

# FAST AND FURIOUS:

## THE PSYCHOLOGY OF WEB PERFORMANCE



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Developer Advocate  
k6 @ Grafana Labs

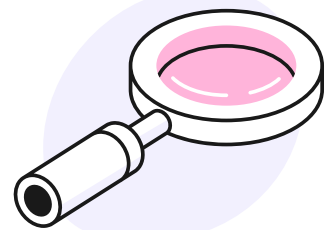
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# AGENDA

## INTRODUCTION



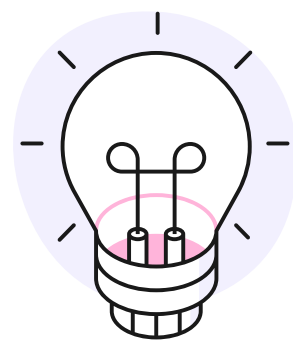
The Psychology of  
Waiting Lines

## FACTORS



Factors that make the  
wait seem longer and  
unenjoyable

## GUIDELINES



Recommended  
guidelines to improve  
web performance

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# GET THE SLIDES



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**Glasgow Central** Delayed  
Boarding shortly

AVANTI WEST COAST 

- Calling at:
- Warrington Bk Quay
  - Wigan North West
  - Preston
  - Lancaster
  - Oxenholme
  - Penrith
  - Carlisle
  - Lockerbie
  - Motherwell
  - Glasgow Central**

**Manchester Picc** Delayed  
Boarding shortly

AVANTI WEST COAST 

- Calling at:
- Stafford
  - Crewe
  - Wilmslow
  - Stockport
  - Manchester Picc**

**Liverpool Lime St** Delayed  
Wait

AVANTI WEST COAST 

- Calling at:
- Milton Keynes Ctl
  - Crewe
  - Runcorn
  - Liverpool Lime St**

**Crewe** 14:46 Cancelled 

London Northwestern Railway

- Was calling at:
- Milton Keynes Ctl
  - Rugby
  - Nuneaton
  - Atherstone
  - Tamworth
  - Lichfield T Valley
  - Rugeley T Valley
  - Stafford

**Manchester Picc** 14:53 Delayed  
Wait

AVANTI WEST COAST 

- Calling at:
- Milton Keynes Ctl
  - Rugby
  - Stoke on Trent
  - Macclesfield
  - Stockport
  - Manchester Picc**

**Tring** 14:54  
Platform 10 

- Calling at:
- Harrow & Wealdstne 15:05
  - Watford Junction 15:12
  - Hemel Hempstead 15:20
  - Berkhamsted 15:25
  - Tring 15:32

Further departures

- 14:56 Birmingham New St Plat 7 Update
- 15:02 Holyhead Caerdybi & Rear 5 coaches: Stafford, Crewe and Chester London Northwestern wait Delayed
- 15:09 Milton Keynes Ctl Avanti West Coast wait
- 15:13 Manchester Picc London Northwestern



**TGI FRIDAYS**




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Happily waiting for my food...

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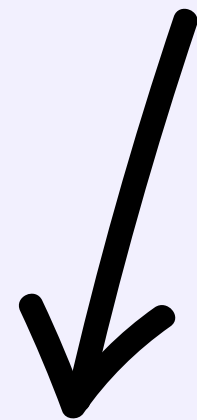
# THE PSYCHOLOGY OF WAITING LINES

*David Maister*

“Waiting is frustrating, demoralizing, agonizing, aggravating, annoying, time-consuming and incredibly expensive.”



