

Web application Performance Testing From User Perspective

About me

My foundation of technical expertise stems from hands on developing, testing along with team leading.

As consultant I was a part of various test teams and was involved in testing on all software life cycle stages. I build extensive experience while testing critical functions of real time system which is GSM, financial platforms and also web and desktop applications.

Currently I supervise performance and automation testing at TestArmy Group.

View Results in Table.jmx (C:\opt\apache-jmeter\apache-jmeter-4.0\bin\View Results in Table.jmx) - Apache JMeter (4.0 r1823414)

File Edit Search Run Options Help

00:00:18 0 0/10

Test Plan

- Thread Group
 - /wiki/Vilnius
 - View Results in Table

View Results in Table

Name: View Results in Table

Comments:

Write results to file / Read from file

Filename: Browse... Log/Display Only: Errors Successes

Sample #	Start Time	Thread Name	Label	Sample Time(ms)	Status	Bytes	Sent Bytes	Latency	Connect Time(ms)
1	22:46:31.083	Thread Group 1-1	/wiki/Vilnius	2980	✓	586534	131	1138	1067
2	22:47:23.036	Thread Group 1-1	/wiki/Vilnius	619	✓	586534	131	257	216
3	22:47:25.032	Thread Group 1-2	/wiki/Vilnius	783	✓	586534	131	303	248
4	22:47:27.035	Thread Group 1-3	/wiki/Vilnius	645	✓	586534	131	282	229
5	22:47:29.034	Thread Group 1-4	/wiki/Vilnius	905	✓	586534	131	300	257
6	22:47:31.033	Thread Group 1-5	/wiki/Vilnius	1085	✓	586534	131	287	244
7	22:47:33.042	Thread Group 1-6	/wiki/Vilnius						
8	22:47:35.037	Thread Group 1-7	/wiki/Vilnius						
9	22:47:37.041	Thread Group 1-8	/wiki/Vilnius						
10	22:47:39.033	Thread Group 1-9	/wiki/Vilnius						
11	22:47:41.034	Thread Group 1-10	/wiki/Vilnius						

Vilnius - Wikipedia

https://en.wikipedia.org/wiki/Vilnius

Article Talk

Read Edit View history

Vilnius

From Wikipedia, the free encyclopedia

"Vilna", "Wilna", and "Wilno" redirect here. For other uses, see *Vilna (disambiguation)*, *Wilna (disambiguation)*, and *Wilno (disambiguation)*.

Vilnius (Lithuanian pronunciation: [ˈvʲilʲɪnʲɪʊs] (listen), see also other names) is the capital of Lithuania and its largest city, with a population of 574,147 as of 2018.^[9] Vilnius is in the southeast part of Lithuania and is the second largest city in the Baltic states. Vilnius is the seat of the main government institutions of Lithuania and the Vilnius District Municipality. Vilnius is classified as a Gamma global city according to GaWC studies, and is known for the architecture in its Old Town, declared a UNESCO World Heritage Site in 1994.^[10] Before World War II, Vilnius was one of the largest Jewish centres in Europe. Its Jewish influence has led to it being described as the "Jerusalem of Lithuania" and Napoleon named it "the Jerusalem of the North"^[11] as he was passing through in 1812. In 2009, Vilnius was the European Capital of Culture, together with the Austrian city of Linz.^[12]

160 requests | 1.7 MB transferred | Finish: 14.96 s | DOMContentLoaded: 4.17 s | Load: 10.61 s

WIKIPEDIA The Free Encyclopedia

Main page Contents Featured content Current events Random article Donate to Wikipedia Wikipedia store

Elements Console Sources Network Performance Memory JavaScript Profiler Application Security Audits PageSpeed AngularJS

Name	Method	Status	Domain	Type	Initiator	Size	T	Waterfall
Vilnius	GET	200	en.wikipedia.org	doc...	Other	108 KB	11	
load.php?debug=false&lang=en&modules=ext.3d.styles...es%7Cwikib...	GET	200	en.wikipedia.org	styl...	Vilnius	16.6 KB	79	
load.php?debug=false&lang=en&modules=startup&only=scripts&ski...	GET	200	en.wikipedia.org	script	Vilnius	34.5 KB	11	
load.php?debug=false&lang=en&modules=ext.gadget.charinsert-styl...	GET	200	en.wikipedia.org	styl...	Vilnius:12	835 B	86	
load.php?debug=false&lang=en&modules=site.styles&only=styles&sk...	GET	200	en.wikipedia.org	styl...	Vilnius:13	5.8 KB	94	
250px-Vilnius_Montage_%282016%29.png	GET	200	upload.wikime...	png	Vilnius	187 KB	12	
100px-Flag_of_Vilnius.svg.png	GET	200	upload.wikime...	png	Vilnius	2.6 KB	1	
100px-Grand_Coat_of_arms_of_Vilnius.svg.png	GET	200	upload.wikime...	png	Vilnius	22.5 KB	1	
100px-City_of_Vilnius.jpg.png	GET	200	upload.wikime...	png	Vilnius	6.3 KB	1	

WIKIPEDIA

Vilnius

"Vilna", "Wilna", and "Wilno" redirect here. For other uses, see *Vilna (disambiguation)*, *Wilna (disambiguation)*, and *Wilno (disambiguation)*.

