

Web Performance... It's for People!

Andy Davies

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Web Performance... It's for People!

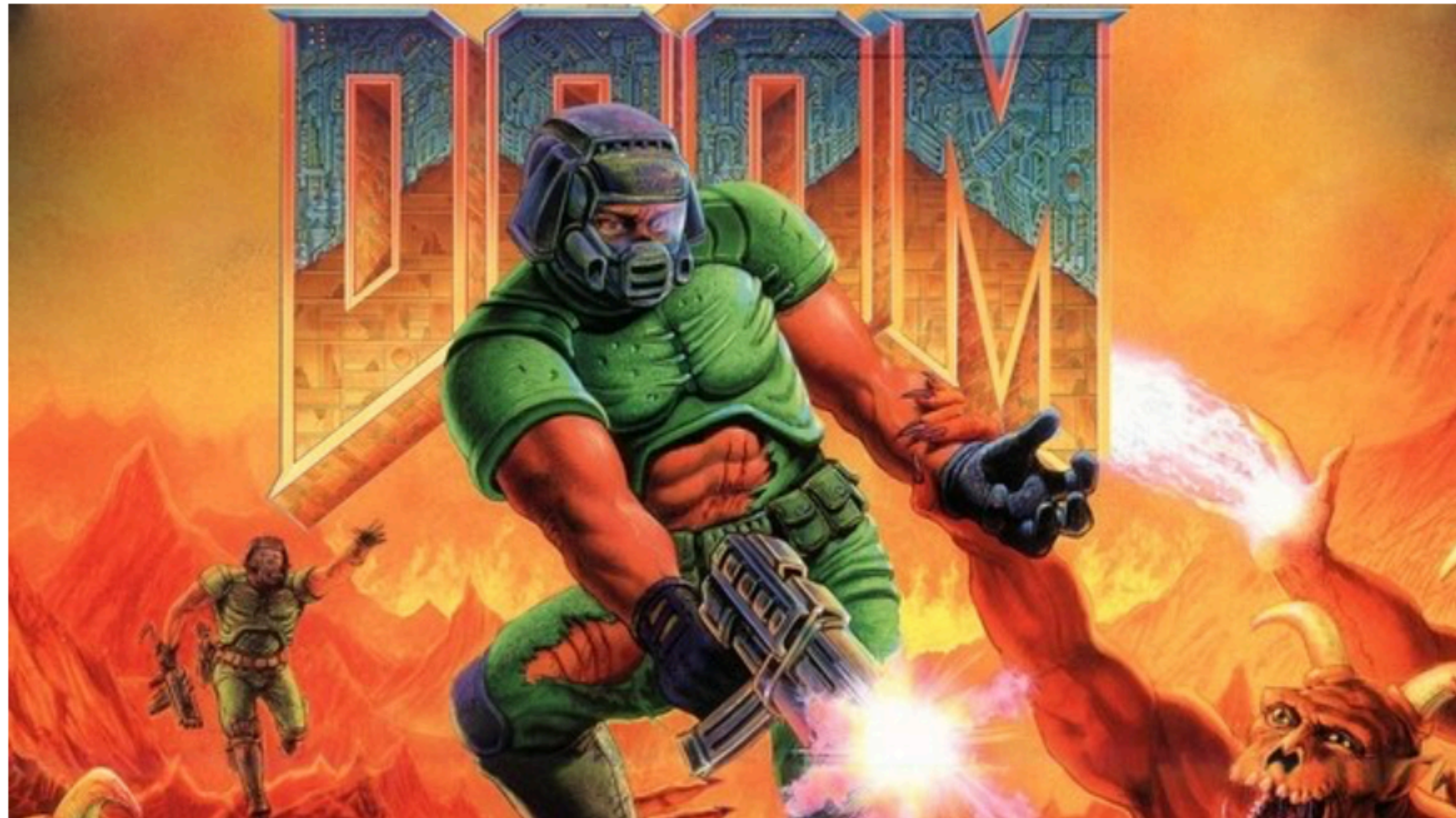
Andy Davies · Oct 2019

We Proxy Metrics

Page Size · # of Requests · Lighthouse Scores
of Third-Parties · Resources Sizes etc., etc.

And they make for great headlines...

The Average Webpage Is Now the Size of the Original Doom



ID SOFTWARE

<https://www.wired.com/2016/04/average-webpage-now-size-original-doom>

@AndyDavies



Arnaud Delafosse
@arnauddelafosse

Average file size of a web page (Dec '13): approx. 1.635 MB That's more data than fits on a floppy disk.

#performance



<https://twitter.com/arnauddelafosse/status/458796490606247936>



They're really useful as guard rails...

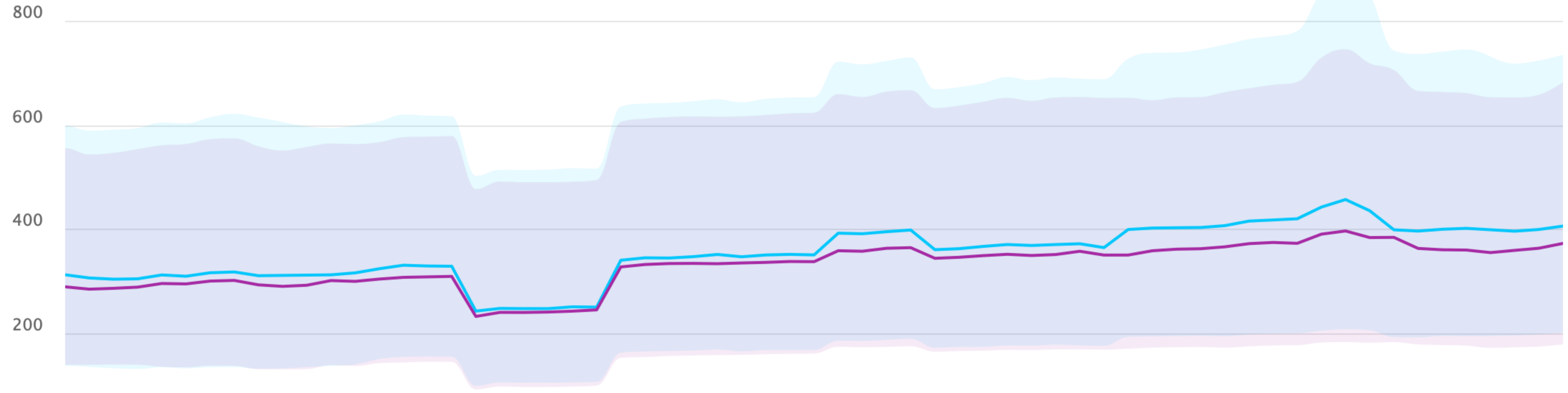
Timeseries of JavaScript Bytes



Zoom **1m** 3m 6m YTD 1y **3y** All

From **Aug 1, 2016** To **Aug 1, 2019**

JavaScript Bytes (KB)