# SPEED/TIME



**OBJECTIVE**



**PSYCHOLOGICAL**



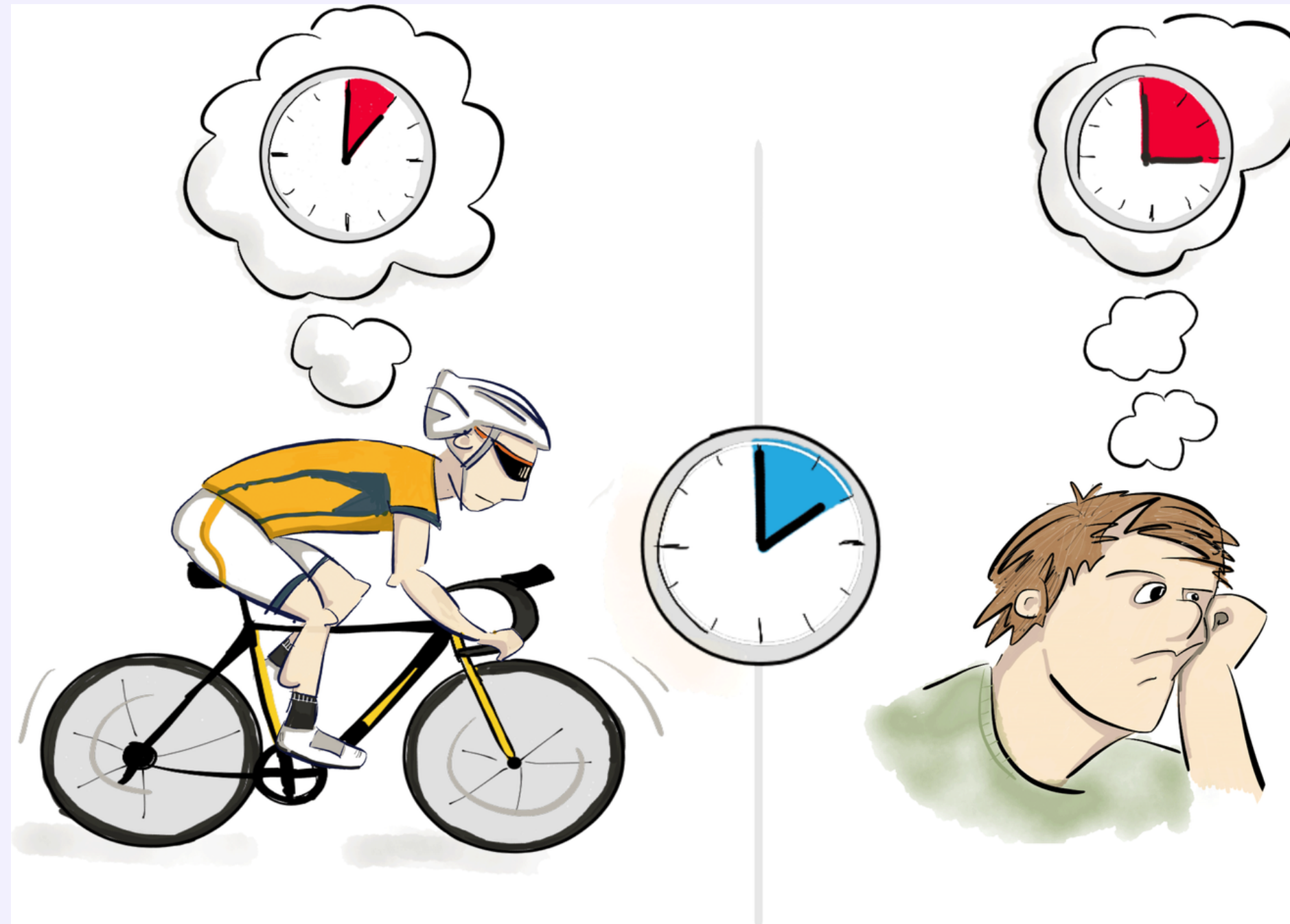
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# WAITING PHASES

**ACTIVE**



**PASSIVE**

Image credit: <https://www.smashingmagazine.com/2015/11/why-performance-matters-part-2-perception-management/>