Vilnius (Lithuanian pronunciation: [ˈvʲilʲɪnʲɪʊs] (listen), see also other names) is the capital of Lithuania and its largest city, with a population of 574,147 as of 2018.^[9] Vilnius is in the southeast part of Lithuania and is the second largest city in the Baltic states. Vilnius is the seat of the main government institutions of Lithuania and the Vilnius District Municipality. Vilnius is classified as a Gamma global city according to GaWC studies, and is known for the architecture in its Old Town, declared a UNESCO World Heritage Site in 1994.^[10] Before World War II, Vilnius was one of the largest Jewish centres in Europe. Its Jewish influence has led to it being described as the "Jerusalem of Lithuania" and Napoleon named it "the Jerusalem of the North"^[11] as he was passing through in 1812. In 2009, Vilnius was

What is important for user?

Visibility of the requested content

Ability to interact with the content

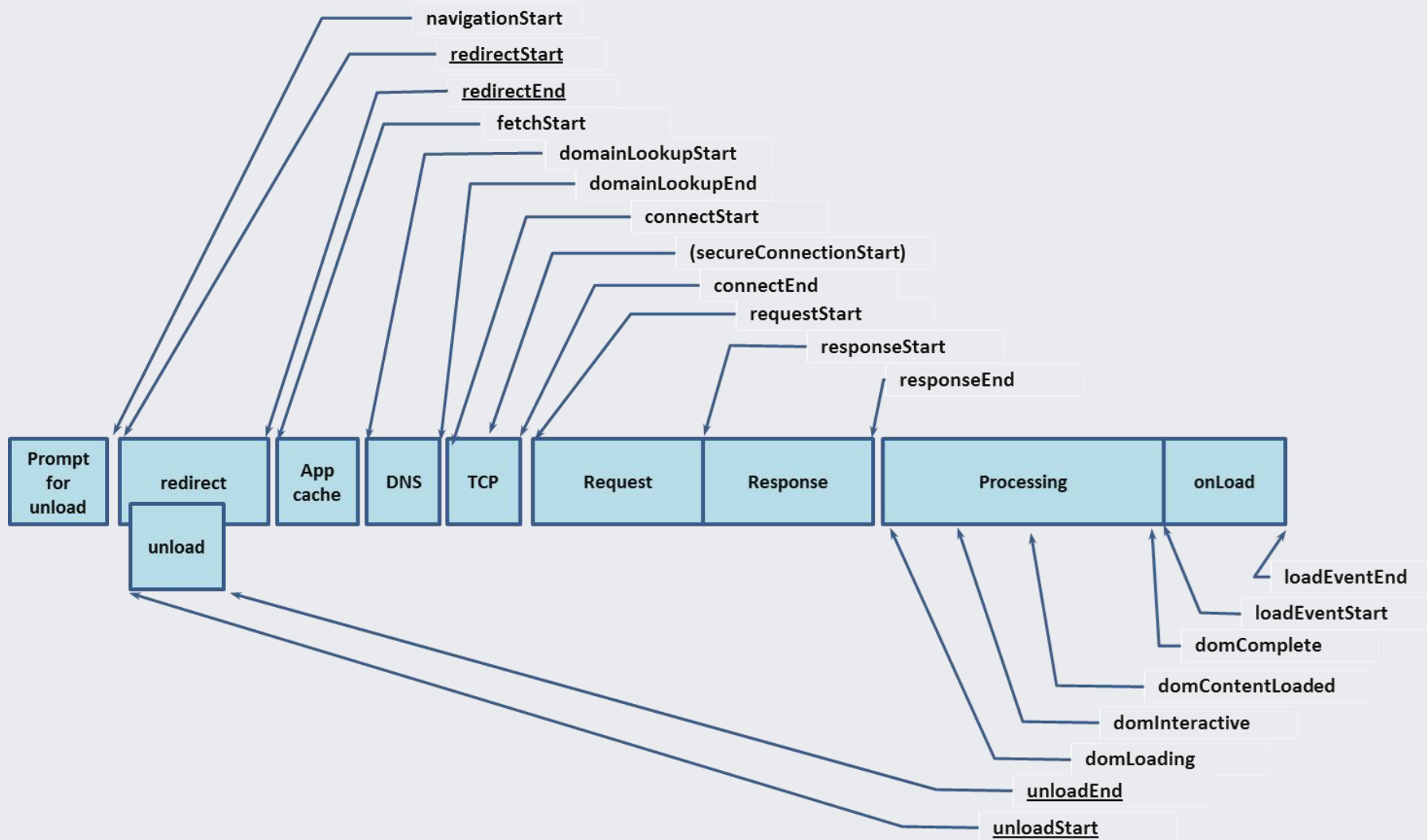
DevTools - en.wikipedia.org/wiki/Vilnius