And easy to track

— Desktop — Mobile

But ultimately... they don't represent our visitor's experience

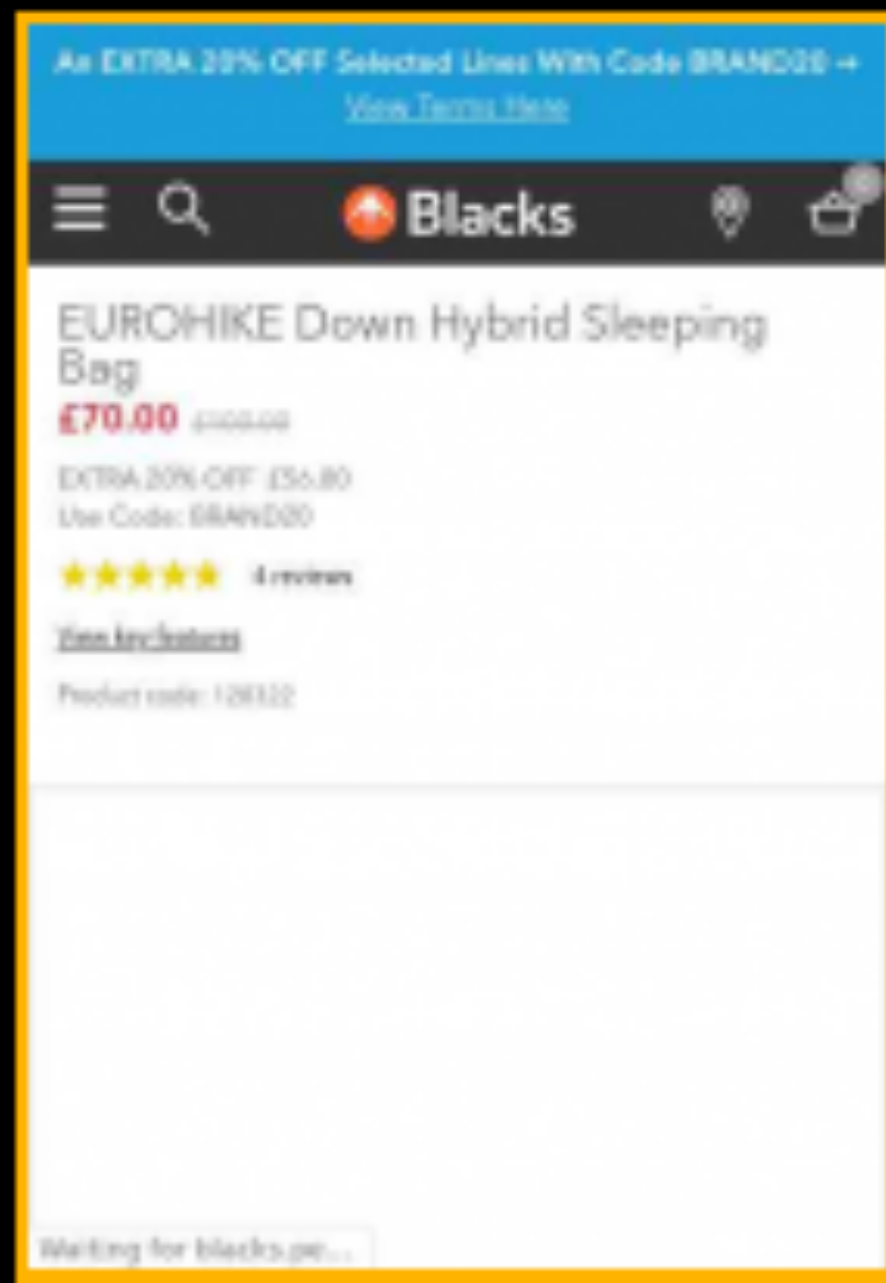


But ultimately... they don't represent our visitor's experience

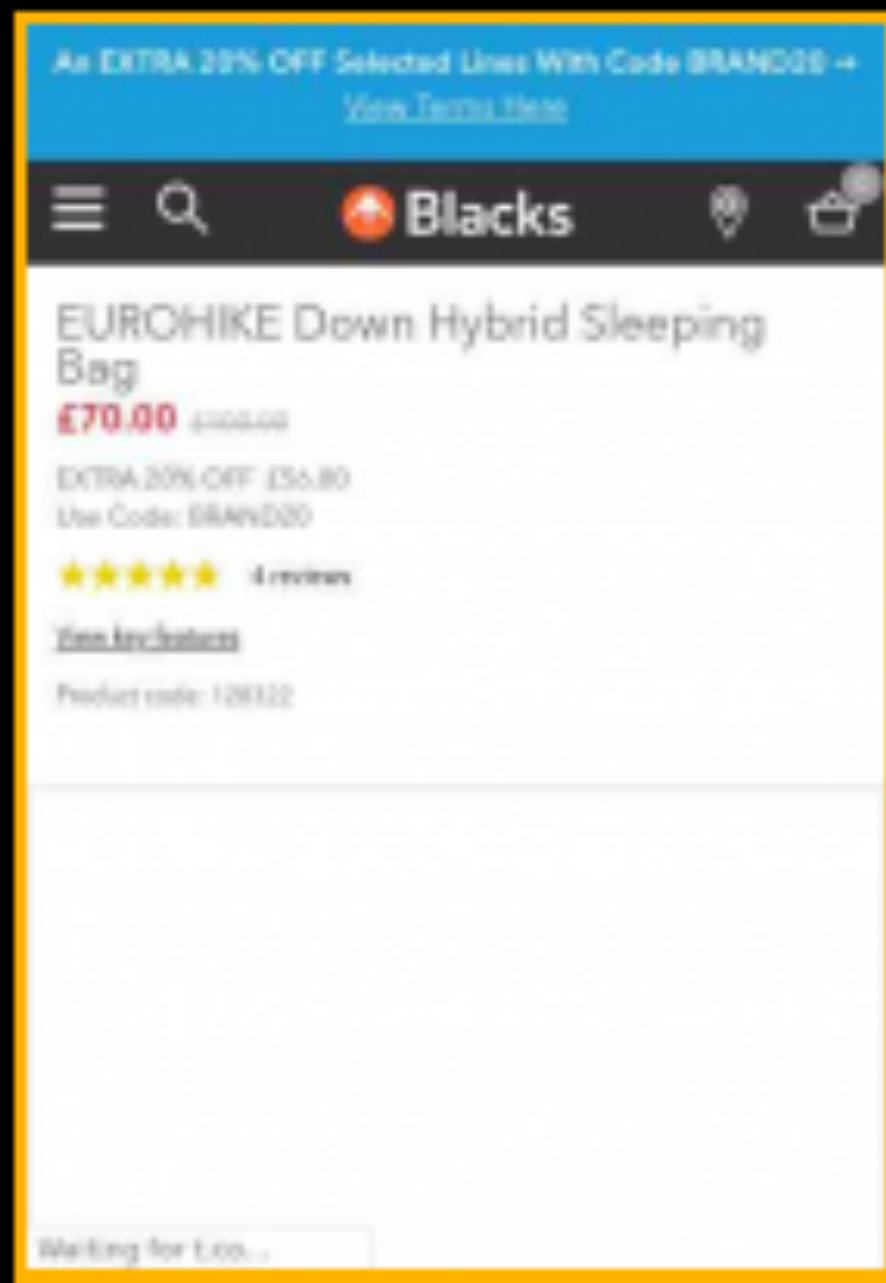
0s



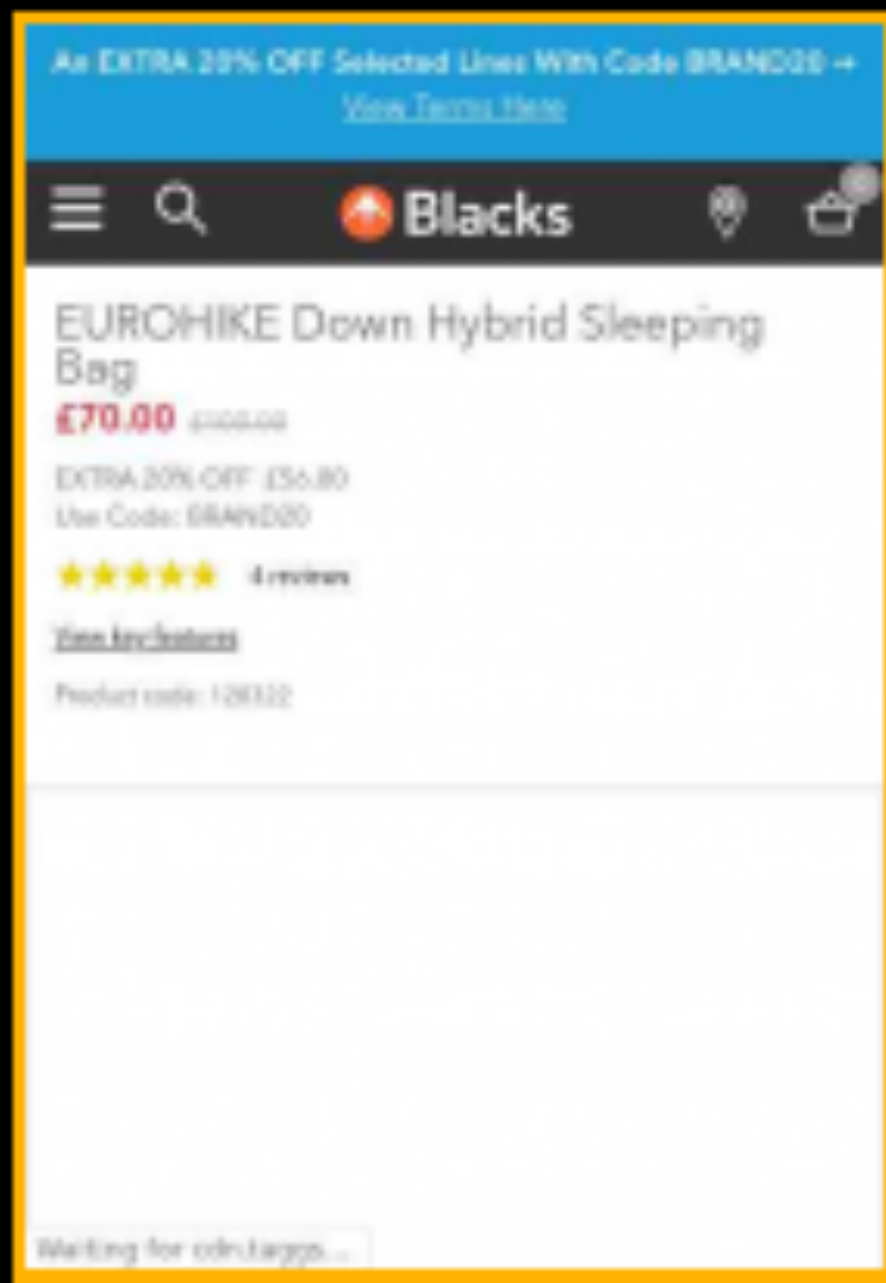
3.5s



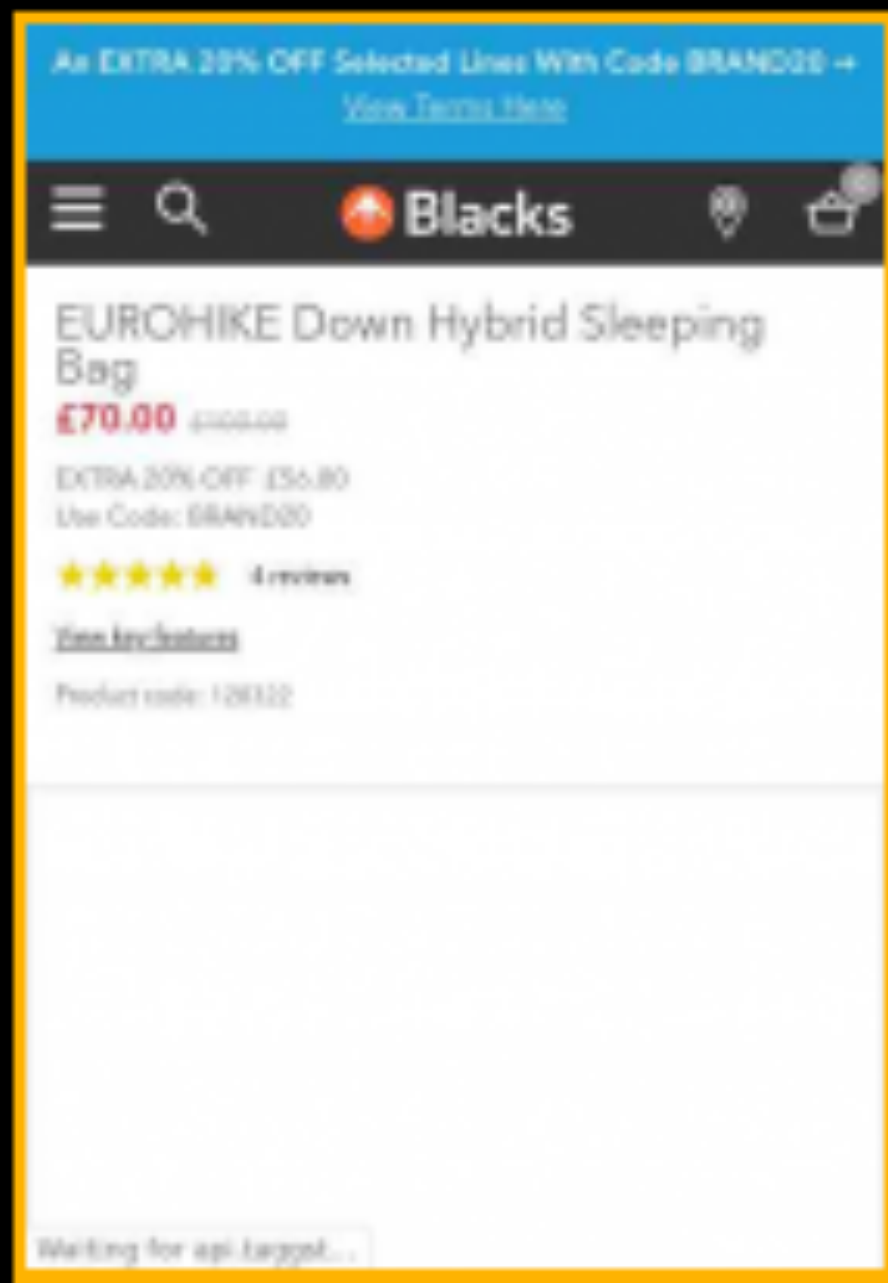
4.0s



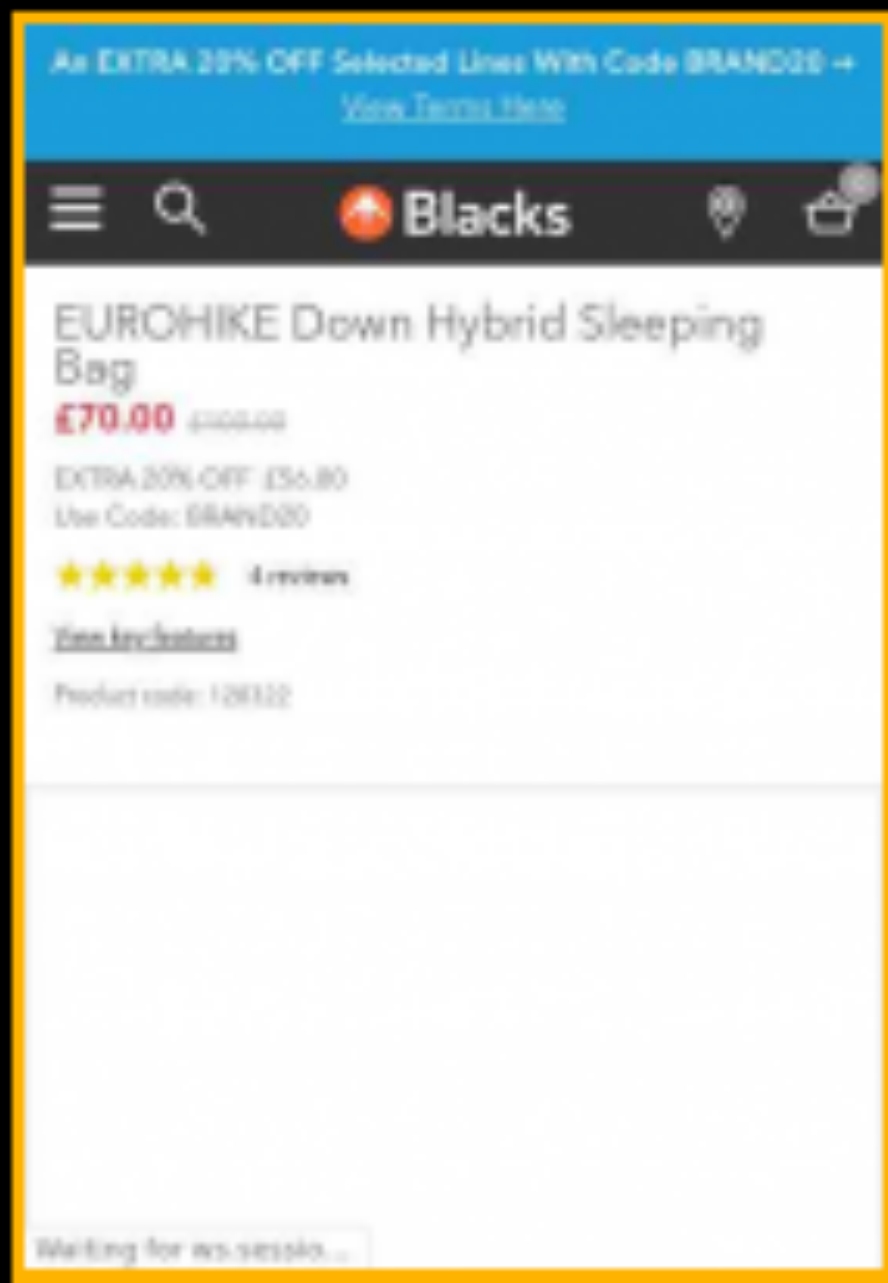
4.5s



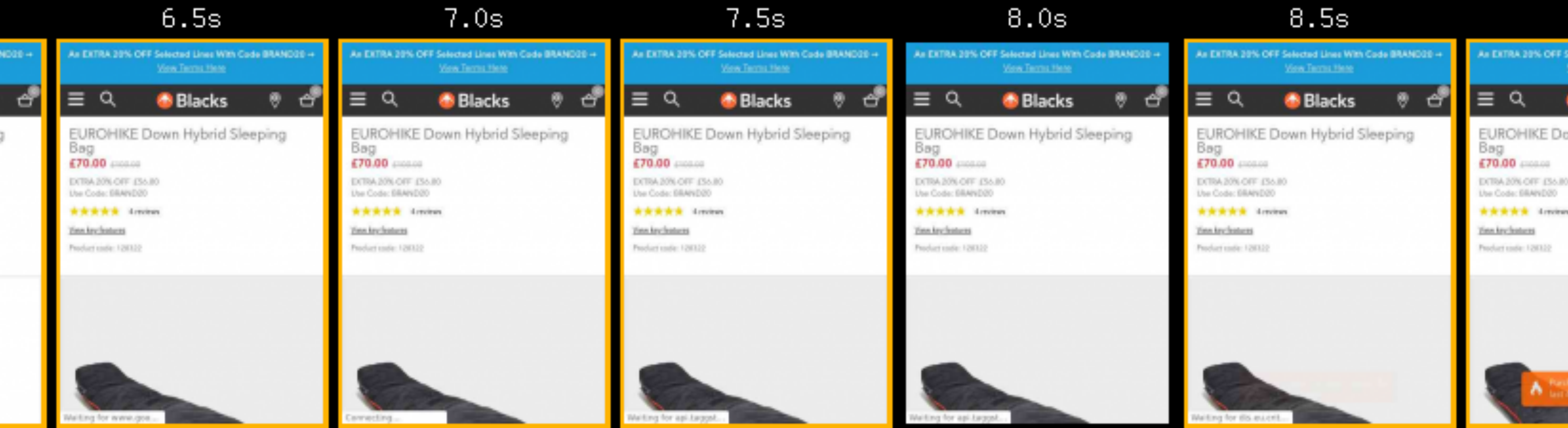
5.0s



5.5s



But ultimately... they don't represent our visitor's experience

