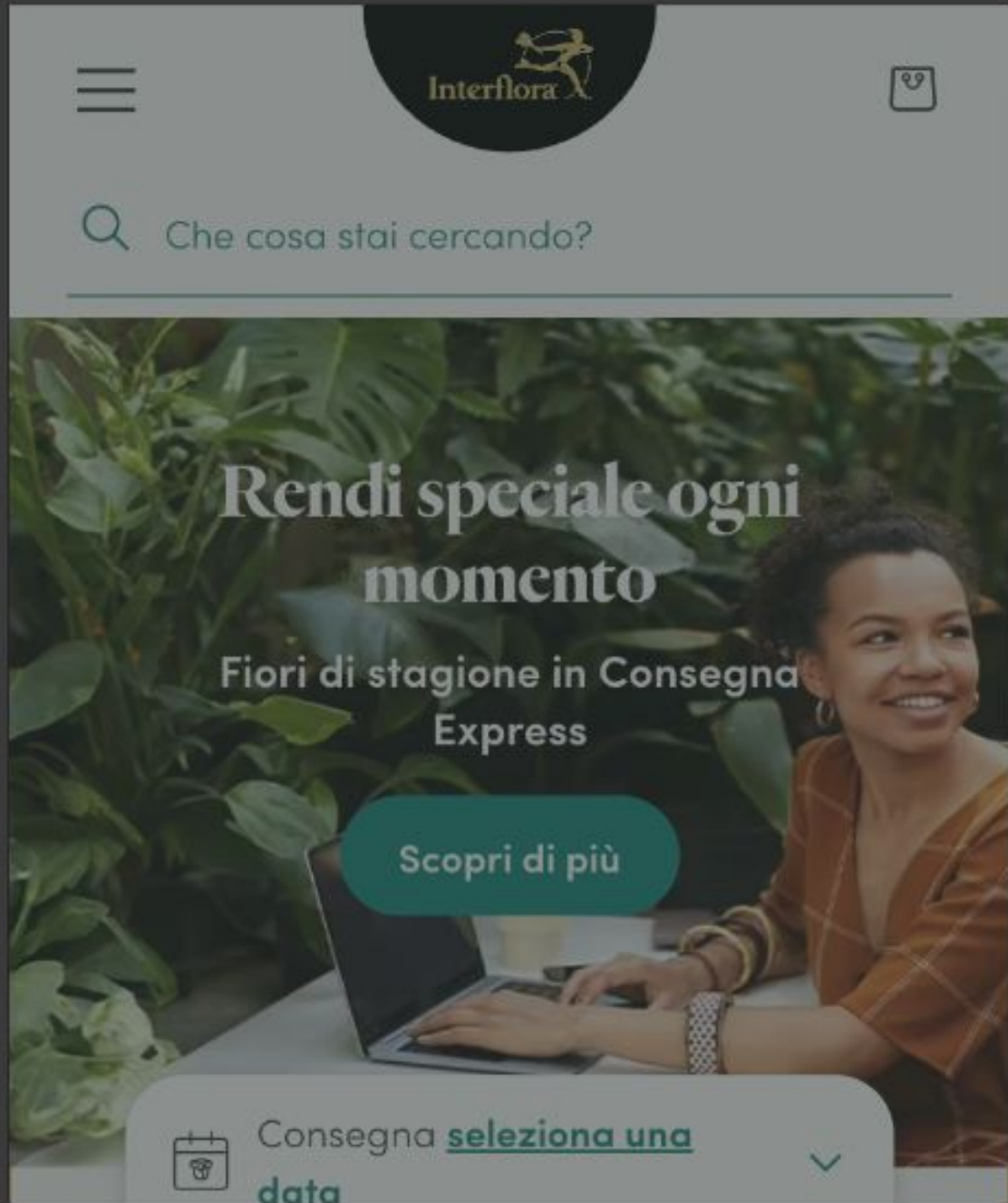
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232 ms

Your local INP 232 ms needs improvement.

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### Interactions

pointer	<a href="#">i.IconInline.IconInline--arrow-alt-bottom</a>	24 ms
pointer	<a href="#">i.IconInline.IconInline--arrow-alt-bottom</a>	232 ms
keyboard	<a href="#">main.AfwHelper_PageContainer</a>	48 ms

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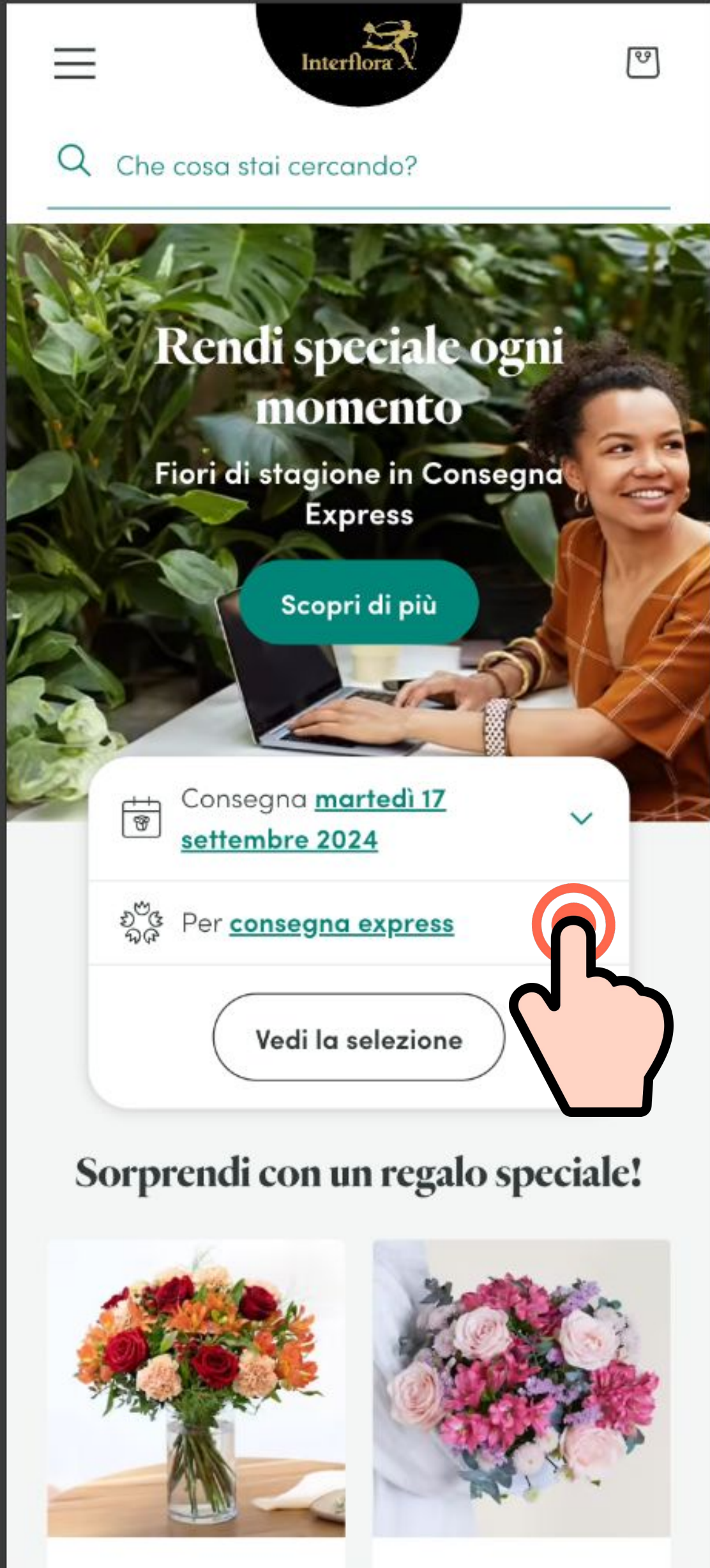
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keyboard	<a href="#">main.AfwHelper_PageContainer</a>	48 ms
pointer	<a href="#">span.vc-day-content.vc-focusable</a>	232 ms

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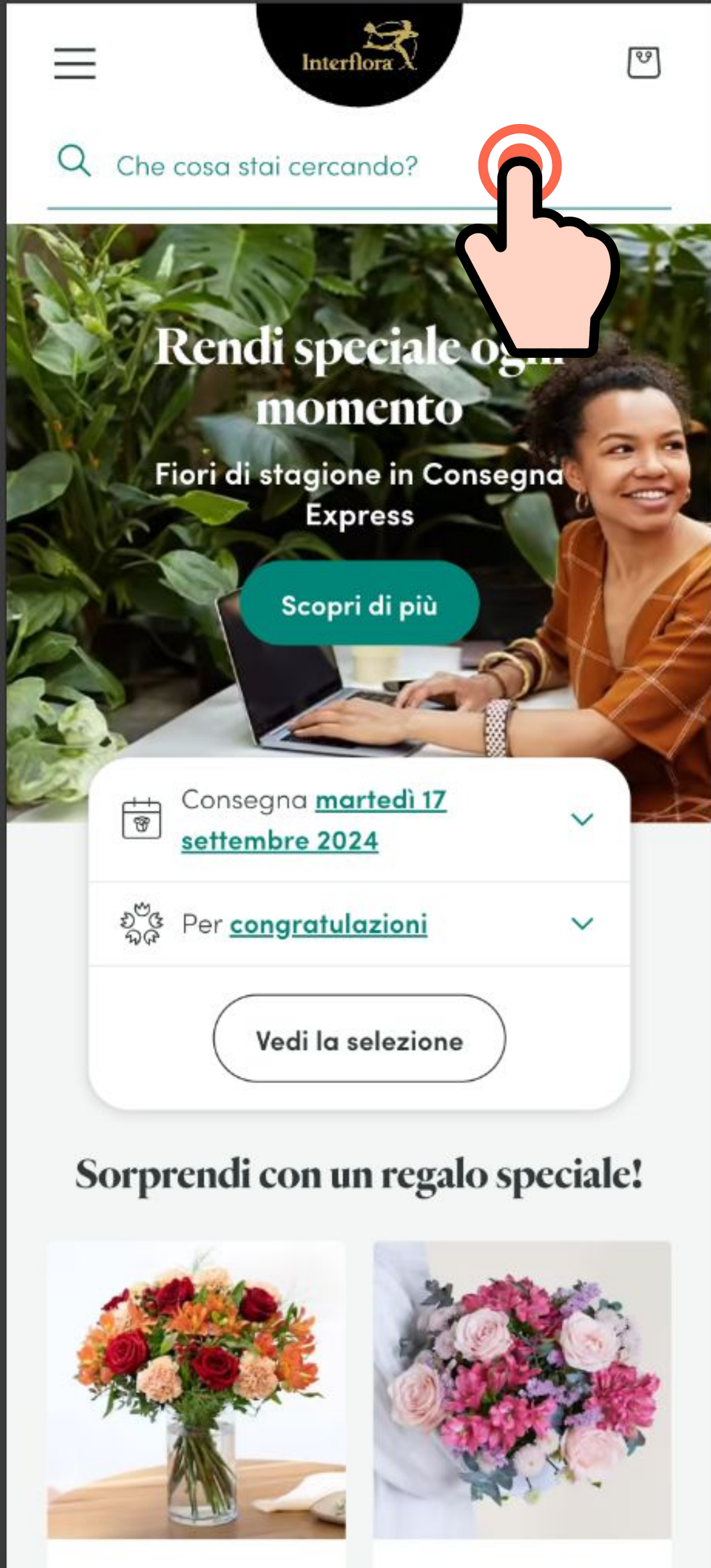
#### Recording settings

CPU: 6x slowdown

Network: No throttling

Record ⌘ E

Record and reload ⌘ ⇧ E



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LCP Element [img](#)

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pointer	i.IconInline.IconInline--arrow-alt-bottom	232 ms
keyboard	main.AfwHelper_PageContainer	48 ms
pointer	span.vc-day-content.vc-focusable	232 ms
pointer	i.IconInline.IconInline--arrow-alt-bottom	192 ms
pointer	li.FormMomentsFirst-option.isSelected	144 ms

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pointer	<a href="#">i.IconInline.IconInline--arrow-alt-bottom</a>	192 ms
pointer	<a href="#">li.FormMomentsFirst-option.isSelected</a>	144 ms
pointer	<a href="#">input#field_ru6bq82xi.FormField-fieldSearch</a>	96 ms
keyboard	<a href="#">input#field_ru6bq82xi.FormField-fieldSearch</a>	16 ms

### Next steps

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[Set up](#)

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Network: No throttling

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Record and reload ⌘ ⇧ E



🔍 **Rose** Cancella

**Suggerimenti di ricerca**

- rose rosse
- rose bianche
- rose
- rose blu
- rose rosa

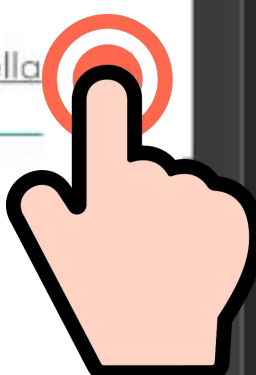
**Categorie**

- Tutti i fiori
- Rose**

**Prodotti** Vedi tutto

**Rose Rosse Premium**  
Rose lunghe con numero a scelta  
da **42,00€**

**Tre rose rosse**  
Bouquet di tre rose rosse a gambo lungo  
**29,99€**



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pointer	li.FormMomentsFirst-option.isSelected	144 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	96 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	16 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	40 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	64 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	24 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	56 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	64 ms

### Next steps

#### Field data

See how your local metrics compare to real user data in the [Chrome UX Report](#).

[Set up](#)

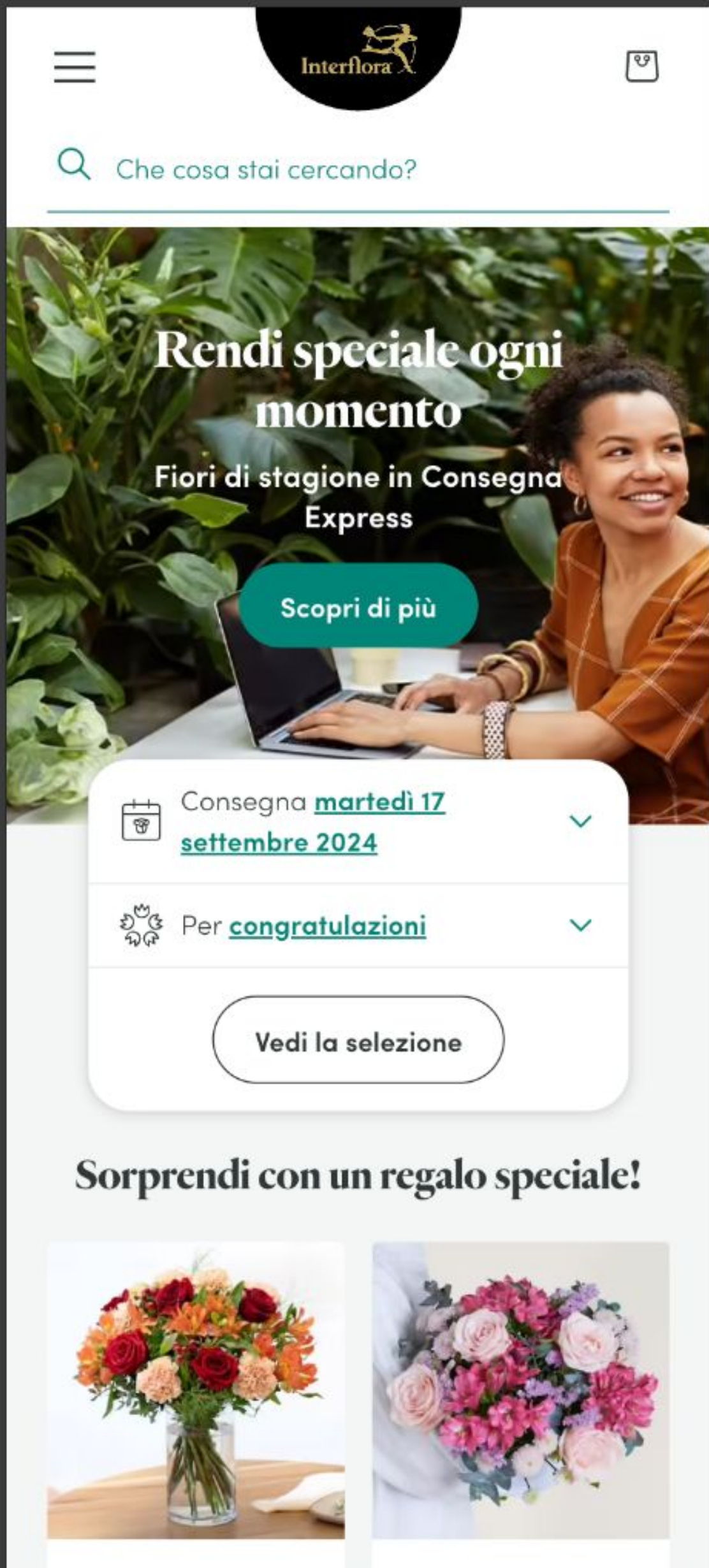
#### Recording settings

CPU: 6x slowdown

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Record ⌘ E

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pointer	i.IconInline.IconInline--arrow-alt-bottom	192 ms
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pointer	input#field_ru6bq82xi.FormField-fieldSearch	96 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	16 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	40 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	64 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	24 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	56 ms
keyboard	input#field_ru6bq82xi.FormField-fieldSearch	64 ms
pointer	span.LinkItem.ButtonClose.LinkItem--fallbackLink	112 ms

### Next steps

#### Field data

See how your local metrics compare to real user data in the [Chrome UX Report](#).

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#### Recording settings

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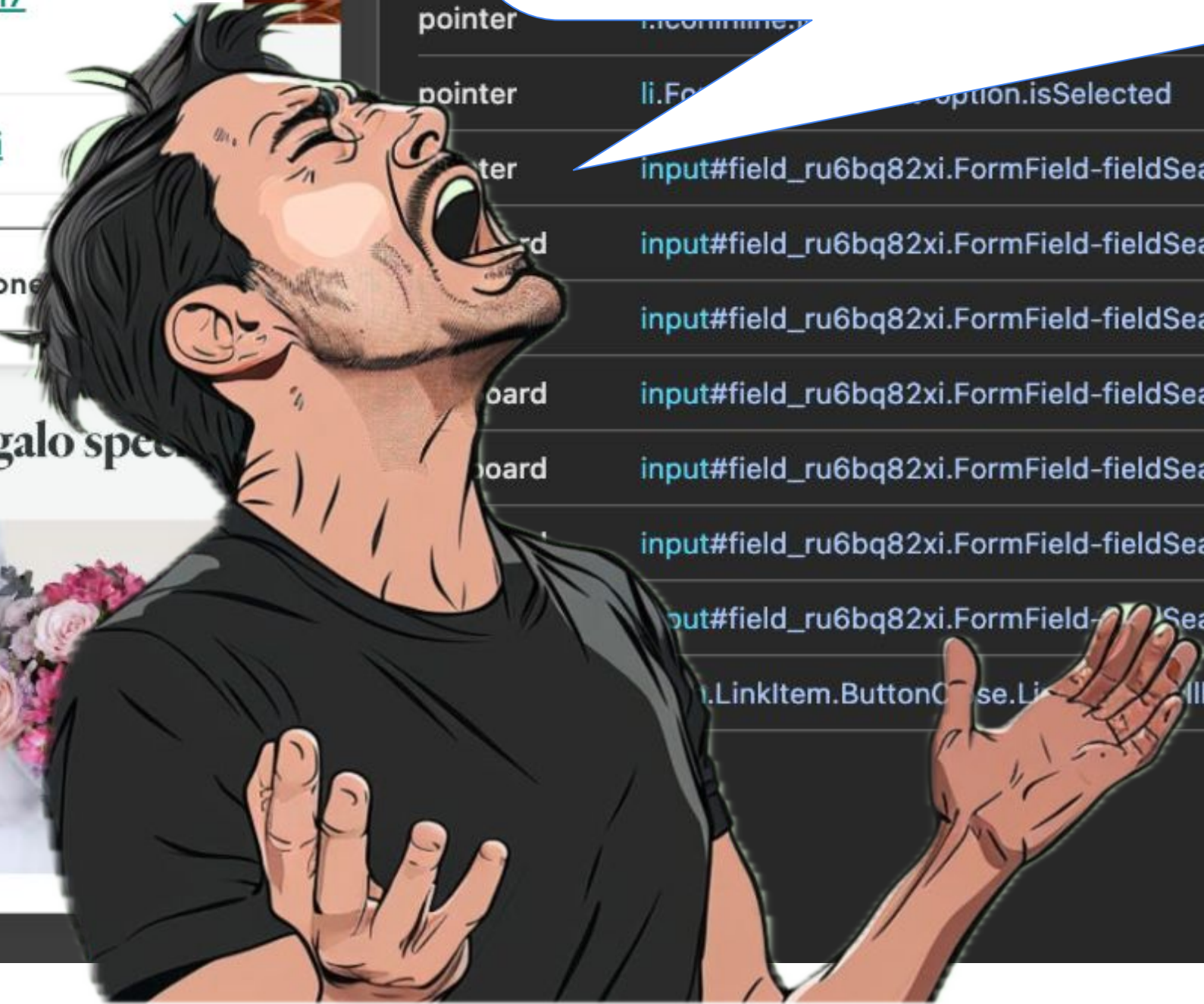
Interaction to Next Paint (INP)  
**232 ms**  
 Your local INP 232 ms needs improvement.