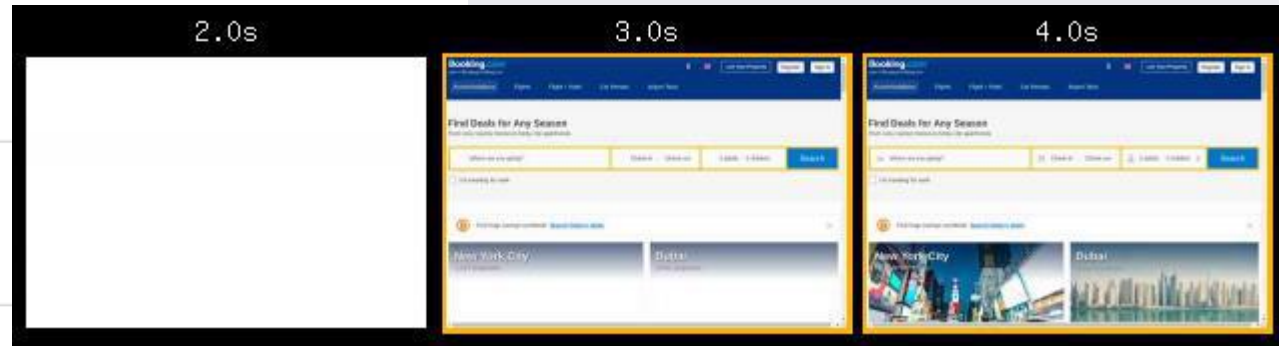
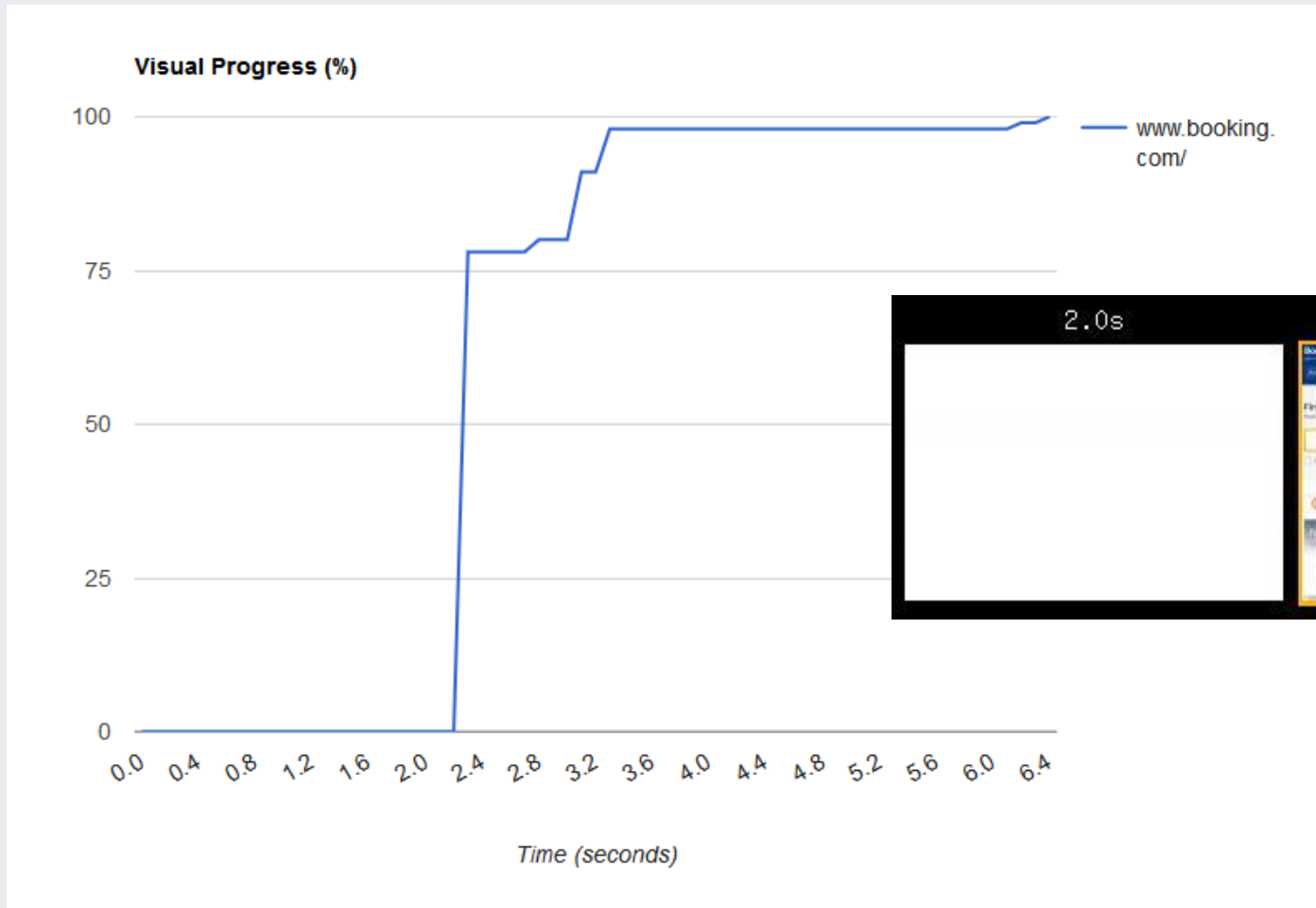
Elements Console Sources Network Performance Memory JavaScript Profiler Application Security Audits AngularJS