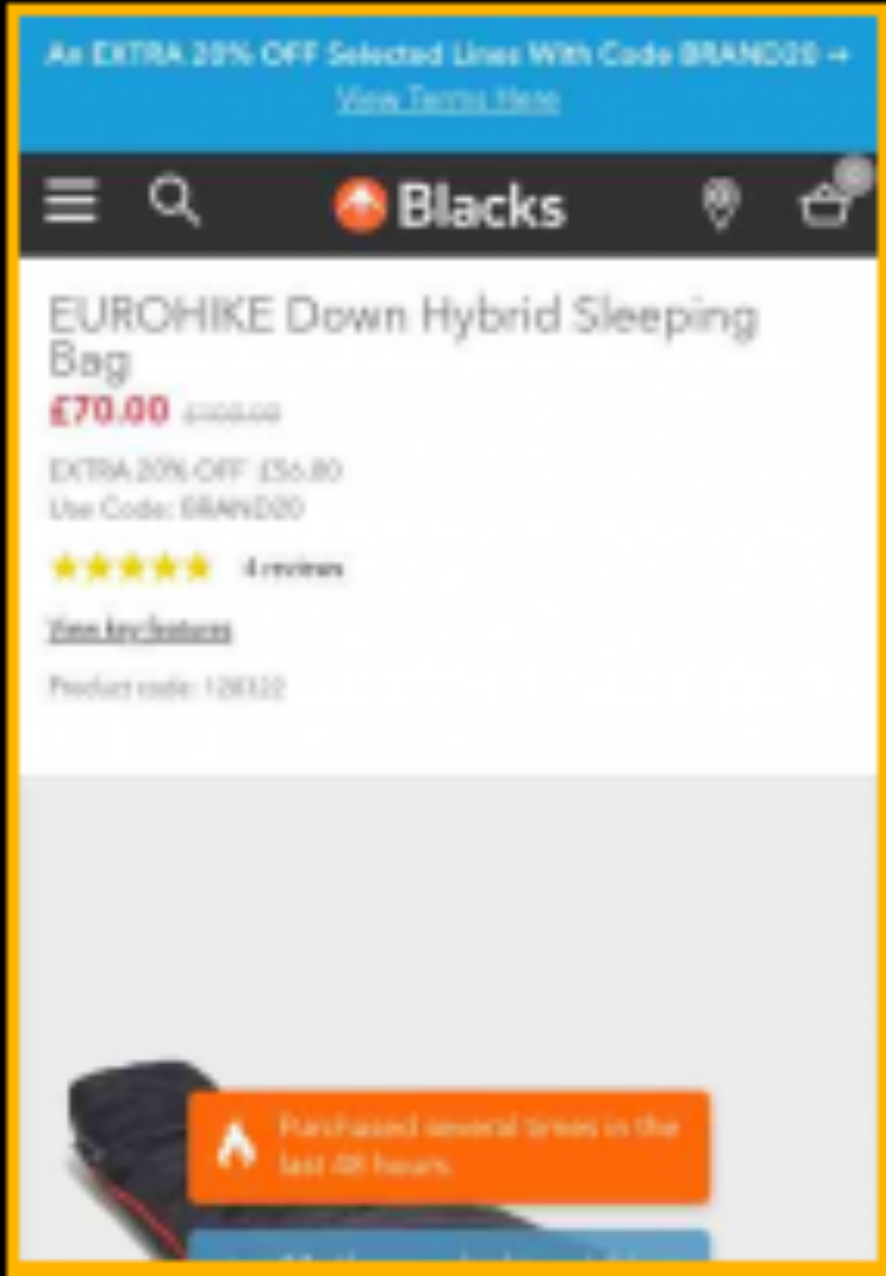


But ultimately... they don't represent our visitor's experience

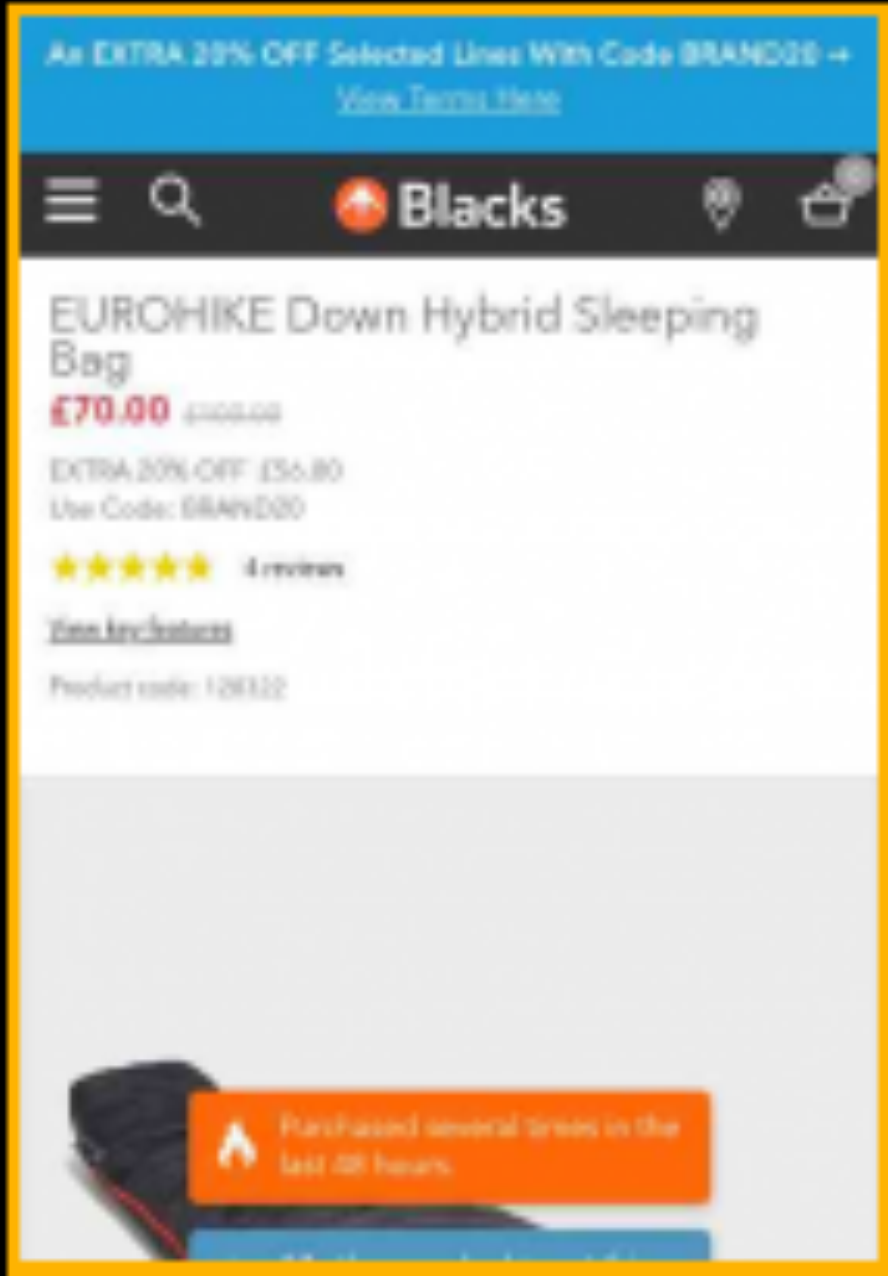
0s



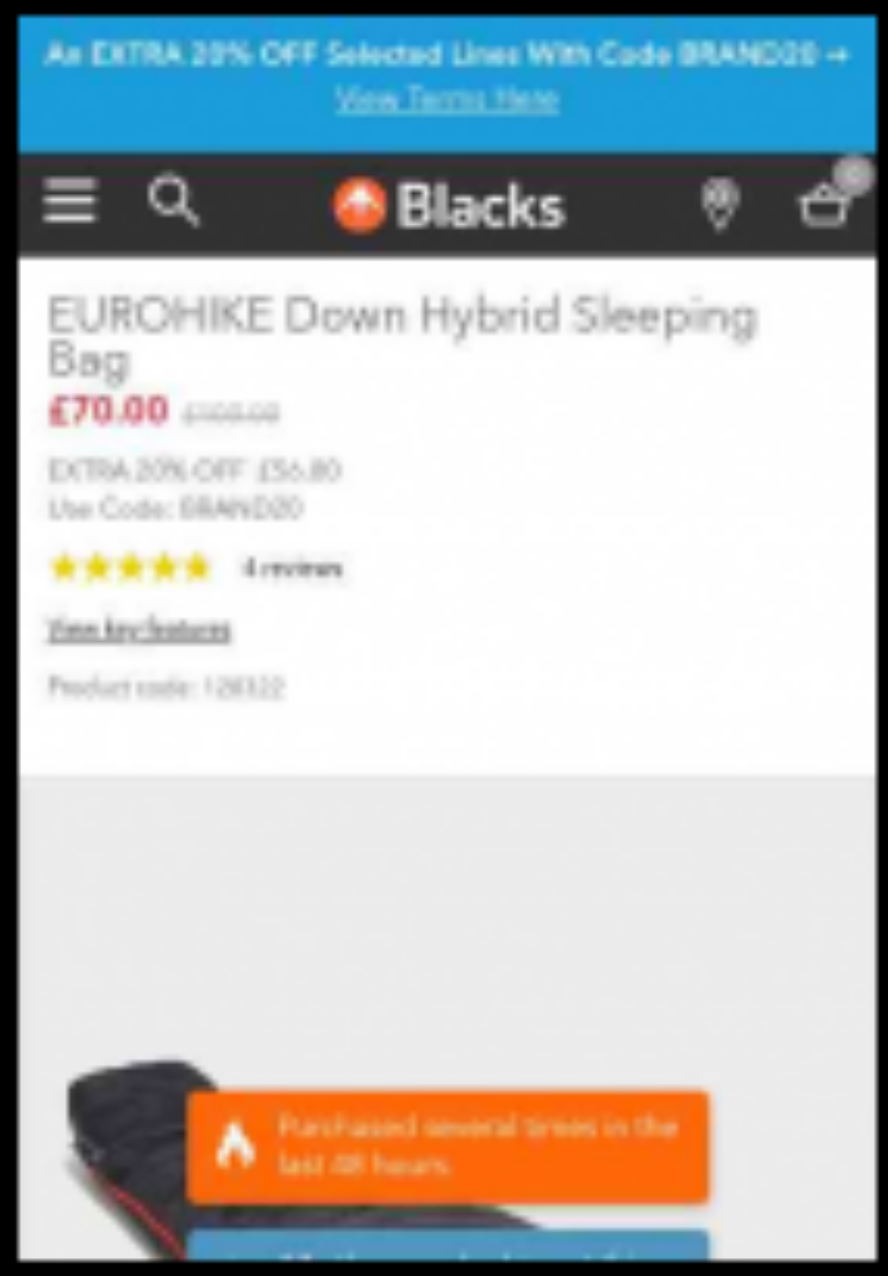
11.5s



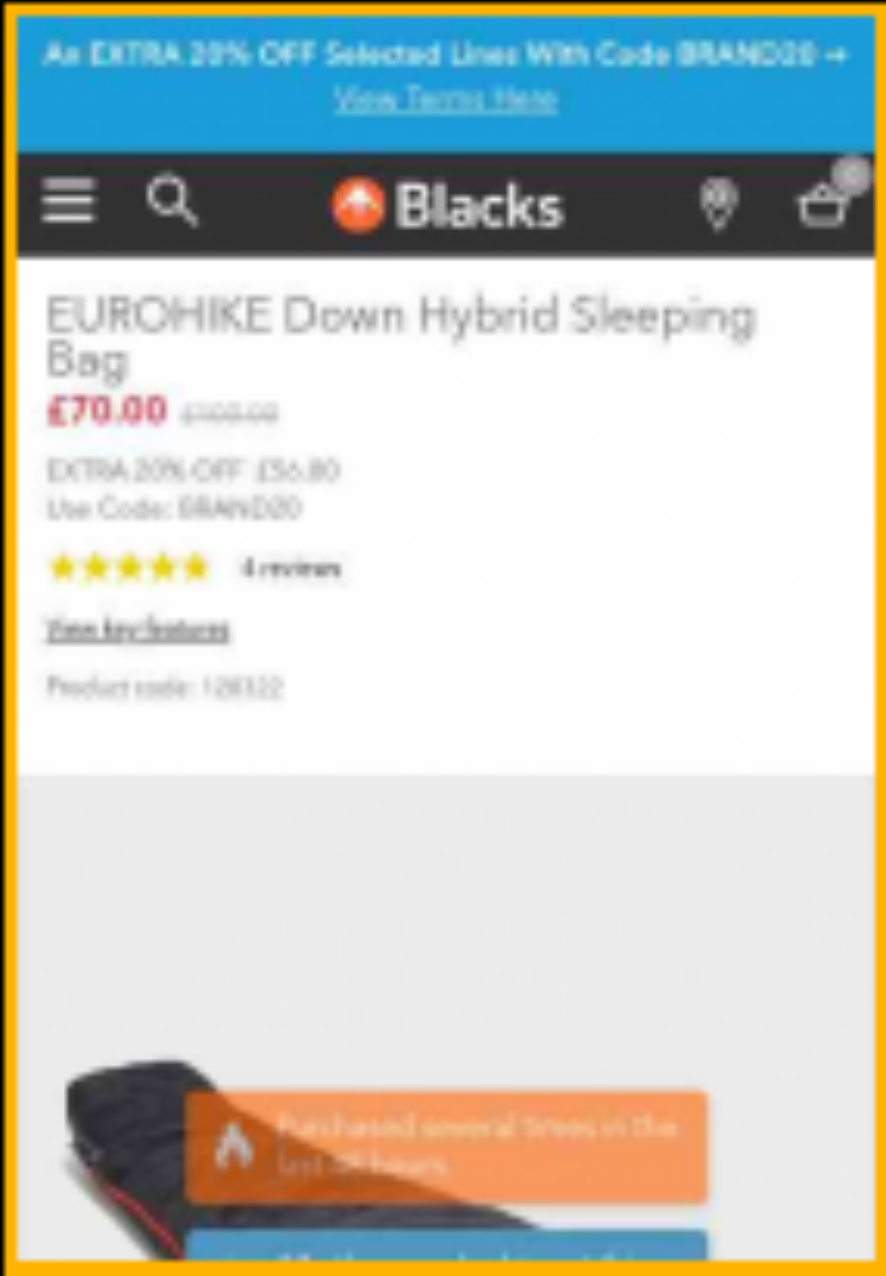
12.0s



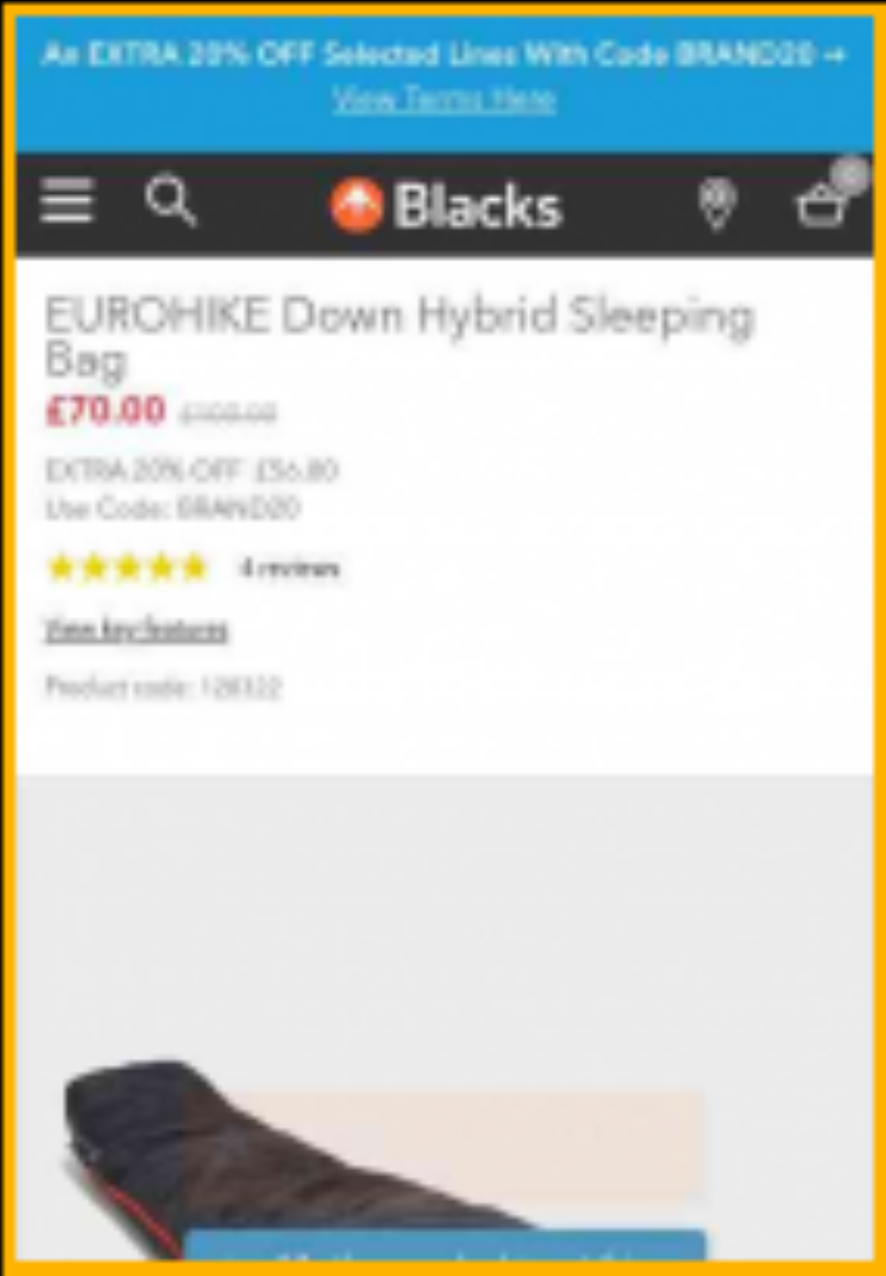
12.5s



13.0s

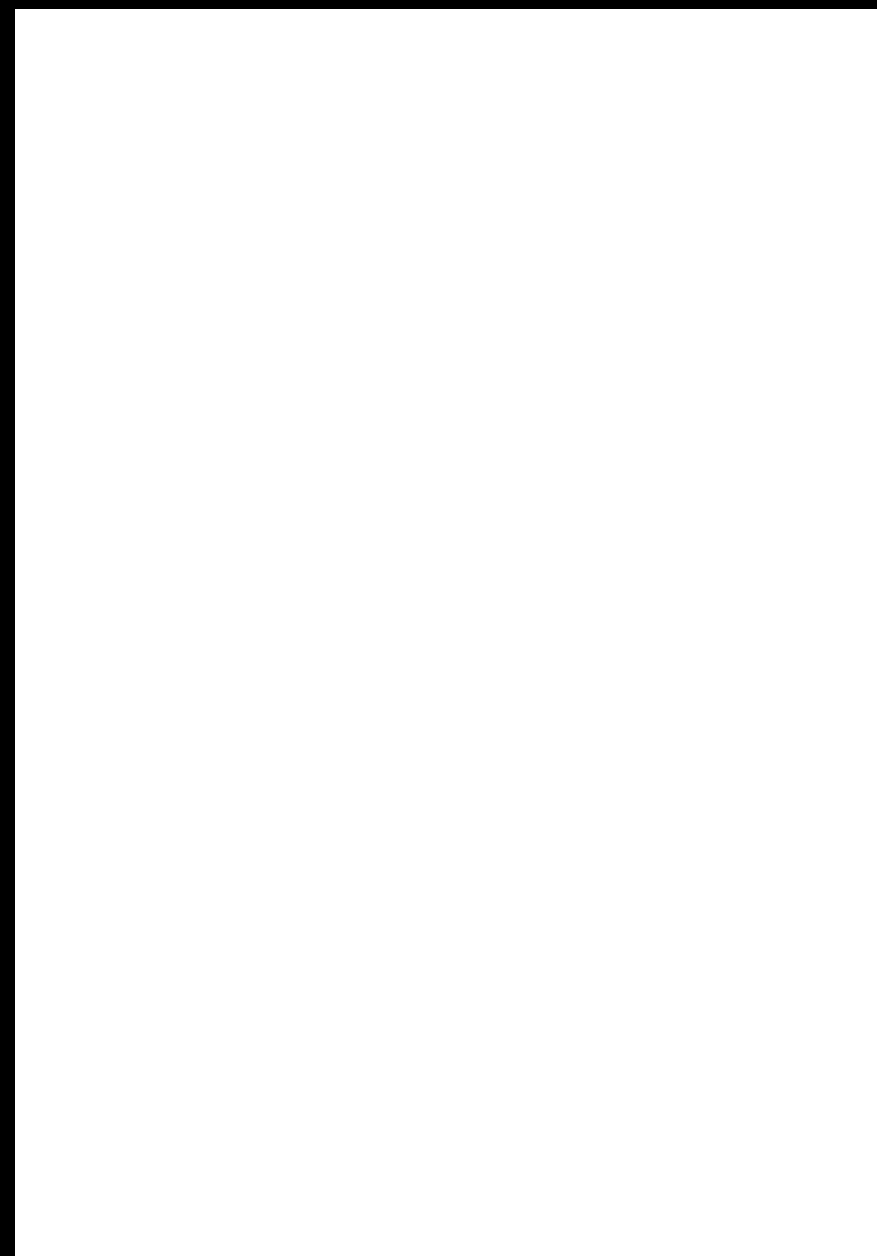


13.5s

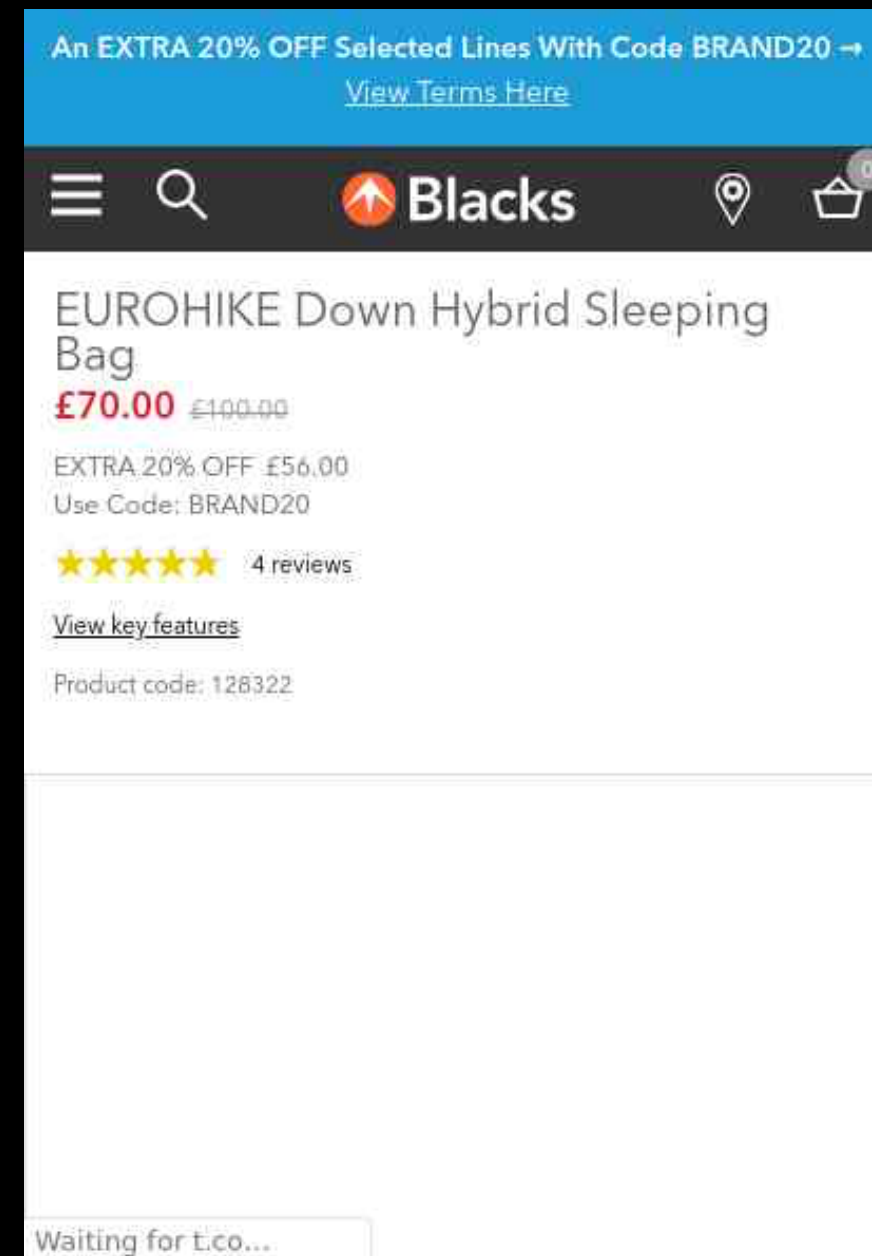


Page load is a journey... with milestones along the way

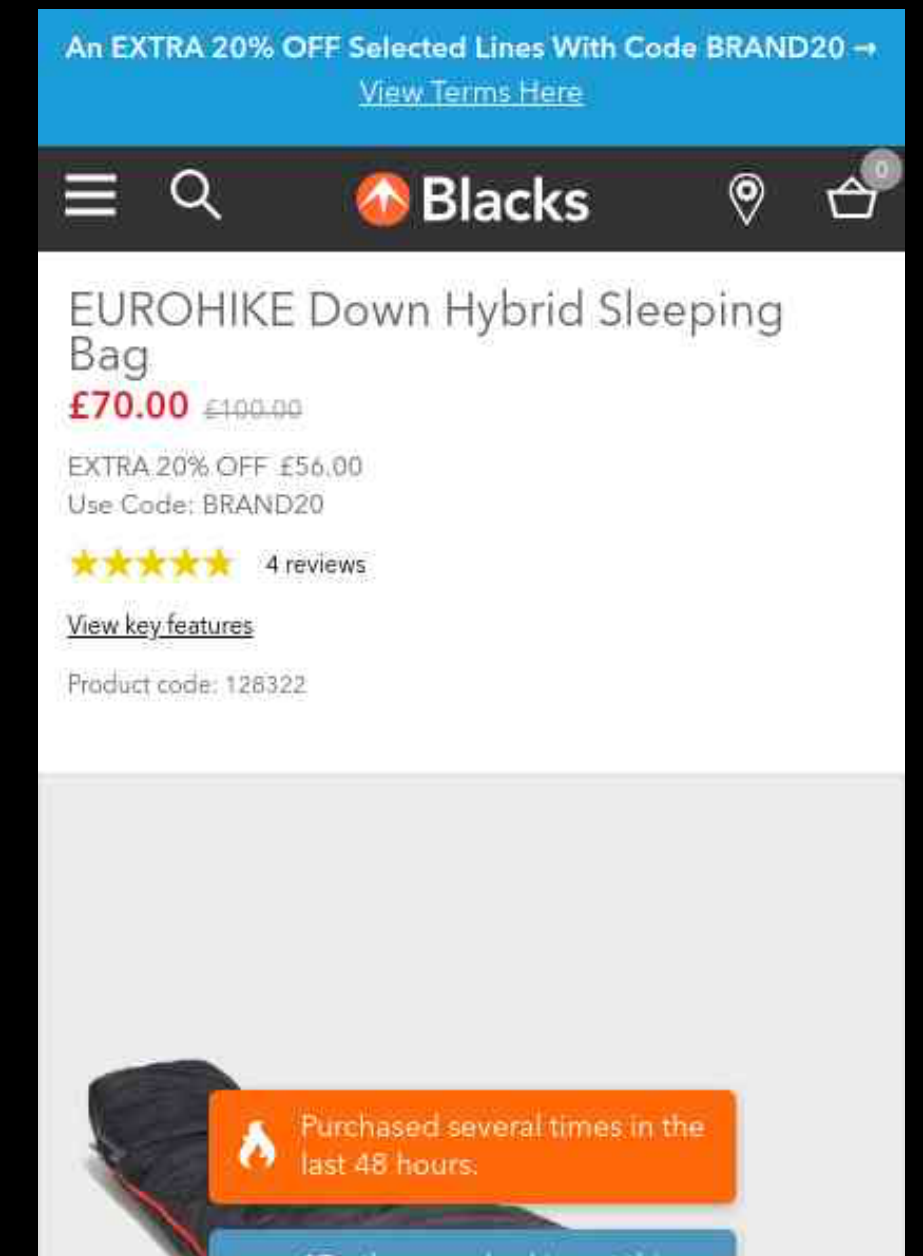
Working?



Useful?



Usable?