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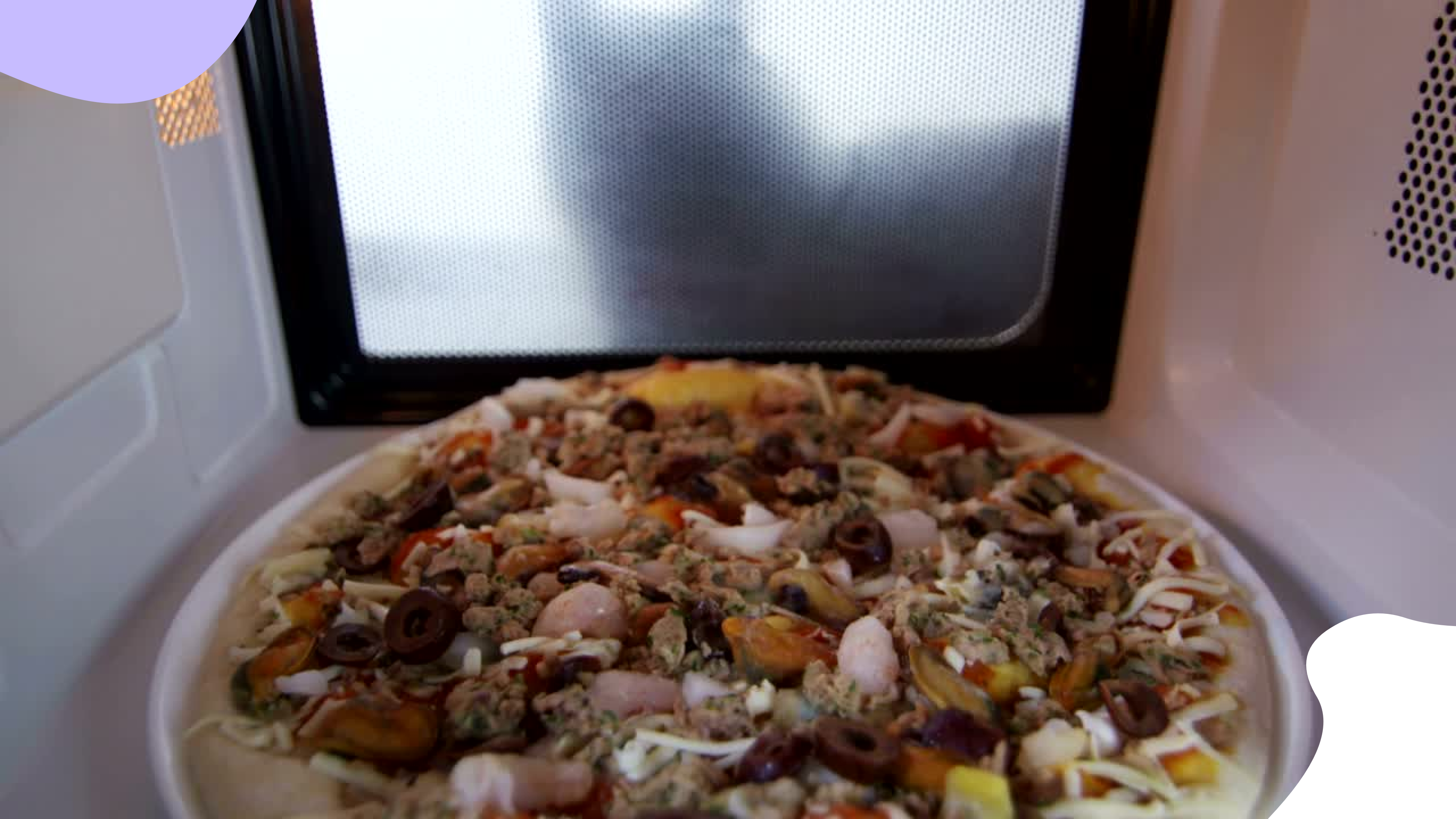
**1**

**OCCUPIED TIME FEELS SHORTER  
THAN UNOCCUPIED TIME**

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**2**

**PEOPLE WANT TO GET STARTED**

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**3**

**ANXIETY MAKES WAITS SEEM LONGER**

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**UNCERTAIN WAITS ARE LONGER  
THAN KNOWN WAITS**

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**5**

**UNEXPLAINED WAITS ARE  
LONGER THAN EXPLAIN WAITS**

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**6**

**UNFAIR WAITS ARE LONGER  
THAN EQUITABLE WAITS**

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**7**

**THE MORE VALUABLE THE SERVICE,  
THE LONGER THE CUSTOMER WILL  
WAIT**

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**SOLO WAITS FEEL LONGER THAN  
GROUP WAITS**

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**GO**

**FASTER**

# RESPONSE TIMES: THE 3 IMPORTANT LIMITS

- 1 0.1 SECOND
- 2 1 SECOND
- 3 10 SECONDS



# WEB PERFORMANCE

Make our page faster!

But it doesn't stop here... Perceived performance is not the same as the actual performance.