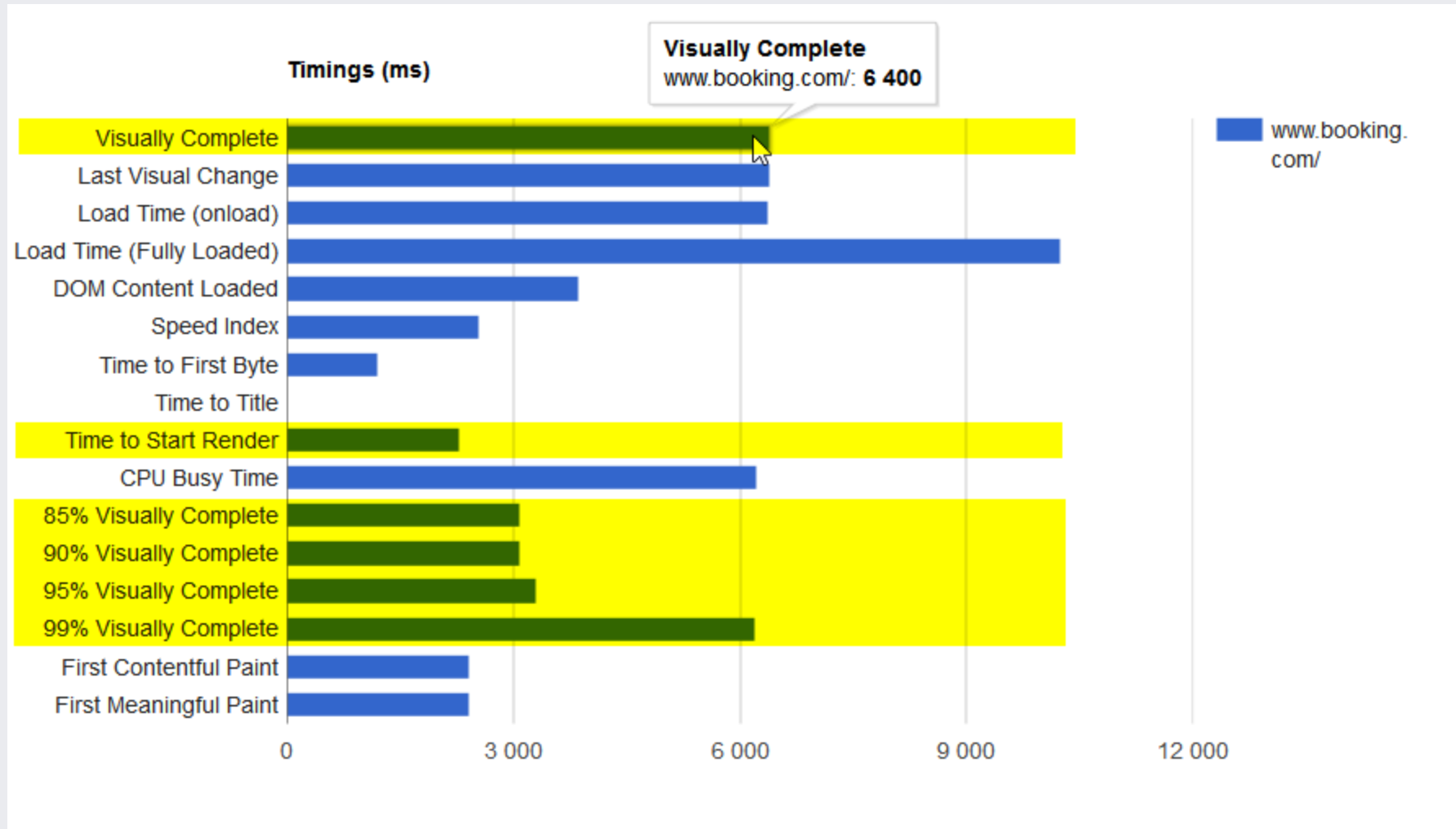
View: Group by frame Preserve log Disable cache Offline Online

Name	Meth...	Domain	Initiator	Size	Time	Waterfall
data:image/png;base...	GET		Vilnius	(fr...	0 ms	
data:image/png;base...	GET		Vilnius	(fr...	0 ms	
data:image/png;base...	GET		Vilnius	(fr...	0 ms	
data:image/svg+xml,...	GET		Vilnius	(fr...	0 ms	
inject.js	GET	gppongm...	conte...	(fr...	3 ms	
prompt.js	GET	mooikfah...	prom...	(fr...	2 ms	
index.php?title=MediaWiki:Wikiminiatlas.js&acti...	GET	meta.wiki...	load.p...	10...	51 ms	
data:image/svg+xml,...	GET		load.p...	(fr...	0 ms	
load.php?debug=false&lang=en&modules=oojs...	GET	en.wikiped...	load.p...	59...	73 ms	
data:image/svg+xml,...	GET		load.p...	(fr...	0 ms	
data:image/svg+xml,...	GET		load.p...	(fr...	0 ms	
17px-WMA_button2b.png	GET	upload.wik...	load.p...	2...	52 ms	
Button_resize.png	GET	upload.wik...	load.p...	97...	52 ms	
Button_hide.png	GET	upload.wik...	load.p...	91...	53 ms	
event?%7B%22event%22%3A%7B%22pageTitle...	POST	en.wikiped...	VM88...	35...	55 ms	
data:image/svg+xml,...	GET		Other	(fr...	0 ms	

160 requests | 1.7 MB transferred | Finish: 7.57 s | DOMContentLoaded: 2.93 s | Load: 5.93 s







The screenshot shows the Wikipedia article for Vilnius. It includes the title, a brief description, a list of contents, and a gallery of images. The article text describes Vilnius as the capital and largest city of Lithuania, with a population of 574,147 as of 2018. It mentions its historical significance, including being declared a UNESCO World Heritage Site in 1994 and the European Capital of Culture in 2009.