Control the journey... Choreograph your content...



Understand and control what affects the milestones

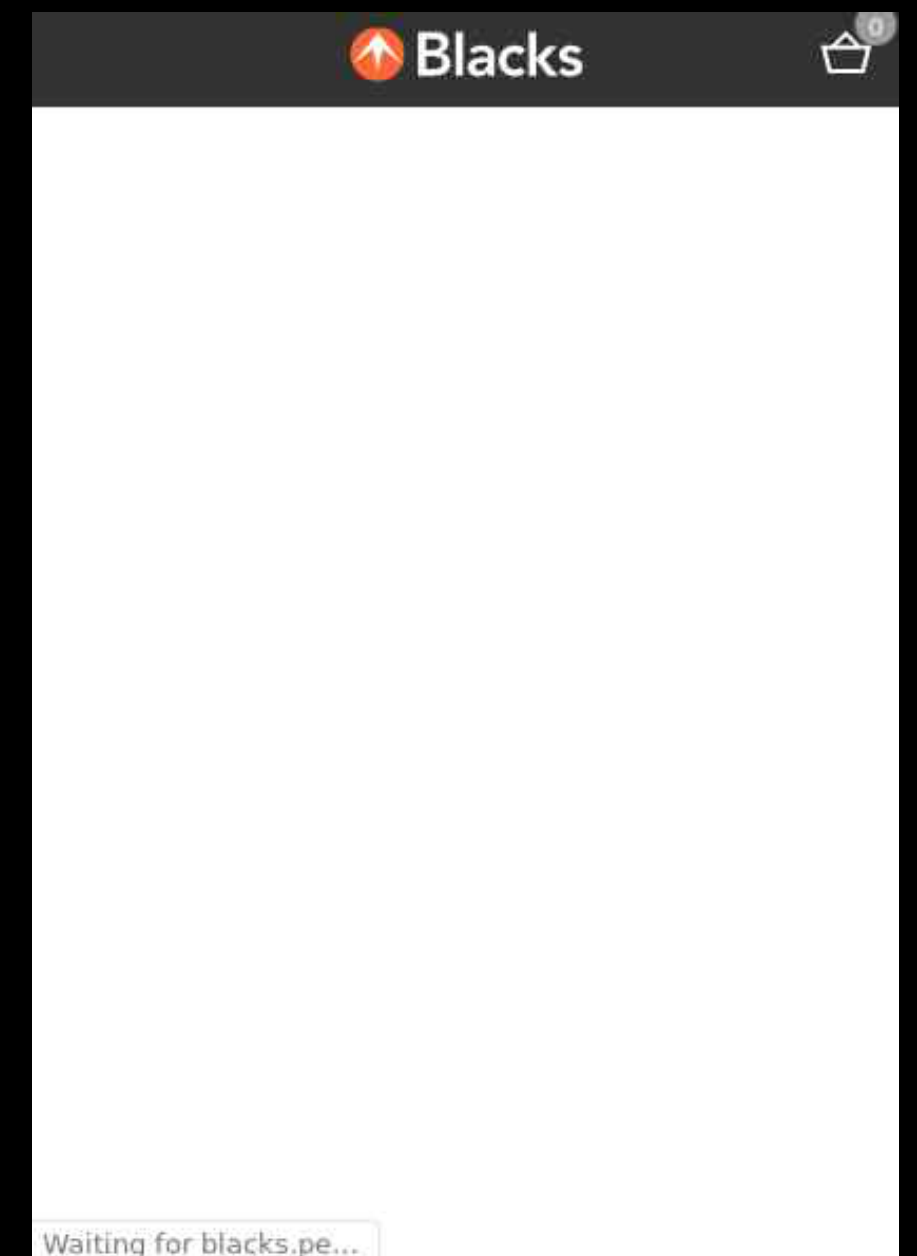


Title bar first real visual indication of navigation

How long does the server take to respond?

Visitor relies on cues from the browser / device until `<head>` is processed

What's needed to get this point?



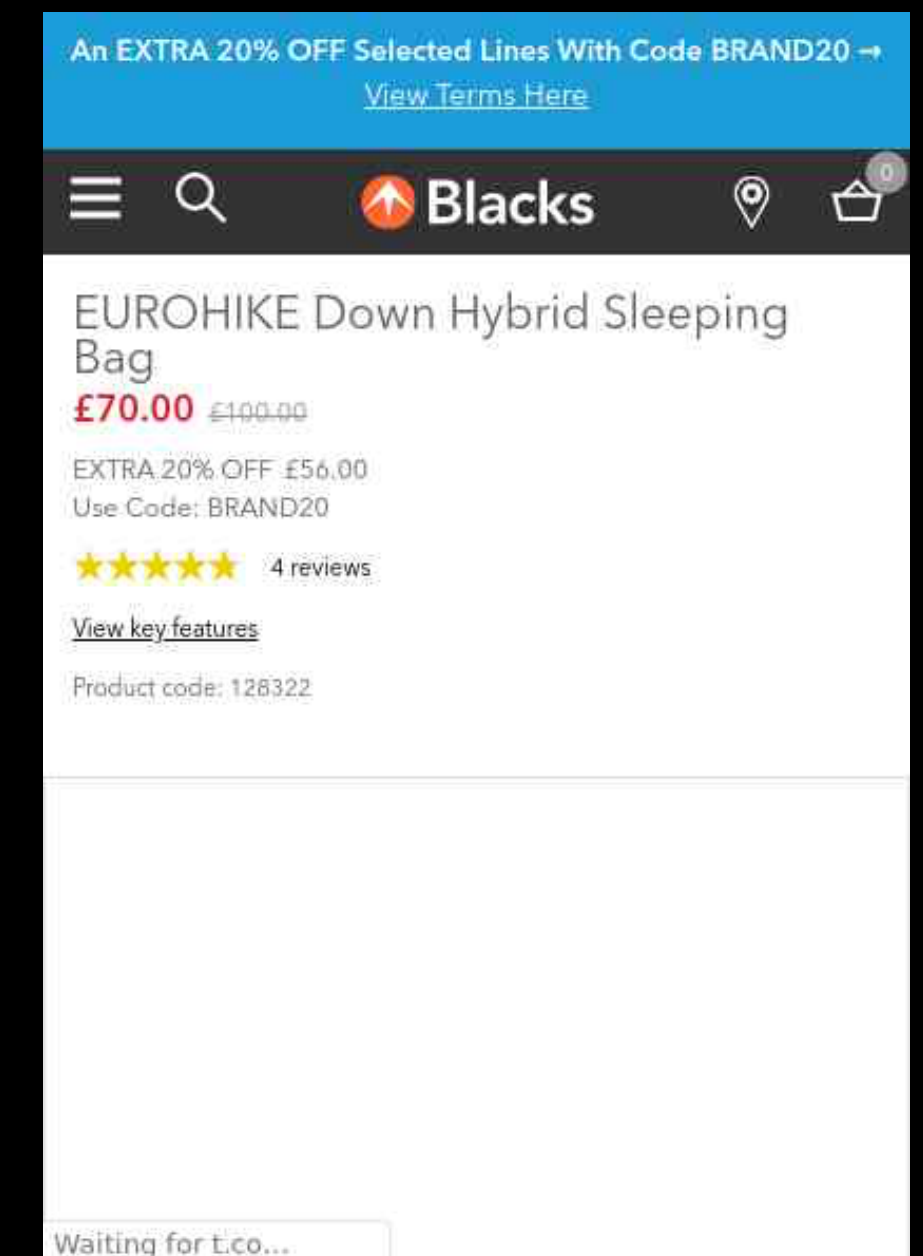
Understand and control what affects the milestones



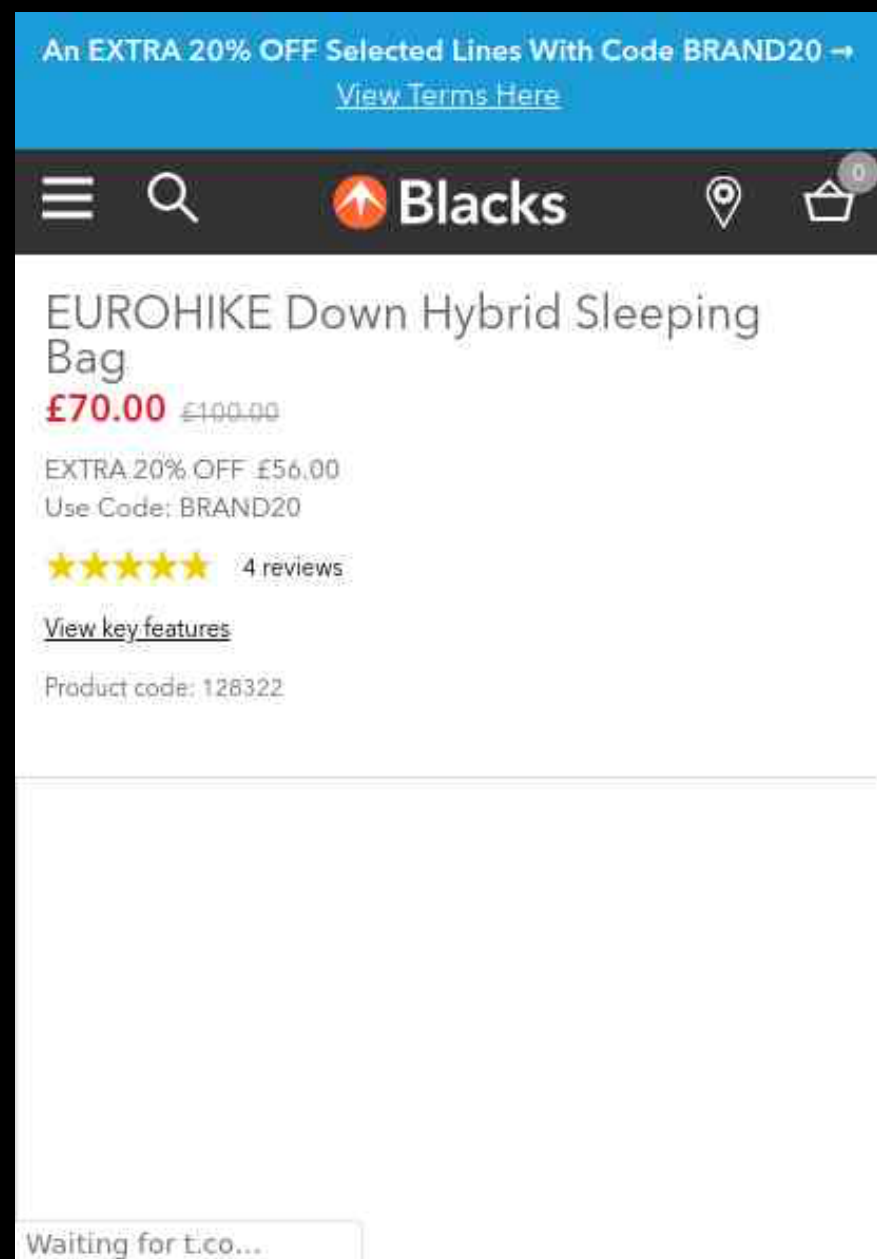
Prioritise the most important content

When does it start to appear?