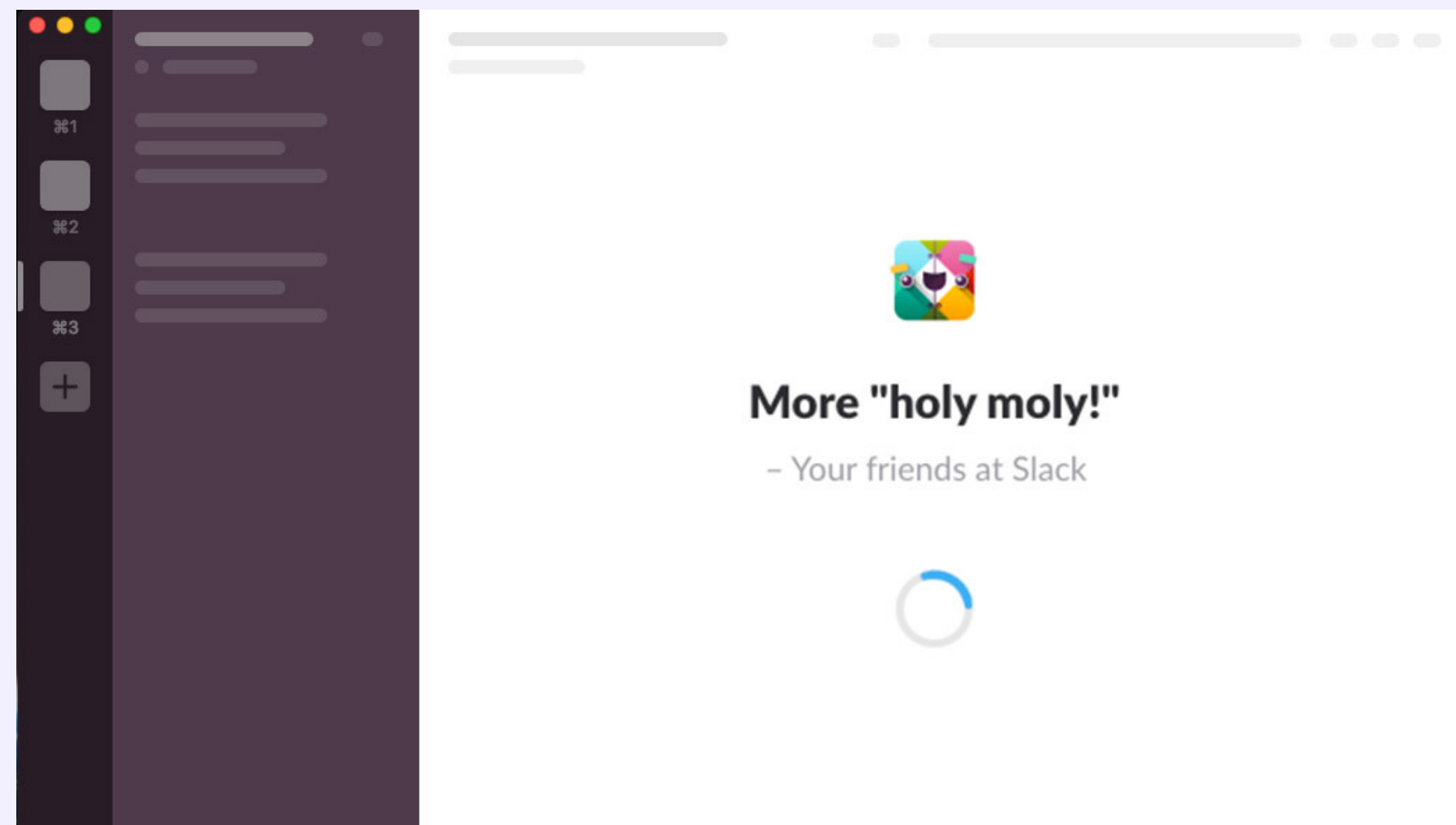
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