The screenshot shows the Lighthouse performance audit results for the Wikipedia page. The overall performance score is 90. Key metrics include:

- Performance: 90
- Progressive Web App: 19
- Accessibility: 58
- Best Practices: 93
- SEO: 73

Performance Metrics:

- First Contentful Paint: 940 ms
- Speed Index: 1 150 ms
- Time to Interactive: 4 830 ms
- First Meaningful Paint: 940 ms
- First CPU Idle: 4 830 ms
- Estimated Input Latency: 163 ms

Opportunities to speed up the application:

- Defer offscreen images: 0.86 s
- Serve images in next-gen formats: 0.31 s
- Properly size images: 0.08 s
- Efficiently encode images: 0.04 s
- Defer unused CSS: 0.03 s

Diagnostics:

- Uses an excessive DOM size: 7 650 nodes
- Uses inefficient cache policy on static assets: 139 assets found



Performance



Progressive Web App



Accessibility



Best Practices



SEO

Score scale: ● 0-44 ● 45-74 ● 75-100

Performance



Metrics

First Contentful Paint	940 ms ✔	First Meaningful Paint	940 ms ✔
Speed Index	1 150 ms ✔	First CPU Idle	4 830 ms !
Time to Interactive	4 830 ms ✔	Estimated Input Latency	163 ms ▲

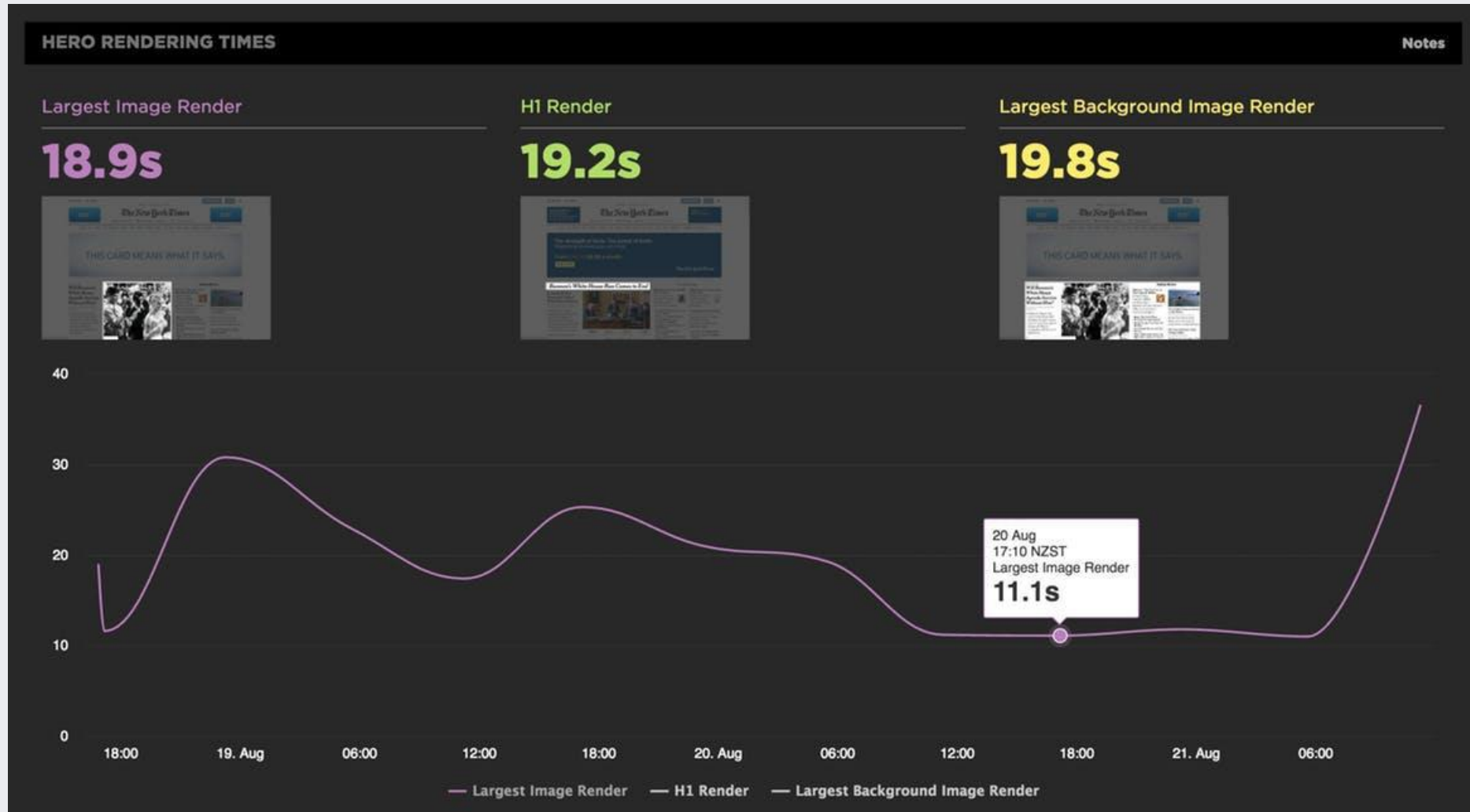
[View Trace](#)