What's delaying it?

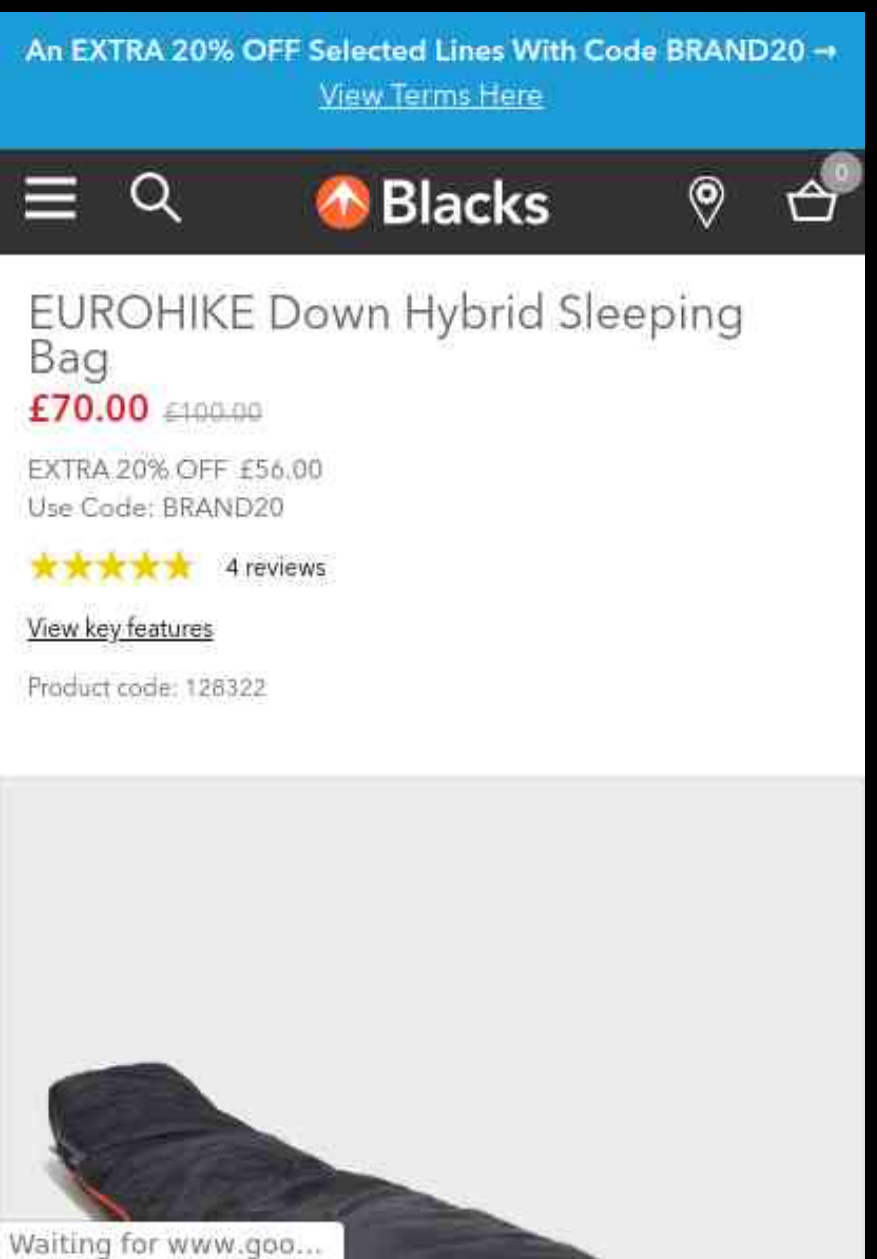


Understand and control what affects the milestones

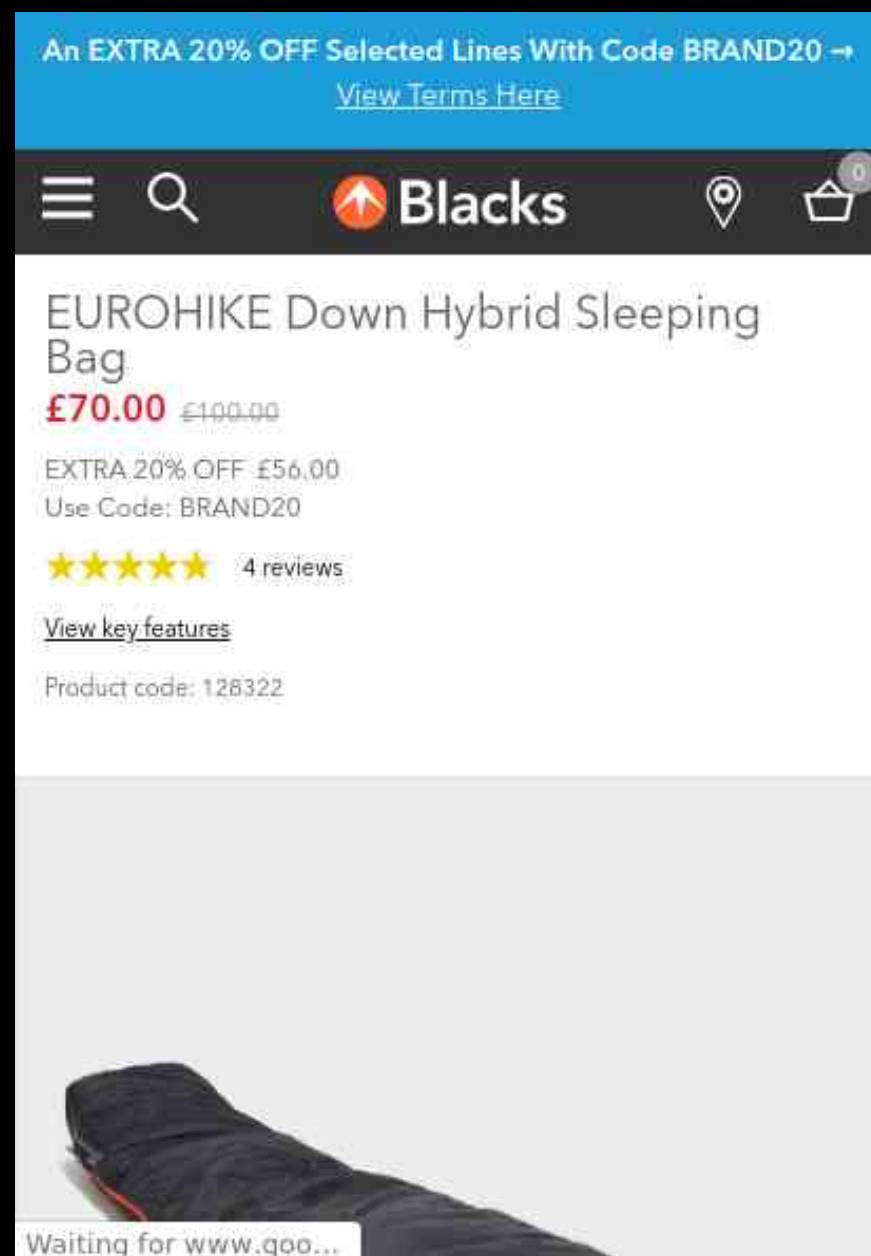


Why does the image take so long to appear?

Perhaps it's lazy loaded?



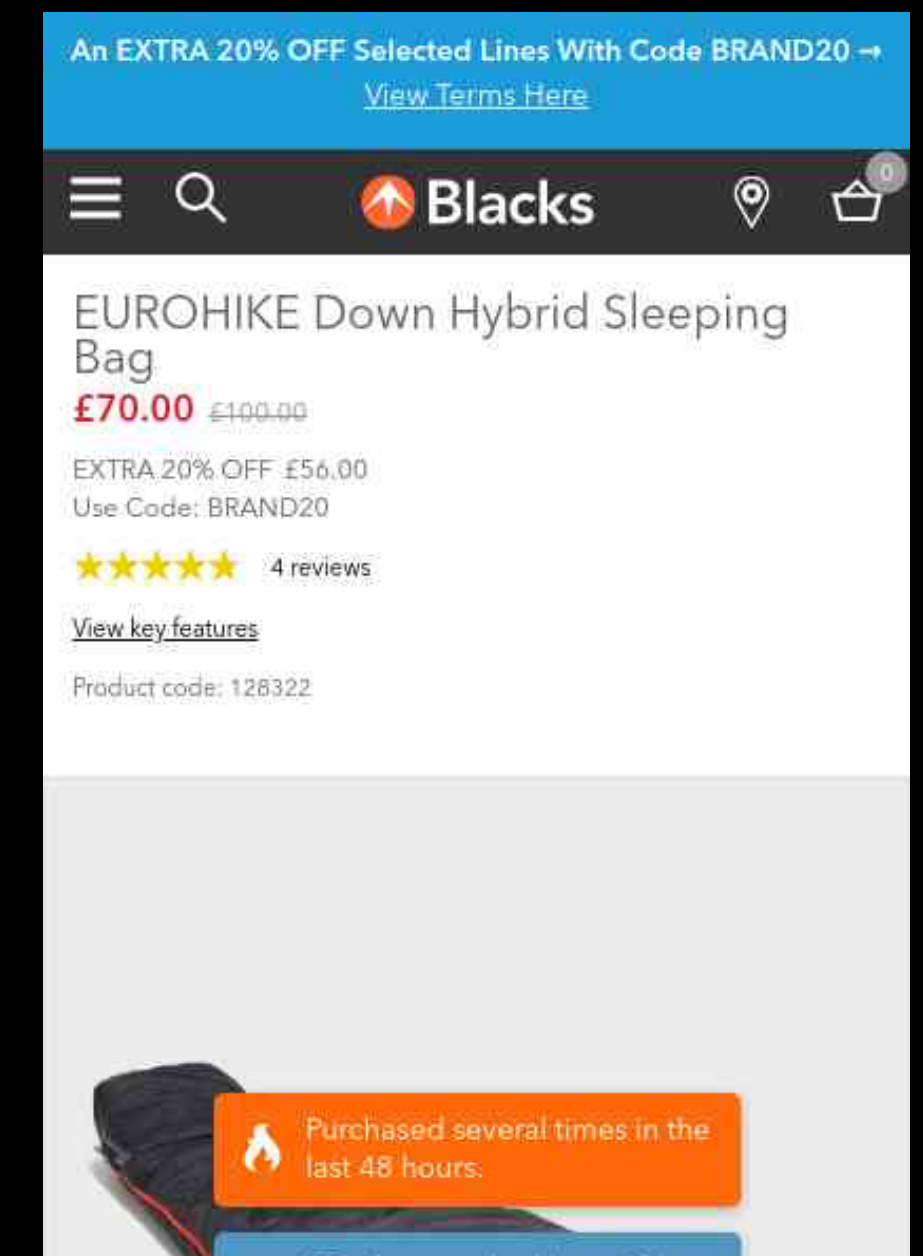
Understand and control what affects the milestones



Are those 3rd parties really required?

Can their load be delayed?

What's their impact on when the page becomes interactive?



Remember everyone's journey will have differences



Not all parts of that journey are within our control

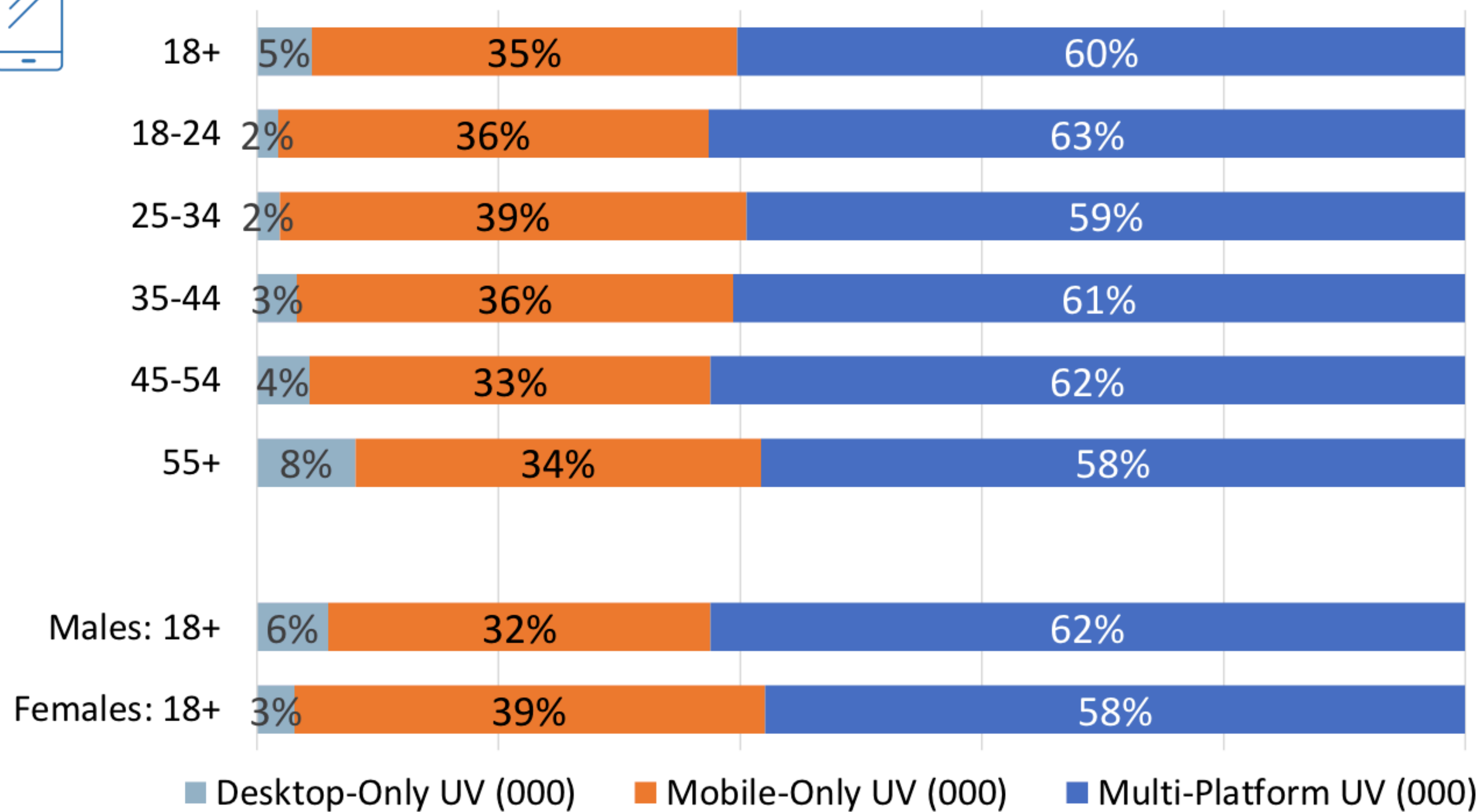
Visitor's choose their own browser, device, network