### Next steps

Field data  
 See how your local metrics compare to real user data in the [Chrome UX Report](#).  
 Set up

- Manual process, multiple steps
- No guarantee to find the slowest interaction
- Needs to be repeated for each page

pointer	mousedown	102 ms
pointer	click	144 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	96 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	16 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	40 ms
pointer	input#field_ru6bq82xi.FormField-fieldSearch	64 ms
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# Debugging INP

## 3 steps

1. **Find out where** the slowest interactions are occurring
  2. **Analyze the causes** of slow interactions
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# Real User Monitoring (RUM)



Ongoing monitoring of users' experience



Spot problems and verify fixes in just minutes

Event	Element	INP	Occurred	Impact	InpDel	Process	PresDel	Device	Example ...
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled	310	4,328	1,341,680	37	197	80	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	386	3,486	1,345,596	251	53	88	Mobile	https://www....
pointer	div.OptionIcon-content>p.OptionIcon-label	619	2,665	1,649,635	28	515	75	Mobile	https://www....
pointer	span.vc-day-content.vc-focusable	340	2,403	817,020	30	224	84	Mobile	https://www....
pointer	a.LinkItem.ButtonSecondary.PaginatedList-loadmore.ButtonSecondary--outlined.ButtonSecondary	265	1,884	499,260	29	150	78	Mobile	https://www....
pointer	i.IconInline.IconInline--option-normal	592	1,313	777,296	28	496	72	Mobile	https://www....
pointer	ul.MenuMain-subMenuList>li.MenuMain-item>div.MenuMain-label>a.LinkItem.MenuMain-link	312	1,008	314,496	23	176	115	Mobile	https://www....
pointer	div.TeaserCard-picture>div.TeaserCard-overflow>picture.BlockPicture.BlockResizePicture>img	481	956	459,836	44	219	82	Mobile	https://www....
pointer	div.OptionIcon-content>div.OptionIcon-price>span.TagPrice	623	907	565,061	30	528	73	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed>button.BurgerMenu-trigger	1161	699	811,539	1,019	43	113	Mobile	https://www....
pointer	div.FunnelHeader-backButton>a.ButtonBack.hideOnDesktop	411	680	279,480	106	182	66	Mobile	https://www....
pointer	span.LinkItem.FilterBanner-link.LinkItem--fallbackLink	498	621	309,258	36	337	74	Mobile	https://www....
pointer	span.LinkItem.QuickAccess-link>i.IconInline.IconInline--tools-deliver	413	600	247,800	207	151	60	Mobile	https://www....
pointer	div.SelectQuantity.SelectQuantity--big>button.SelectQuantity-button>span	2727	339	924,453	844	1,627	62	Mobile	https://www....
pointer	main.AfwHelper_PageContainer>div.ProductList>div.AfwHelper_PageState.AfwHelper_PageState--	1302	246	320,292	1,206	3	68	Mobile	https://www....

A Event	A Element	123 INP	123 Occurred	123 Impact	123 InpDel	123 Process	123 PresDel	A Device	A Example ...
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled	310	4,328	1,341,680	37	197	80	Mobile	https://www...
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	386	3,486	1,345,596	251	53	88	Mobile	https://www...
pointer	div.OptionIcon-content>p.OptionIcon-label	619	2,665	1,649,635	28	515	75	Mobile	https://www...
pointer	span.vc-day-content.vc-focusable	340	2,403	817,020	30	224	84	Mobile	https://www...
pointer	a.LinkItem.ButtonSecondary.PaginatedList-loadmore.ButtonSecondary--outlined.ButtonSecondary	265	1,884	499,260	29	150	78	Mobile	https://www...
pointer	i.IconInline.IconInline--option-normal	592	1,313	777,296	28	496	72	Mobile	https://www...
pointer	ul.MenuMain-subMenuList>li.MenuMain-item>div.MenuMain-label>a.LinkItem.MenuMain-link	312	1,008	314,496	23	176	115	Mobile	https://www...

A Event	A Element
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger
pointer	div.OptionIcon-content>p.OptionIcon-label

Where is INP occurring?

Event	Element	123 INP	123 Occurred	123 Impact	123 InpDel	123 Process	123 PresDel	Device	Example ...
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled	310	4,328	1,341,680	37	197	80	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	386	3,486	1,345,596	251	53	88	Mobile	https://www....
pointer	div.OptionIcon-content>p.OptionIcon-label	619	2,665	1,649,635	28	515	75	Mobile	https://www....
pointer	span.vc-day-content.vc-focusable	340	2,403	817,020	30	224	84	Mobile	https://www....
pointer	a.LinkItem.ButtonSecondary.PaginatedList-loadmore.ButtonSecondary--outlined.ButtonSecondary	265	1,884	499,260	29	150	78	Mobile	https://www....
pointer	i.IconInline.IconInline--option-normal	552	1,313	777,296	28	496	72	Mobile	https://www....
pointer	ul.MenuMain-subMenuList>li.MenuMain-item>div.MenuMain-label>a.LinkItem.MenuMain-link	312	1,008	314,496	23	176	115	Mobile	https://www....
pointer	div.TeaserCard-picture>div.TeaserCard-overflow>picture				44	219	82	Mobile	https://www....
pointer	div.OptionIcon-content>div.OptionIcon-price>span.Tag				30	528	73	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	310	4,328	1,341,680	1,019	43	113	Mobile	https://www....
pointer	div.FunnelHeader-backButton>a.ButtonBack.hideOnDesktop				106	182	66	Mobile	https://www....
pointer	span.LinkItem.FilterBanner-link.LinkItem--fallbackLink	386	3,486	1,345,596	36	337	74	Mobile	https://www....
pointer	span.LinkItem.QuickAccess-link>i.IconInline.IconInline--option-normal				207	151	60	Mobile	https://www....
pointer	div.SelectQuantity.SelectQuantity--big>button.SelectQuantity	619	2,665	1,649,635	844	1,627	62	Mobile	https://www....

How bad is it?



Event	Element	INP	Occurred	Impact	InpDel	Process	PresDel	Device	Example ...
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled	310	4,328	1,341,680	37	197	80	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	386	3,486	1,345,596	251	53	88	Mobile	https://www....
pointer	div.OptionIcon-content>p.OptionIcon-label	619	2,665	1,649,635	28	515	75	Mobile	https://www....
pointer	span.vc-day-content.vc-focusable	340	2,403	817,020	30	224	84	Mobile	https://www....
pointer	a.LinkItem.ButtonSecondary.PaginatedList-loadmore.ButtonSecondary--outlined.ButtonSecondary	265	1,884	499,260	29	150	78	Mobile	https://www....
pointer	i.IconInline.IconInline--option-normal	592	1,313	777,296	28	496	72	Mobile	https://www....
pointer	ul.MenuMain-subMenuList>li.MenuMain-item>div.MenuMain-label>a.LinkItem.MenuMain-link	412	1,008	314,496	23	176	115	Mobile	https://www....
pointer	div.TeaserCard-picture>div.TeaserCard-overflow>picture.B	6			44	219	82	Mobile	https://www....
pointer	div.OptionIcon-content>div.OptionIcon-price>span.TagPric	1			30	528	73	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reverse	9			1,019	43	113	Mobile	https://www....
pointer	div.FunnelHeader-backButton>a.ButtonBack.hideOnDeskt	0			106	182	66	Mobile	https://www....
pointer	span.LinkItem.FilterBanner-link.LinkItem--fallbackLink	8			36	337	74	Mobile	https://www....
pointer	span.LinkItem.QuickAccess-link>i.IconInline.IconInline--t	0			207	151	60	Mobile	https://www....
pointer	div.SelectQuantity.SelectQuantity--big>button.SelectQuant	3			844	1,627	62	Mobile	https://www....
pointer	main.AfwHelper_PageContainer>div.ProductList>div.AfwH	7			1,206	3	68	Mobile	https://www....

123 InpDel	123 Process	123 PresDel
37	197	80
251	53	88
28	515	75

Which part should I investigate?

Event	Element	INP	Occurred	Impact	InpDel	Process	PresDel	Device	Example ...
pointer	button.LinkItem.ButtonPrimary.LinkItem--fallbackLink.ButtonPrimary--disabled	310	4,328	1,341,680	37	197	80	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed.isOpened>button.BurgerMenu-trigger	386	3,486	1,345,596	251	53	88	Mobile	https://www....
pointer	div.OptionIcon-content>p.OptionIcon-label	619	2,665	1,649,635	28	515	75	Mobile	https://www....
pointer	span.vc-day-content.vc-focusable	340	2,403	817,020	30	224	84	Mobile	https://www....
pointer	a.LinkItem.ButtonSecondary.PaginatedList-loadmore.ButtonSecondary--outlined.ButtonSecondary	265	1,884	499,260	29	150	78	Mobile	https://www....
pointer	i.IconInline.IconInline--option-normal	592	1,313	777,296	28	496	72	Mobile	https://www....
pointer	ul.MenuMain-subMenuList>li.MenuMain-item>div.MenuMain-label>a.LinkItem MenuMain-link	317	1,008	314,496	23	176	115	Mobile	https://www....
pointer	div.TeaserCard-picture>div.TeaserCard-overflow>picture.BlockPicture	317	1,008	459,836	44	219	82	Mobile	https://www....
pointer	div.OptionIcon-content>div.OptionIcon-price>span.TagPrice	317	1,008	565,061	30	528	73	Mobile	https://www....
pointer	div.SiteHeader-nav>div.BurgerMenu.BurgerMenu--reversed>button.B	317	1,008	811,539	1,019	43	113	Mobile	https://www....
pointer	div.FunnelHeader-backButton>a.ButtonBack.hideOnDesktop	317	1,008	279,480	106	182	66	Mobile	https://www....
pointer	span.LinkItem.FilterBanner-link.LinkItem--fallbackLink	317	1,008	309,258	36	337	74	Mobile	https://www....
pointer	span.LinkItem.QuickAccess-link>i.IconInline.IconInline--tools-delive	317	1,008	247,800	207	151	60	Mobile	https://www....
pointer	div.SelectQuantity.SelectQuantity--big>button.SelectQuantity-button	317	1,008	924,453	844	1,627	62	Mobile	https://www....
pointer	main.AfwHelper_PageContainer>div.ProductList>div.AfwHelper_Page	317	1,008	320,292	1,206	3	68	Mobile	https://www....

Where can I reproduce it?

“RUM data has saved me countless hours when auditing Core Web Vitals”

Andrea Verlicchi

```
function filterStudies({ studies, filterByOrg = false, filterByLeadOrganizat
```

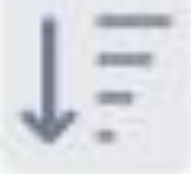
# Debugging INP

## 3 steps

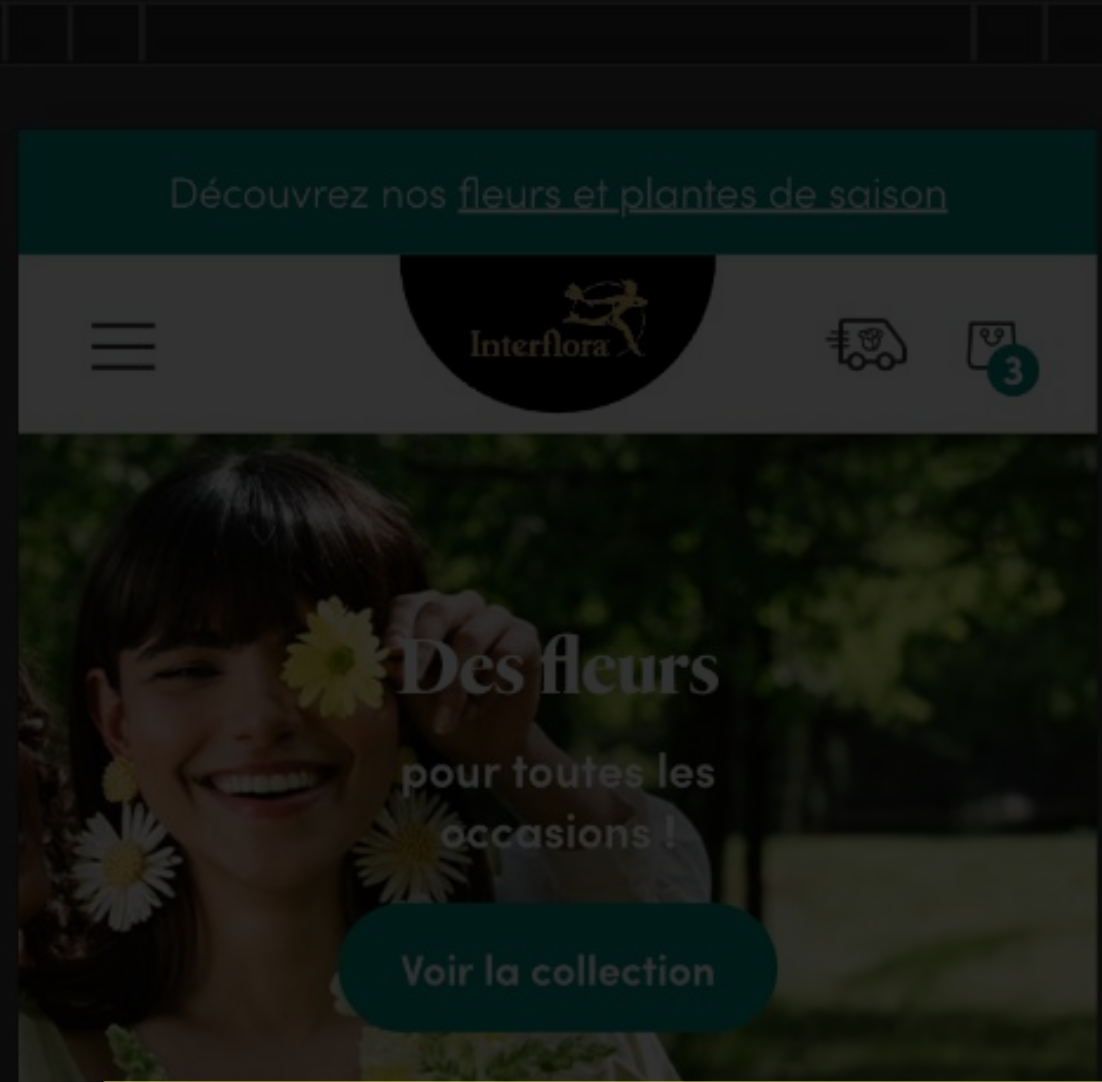
1. Find out where the slowest interactions are occurring
  2. **Analyze the causes** of slow interactions
  3. Fix the problem
- a. **Manually** troubleshoot interactions
- b. **Leverage real user monitoring** data

# Take a slow interaction

A Event	A Element	A Device	A Example UF
pointer	span.vc-day-content.vc-focusable	Mobile	https://www.int

123 INP	123 Occ... 	123 Impact	123 InpDel	123 Process	123 PresDel
345	2,201	759,345	30	227	84





```
<!DOCTYPE html>
<html lang="fr">
  <head>
    <body data-frz-flags="{"lazyload":false,"deferjs":false,"cssontop":false,"minifyhtml":true,"concatcss":true,"minifycss":true,"concatjs":false,"minifyjs":false,"early-hints":true,"unsharding":true,"responsive":false,"edge_speed":true,"edge_seo":true}" data-frz-version="2">
      <p class="sr-only" tabindex="-1">Interflora : livraison de fleurs à domicile en 4H</p>
      
      <div id="__nuxt">
        <script>
          <script src="/_nuxt/runtime.1e0d6fe...js" defer></script>
          <script src="/_nuxt/ac54ca9.js" defer></script>
          <script src="/_nuxt/d6e60cb.js" defer></script>
          <script src="/_nuxt/ac26a49.js" defer></script>
          <script src="/_nuxt/25652c9.js" defer></script>
          <script src="/_nuxt/e6c2a4c.js" defer></script>
          <script src="/_nuxt/68b5184.js" defer></script>
          <script src="/_nuxt/f87186c.js" defer></script>
          <script src="/_nuxt/f9fd442.js" defer></script>
          <script src="/_nuxt/fc33da8.js" defer></script>
          <script src="/_nuxt/hcfff28b.js" defer></script>
        </script>
      </div>
    </body>
  </html>
```

Styles Computed Layout Event Listeners

Filter

element.style {

```
display: none;
```

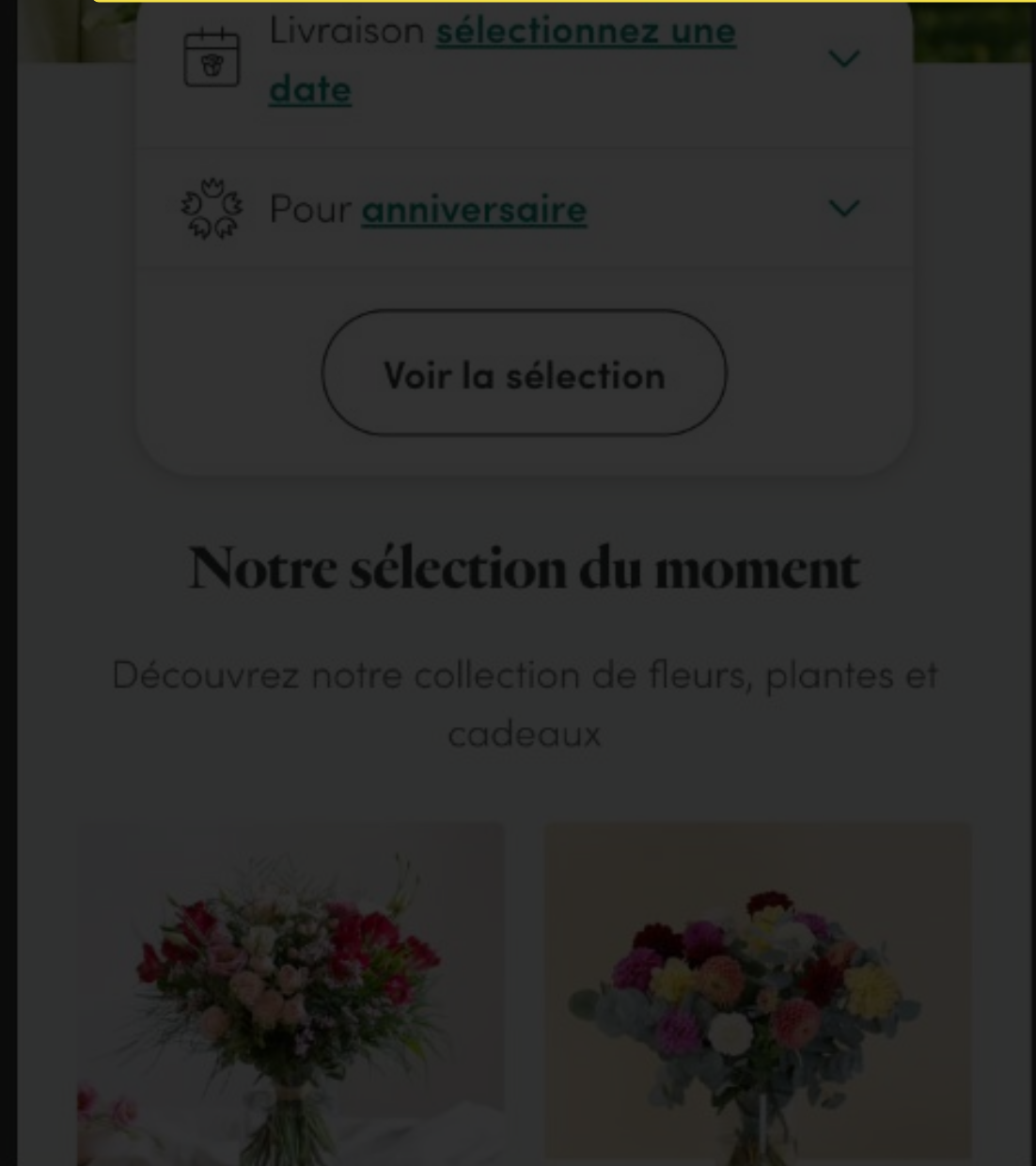
Inherited from body

body {

```
line-height: 1;
```

a, abbr, acronym, address, applet, article, aside, audio, b, big, blockquote, body, canvas, caption, center, cite, code, dd, del, details, dfn, div, dl, dt, em, embed, fieldset, figcaption, figure, footer, form, h1, h2, h3, h4, h5, h6, header, hgroup, html, i, iframe, img, ins, kbd, label, legend, li, main, mark, menu, nav, object, ol, output, p, pre, q, ruby, s, samp, section, small, span, strike, strong, sub, summary, sup, table, tbody, ...