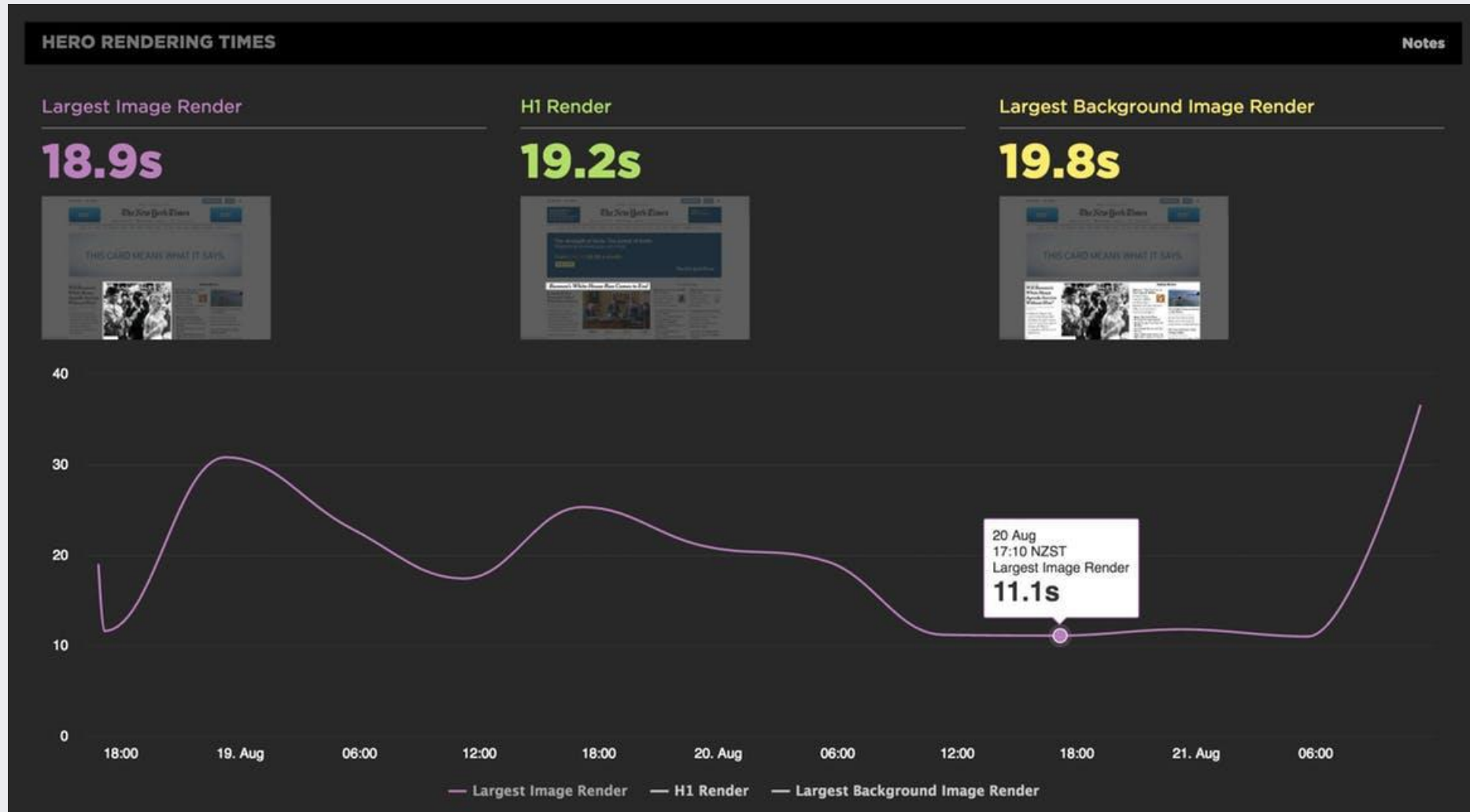
Values are estimated and may vary.





source: <https://speedcurve.com/blog/web-performance-monitoring-hero-times/>









Mobile



Desktop

Page Speed

Average

1.7s FCP 2.5s DCL

Optimization

Low

57 / 100

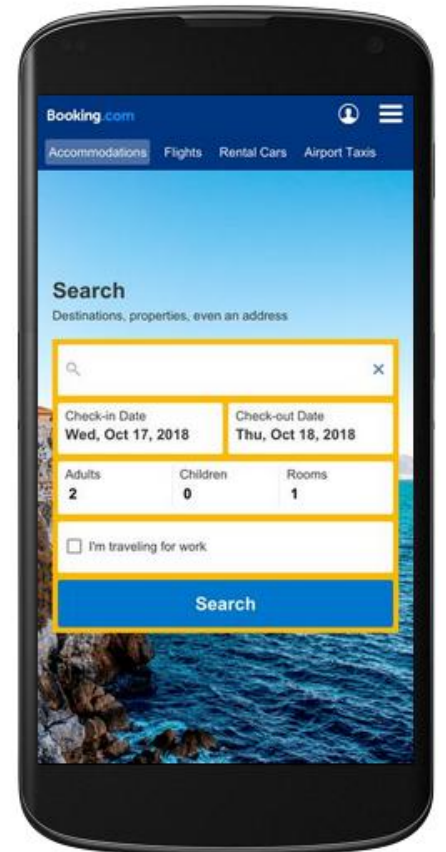
Data from the [Chrome User Experience Report](#) indicates this page's median **FCP** (1.7s) and **DCL** (2.5s) ranks it in the middle third of all pages. This page has a low level of optimization because most of its resources are render-blocking. [Learn more.](#)

Report for: <https://www.booking.com/>

Page Load Distributions



The distribution of this page's FCP and DCL events, categorized as Fast (fastest third), Average (middle third), and Slow (bottom third).