They're constraints we need to design for

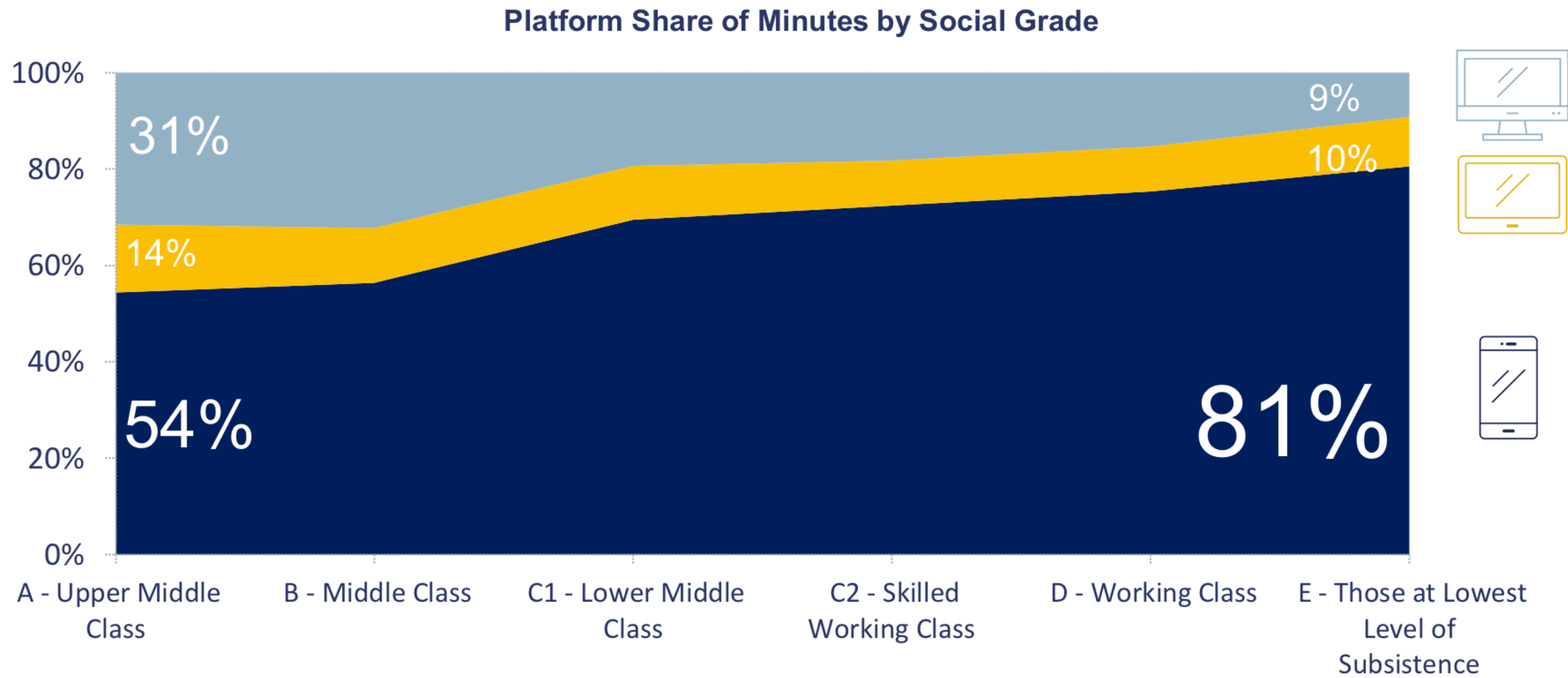
Increasing, we're living in a mobile world



Unique Viewers by Platform by Age & Gender



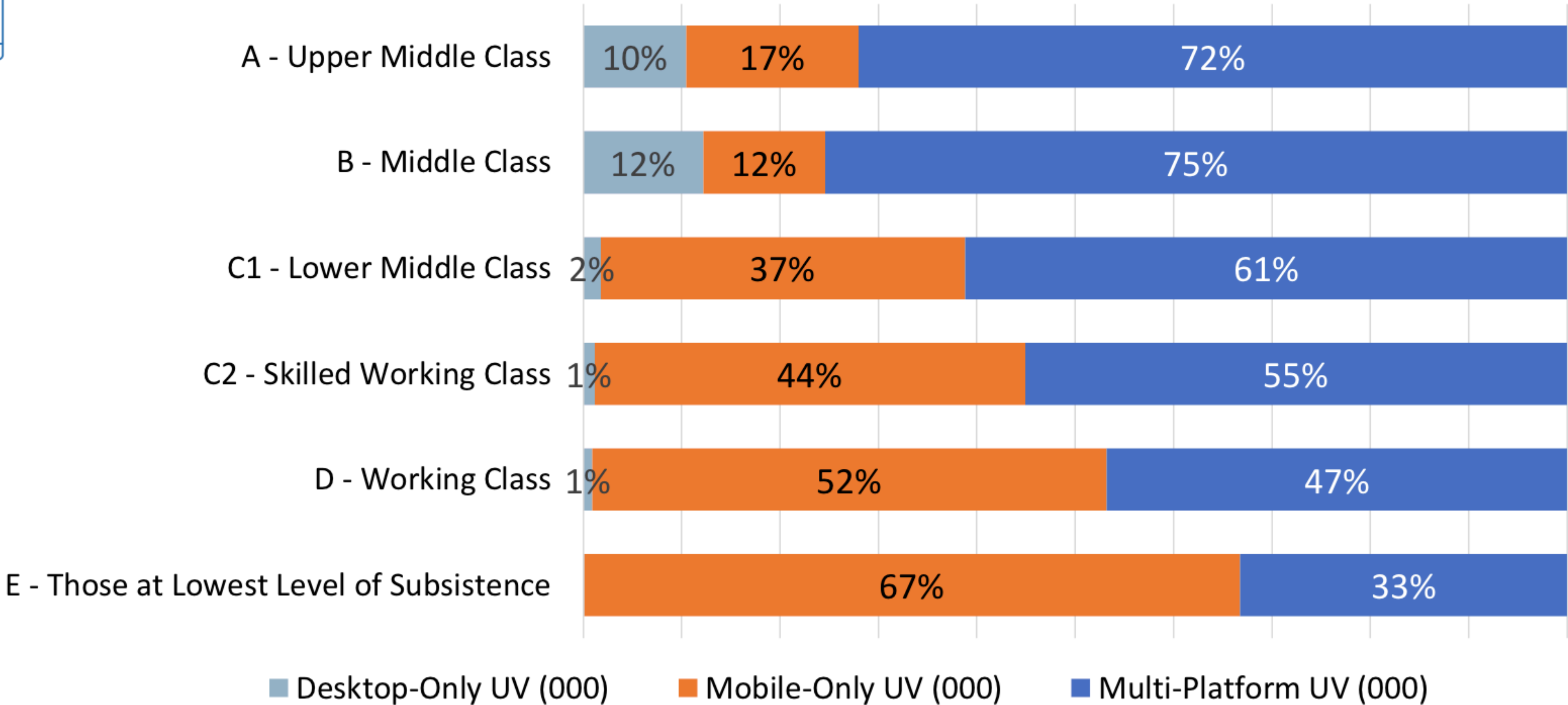
Sometimes, for economic reasons



But the trend isn't limited to just those on lower incomes



Unique Viewers by Platform by Age & Gender



We're still designing and building for desktop!



@AndyDavies

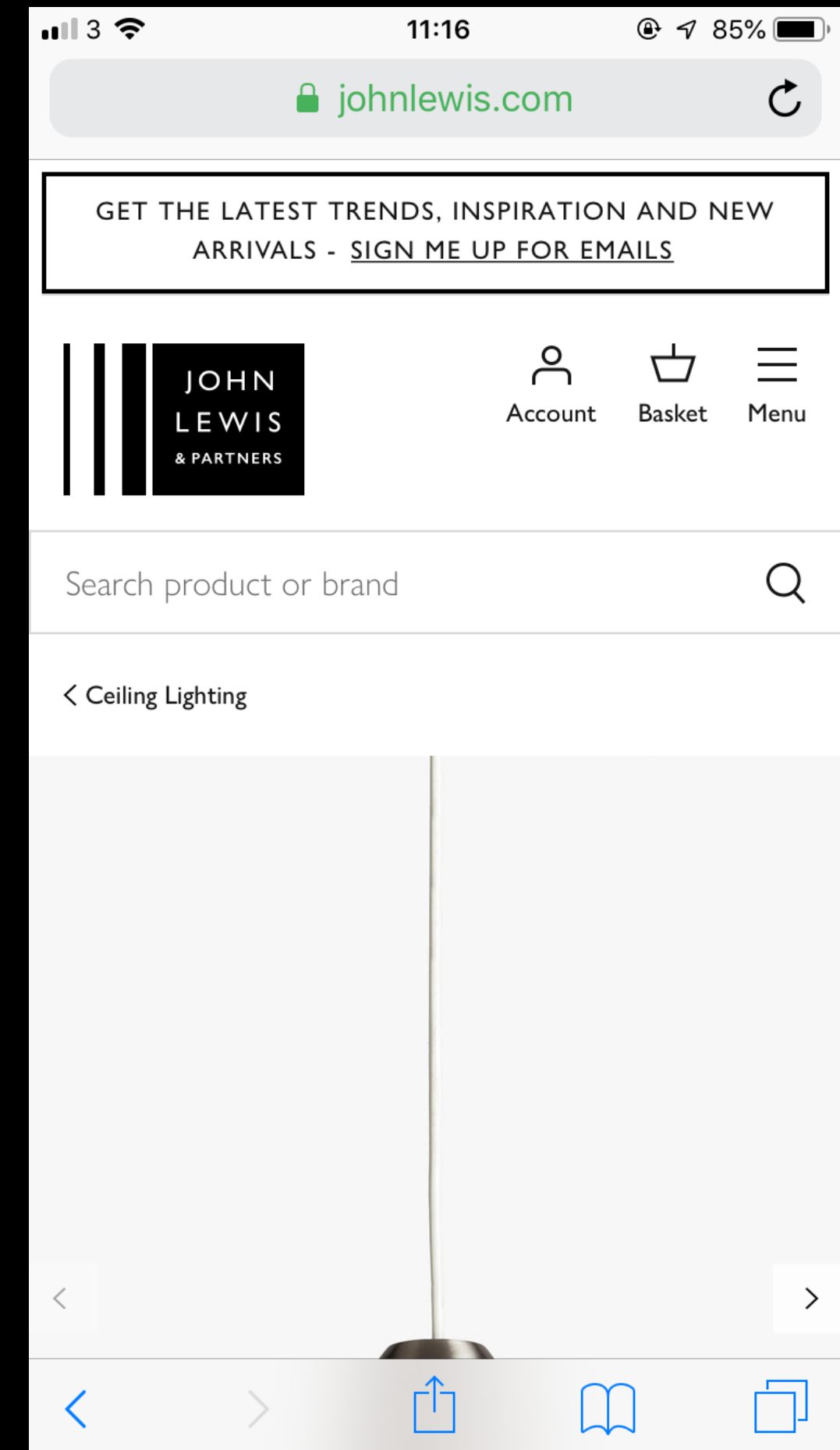
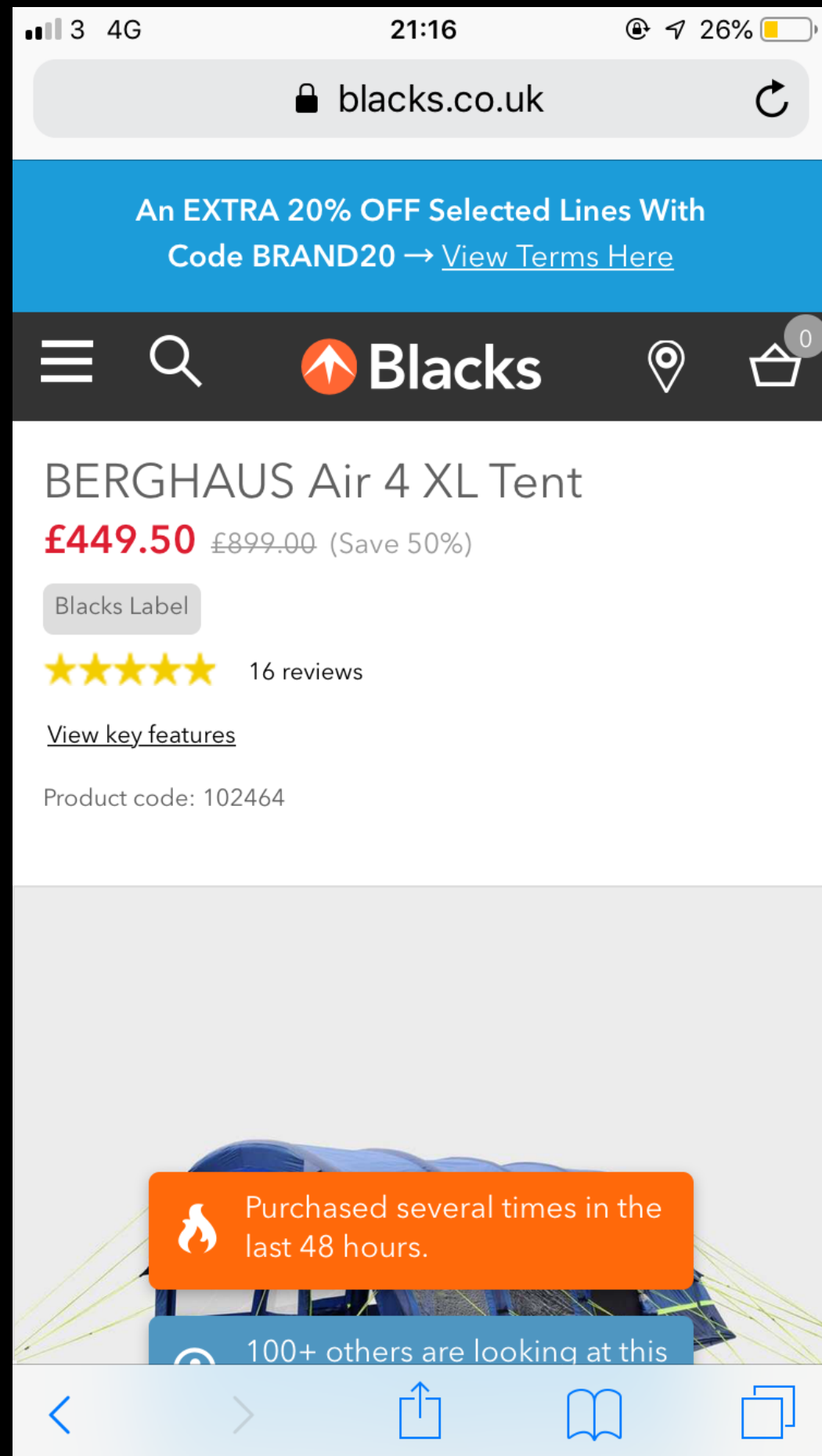
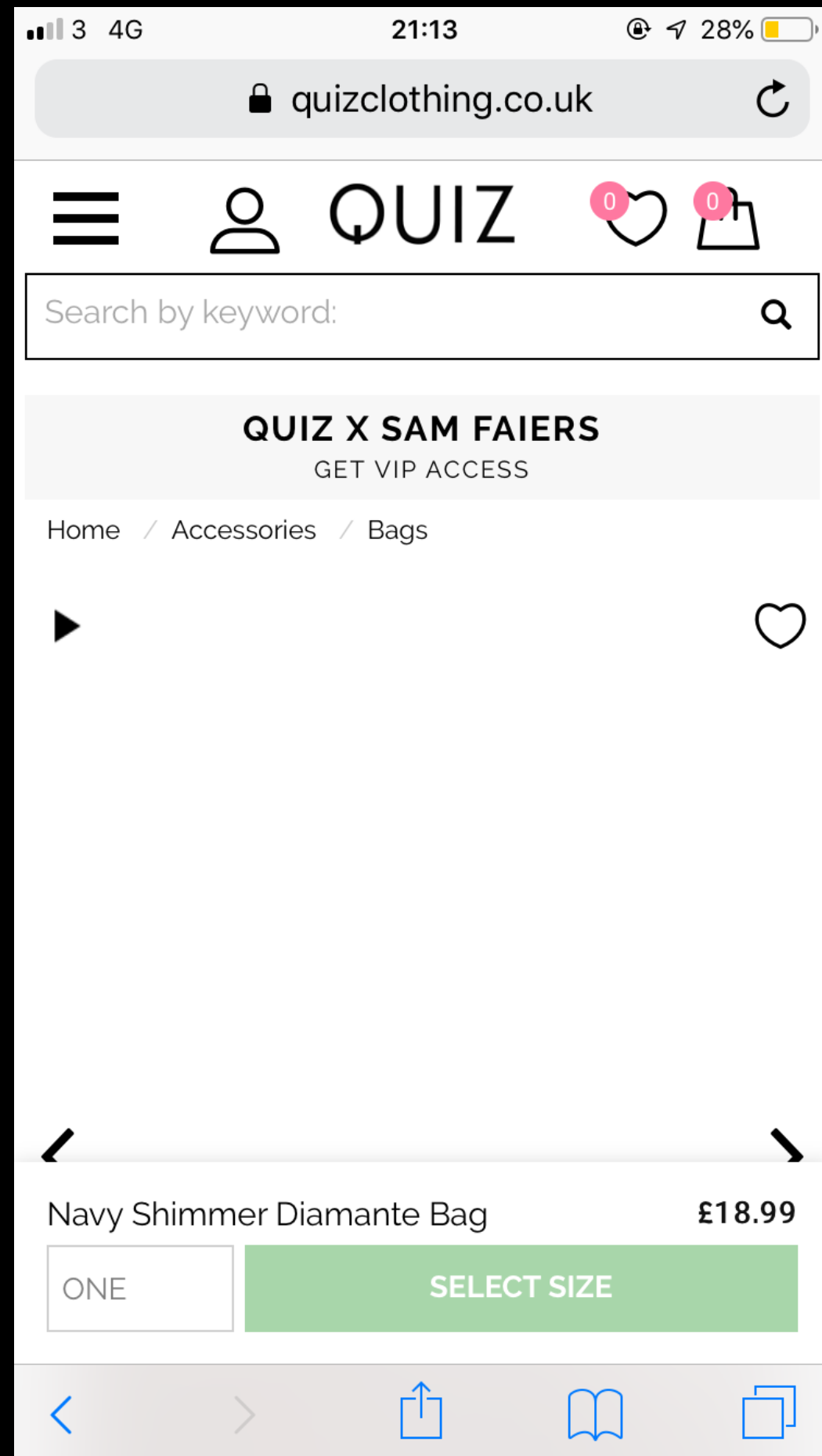
(it's not really surprising... that's what we tend to use all day)