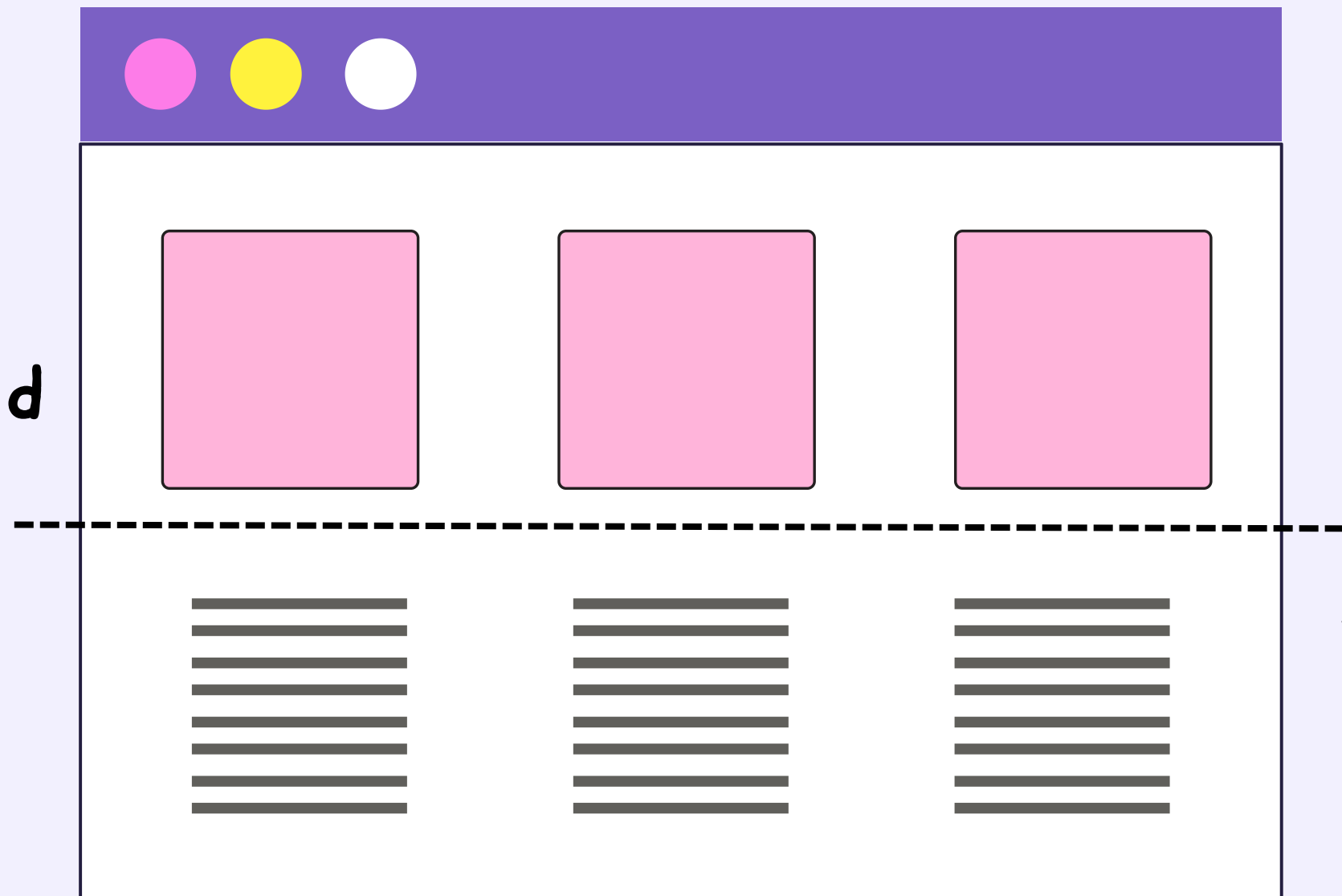
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**1** **SHOW SOMETHING FAST**