First Contentful Paint

SOURCE: CHROME USER EXPERIENCE REPORT

Fast FCP

56.84%

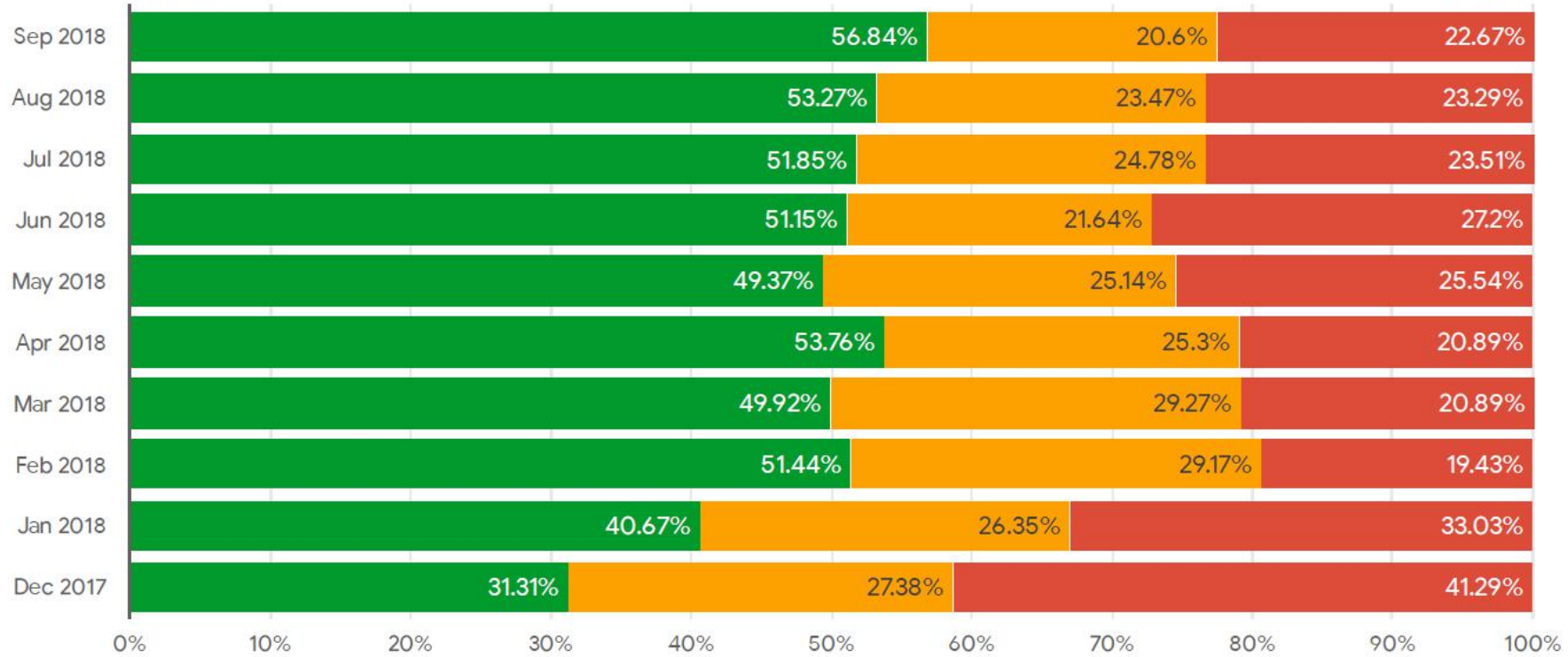
↑ 6.7%

Slow FCP

22.67%

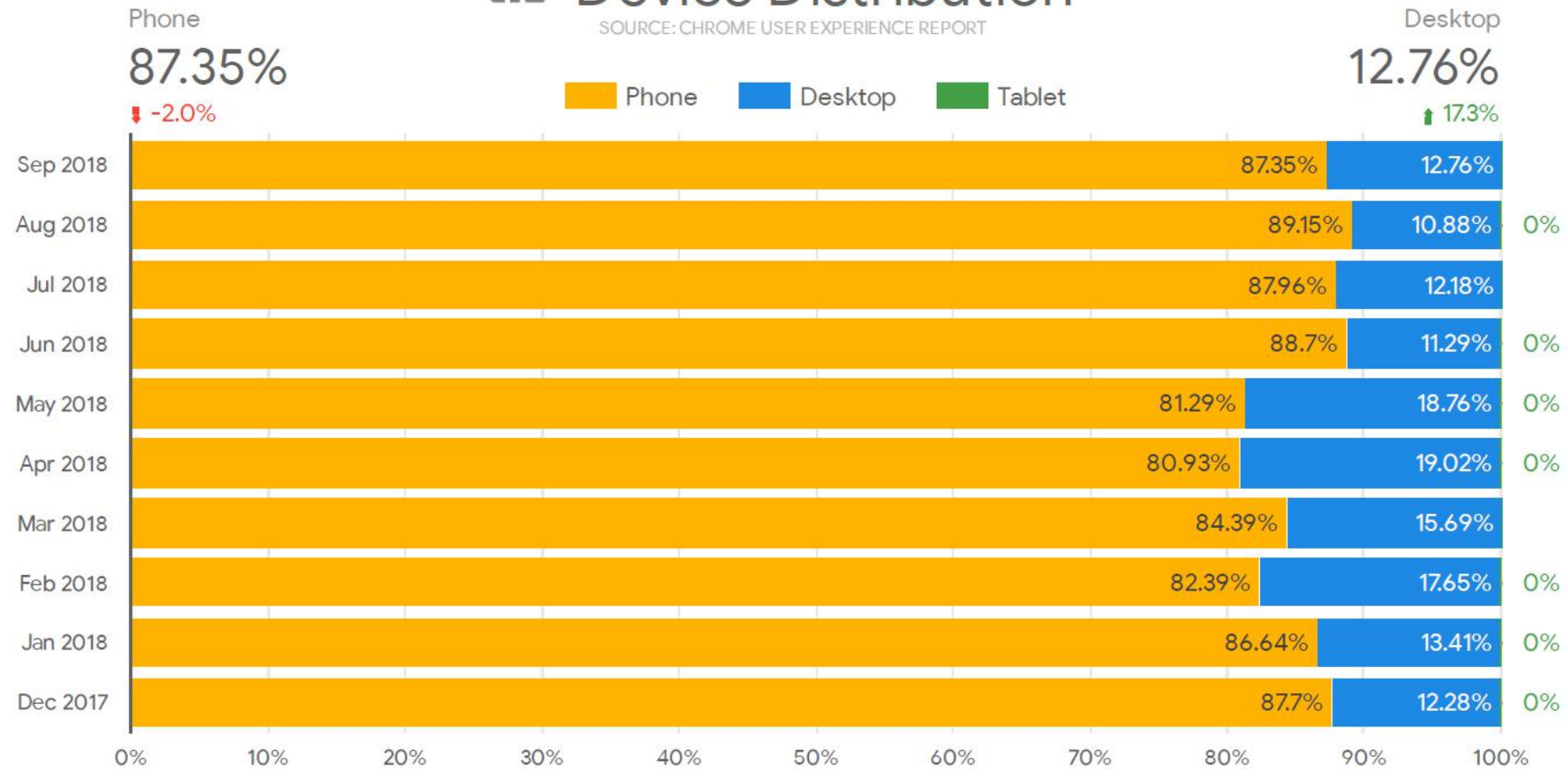
↓ -2.7%

Fast Average Slow

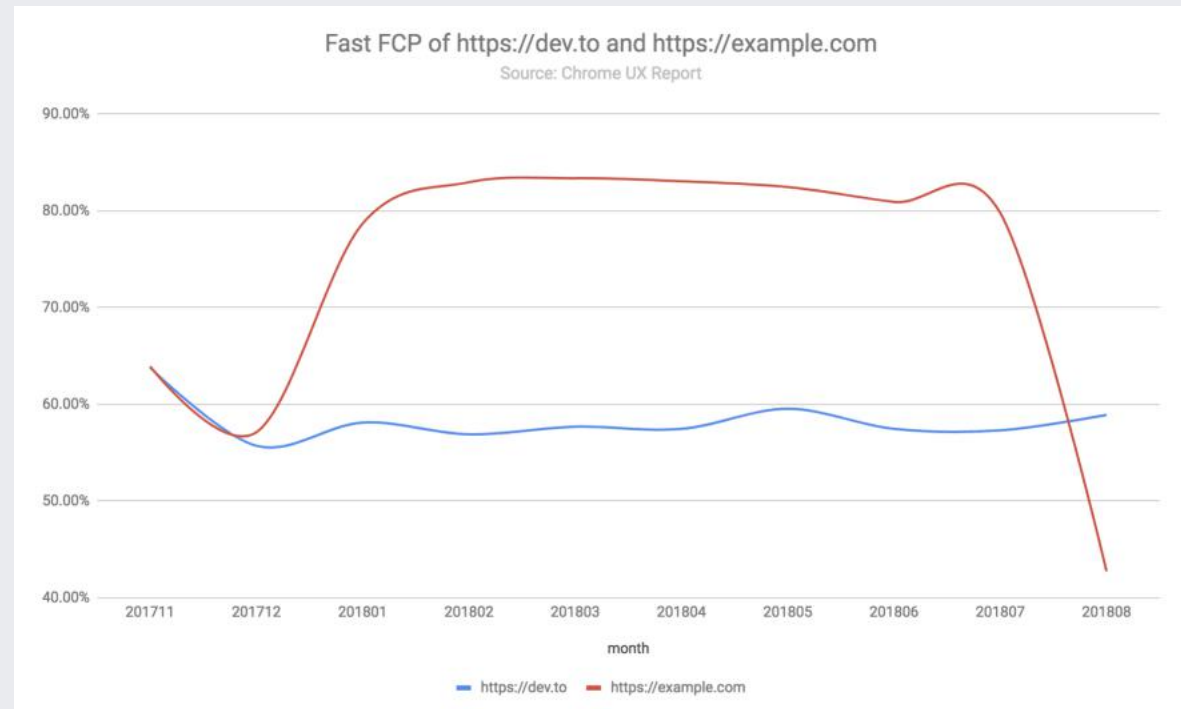


Device Distribution

SOURCE: CHROME USER EXPERIENCE REPORT



```
SELECT _TABLE_SUFFIX AS month, origin, SUM(fcp.density) AS fast_fcp
FROM `chrome-ux-report.all.*`, UNNEST(first_contentful_paint.histogram.bin) AS fcp
WHERE fcp.start < 1000 AND origin IN ('https://dev.to', 'https://example.com')
GROUP BY month, origin
ORDER BY month, origin
```



References

<https://www.soasta.com/blog/measuring-web-performance-video/>

<http://www.softwareishard.com/blog/har-viewer/>

<https://www.soasta.com/blog/ebook-usertiming-performance-monitoring/>

<https://codeascraft.com/>

<https://www.soasta.com/blog/ebook-usertiming-performance-monitoring/>

<https://code.facebook.com/posts/991252547593574/the-technology-behind-preview-photos/>

<https://blog.twitter.com/2012/improving-performance-on-twittercom>

<http://www.stevesouders.com/blog/2015/05/12/hero-image-custom-metrics>

Time for questions