Find by string, selector, or XPath



```
<script src="/_nuxt/1bc042e.js" defer></script>
<script src="/_nuxt/b851a1c.js" defer></script>
<script src="/_nuxt/ffbcc50.js" defer></script>
<script src="/_nuxt/9c1d9fa.js" defer></script>
<script src="/_nuxt/7e524bd.js" defer></script>
<script src="/_nuxt/d277d91.js" defer></script>
<script src="/_nuxt/791a33a.js" defer></script>
<script src="/_nuxt/a2c1fc1.js" defer></script>
<script src="/_nuxt/02d2b39.js" defer></script>
<script type="text/frzjs" orig_index="9999999">
<script src="/fstrz/beacon-2.0.6.min.js" defer data-bststs-server="https://www.interflora.fr/fstrz/r/stats-euwest1.fzcdn.net" data-speed-index-ratio="10" data-collect-stats="true" data-config-id="2986" data-track-sessions="false" data-page-type"></script>
<script> console.log("global"); console.log("home 2"); </script>
<script type="text/javascript" src="https://interfloraru...app.baqend.com/v1/speedkit/install.js?d=production" crossorigin="anonymous" async"></script>
<div id="onetrust-consent-sdk">
<div class="OverlayBox OverlayBox--animateFromTheBottom OverlayBox--custom">
<div class="OverlayBox OverlayBox--animateFromTheBottom OverlayBox--flexible">
<script type="text/javascript" id=">
<script type="text/javascript" id=">
<script type="text/javascript" id src="https://tag.atidc...net/piano-analytcs.is"></script>
html body script
```

font-size: 100%;

```
font: inherit;
vertical-align: baseline;
```

body {

```
font-size: 16px;
line-height: 1.5;
```

.AfwHelper\_TextLink, body, body.isFixture:after {

```
font-weight: 400;
font-style: normal;
font-family: "Sofia Pro", sans-serif;
-webkit-font-feature-settings: "kern";
font-feature-settings: "kern";
font-kerning: normal;
-webkit-font-smoothing: antialiased;
-moz-osx-font-smoothing: grayscale;
```

body {

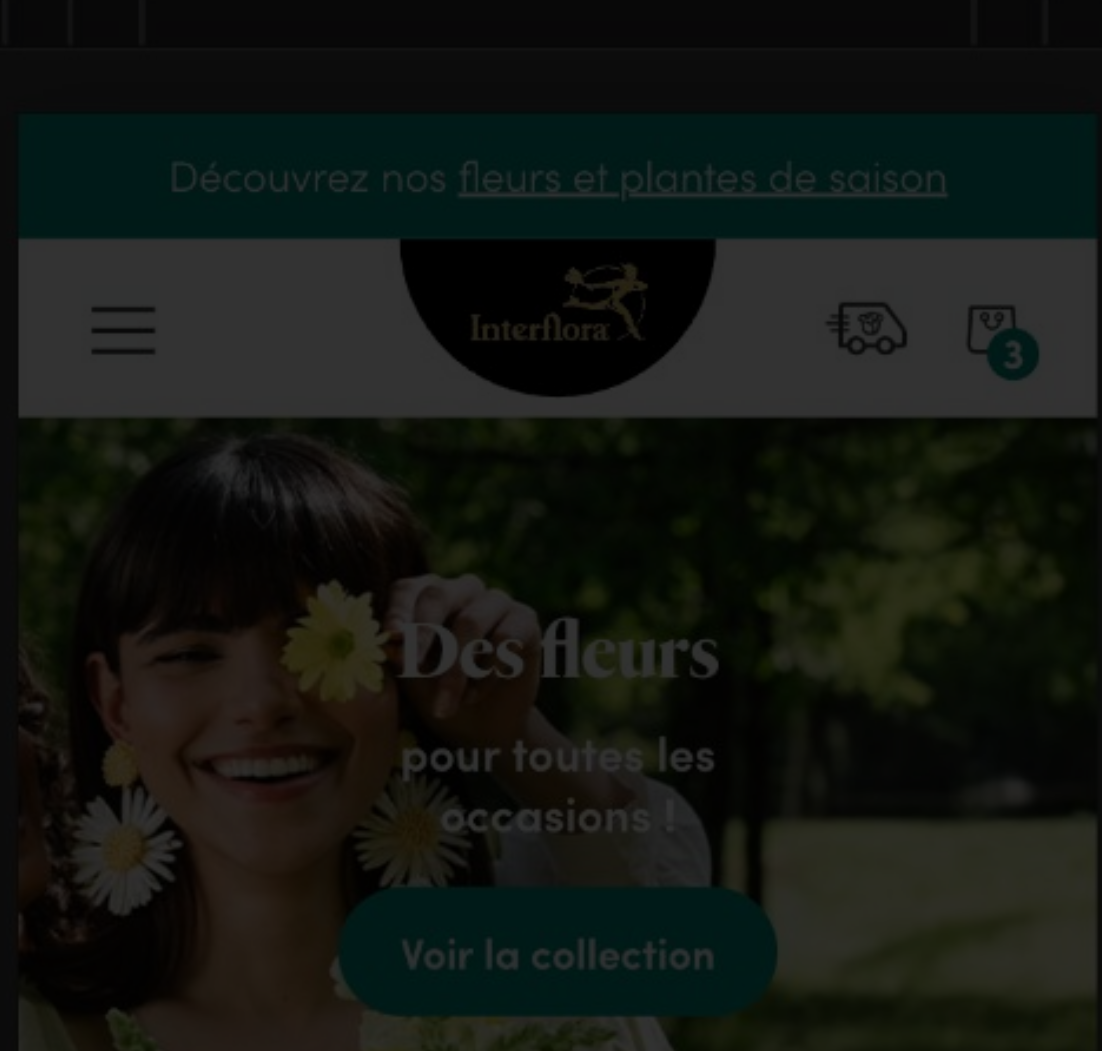
```
color: #303938;
color: var(--DS-colors-grayscale-black);
```

body {

```
line-height: 1;
```

(index):43

Find by string, selector, or XPath



Livraison **sélectionnez une date**

Pour **anniversaire**

**Voir la sélection**

### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux

```

<span data-v-1623f44d aria-label="lundi 26 août 2024" aria-disabled="true" role="button"
class="vc-day-content vc-focusable is-disabled">26</span> == $0
</div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-27 day-27 day-from-end-5 weekday-3
weekday-position-2 weekday-ordinal-4 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
onth on-top vc-day-box-center-center is-not-in-month"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-28 day-28 day-from-end-4 weekday-4
weekday-position-3 weekday-ordinal-4 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
onth on-top vc-day-box-center-center is-not-in-month"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-29 day-29 day-from-end-3 weekday-5
weekday-position-4 weekday-ordinal-5 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
onth on-top vc-day-box-center-center is-not-in-month"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-30 day-30 day-from-end-2 weekday-6
weekday-position-5 weekday-ordinal-5 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
onth on-top vc-day-box-center-center is-not-in-month"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-31 day-31 day-from-end-1 weekday-7
weekday-position-6 weekday-ordinal-5 weekday-ordinal-from-end-0 week-5 week-from-end-1 in-prev-m
onth on-top vc-day-box-center-center is-not-in-month"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-01 day-1 day-from-end-30 weekday-1
weekday-position-7 weekday-ordinal-1 weekday-ordinal-from-end-5 week-1 week-from-end-6 is-first-
day in-month on-top on-right vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-02 day-2 day-from-end-29 weekday-2
weekday-position-1 weekday-ordinal-2 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-03 day-3 day-from-end-23 weekday-3
weekday-position-2 weekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-mont
h vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-04 day-4 day-from-end-17 weekday-4
weekday-position-3 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-05 day-5 day-from-end-11 weekday-5
weekday-position-4 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-06 day-6 day-from-end-5 weekday-6
weekday-position-5 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-07 day-7 day-from-end-24 weekday-7
weekday-position-6 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-08 day-8 day-from-end-23 weekday-1
weekday-position-7 weekday-ordinal-2 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
on-right vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-09 day-9 day-from-end-22 weekday-2
weekday-position-1 weekday-ordinal-2 weekday-ordinal-from-end-4 week-3 week-from-end-4 is-today
in-month on-left vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-10 day-10 day-from-end-21 weekday-3
weekday-position-2 weekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-mont
h vc-day-box-center-center"></div> flex
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-11 day-11 day-from-end-20 weekday-4
weekday-position-3 weekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-mont
h vc-day-box-center-center"></div> flex
  
```

Styles Computed Layout Event Listeners

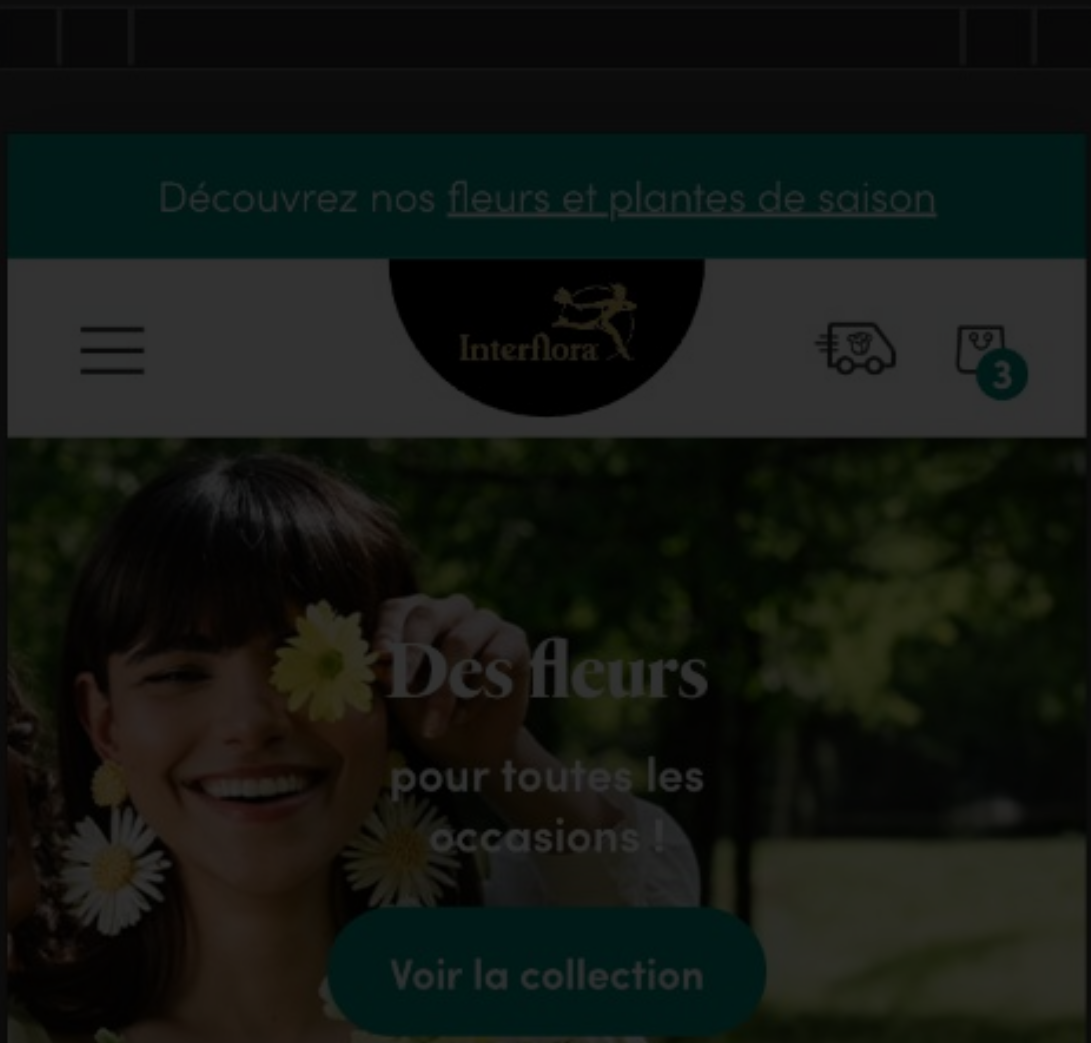
Filter

```

element.style {
}
.DatePicker .vc-container .vc-
day.in-next-month .vc-day-content,
.DatePicker .vc-container .vc-day.in-next-month
.vc-day-layer, .DatePicker .vc-container .vc-
day.in-prev-month .vc-day-content, .DatePicker
.vc-container .vc-day.in-prev-month .vc-day-
layer {
  display: none;
}
.DatePicker .vc-container .vc-day-
content.is-disabled {
  pointer-events: none;
}
.DatePicker .vc-container .vc-day-
content.is-disabled {
  color: #ddd;
  color: var(--DS-colors-grayscale-neutral);
}
  
```

span.vc-day-content.vc-focusable 1 of 42

span.vc-day-content.vc-focusable 1 of 42



date

Pour **anniversaire**

Voir la sélection

### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux

```
<span data-v-1623f44d aria-label="lundi 26 août 2024" aria-disabled="true" role="button" class="vc-day-content vc-focusable is-disabled">26</span> == $0
```

```
<span data-v-1623f44d aria-label="lundi 26 août 2024" aria-disabled="true" role="button" class="vc-day-content vc-focusable is-disabled">26</span> == $0
```

```
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-04 day-4 day-from-end-27 weekday-4 weekday-position-3 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-05 day-5 day-from-end-26 weekday-5 weekday-position-4 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-06 day-6 day-from-end-25 weekday-6 weekday-position-5 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-07 day-7 day-from-end-24 weekday-7 weekday-position-6 weekday-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-08 day-8 day-from-end-23 weekday-1 weekday-position-7 weekday-ordinal-2 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month on-right vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-09 day-9 day-from-end-22 weekday-2 weekday-position-1 weekday-ordinal-2 weekday-ordinal-from-end-4 week-3 week-from-end-4 is-today in-month on-left vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-10 day-10 day-from-end-21 weekday-3 weekday-position-2 weekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-month h vc-day-box-center-center"></div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-09-11 day-11 day-from-end-20 weekday-4 weekday-position-3 weekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-month
```

Styles Computed Layout Event Listeners

Filter

```
element.style {
}
.DatePicker .vc-container .vc-day.in-next-month .vc-day-content, .DatePicker .vc-container .vc-day.in-next-month .vc-day-layer, .DatePicker .vc-container .vc-day.in-prev-month .vc-day-content, .DatePicker .vc-container .vc-day.in-prev-month .vc-day-layer {
  display: none;
}
.DatePicker .vc-container .vc-day-content.is-disabled {
  pointer-events: none;
}
.DatePicker .vc-container .vc-day-content.is-disabled {
  color: #ddd;
  color: var(--DS-colors-grayscale-neutral);
}
1623f44d {
  opacity: 0;
  pointer-events: none;
}
.DatePicker .vc-container .vc-day-content {
  display: inline-flex;
  width: auto;
  margin: 0;
}
.DatePicker .vc-container .vc-day-content, .DatePicker .vc-container .vc-nav-popover-container .vc-nav-item {
  position: relative;
}
.DatePicker .vc-container .vc-day-content, .DatePicker .vc-container .vc-nav-popover-container .vc-nav-item, .DatePicker .vc-container .vc-nav-popover-container .vc-nav-title, .DatePicker .vc-container .vc-title {
  text-align: center;
}
.DatePicker .vc-container .vc-day-content, .DatePicker .vc-container .vc-nav-popover-container .vc-nav-item {
  display: inline-block;
  cursor: pointer;
  height: var(--DatePicker-nav-size);
```



# Sélectionnez votre date

Sept. 2024

div.vc-day.id-2024-09-03.d  
ay-3.day-from-end-28.week  
day-3.weekday-position-2.  
weekda...

45.14 x 32

2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

```

<span data-v-1623f44d aria-label="lundi 26 août 2024" aria-disabled="true" role="button"
class="vc-day-content vc-focusable is-disabled">26</span> == $0
</div>
<div data-v-1623f44d data-v-22657c30 class="vc-day id-2024-08-27 day-27 day-from-end-5 weekday-3
day-ordinal-4 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
center-center is-not-in-month">...</div>
ta-v-22657c30 class="vc-day id-2024-08-28 day-28 day-from-end-4 weekday-4
day-ordinal-4 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
center-center is-not-in-month">...</div>
ta-v-22657c30 class="vc-day id-2024-08-29 day-29 day-from-end-3 weekday-5
day-ordinal-5 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
center-center is-not-in-month">...</div>
ta-v-22657c30 class="vc-day id-2024-08-30 day-30 day-from-end-2 weekday-6
day-ordinal-5 weekday-ordinal-from-end-1 week-5 week-from-end-1 in-prev-m
center-center is-not-in-month">...</div>
ta-v-22657c30 class="vc-day id-2024-08-31 day-31 day-from-end-1 weekday-7
day-ordinal-5 weekday-ordinal-from-end-0 week-5 week-from-end-1 in-prev-m
center-center is-not-in-month">...</div>
ta-v-22657c30 class="vc-day id-2024-09-01 day-1 day-from-end-30 weekday-1
day-ordinal-1 weekday-ordinal-from-end-5 week-1 week-from-end-6 is-first-
right vc-day-box-center-center">...</div>
ta-v-22657c30 class="vc-day id-2024-09-02 day-2 day-from-end-29 weekday-2
day-ordinal-1 weekday-ordinal-from-end-5 week-2 week-from-end-5 in-month
er-center">...</div>
ta-v-22657c30 class="vc-day id-2024-09-03 day-3 day-from-end-28 weekday-3
day-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
r">...</div>
ta-v-22657c30 class="vc-day id-2024-09-04 day-4 day-from-end-27 weekday-4
day-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
r">...</div>
ta-v-22657c30 class="vc-day id-2024-09-05 day-5 day-from-end-26 weekday-5
day-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
r">...</div>
ta-v-22657c30 class="vc-day id-2024-09-06 day-6 day-from-end-25 weekday-6
day-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
r">...</div>
ta-v-22657c30 class="vc-day id-2024-09-07 day-7 day-from-end-24 weekday-7
day-ordinal-1 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
r">...</div>
ta-v-22657c30 class="vc-day id-2024-09-08 day-8 day-from-end-23 weekday-1
day-ordinal-2 weekday-ordinal-from-end-4 week-2 week-from-end-5 in-month
ter-center">...</div>
ta-v-22657c30 class="vc-day id-2024-09-09 day-9 day-from-end-22 weekday-2
day-ordinal-2 weekday-ordinal-from-end-4 week-3 week-from-end-4 is-today
-box-center-center">...</div>
ta-v-22657c30 class="vc-day id-2024-09-10 day-10 day-from-end-21 weekday-
ekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-mont
ter">...</div>
ta-v-22657c30 class="vc-day id-2024-09-11 day-11 day-from-end-20 weekday-
ekday-ordinal-2 weekday-ordinal-from-end-3 week-3 week-from-end-4 in-mont
x-center-center.is-not-in-month span.vc-day-content.vc-focusable.is-disabled

```

Styles Computed Layout Event Listeners


Filter

```

element.style {
}
.DatePicker .vc-container .vc- (index):89
day.in-next-month .vc-day-content,
.DatePicker .vc-container .vc-day.in-next-month
.vc-day-layer, .DatePicker .vc-container .vc-
day.in-prev-month .vc-day-content, .DatePicker
.vc-container .vc-day.in-prev-month .vc-day-
layer {
display: none;
}
.DatePicker .vc-container .vc-day- (index):89
content.is-disabled {
pointer-events: none;
}
.DatePicker .vc-container .vc-day- (index):89
content.is-disabled {
color: #ddd;
color: var(--DS-colors-grayscale-neutral);
}
.vc-day-content.is-disabled[data-v- (index):89
1623f44d] {
color: var(--gray-400);
}
.vc-day.is-not-in-month *[data-v- (index):89
1623f44d] {
opacity: 0;
pointer-events: none;
}
.DatePicker .vc-container .vc-day- (index):89
content {
display: inline-flex;
width: auto;
margin: 0;
}
.DatePicker .vc-container .vc-day- (index):89
content, .DatePicker .vc-container
.vc-nav-popover-container .vc-nav-item {
position: relative;
}
.DatePicker .vc-container .vc-day- (index):89
content, .DatePicker .vc-container
.vc-nav-popover-container .vc-nav-item,
.DatePicker .vc-container .vc-nav-popover-
container .vc-nav-title, .DatePicker .vc-
container .vc-title {
text-align: center;
}
.DatePicker .vc-container .vc-day- (index):89
content, .DatePicker .vc-container
.vc-nav-popover-container .vc-nav-item {
display: inline-block;
cursor: pointer;
height: var(--DatePicker-nav-size);

```

Découvrez nos fleurs et plantes de saison



Des fleurs pour toutes les occasions !

Voir la collection

Livraison sélectionnez une date

### Sélectionnez votre date

Sept. 2024

LUN.	MAR.	MER.	JEU.	VEN.	SAM.	DIM.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

### Local metrics

## Recording settings

CPU: 20x slowdown

Network: No throttling

Record

Record and reload

### Next steps

#### Field data

See how your local metrics compare to real user data in the [Chrome UX Report](#).