**2** **SHOW SOMETHING RELEVANT**



Above the fold



Below the fold

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3

# PROVIDE USEFUL FEEDBACK



**4 IMPROVE LARGEST CONTENTFUL PAINT**

# LCP

Largest Contentful Paint



**5 IMPROVE VISUAL STABILITY**

**CLS**

Cumulative Layout Shift



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Source: <https://web.dev/cls/>



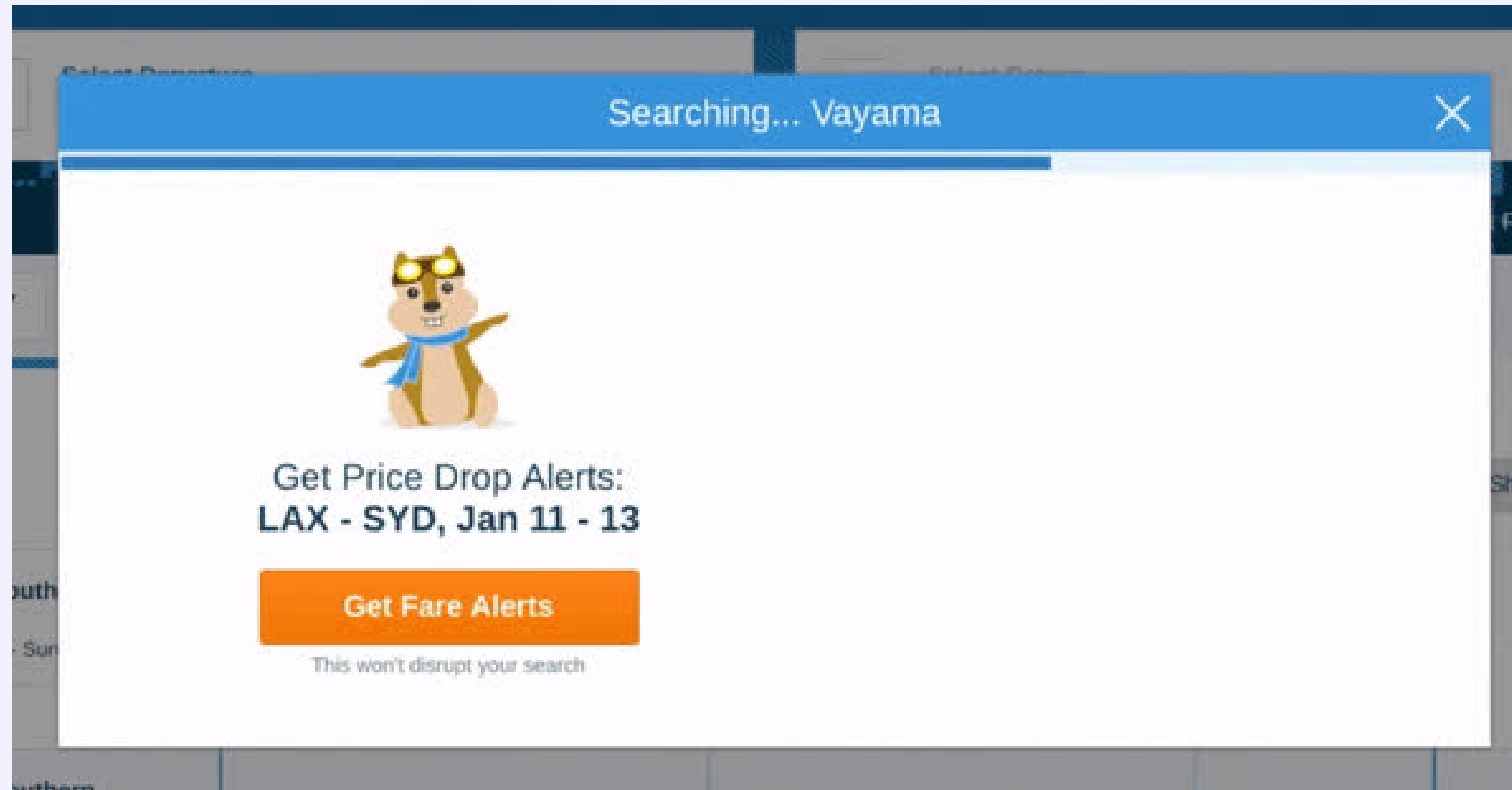
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## MAKE IT FUN



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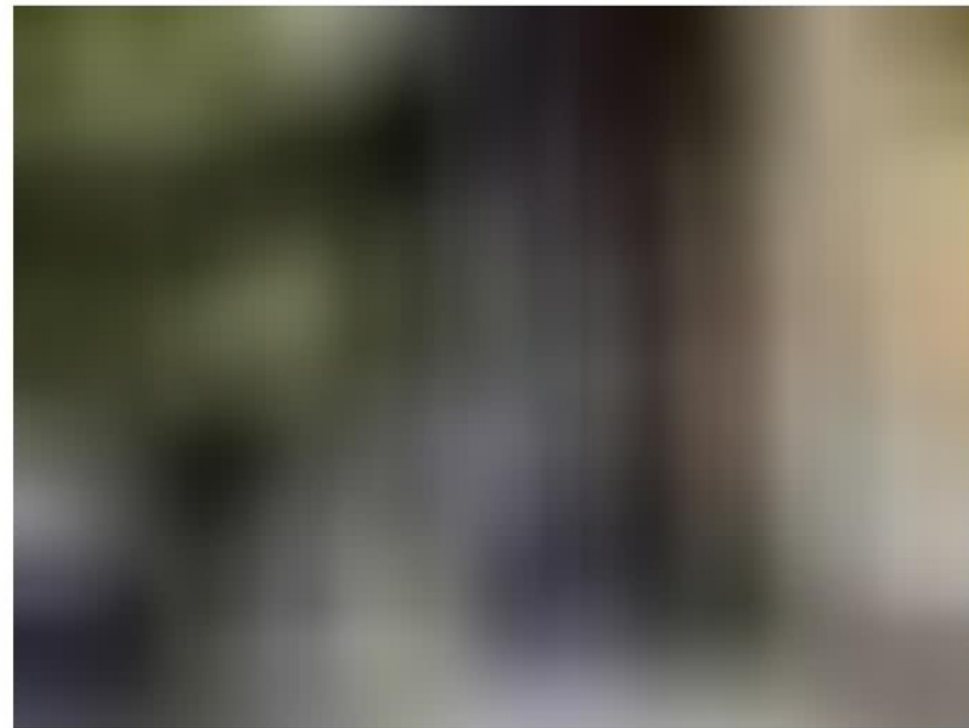
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## Medium