And then trying to shrink the experience to fit mobile

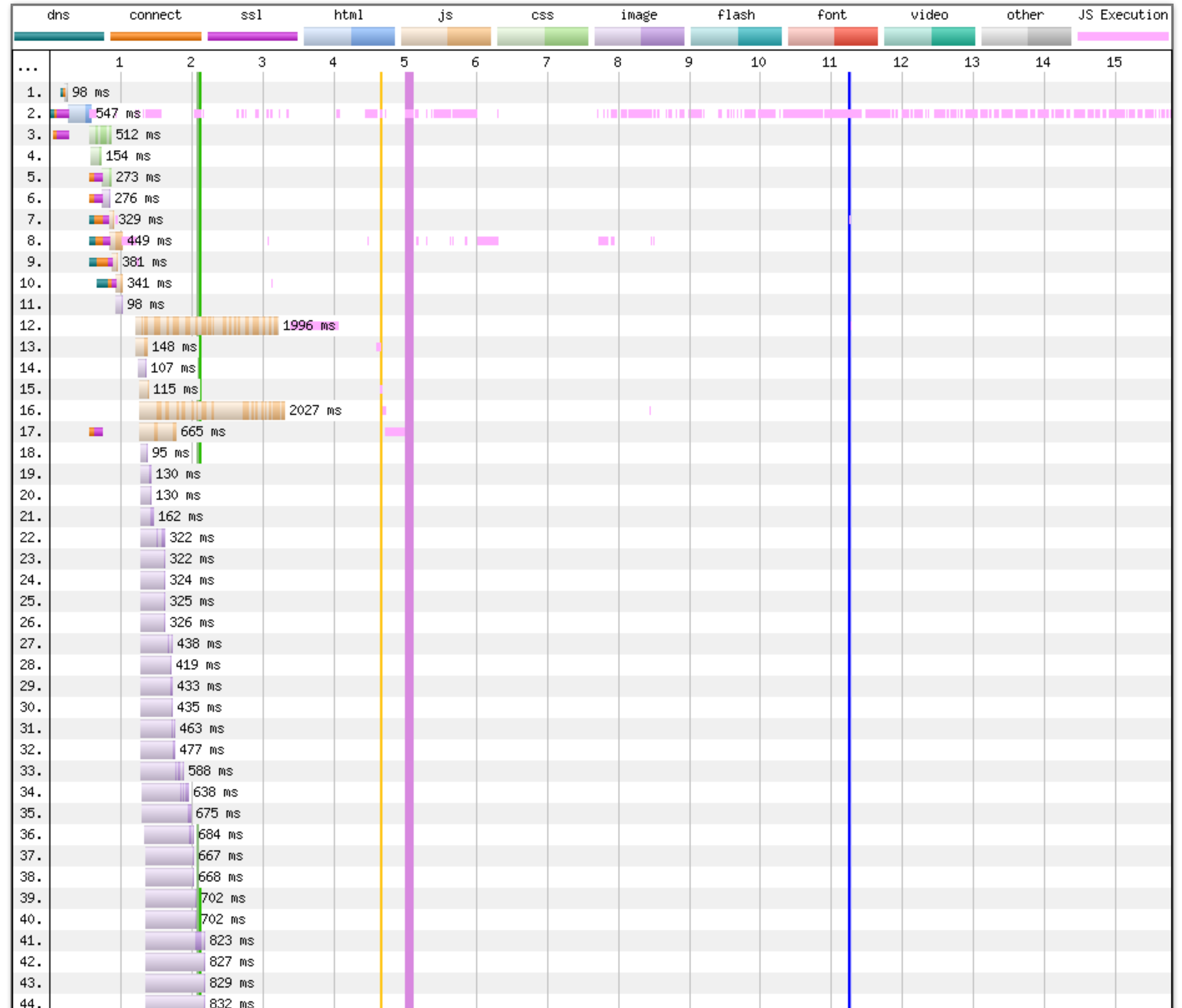
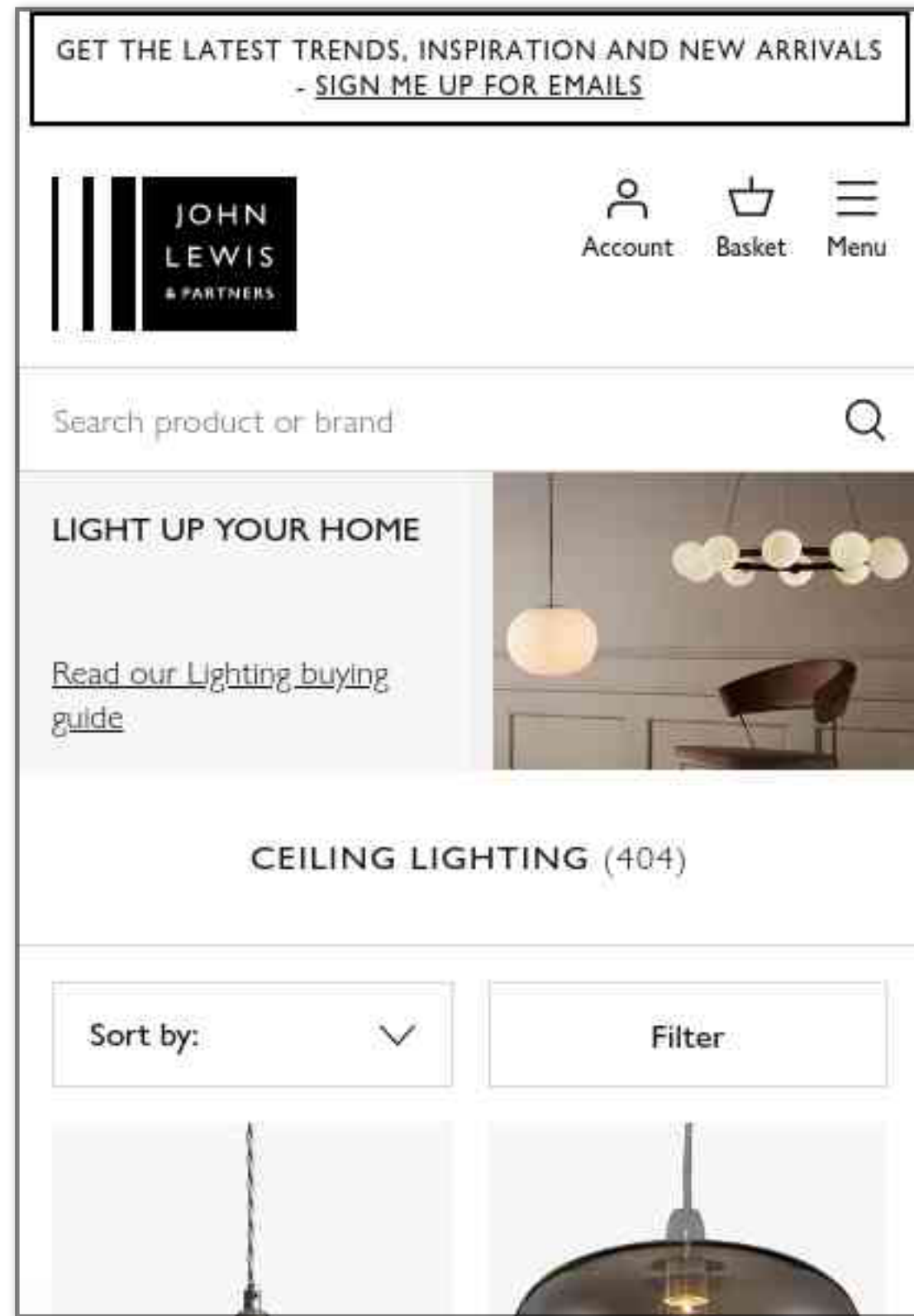


(and it's not working well)

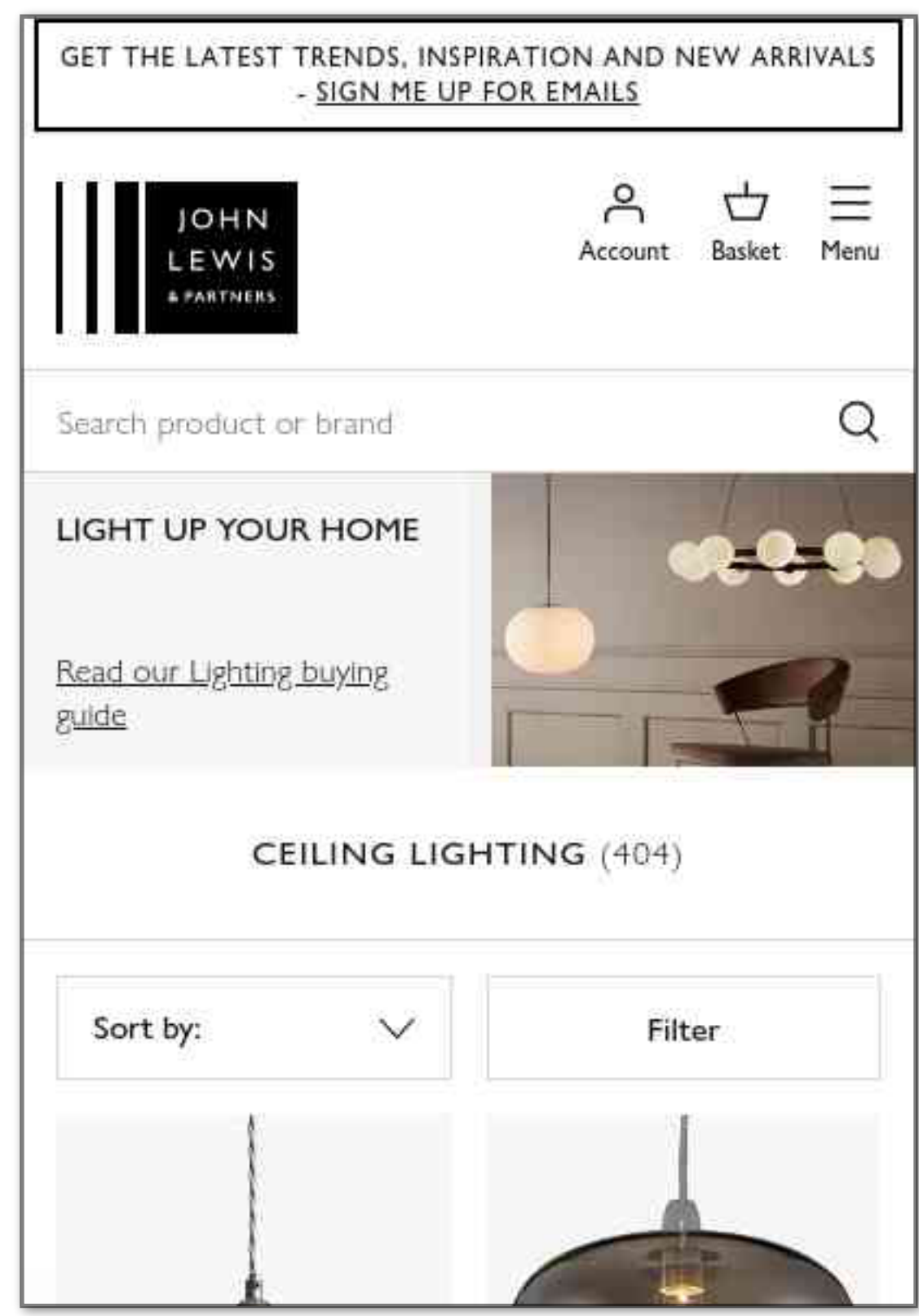
Anyone want to buy a bag or a tent or a light?