Set up

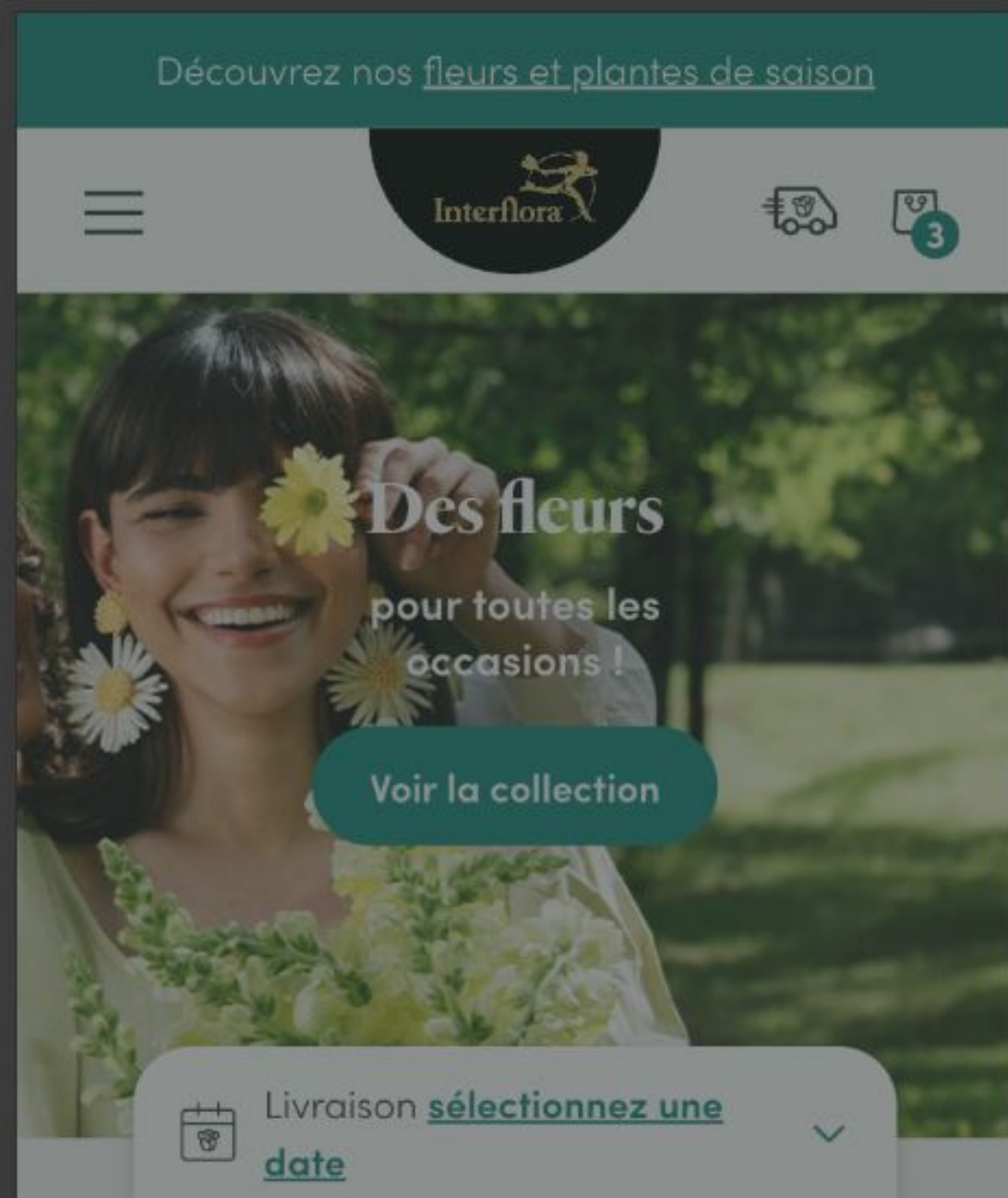
#### Recording settings

CPU: 20x slowdown

Network: No throttling

Record

Record and reload



### Sélectionnez votre date

Sept. 2024

LUN.	MAR.	MER.	JEU.	VEN.	SAM.	DIM.
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						


Status Profiling...

Time 2 sec

Buffer usage |

Stop

Découvrez nos fleurs et plantes de saison



Des fleurs pour toutes les occasions !

Voir la collection

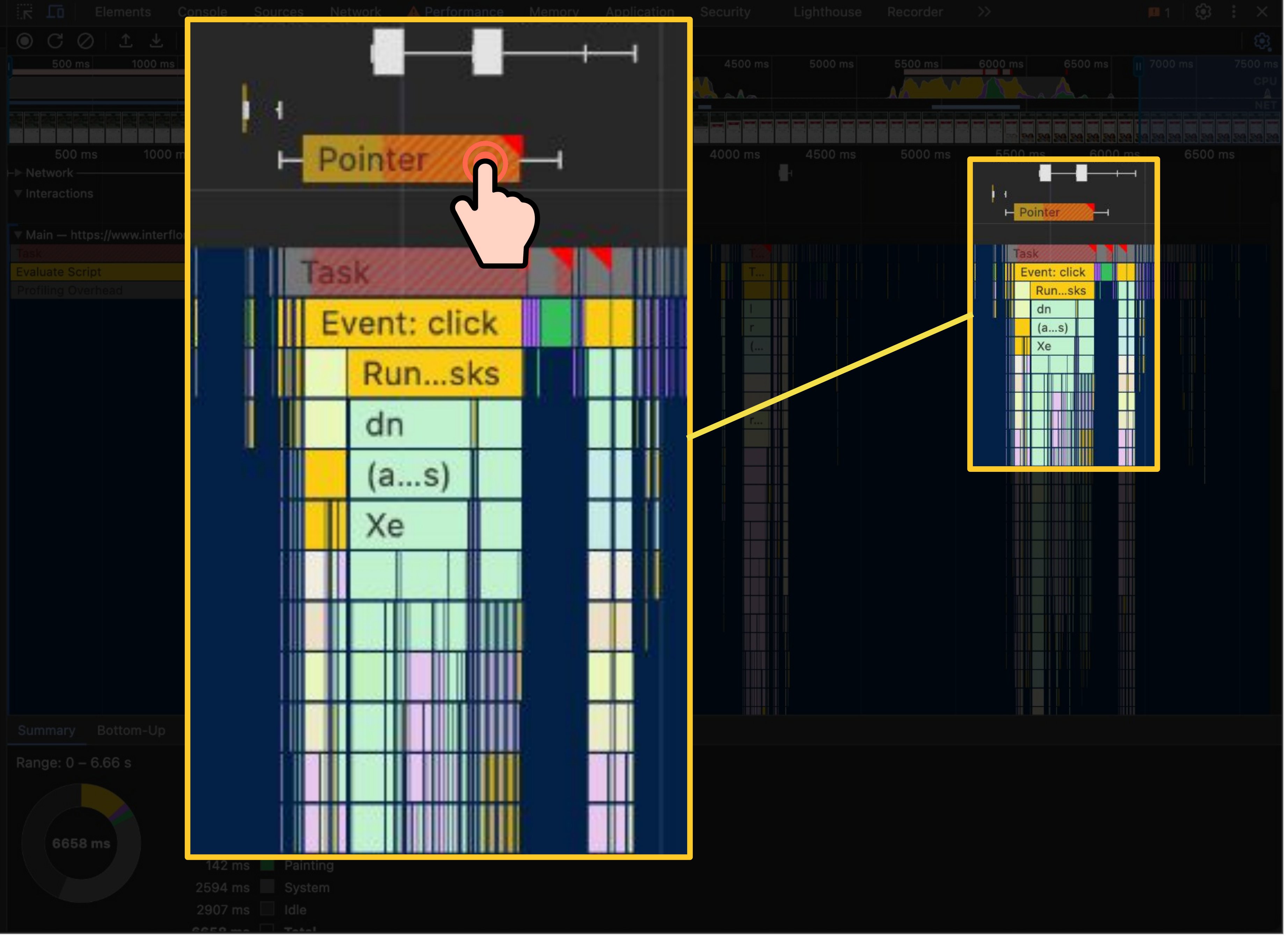

Livraison **jeudi 12 septembre 2024**

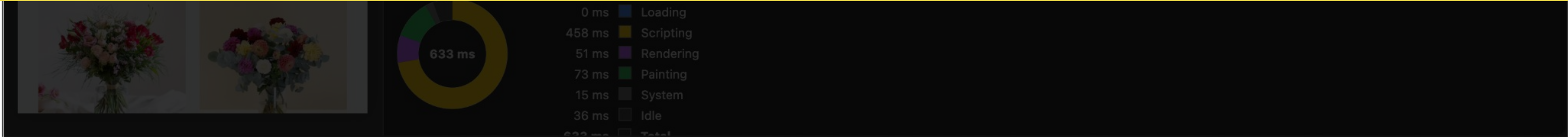
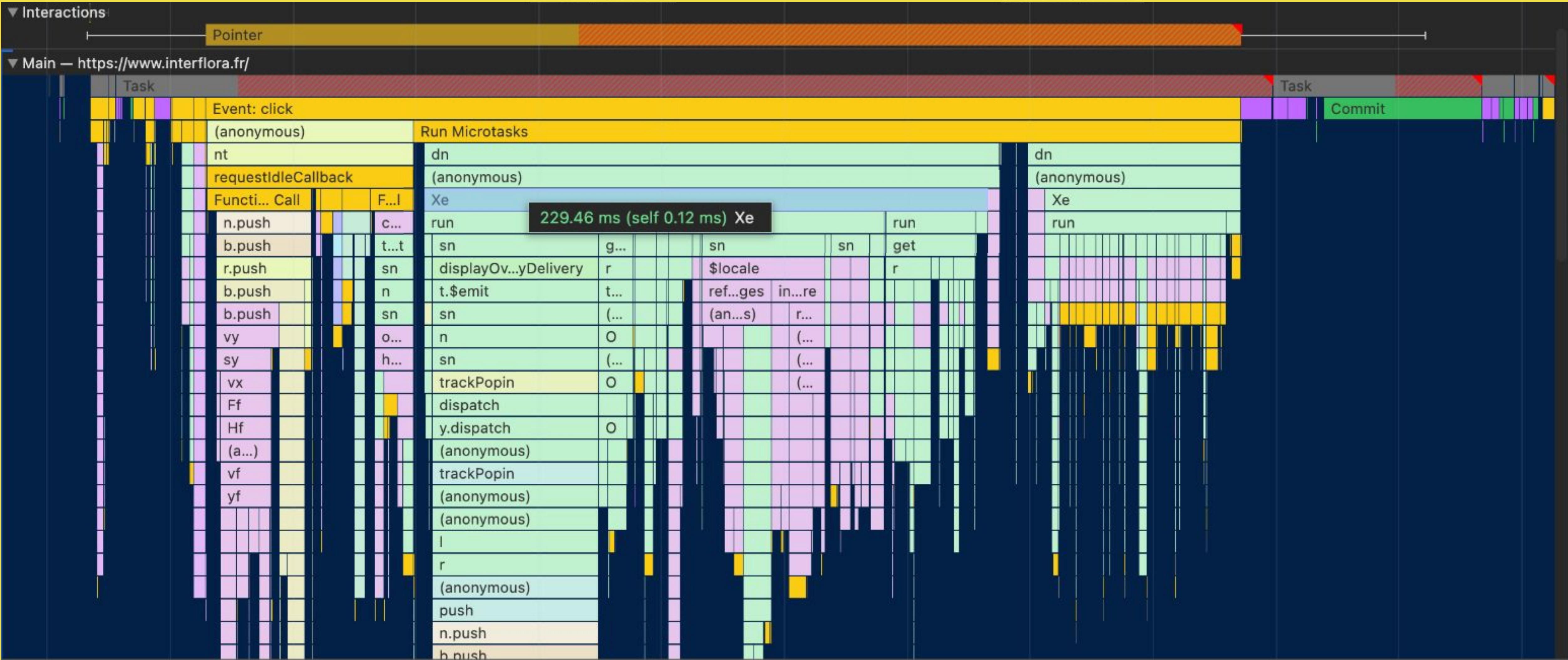
Pour **anniversaire**

Voir la sélection

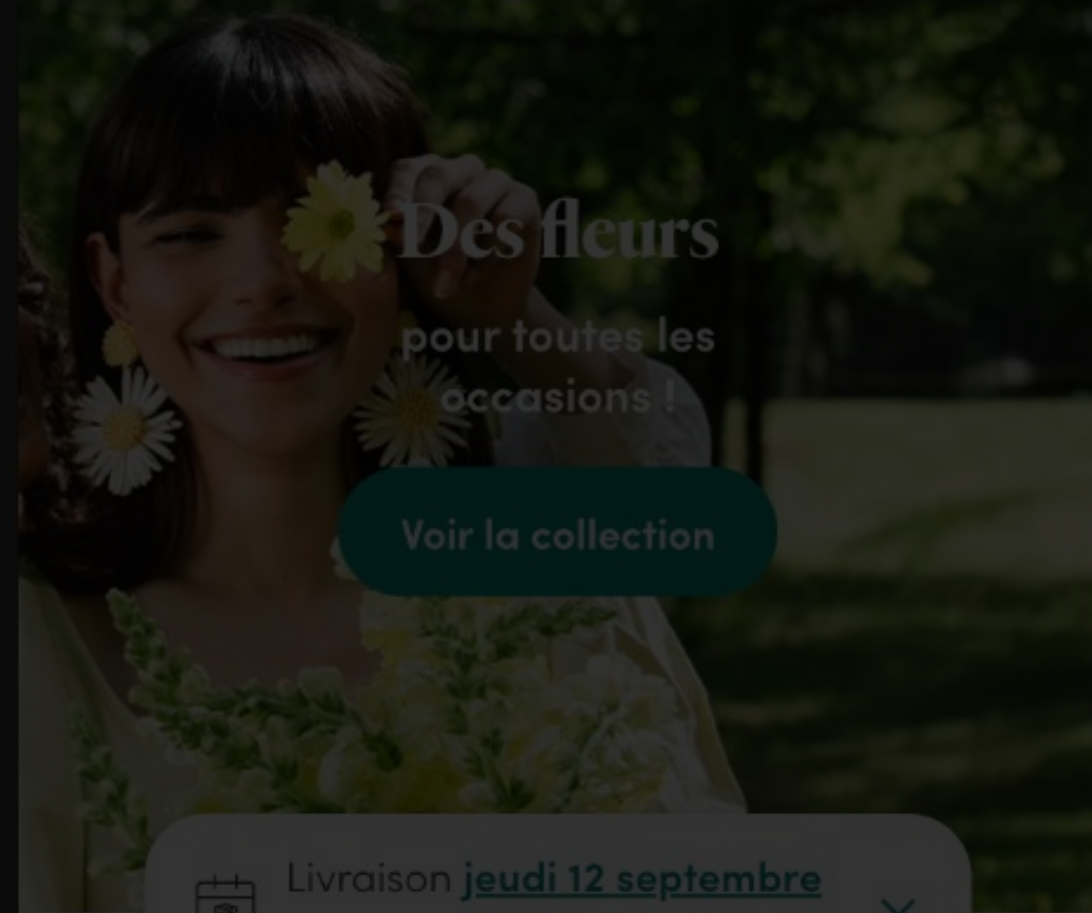
### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux





Découvrez nos fleurs et plantes de saison



Des fleurs pour toutes les occasions !

Voir la collection

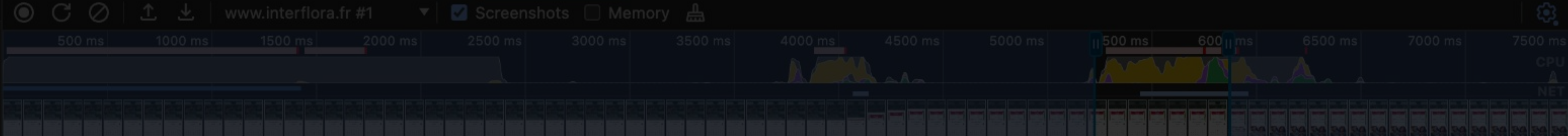
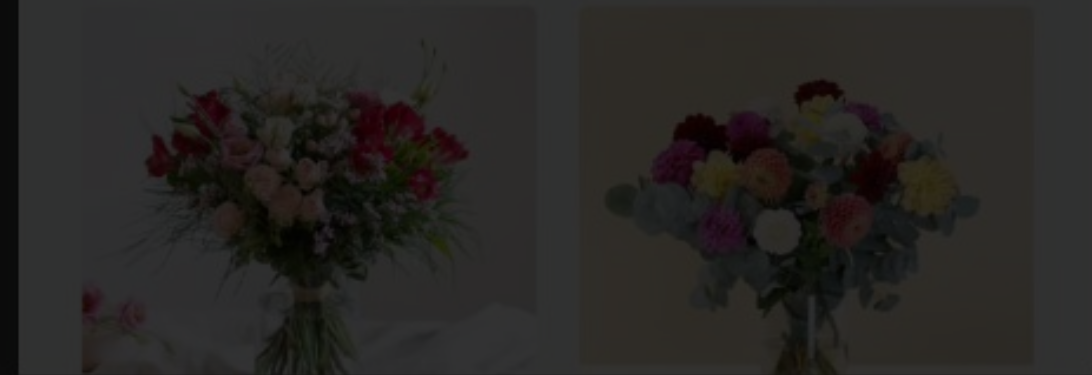
Livraison **jeudi 12 septembre 2024**

Pour **anniversaire**

Voir la sélection

### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux



50 ms 5300 ms 5350 ms 5400 ms 5450 ms 5500 ms 5550 ms 5600 ms 5650 ms 5700 ms 5750 ms 5800 ms 5850 ms

Network Interactions Pointer



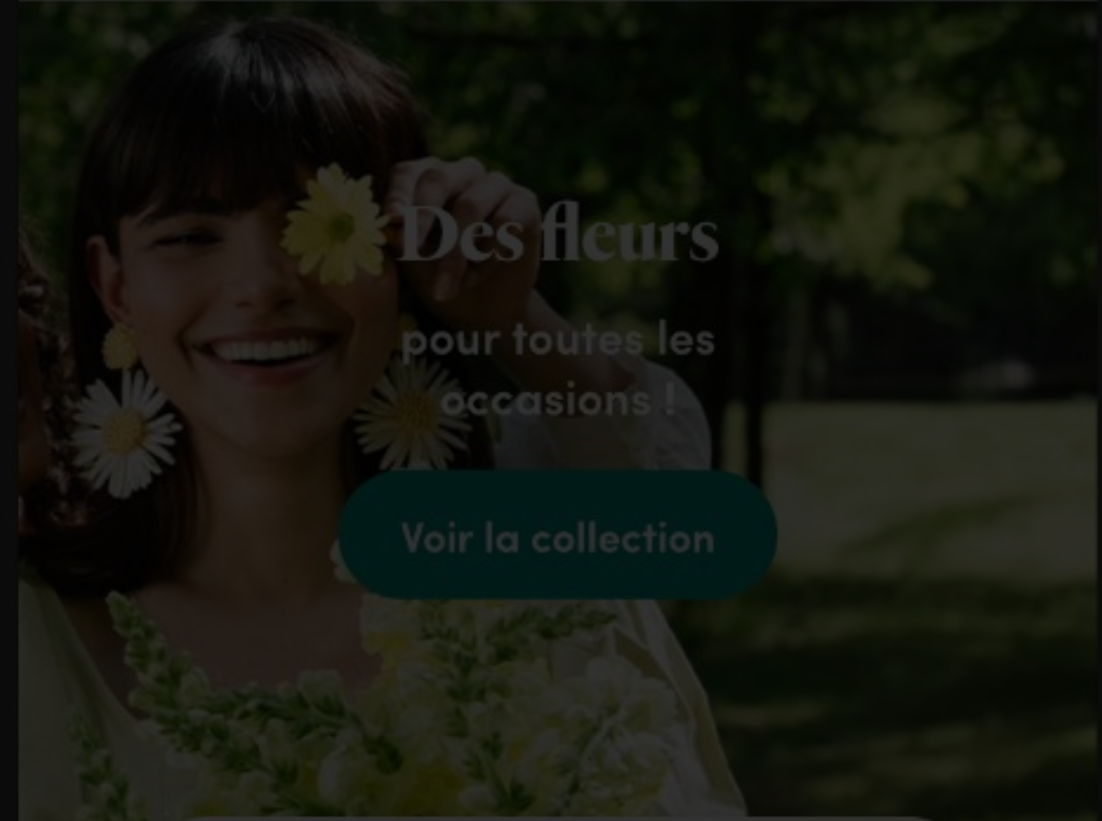
Summary Bottom-Up Call Tree Event Log

Range: 5.23 s - 5.86 s



- 0 ms Loading
- 458 ms Scripting
- 51 ms Rendering
- 73 ms Painting
- 15 ms System
- 36 ms Idle
- 633 ms Total

Découvrez nos fleurs et plantes de saison



Des fleurs pour toutes les occasions !

Voir la collection

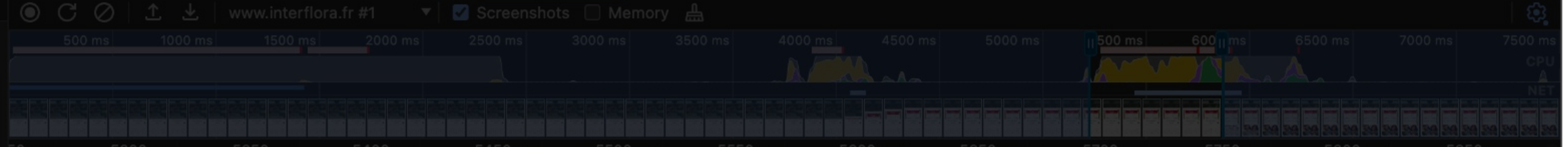
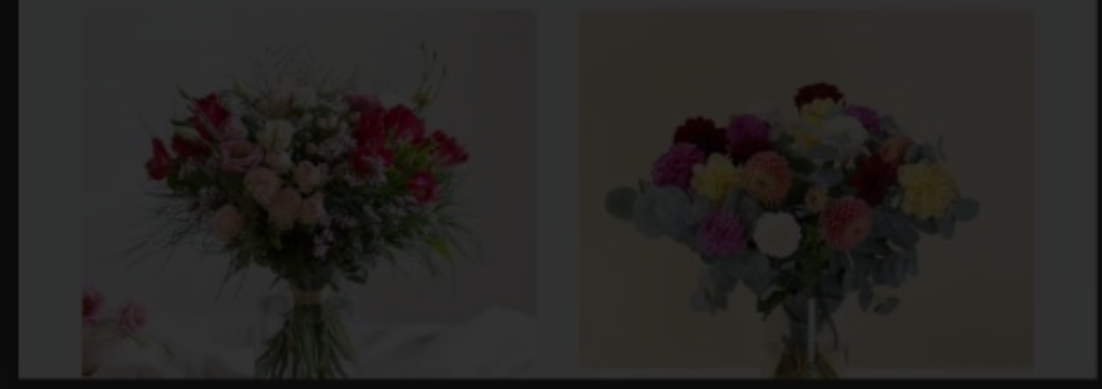
Livraison **jeudi 12 septembre 2024**

Pour **anniversaire**

Voir la sélection

### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux



Network | Interactions | events (c.content... | pageview (c.cont...