[Get started](#)

CACHING, IT WAS INVIGORATING, BUT MOST OF ALL, it was liberating.



Despite the noise, the calm neighborhoods of Istanbul had their moments. Photo: Bjørn Ihler

A lot of people find it kind of weird, and

## Medium

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<https://web.dev/lazy-loading/>

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## BUTTON STATES

<https://xd.adobe.com/ideas/process/ui-design/designing-interactive-buttons-states/>

	Primary	Secondary
Default		
Hover		
Disabled		
Active		
Loading		

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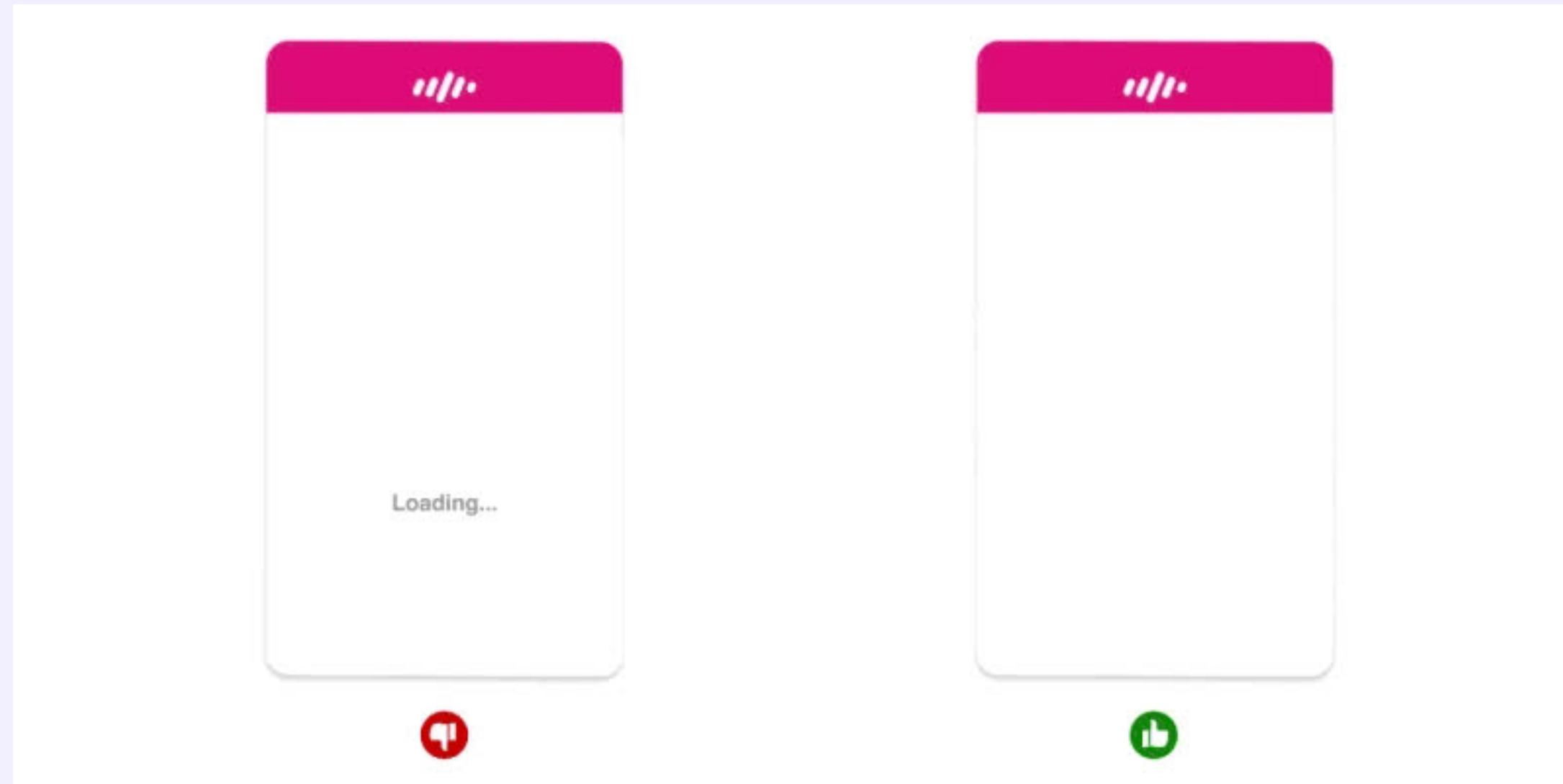
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## ANIMATIONS MATTER!