Pointer

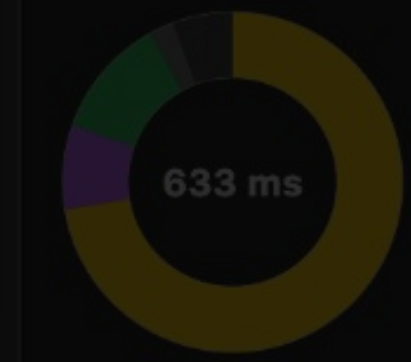
(anonymous)
Xe
run
sn
displayOv...yDelivery

94.63 ms run



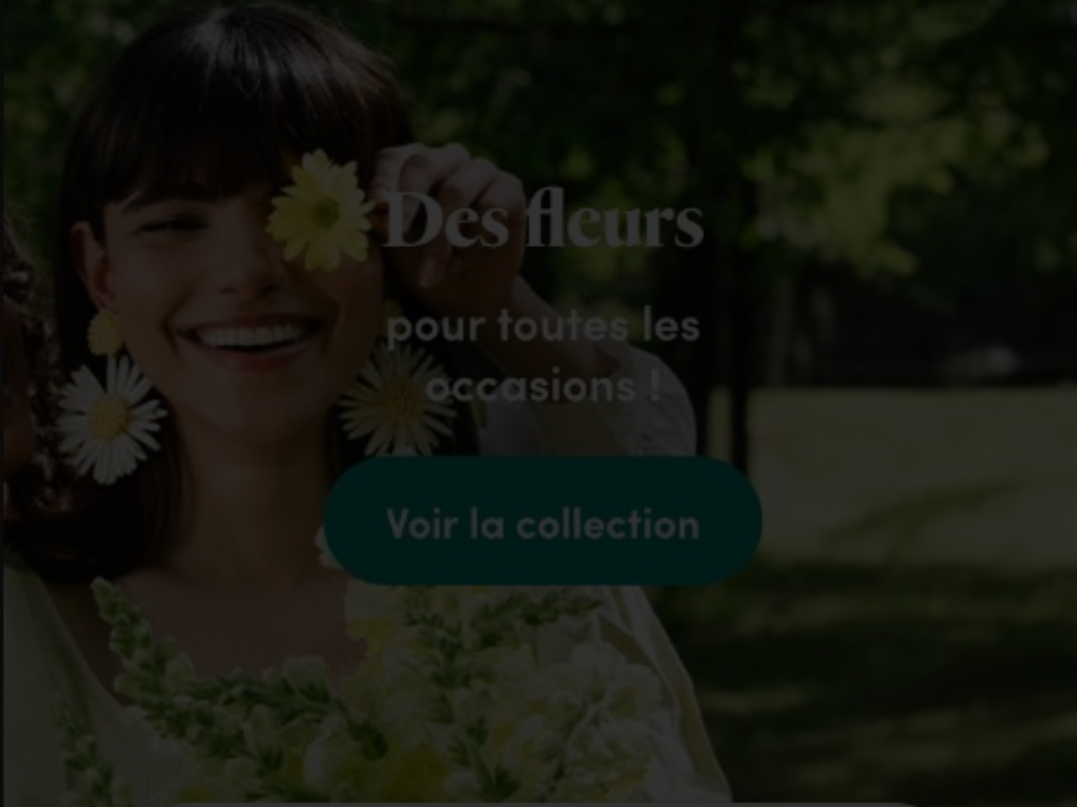
Summary | Bottom-Up | Call Tree | Event Log

Range: 5.23 s - 5.86 s



- 0 ms Loading
- 458 ms Scripting
- 51 ms Rendering
- 73 ms Painting
- 15 ms System
- 36 ms Idle
- 633 ms Total

Découvrez nos fleurs et plantes de saison



Des fleurs pour toutes les occasions !

Voir la collection

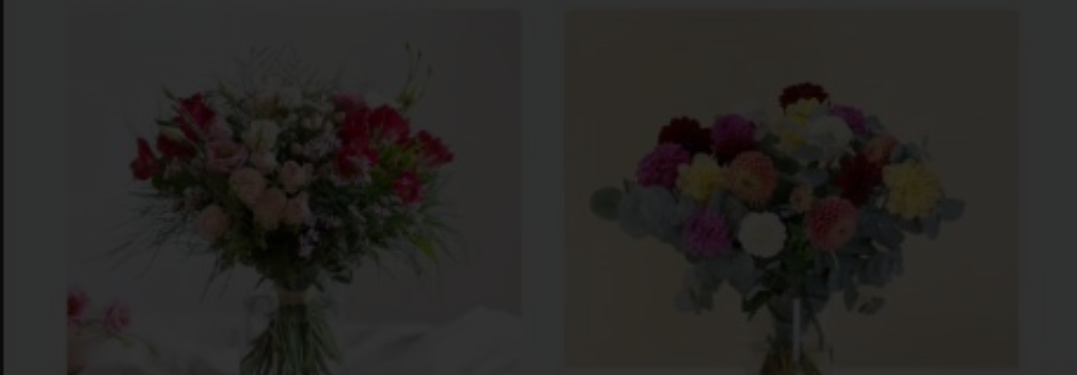
Livraison jeudi 12 septembre 2024

Pour anniversaire

Voir la sélection

Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux



(anonymous)

Xe

run

sn 94.63 ms run

displayOv...yDelivery

\$locale

get

r

Summary Bottom-Up Call Tree Event Log

run

Total Time 94.63 ms

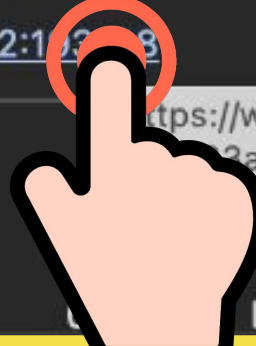
Self Time 0

Function run @ 791a33a.js:2:193108

Aggregated Time

Scripting (children)

Loading





- Page Workspace >>
- 9d0f105.js 791a33a.js x
- top
  - www.interflora.fr
    - \_nuxt
      - fonts
      - img
        - 1bc042e.js
        - 02d2b39.js
        - 5d213a0.js
        - 7e524bd.js
        - 9c1d9fa.js
        - 9d0f105.js
        - 68b5184.js
        - 79d8755.js
        - 791a33a.js
        - 5553d16.js
        - 25652c9.js
        - 2639942.js
        - a1cadd0.js
        - a2c1fc1.js
        - ac26a49.js
        - ac54ca9.js
        - b7c15b4.js
        - b851a1c.js
        - bcff28b.js
        - d6e60cb.js
        - d277d91.js
        - dc40d24.js
        - e6c2a4c.js
        - f9fd442.js
        - f87186c.js
        - fc33da8.js
        - ffbcc50.js
        - runtime.1e0d6fe9174ca0b
  - fstrz
    - (index)
  - analytics.optimalpeople.fr
  - analytics.tiktok.com
  - assets-manager.abtasty.com
  - bat.bing.com
  - cdn.cookieclaw.org

Découvrez nos fleurs et plantes de saison

## Des fleurs pour toutes les occasions !

Voir la collection

Livraison **jeudi 12 septembre 2024**

Pour **anniversaire**

Voir la sélection

### Notre sélection du moment

Découvrez notre collection de fleurs, plantes et cadeaux

```

addDep(t) {
  const e = t.id;
  this.newDepIds.has(e) || (this.newDepIds.add(e),
  this.newDeps.push(t),
  this.depIds.has(e) || t.addSub(this))
}

cleanupDeps() {
  let t = this.deps.length;
  for (; t--;) {
    const e = this.deps[t];
    this.newDepIds.has(e.id) || e.removeSub(this)
  }
  let e = this.depIds;
  this.depIds = this.newDepIds,
  this.newDepIds = e,
  this.newDepIds.clear(),
  e = this.deps,
  this.deps = this.newDeps,
  this.newDeps = e,
  this.newDeps.length = 0
}

update() {
  this.lazy ? this.dirty = 0 : this.lazy ? this.run() : Ze(this)
}

run() {
  if (this.active) {
    const t = this.get();
    if (t !== this.value || h(t) || this.deep) {
      const e = this.value;
      if (this.value = t,
      this.user) {
        const n = `callback for watcher "${this.expression}"`;
        sn(this.cb, this.vm, [t, e], this.vm, n)
      } else
        this.cb.call(this.vm, t, e)
    }
  }
}

evaluate() {
  this.value = this.get(),
  this.dirty = !1
}

depend() {
  let t = this.deps.length;
  for (; t--;)
    this.deps[t].depend()
}

teardown() {
  if (this.vm && !this.vm._isBeingDestroyed && w(this.vm._scope.effects, this)
  this.active) {

```

# Debugging INP

## 3 steps

1. Find out where the slowest interactions are occurring
  2. Analyze the causes of slow interactions
  3. **Fix the problem**
- a. **Manually** troubleshoot interactions
- b. **Leverage real user monitoring** data



What is Interaction  
to Next Paint (INP)?



Debugging slow  
interactions



Identified mistakes  
and solutions



# Have you improved INP? 🙏



Never tried to improve INP

Tried to improve it, didn't succeed yet

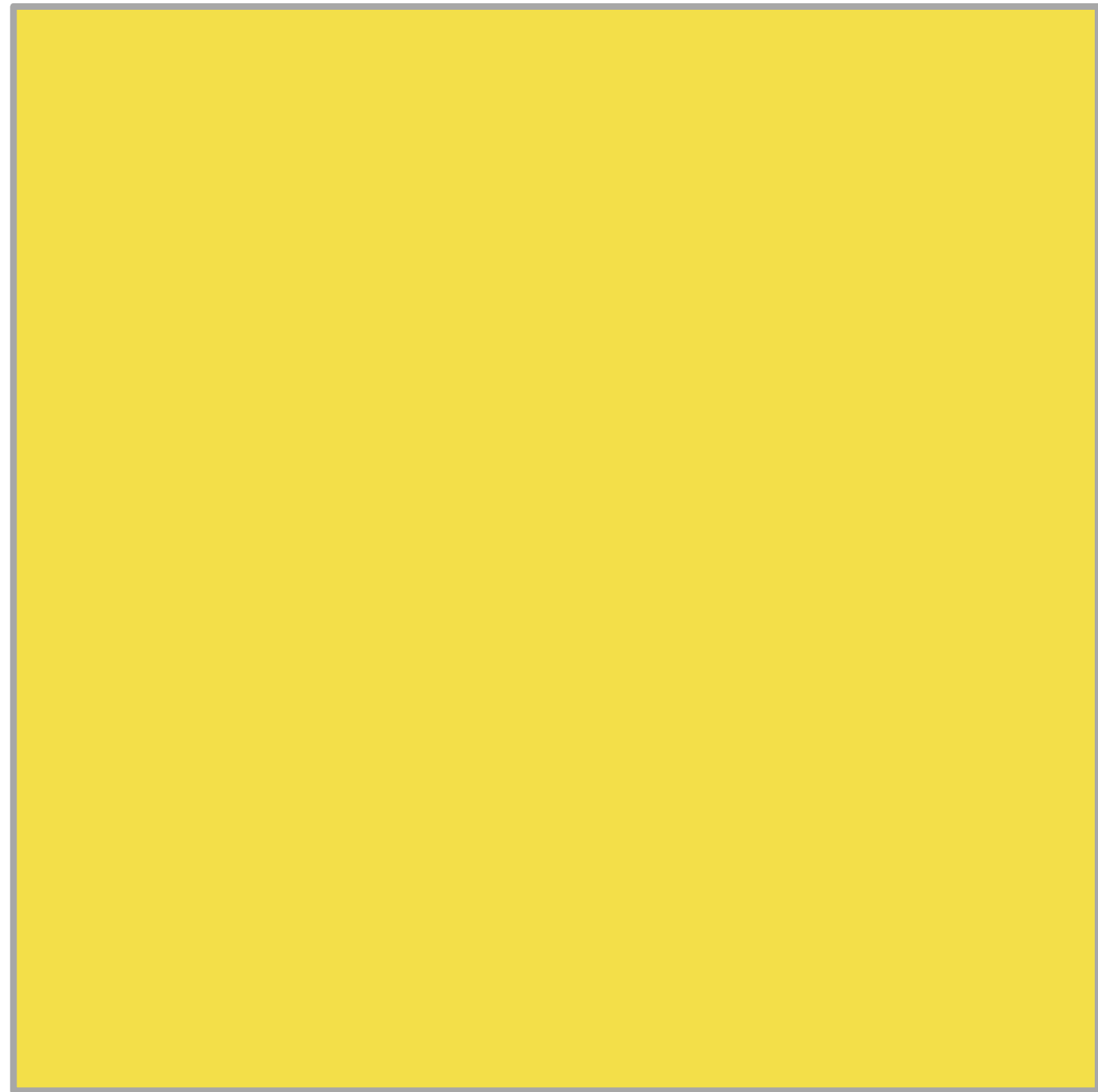
Successfully improved INP



# Identified mistakes

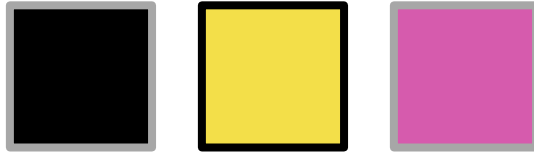
- Synchronously sending analytics beacons
- Inducing style recalculation
- Executing too much UI-related JavaScript at once

**Synchronously sending  
analytics beacons**



### Fancy T-shirt

Available colors

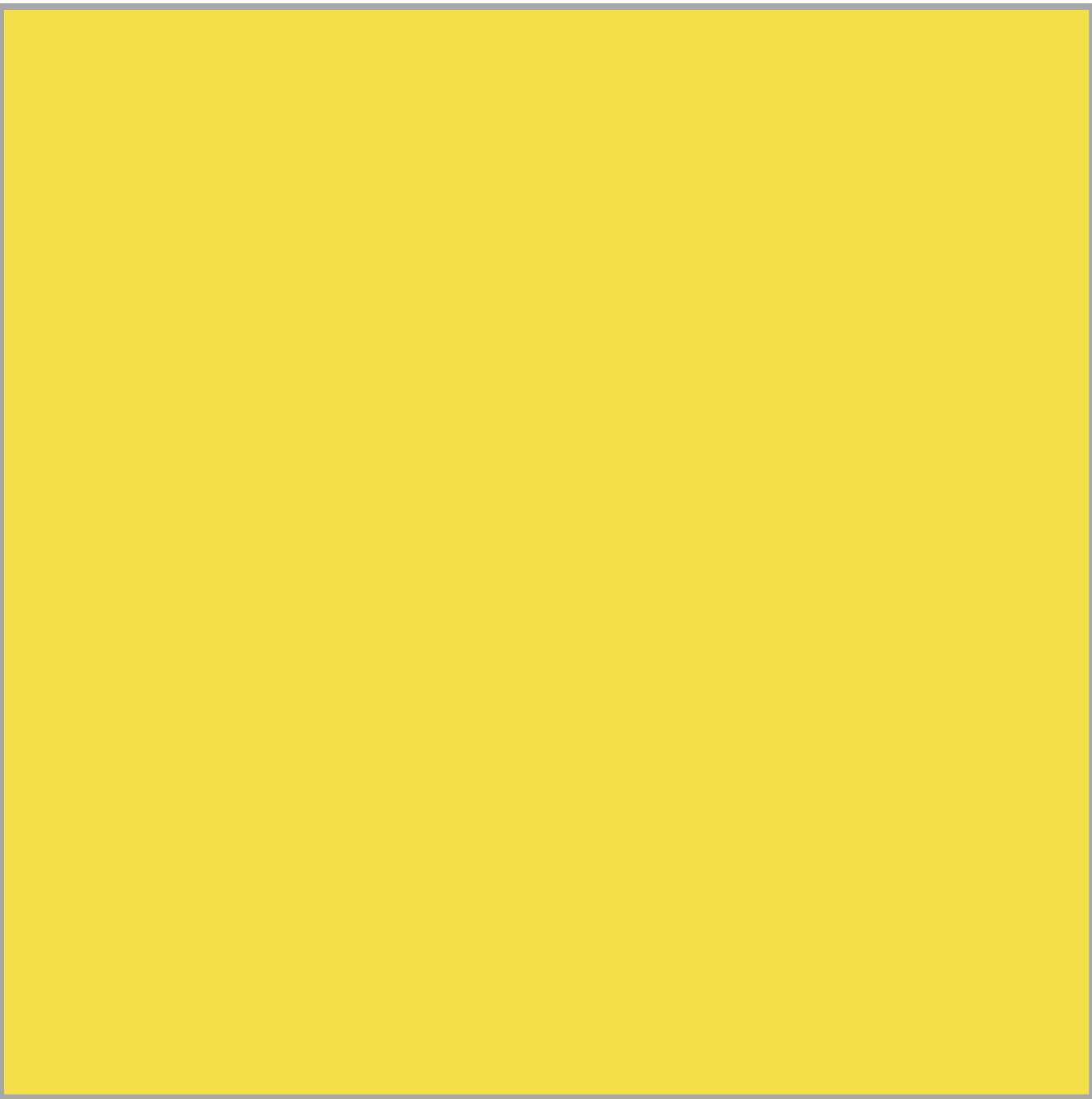


Choose your size



Express delivery in **1 day**

1100 ms



### Fancy T-shirt

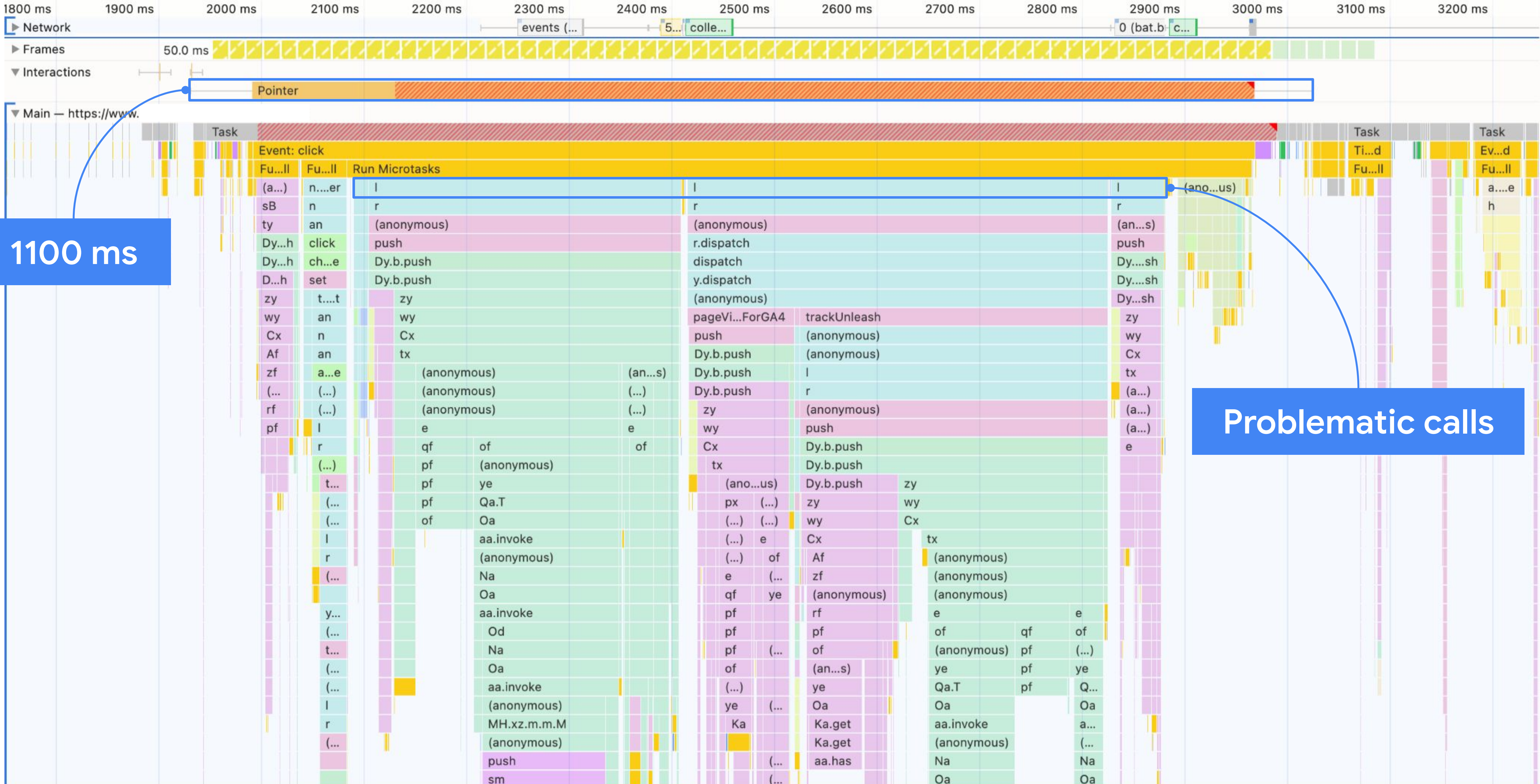
Available colors



Choose your size



Express delivery in **1 day**



1100 ms

Problematic calls



```
function selectSizeHandler() {  
    selectSize();  
    pushToTagManager();  
}
```

```
function selectSizeHandler() {  
  selectSize();  
  
  pushToTagManager();  
}
```

```
async function selectSizeHandler() {  
    selectSize();  
    await yieldToMain();  
    pushToTagManager();  
}
```

```
async function selectSizeHandler() {  
  selectSize();  
  await yieldToMain();  
  pushToTagManager();  
}
```

```
function yieldToMain() {  
  
}
```



```
async function selectSizeHandler() {  
  selectSize();  
  await yieldToMain();  
  pushToTagManager();  
}
```

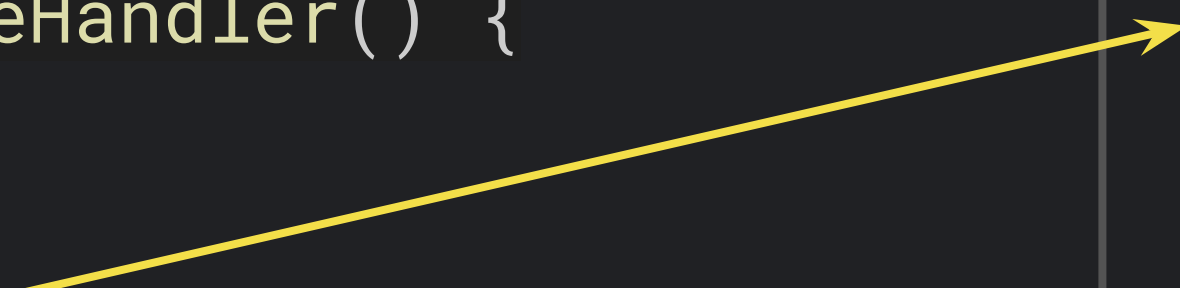
```
function yieldToMain() {  
  return scheduler.yield();  
}
```



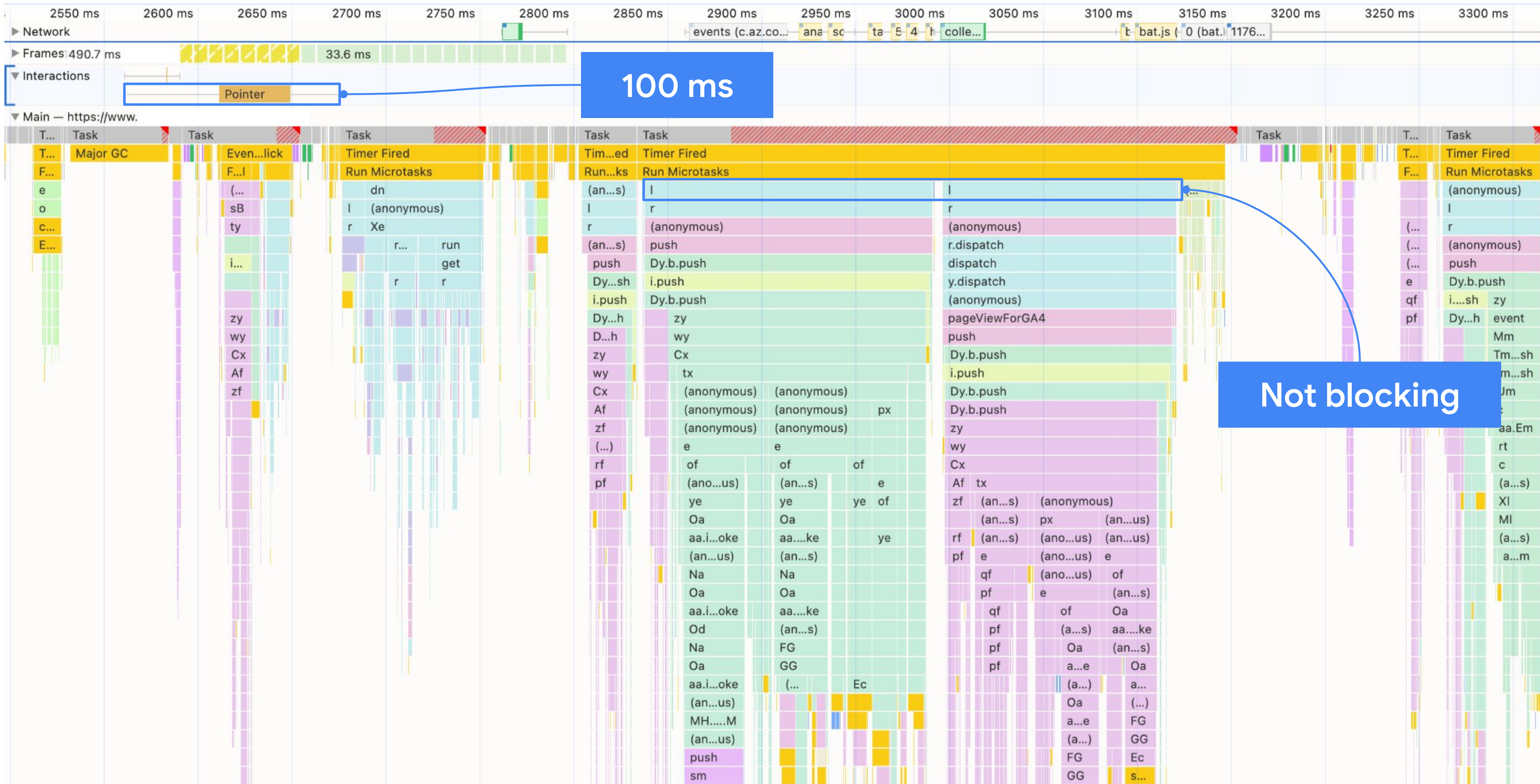
```
async function selectSizeHandler() {  
  selectSize();  
  await yieldToMain();  
  pushToTagManager();  
}
```

```
function yieldToMain() {  
  if ("scheduler" in window && "yield" in scheduler) {  
    return scheduler.yield();  
  }  
}
```

```
async function selectSizeHandler() {
  selectSize();
  await yieldToMain();
  pushToTagManager();
}
```



```
function yieldToMain() {
  if ("scheduler" in window && "yield" in scheduler) {
    return scheduler.yield();
  }
  return new Promise((resolve) => {
    setTimeout(resolve, 0);
  });
}
```





**Always yield to the main thread  
before calling tracking functions**

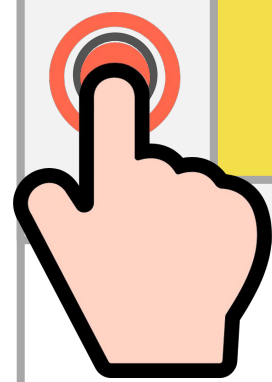
(or any other long-running function)

“When I get back to work, I’ll have to check how my website handles event tracking calls to analytics platforms.”

“À mon retour au travail, il me faudra vérifier le fonctionnement de mon site web concernant les appels de suivi d'événements sur les plateformes d'analyse.”

```
function filterStudies({ studies, filterByOrg = false, filterByLeadOrganizat
```

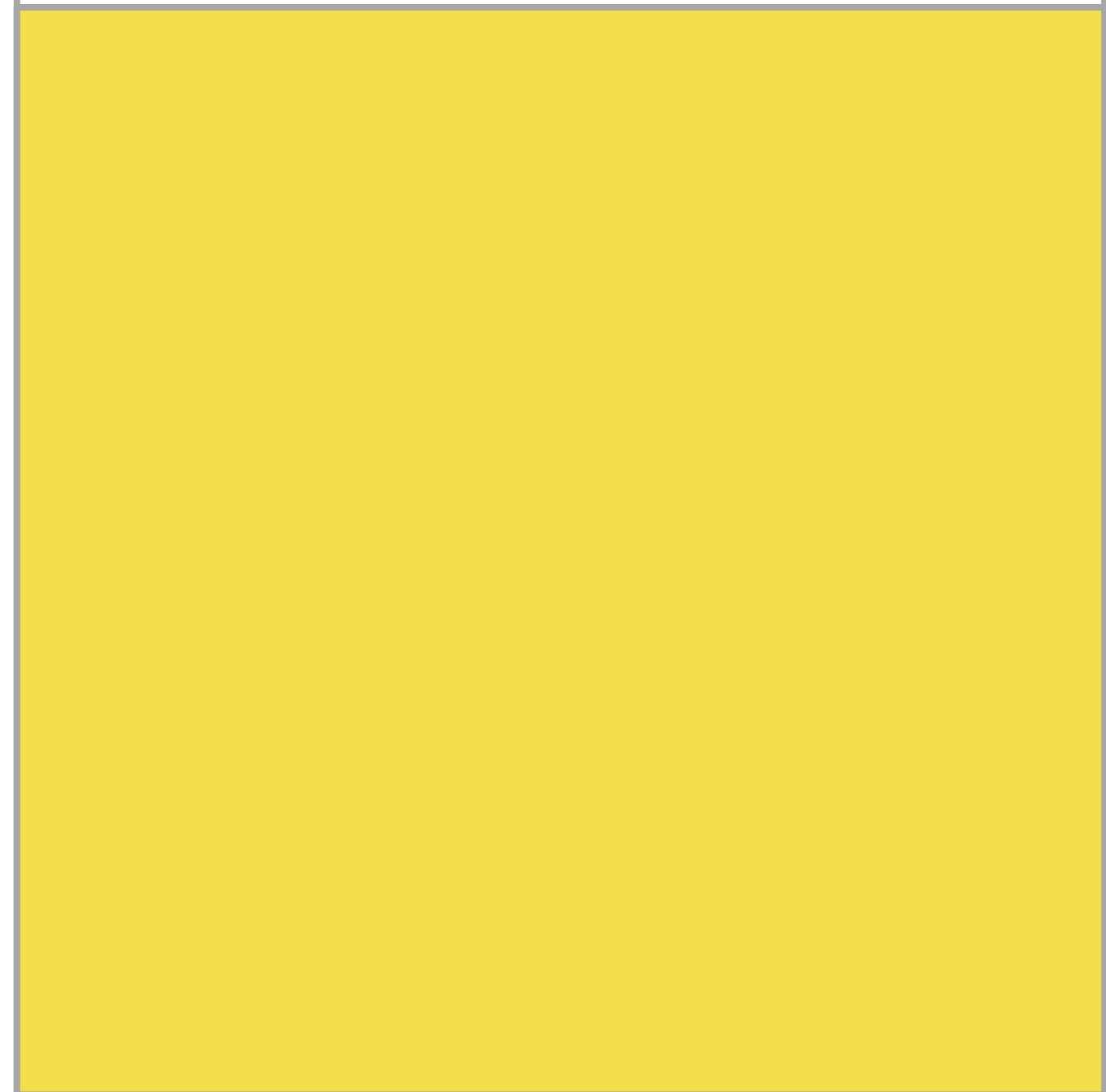
**Inducing style recalculation**



Install our app  
It's the best

Let's go

Landing page



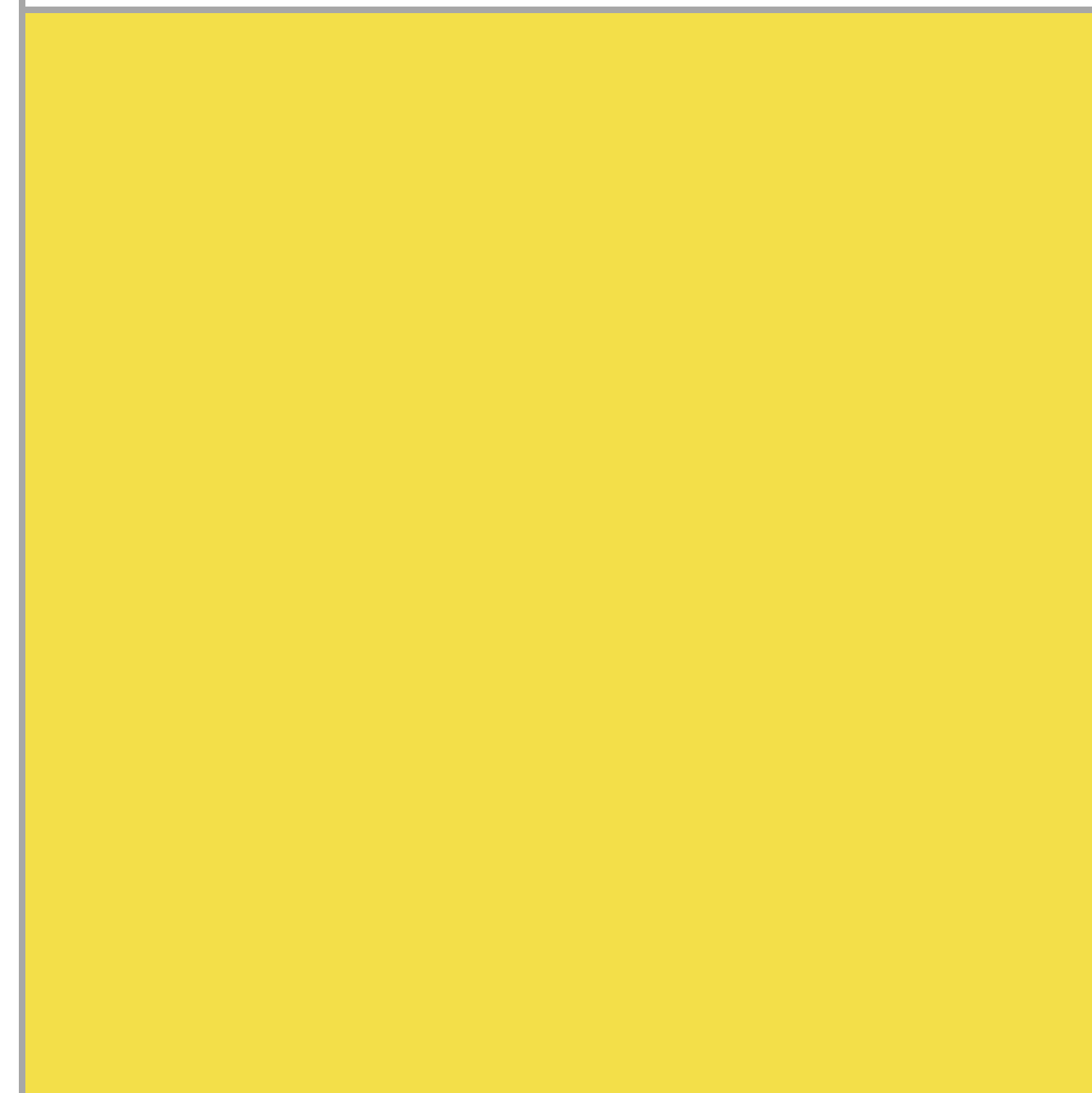
### Wow text

Nullam dictum lobortis blandit. Fusce a sapien et dolor laoreet dignissim eget vitae metus. Etiam quis orci sollicitudin, interdum arcu eu, hendrerit nisl.

Maecenas vitae lacinia nisi. In porta, nunc

250 ms

Landing page

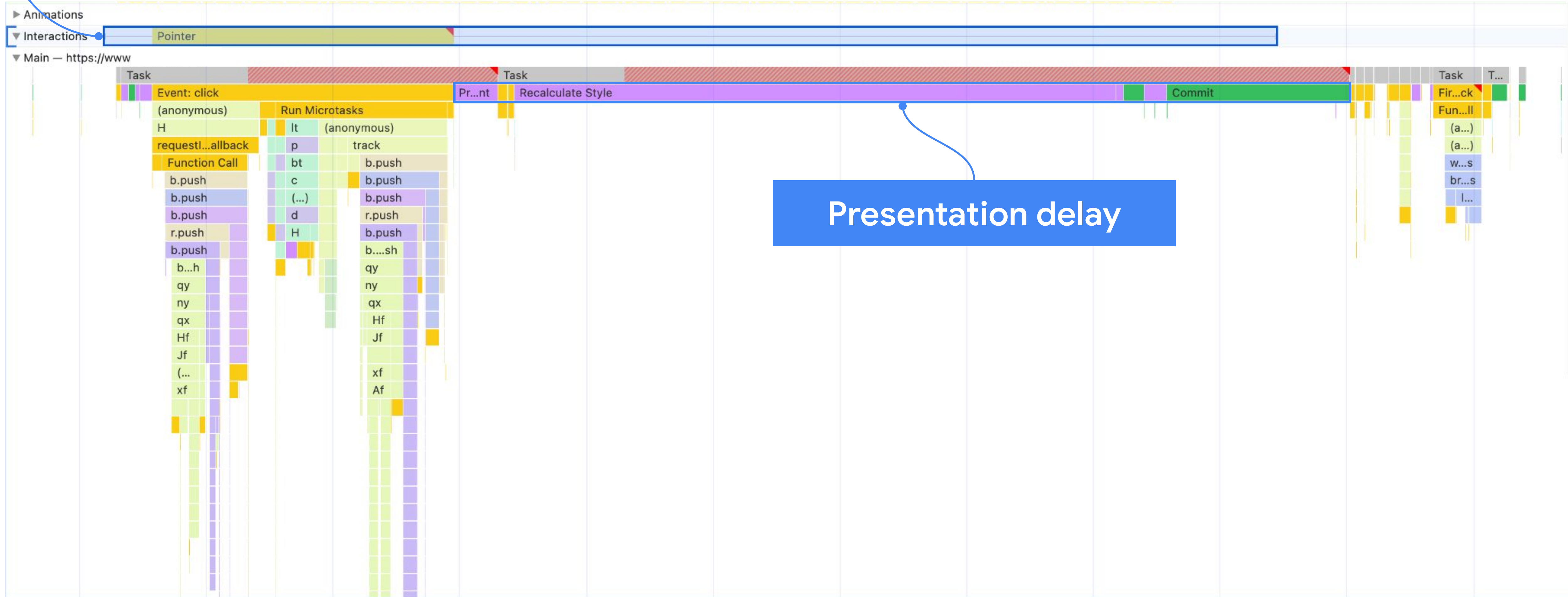


### Wow text

Nullam dictum lobortis blandit. Fusce a sapien et dolor laoreet dignissim eget vitae metus. Etiam quis orci sollicitudin, interdum arcu eu, hendrerit nisl.

Maecenas vitae lacinia nisi. In porta, nunc nec sodales suscipit, diam nunc placerat odio, at posuere turpis sapien a lacus. Integer varius ornare lectus egestas commodo.

250 ms



Presentation delay



```
<html>
  <head>
    ...
  </head>
  <body
    class="..."
    style="--app-header-height: 223px; --app-header-offset-top: 223px"
  >
    ...
  </body>
</html>
```

“...if you're adding new custom properties, you defeat those optimizations and we have to go down the slow path. So this is expected.”