<https://calendar.perfplanet.com/2018/improving-perceived-performance-web-app/>



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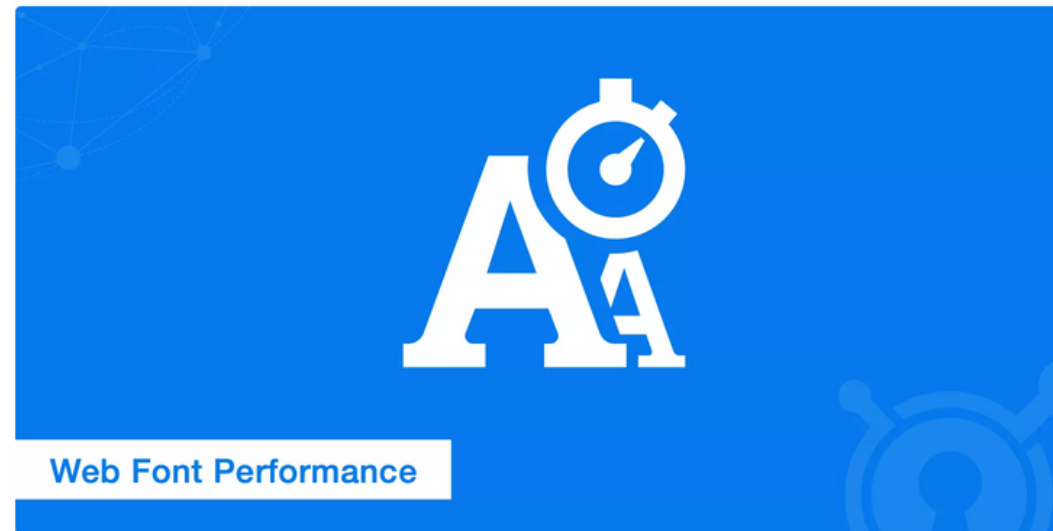
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## Case Study - Analyzing Web Font Performance

By Brian Jackson

Updated on January 6, 2023



The number of websites using custom web fonts continues to grow at a rapid pace and this, in turn, affects the rendering speed of pages. Today we will **compare some of the top web fonts** and see how different delivery methods, such as serving from Google Fonts, hosting locally, and third parties, affect the overall load times.

### What are web fonts?

Web fonts are those not installed on a person's computer, thereby having to load from a web server. They are downloaded by using the CSS3 `@font-face` declaration and must be supported by the web browser.

There are four primary font formats that are used on the web today.

- **TrueType Font (TTF):** Developed in the late '80s by Apple and Microsoft. It is the most common font format.
- **Web Open Font Format (WOFF):** Font format developed in 2009 for use in web pages. WOFF is basically OpenType or TrueType with compression and additional metadata.
- **Web Open Font Format (WOFF2):** Better compression than WOFF.
- **Embedded Open Type (EOT):** Compact form of OpenType fonts designed by Microsoft for use as embedded fonts on web pages.

<https://www.keycdn.com/blog/web-font-performance>

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# WAITING EXPERIENCE MAKES THE DIFFERENCE



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Thank you for listening!




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