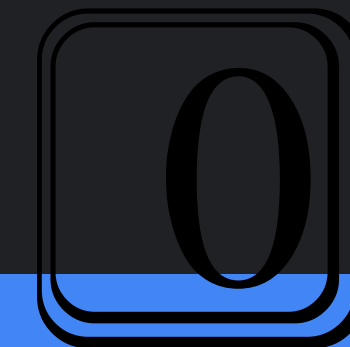
Comment on Chromium issue 342214592, May 2024

```
function filterStudies({ studies, filterByOrg = false, filterByLeadOrganizat
```



```
<html>
  <head>
    ...
  </head>
  <body
    class="..."

  >
    ...
  </body>
</html>
```



Can we use  
classes instead?



```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."

>
  ...
</header>
<main
  class="..."

>
  ...
</main>
</body>
```



1

Assign  
custom props  
to lower levels  
of the DOM tree

```
<body
  class="..."
>
<header
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

```
<body
  class="..."
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
  ...
</main>
</body>
```

```
<body
  class="..."
>
<header
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
  ...
</header>
<main
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
  ...
</main>
</body>
```

```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

2

Avoid  
inheritance

```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

Javascript

```
CSS.registerProperty({
  name: "--app-header-height",
});
```



```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

Javascript

```
CSS.registerProperty({
  name: "--app-header-height",
  syntax: "<length>",

});
```

```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

Javascript

```
CSS.registerProperty({
  name: "--app-header-height",
  syntax: "<length>",
  inherits: false,
});
```

```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

Javascript

```
CSS.registerProperty({
  name: "--app-header-height",
  syntax: "<length>",
  inherits: false,
  initialValue: "223px",
});
```

```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
<header
  class="..."
>
  ...
</header>
<main
  class="..."
>
  ...
</main>
</body>
```

Javascript

```
CSS.registerProperty({
  name: "--app-header-height",
  syntax: "<length>",
  inherits: false,
  initialValue: "223px",
});

CSS.registerProperty({
  name: "--app-header-offset-top",
  syntax: "<length>",
  inherits: false,
  initialValue: "223px",
});
```

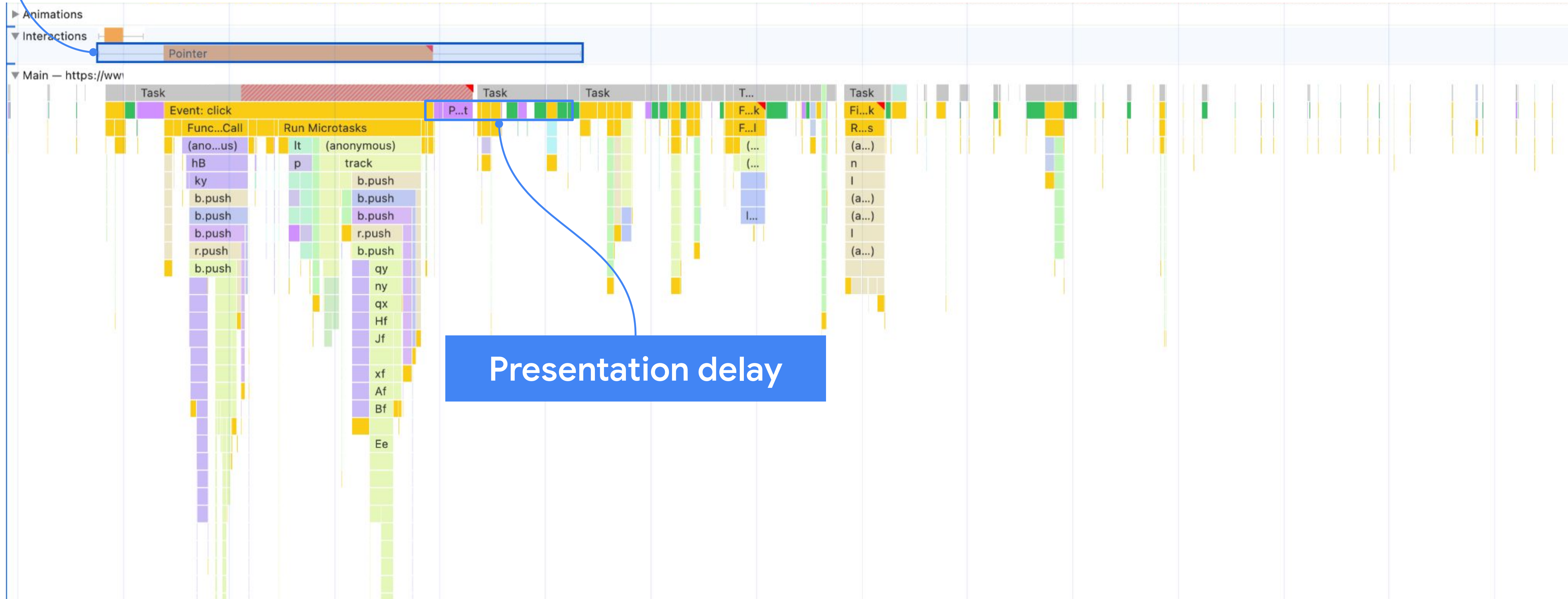
```
<body
  class="..."
  style="--app-header-height: 223px; --app-header-offset-top: 223px"
>
  <header
    class="..."
  >
    ...
  </header>
  <main
    class="..."
  >
    ...
  </main>
</body>
```

3

“Is this  
really used?”

```
<body
  class="..."
>
  <header
    class="..."
  >
    ...
  </header>
  <main
    class="..."
  >
    ...
  </main>
</body>
```

110 ms



Presentation delay

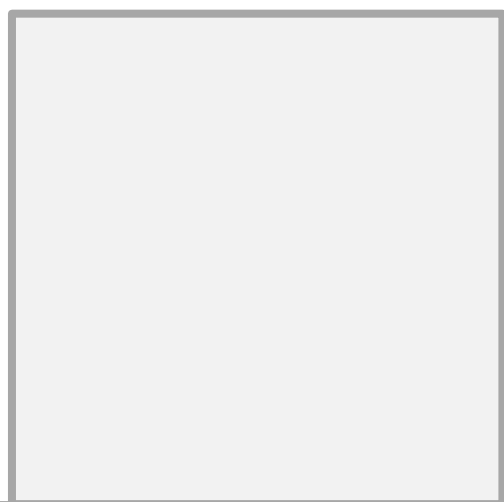
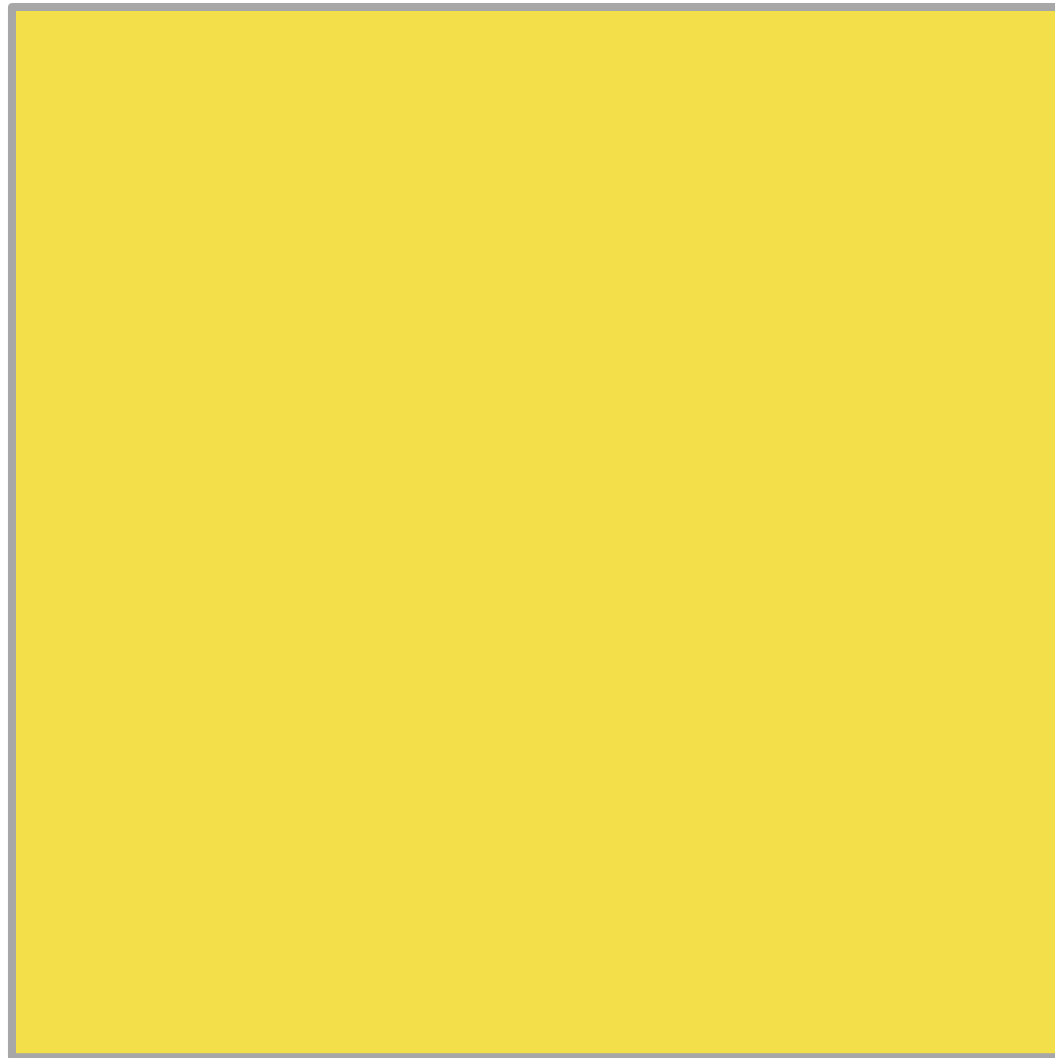
**Set custom properties close to where  
you need them, if you need them**

And disable their inheritance if not required



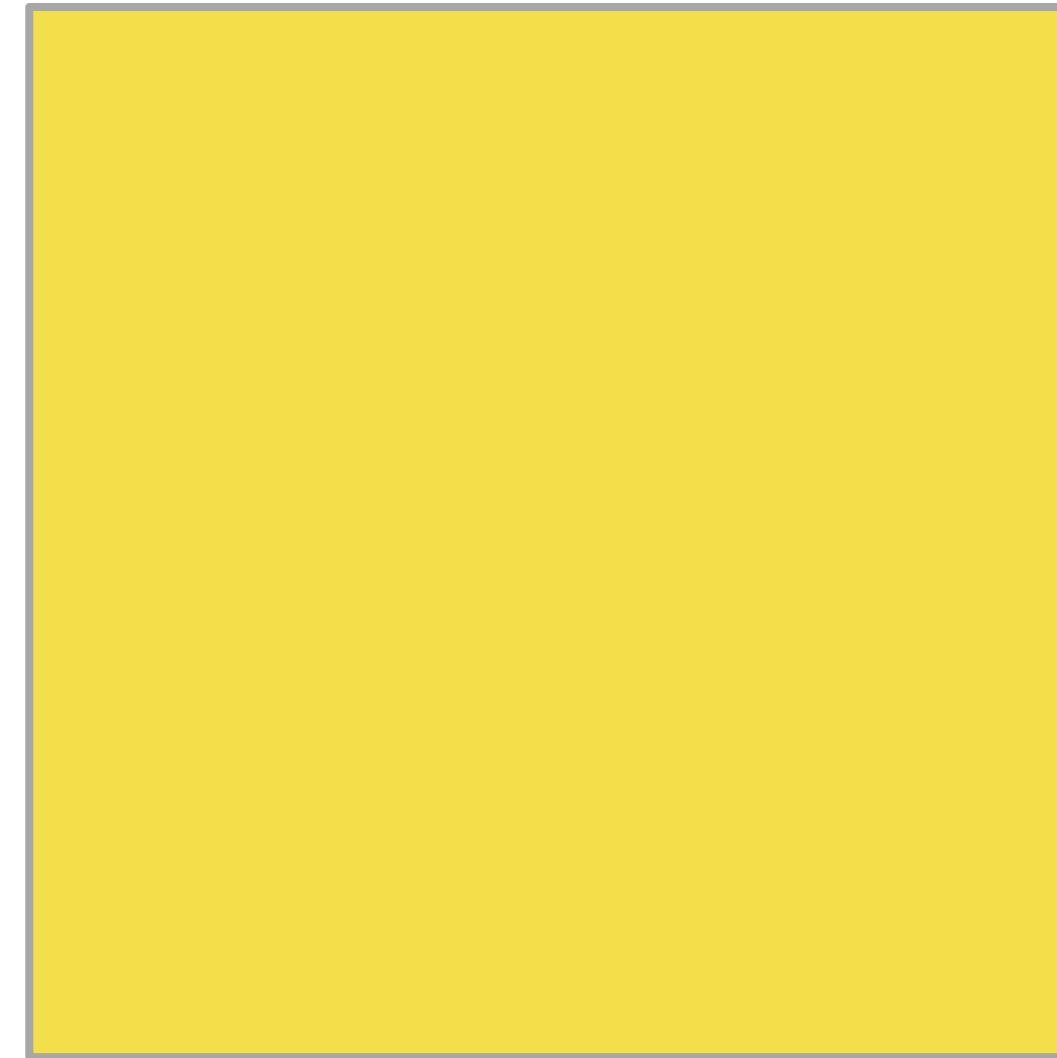
Executing too much UI-related  
JavaScript at once

Landing page



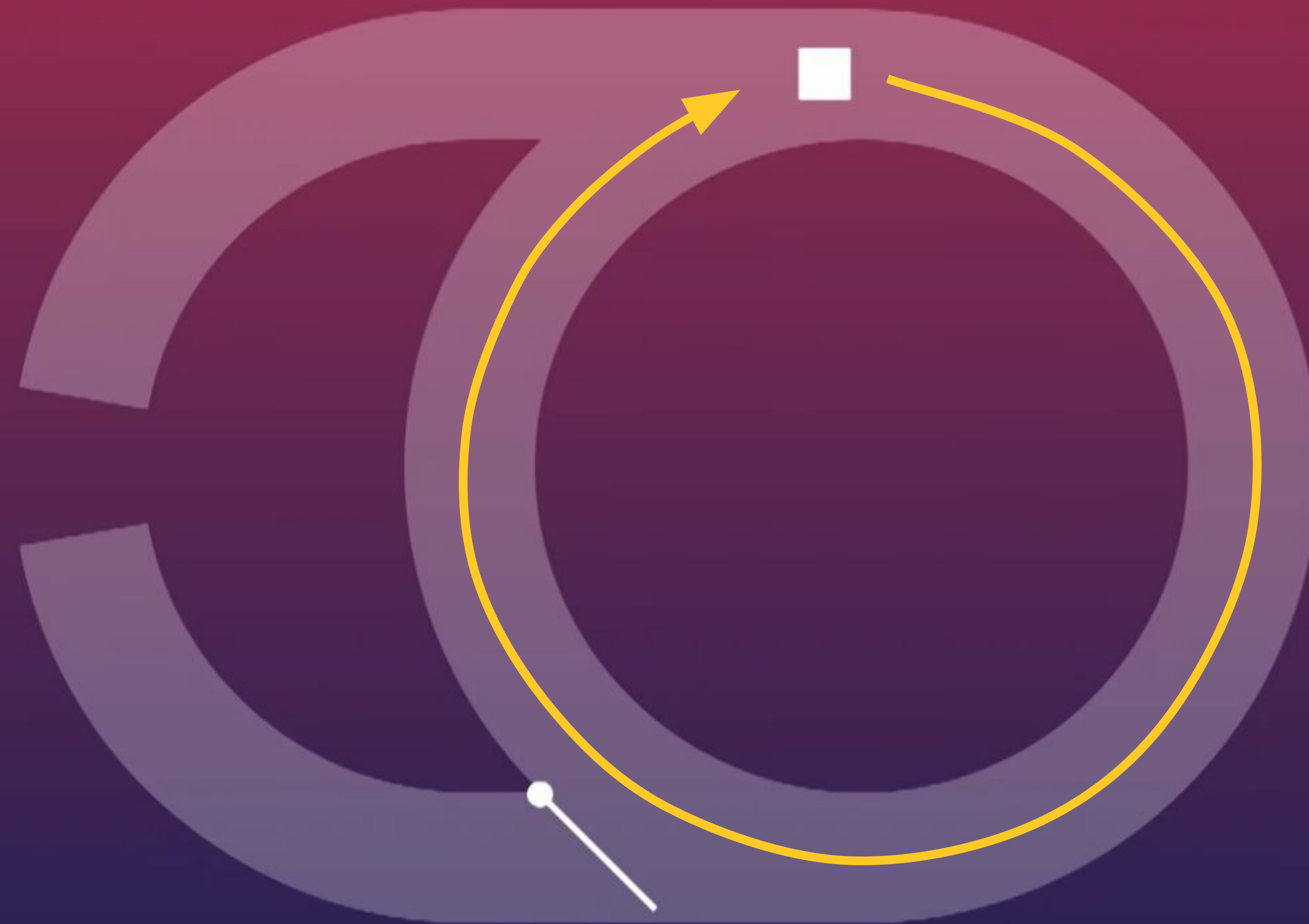
2 s

Landing page



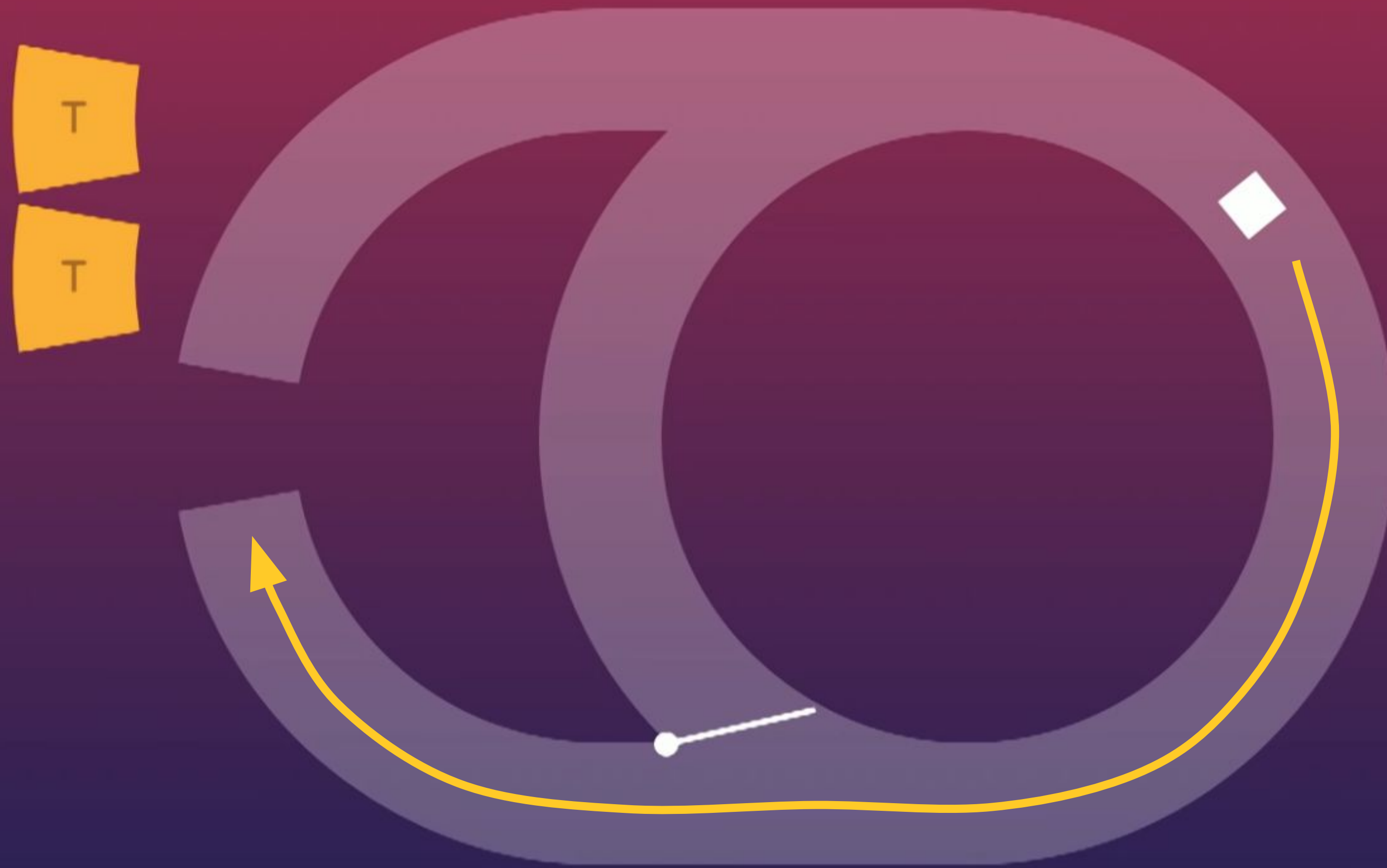
Task									
Ani...red	Animation...me Fired	Anim...ired	Animation Frame Fired	Animation...ame Fired	Animation Frame Fired	Animation Frame Fired	Animation Frame Fired		C...
Func...all	Function Call	Func...Call	Function Call	Function Call	Function Call	Function Call	Function Call		
(an...us)	(anonymous)	(ano...ous)	(anonymous)	(anonymous)	(anonymous)	(anonymous)	(anonymous)		
_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick		
t.fn.slick	t.fn.slick	t.fn.slick	t.fn.slick	t.fn.slick	reinit	t.fn.slick	t.fn.slick	reinit	
i	i	i	i	i	string	i	i	string	
e.init	e.init	e.init	e.init	e.init	o...on	e.init	e.init	o.a.fn...ation	
	e.ch...sive	e...ve	e...e	e...e	each	e.ch...nsive	e.ch...nsive	each	
	e.refresh	e...h	e...h	e...h	each	e.refresh	e.refresh	each	
	e.init	e.init	e.init	e.t	(an...s)	e.init	e.init	(anonymous)	
	e...			value			e...	value	
	i						i	s	
								each	

Animation Frame Fired
Function Call
(anonymous)
_initSlick
t.fn.slick
i
e.init



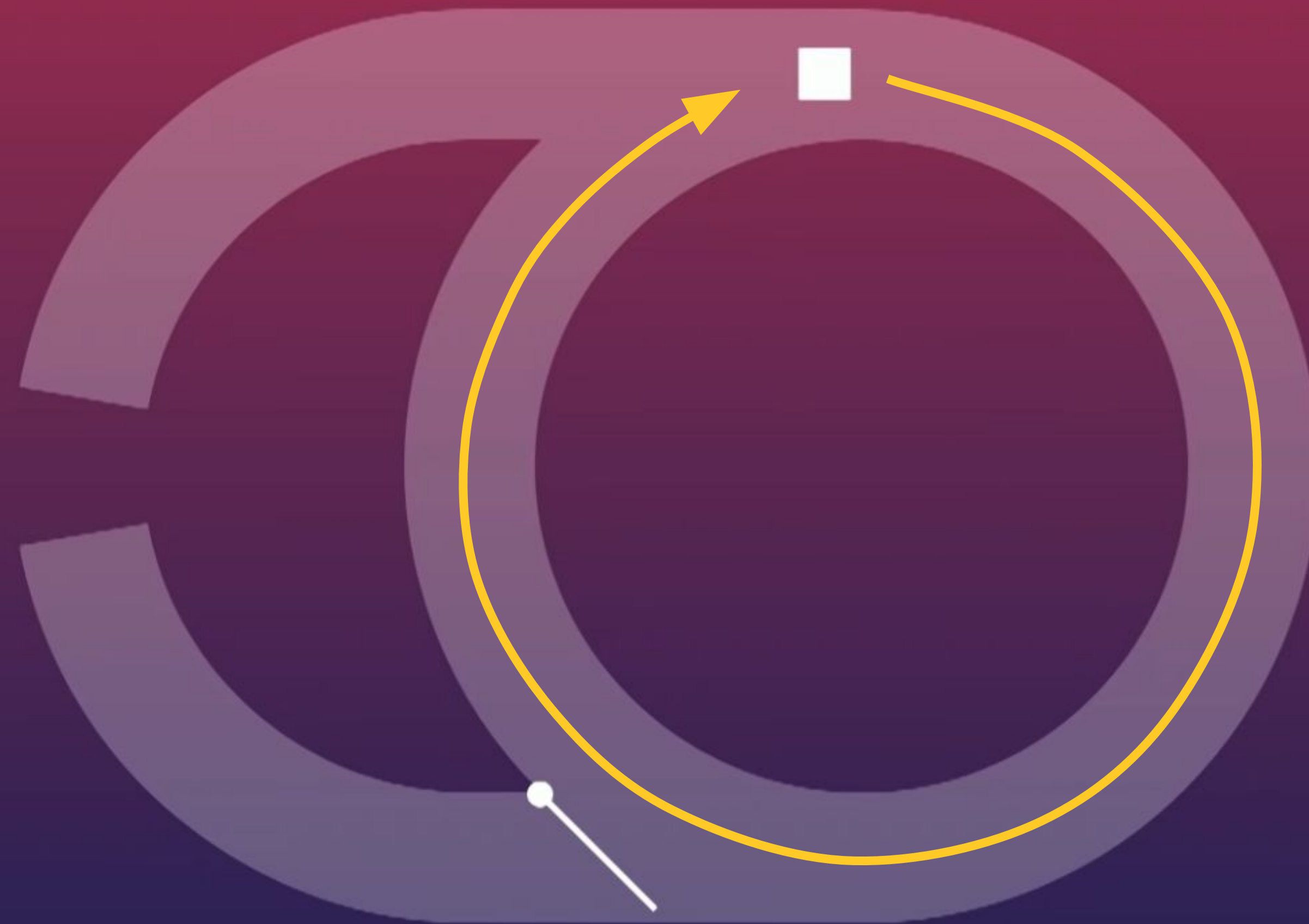
@jaffathecake

[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)



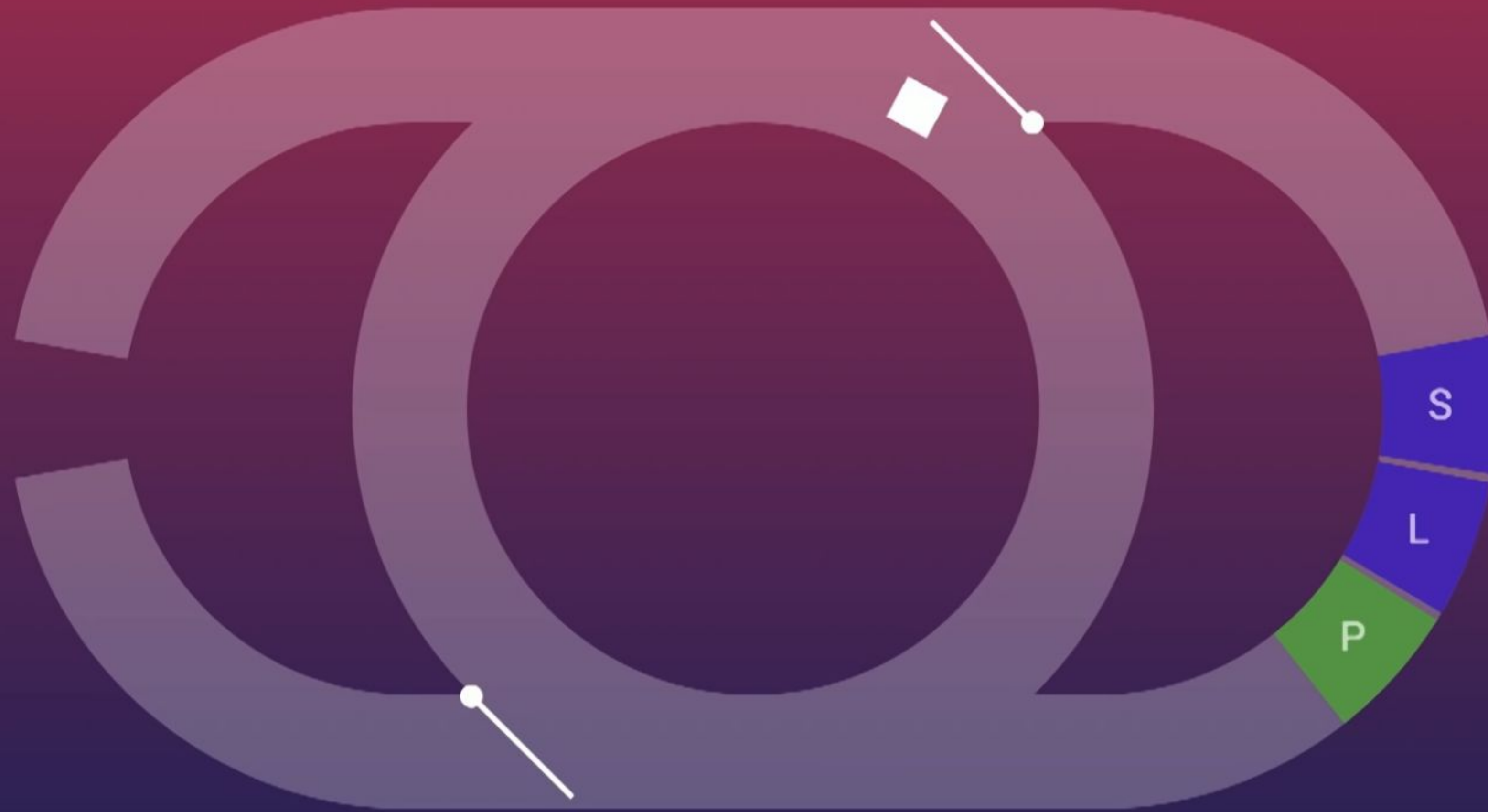
@jaffathecake

[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)



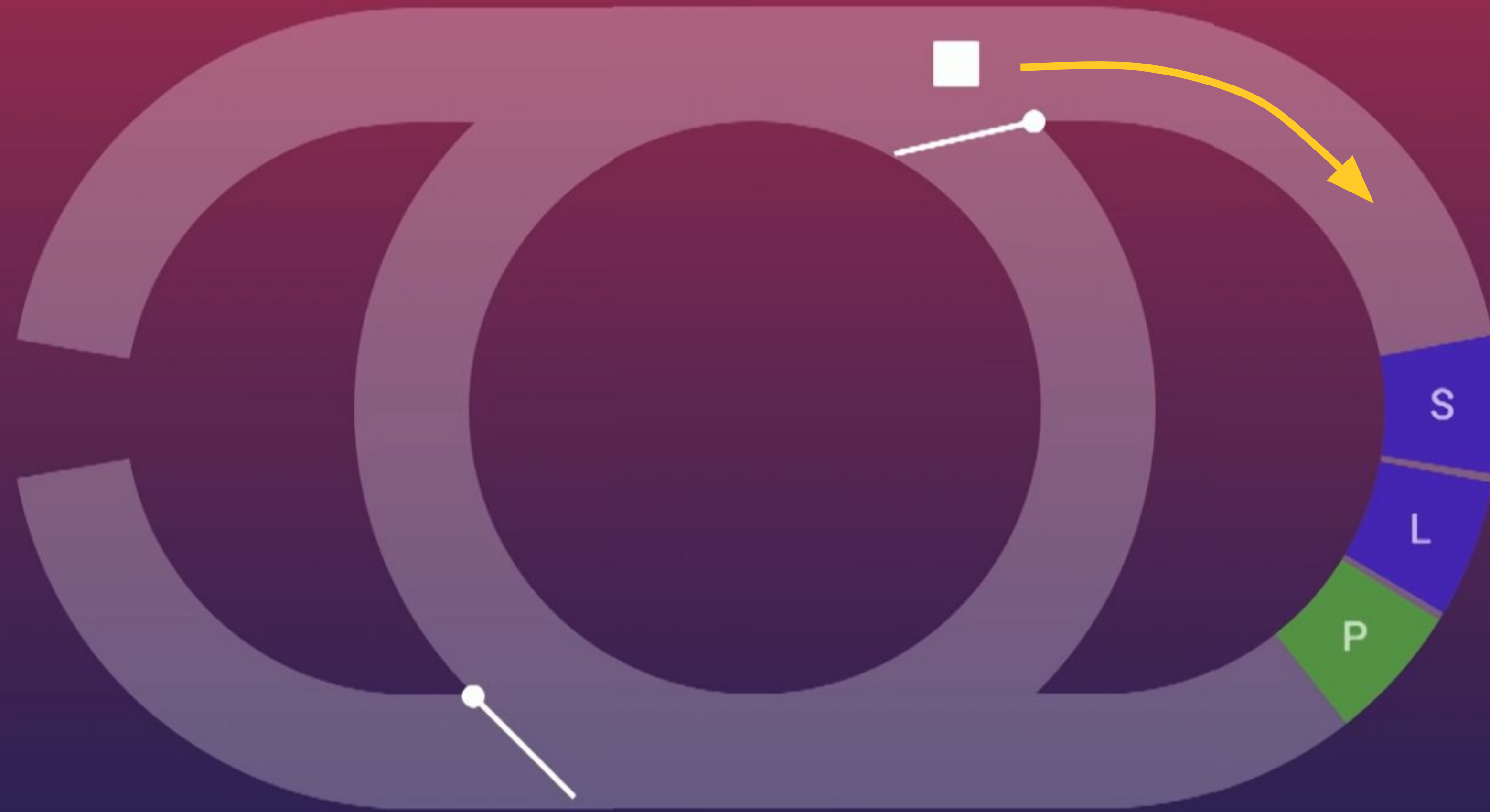
@jaffathecake

[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)



@jaffathecake

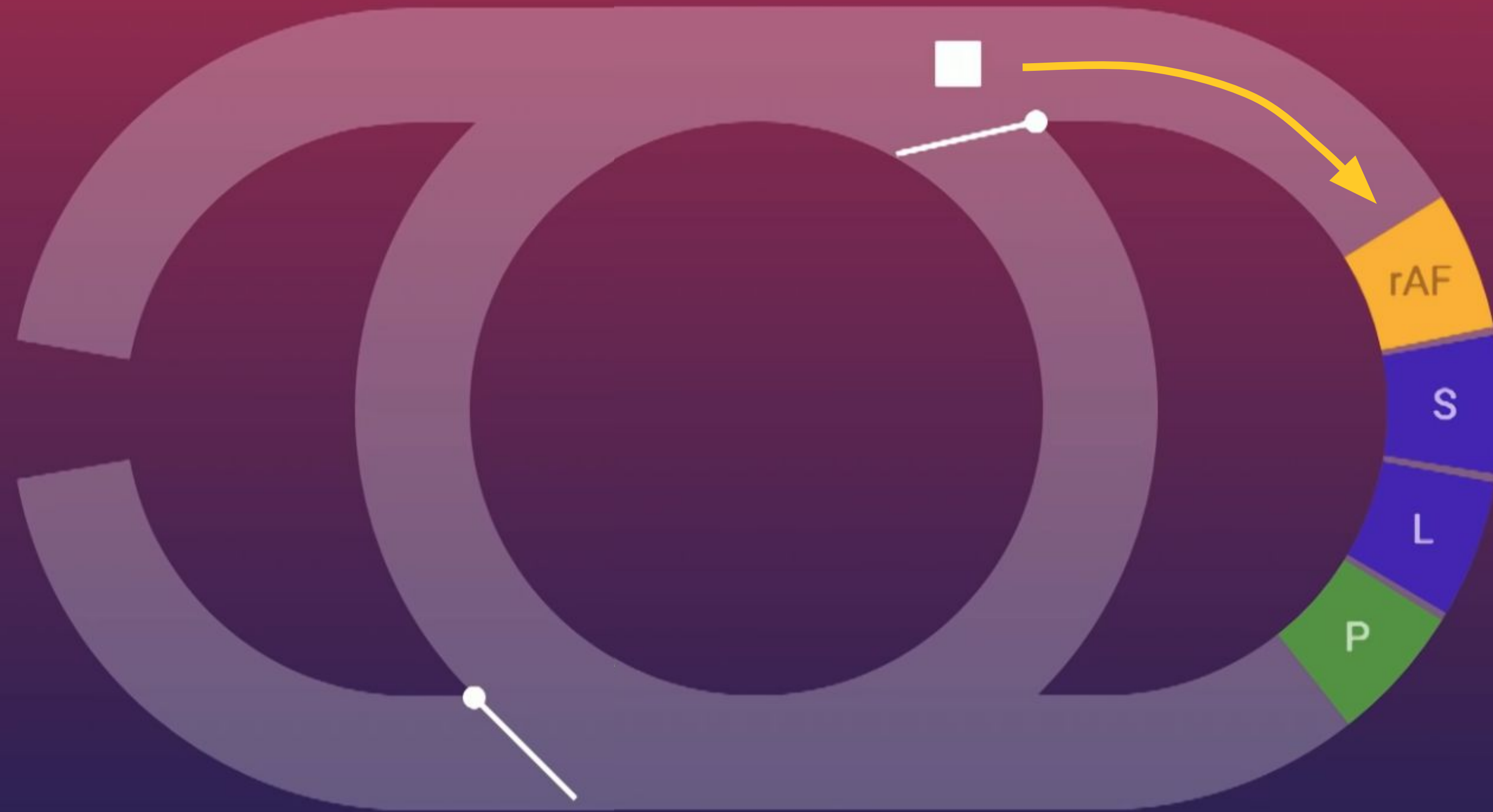
[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)



@jaffathecake

[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)





@jaffathecake

[Jake Archibald's talk "In the loop" video](#) or [Jake's talk, transposed](#)

**Don't use `requestAnimationFrame()`  
for scheduling non-animation work**

Task									
Ani...red	Animation...me Fired	Anim...ired	Animation Frame Fired	Animation...ame Fired	Animation Frame Fired	Animation Frame Fired	Animation Frame Fired		C...
Func...all	Function Call	Func...Call	Function Call	Function Call	Function Call	Function Call	Function Call		
(an...us)	(anonymous)	(ano...ous)	(anonymous)	(anonymous)	(anonymous)	(anonymous)	(anonymous)		
_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick	_initSlick		
t.fn.slick	t.fn.slick	t.fn.slick	t.fn.slick	t.fn.slick	reinit	t.fn.slick	t.fn.slick	reinit	
i	i	i	i	i	string	i	i	string	
e.init	e.init	e.init	e.init	e.init	o...on	e.init	e.init	o.a.fn...ation	
	e.ch...sive	e...ve	e...e	e...e	each	e.ch...nsive	e.ch...nsive	each	
	e.refresh	e...h	e...h	e...h	each	e.refresh	e.refresh	each	
	e.init	e.init	e.init	e.t	(an...s)	e.init	e.init	(anonymous)	
	e...			value			e...	value	
	i						i	s	
								each	

Animation Frame Fired
Function Call
(anonymous)
_initSlick
t.fn.slick
i
e.init





```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {

};

const observer = new IntersectionObserver((entries, observer) => {

});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {

};

const observer = new IntersectionObserver((entries, observer) => {

});

sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {

  }
};
const observer = new IntersectionObserver((entries, observer) => {

});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```



```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();

  }
};
const observer = new IntersectionObserver((entries, observer) => {

});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
  }
};
const observer = new IntersectionObserver((entries, observer) => {

});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};
const observer = new IntersectionObserver((entries, observer) => {

});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};
const observer = new IntersectionObserver((entries, observer) => {
  entries.forEach((entry) => {

  });
});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};
const observer = new IntersectionObserver((entries, observer) => {
  entries.forEach((entry) => {
    if (entry.isIntersecting) {

    }
  });
});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};
const observer = new IntersectionObserver((entries, observer) => {
  entries.forEach((entry) => {
    if (entry.isIntersecting) {
      initializeSlider(entry.target)

    }
  });
});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};
const observer = new IntersectionObserver((entries, observer) => {
  entries.forEach((entry) => {
    if (entry.isIntersecting) {
      initializeSlider(entry.target)
        .then(() => { observer.unobserve(entry.target); })
    }
  });
});
sliders.forEach((slider) => {
  observer.observe(slider);
});
```

```
const sliders = document.querySelectorAll(".my-slider");
const initializeSlider = async (slider) => {
  if (slider && !slider.classList.contains("slider-initialized")) {
    await yieldToMain();
    new Swiper(slider, { /* Options */ });
    slider.classList.add("slider-initialized");
  }
};

const observer = new IntersectionObserver((entries, observer) => {
  entries.forEach((entry) => {
    if (entry.isIntersecting) {
      initializeSlider(entry.target)
        .then(() => { observer.unobserve(entry.target); })
        .catch(console.error);
    }
  });
});

sliders.forEach((slider) => {
  observer.observe(slider);
});
```



“Is this code really needed?”

A responsible developer

```
function filterStudies({ studies, filterByOrg = false, filterByLeadOrganizat
```

# scroll-snap-type

The `scroll-snap-type` [CSS](#) property sets how strictly snap points are enforced on the scroll container in case there is one.

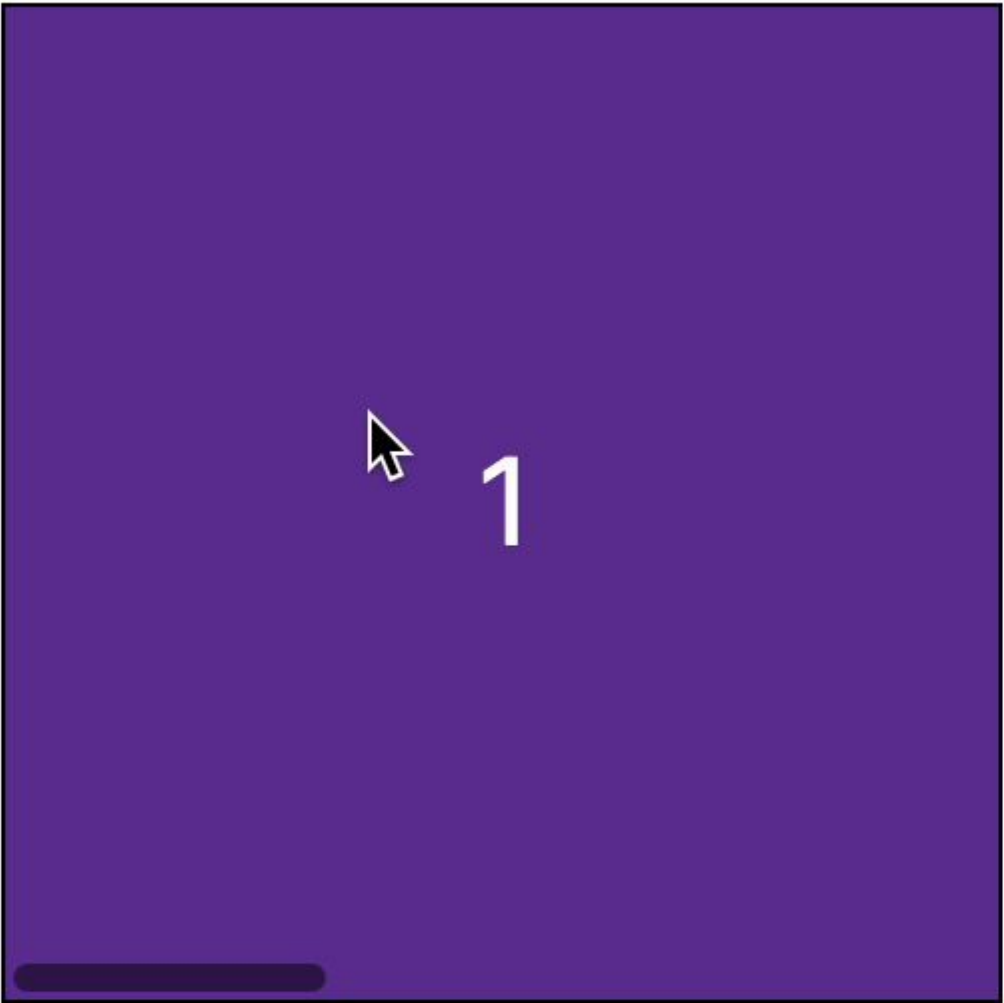
## Try it

CSS Demo: scroll-snap-type RESET

```
scroll-snap-type: none;
```

```
scroll-snap-type: x mandatory;
```

```
scroll-snap-type: x proximity;
```



Scroll »

**Run only the Javascript code  
that is currently needed**

And delay everything else

# Conclusion

# Wrapping up

## Key things to remember

- ❑ Yield to the main thread before calling tracking functions
- ❑ Using custom CSS props? Set them close to where you need them
- ❑ Check `requestAnimationFrame()` is used only for scheduling animation work
- ❑ Delay all the Javascript code that is not *currently* needed

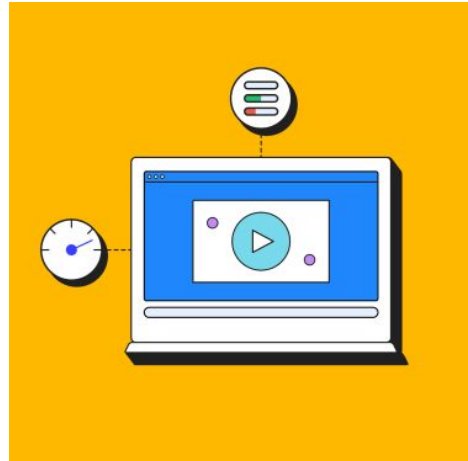
# Thank you!

Questions?



1-minute feedback 🙏





### How to optimize INP - web.dev

<https://web.dev/explore/how-to-optimize-inp>



### Optimizing INP for a React App & Performance Learnings - TK

<https://www.iamtk.co/optimizing-inp-for-a-react-app-and-performance-learnings>



Optimizing INP: A deep dive  
Chrome for developers



Troubleshoot slow interactions  
Jeremy Wagner



In the loop, JS Conf Asia  
Jake Archibald

# INP knowledge check

Heard of it today for  
the first time

Know the basic  
concepts of it

Know what it  
measures exactly

Successfully  
improved it 