These challenges feed into site performance too



These challenges feed into site performance too

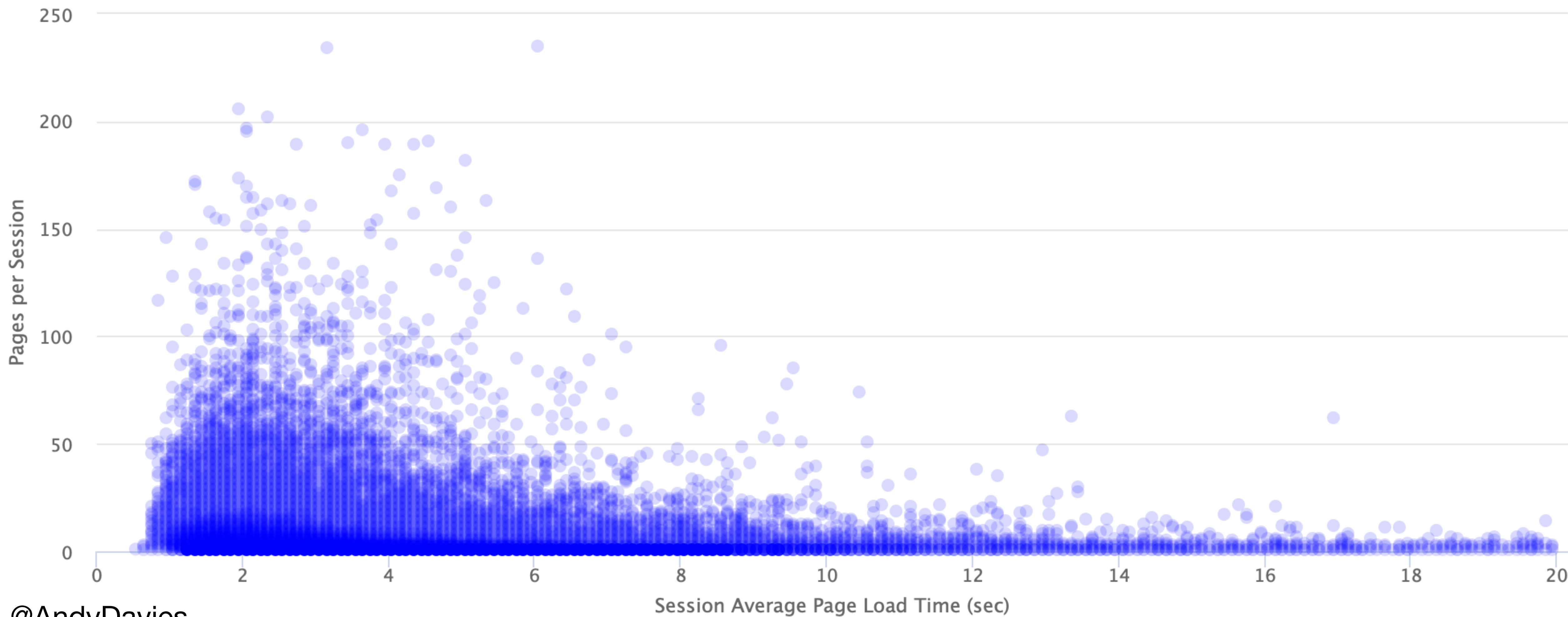


18,723 pixels tall



**With worrying consequences for
the success of our sites**

Visitor's who have better experiences are more engaged



@AndyDavies

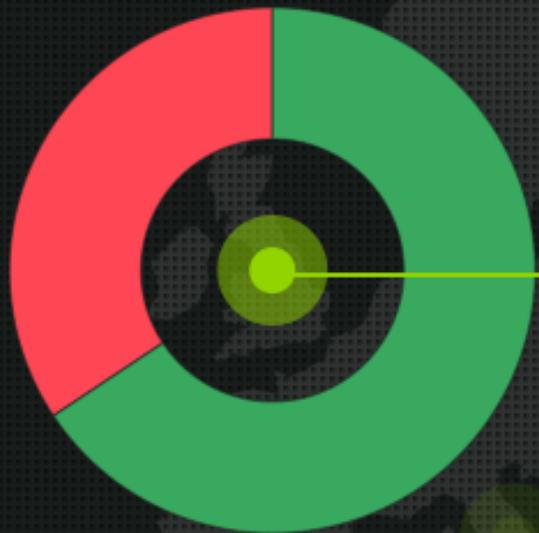
Your Analytics are Skewed






They're biased towards visitors who'll tolerate the experience you're delivering

Your most popular browsers might look something like this

Safari mobile 12	51%
Chrome Mobile 76	8%
Chrome 76	8%
Mobile Samsung Browser 9	4%
Chrome Mobile 77	4%
Safari 12	3%
Unknown Facebook App	2%
Safari mobile 11	2%
Mobile Samsung Browser 10	2%
Facebook App 238	2%
others	15%

In the UK, Android outsells iOS



GREAT BRITAIN		×
3 M/E JUN 2019		
	Android	65.4%
	BlackBerry	0.1%
	iOS	34.1%
	Windows	0.4%
	Other	0.0%
Compare		↔

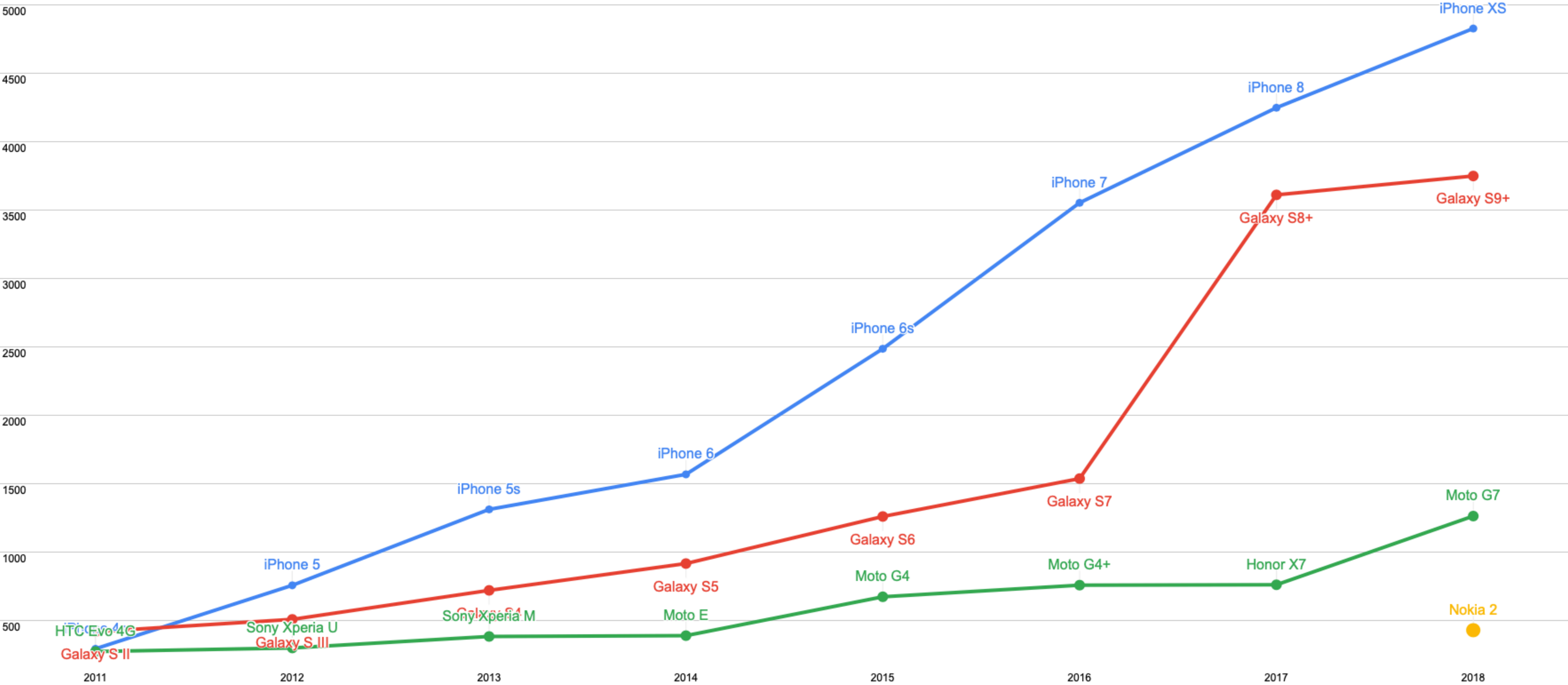
3 M/E JUN 2019













But Android devices are generally much less powerful

Geekbench Single-Core Scores

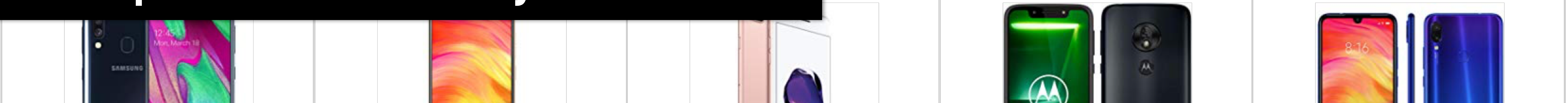
● iOS Single-Core ● Android Single-Core ● Budget Android Single-Core ● Low-End Single-Core



Best Sellers in SIM-Free & Unlocked Mobile Phones











<p>#1</p>  <p>Nokia 105 Single SIM Mobile Phone (2017 Edition) - Black ★★★★☆ 1,053 £14.90 ✓prime</p>	<p>#2</p>  <p>motorola moto g7 Power 6.2-Inch Android 9.0 Pie UK Sim-Free Smartphone with 4GB RAM and... ★★★★☆ 478 £156.00 ✓prime</p>	<p>#3</p>  <p>Nokia 105 1.8-Inch SIM Free Feature Phone - White ★★★★☆ 1,053 £14.99 ✓prime</p>	<p>#4</p>  <p>Xiaomi Redmi Note 7 4GB RAM 64GB ROM Snapdragon 660 Octa Core 4000mAh Black UK ★★★★☆ 58 £169.99 ✓prime</p>	<p>#5</p>  <p>Nokia 105 1.8-Inch Single Sim Feature Phone - Blue (2017 Edition) ★★★★☆ 1,053 £15.11 ✓prime</p>
<p>#6</p>  <p>Mobile Phone, Ulefone Note 7 (2019) Triple Rear Camera SIM Free Smartphones Unlocked, Triple... ★★★★☆ 91 £59.98 ✓prime</p>	<p>#7</p>  <p>Samsung Galaxy A50 128GB 6.4-Inch FHD+ Android Dual-SIM Smartphone - Black (UK Version) ★★★★☆ 48</p>	<p>#8</p>  <p>motorola moto g7 6.24-Inch Android 9.0 Pie UK Sim-Free Smartphone with 4GB RAM and 64GB... ★★★★☆ 478 £219.99 ✓prime</p>	<p>#9</p>  <p>Huawei Y6 2019 32 GB 6.09 inch FullView Dewdrop Display Smartphone with 13 MP... ★★★★☆ 42 £109.00 ✓prime</p>	<p>#10</p>  <p>Nokia 106 Dual Sim 2018 Dark Grey With LED Torch - FM Radio - Big Button Phone ★★★★☆ 38 £17.99 ✓prime</p>

What phones should you test on?

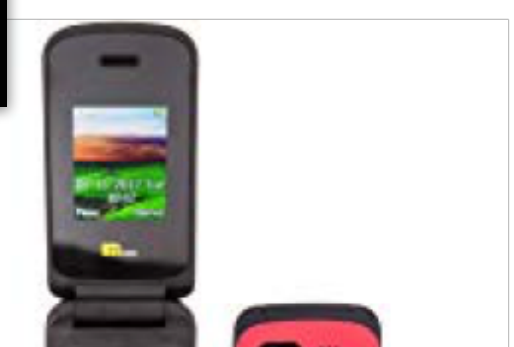


**26% of UK mobile customers
are on PAYG plans**

Best Sellers in Prepaid Mobile Phones

<p>#1</p>  <p>Vodafone Smart First 7 Pay As You Go Smartphone (Locked to...) ★★★★☆ 684 £28.90 ✓prime</p>	<p>#2</p>  <p>Flip Mobile Phone Pay as You Go Simple GSM Dual SIM Basic... ★★★★☆ 103 £18.99 ✓prime</p>	<p>#3</p>  <p>Ttfone Star Big Button Simple Easy To Use Clamshell Flip Mobile... ★★★★☆ 219 £29.99 ✓prime</p>	<p>#4</p>  <p>Vodafone Smart 4 Mini Pay as you go Handset - Black ★★★★☆ 384 £35.00 ✓prime</p>	<p>#5</p>  <p>Ttsims TT120 Dual Sim O2 Pay As You Go Mobile Phone (Red) ★★★★☆ 38 £11.99 ✓prime</p>
<p>#6</p>  <p>Ttfone Star Big Button Simple Easy To Use Clamshell Flip Mobile... ★★★★☆ 242 £29.99 ✓prime</p>	<p>#7</p>  <p>Ttfone Jupiter 2 Big Button Pay As You Go Easy Simple Mobile Phone... ★★★★☆ 213 £24.99 ✓prime</p>	<p>#8</p>  <p>Ttfone Star Big Button Simple Easy To Use Clamshell Flip Mobile... ★★★★☆ 219 £29.99 ✓prime</p>	<p>#9</p>  <p>Vodafone BlackBerry Curve 9320 Pay As You Go Smartphone - Blue ★★★★☆ 11 2 offers from £14.90</p>	<p>#10</p>  <p>Ttfone Star Big Button Simple Easy To Use Clamshell Flip Mobile... ★★★★☆ 242 £29.99 ✓prime</p>

And the best selling PAYG smart phones are _(ツ)_/





Released May 2016
Android 5.1!!!

Vodafone Smart First 7 Pay As You Go
Smartphone (Locked to...

★★★★☆ 684

£28.90 ✓prime

https://www.gsmarena.com/vodafone_smart_first_7-8100.php

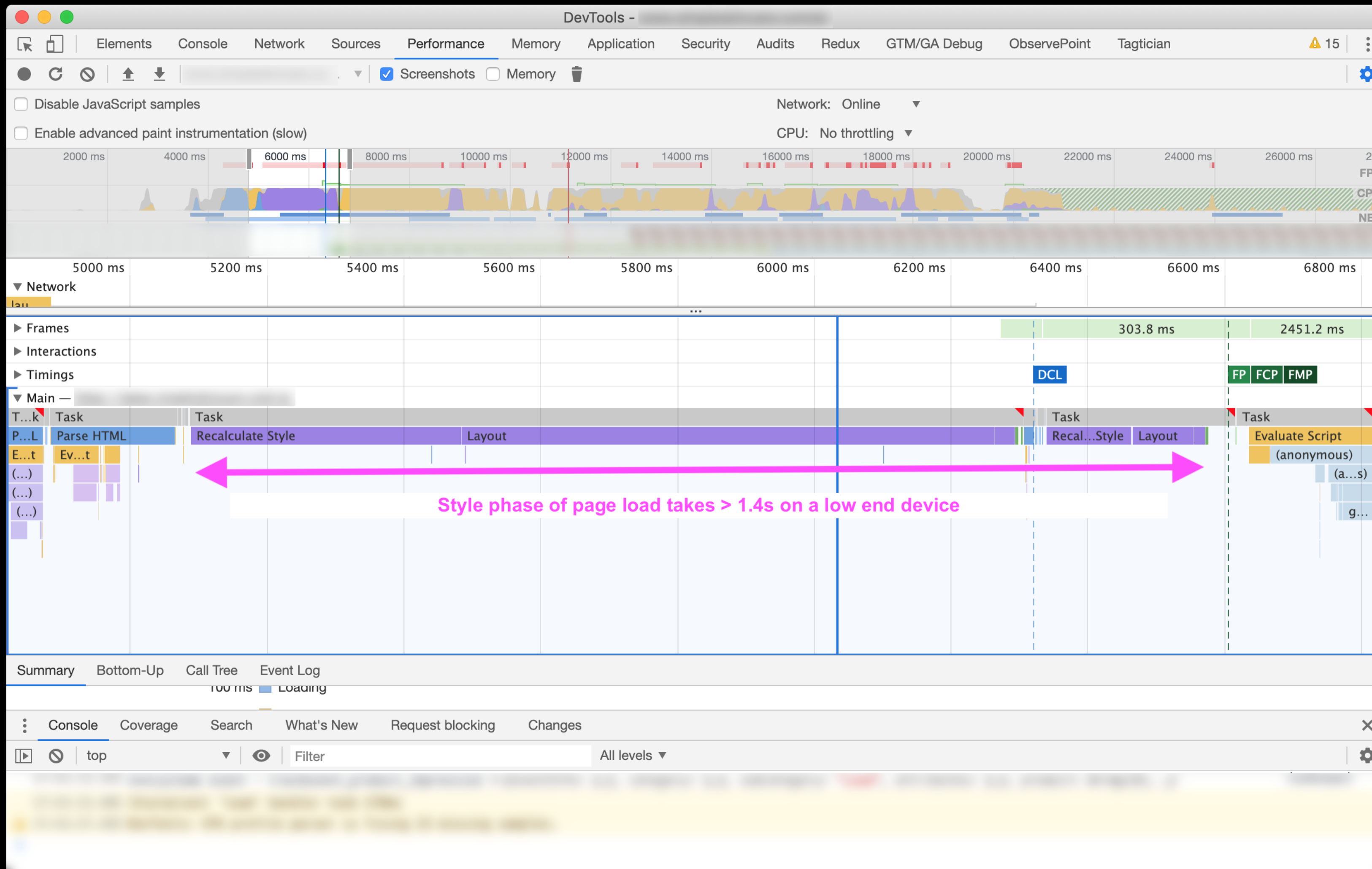


Alcatel 1x

3rd most popular PAYG
phone on Vodafone

£35 from Tesco Mobile

You'll spot problems that mobile emulation just can't find



Somewhere around Moto G4 level of performance

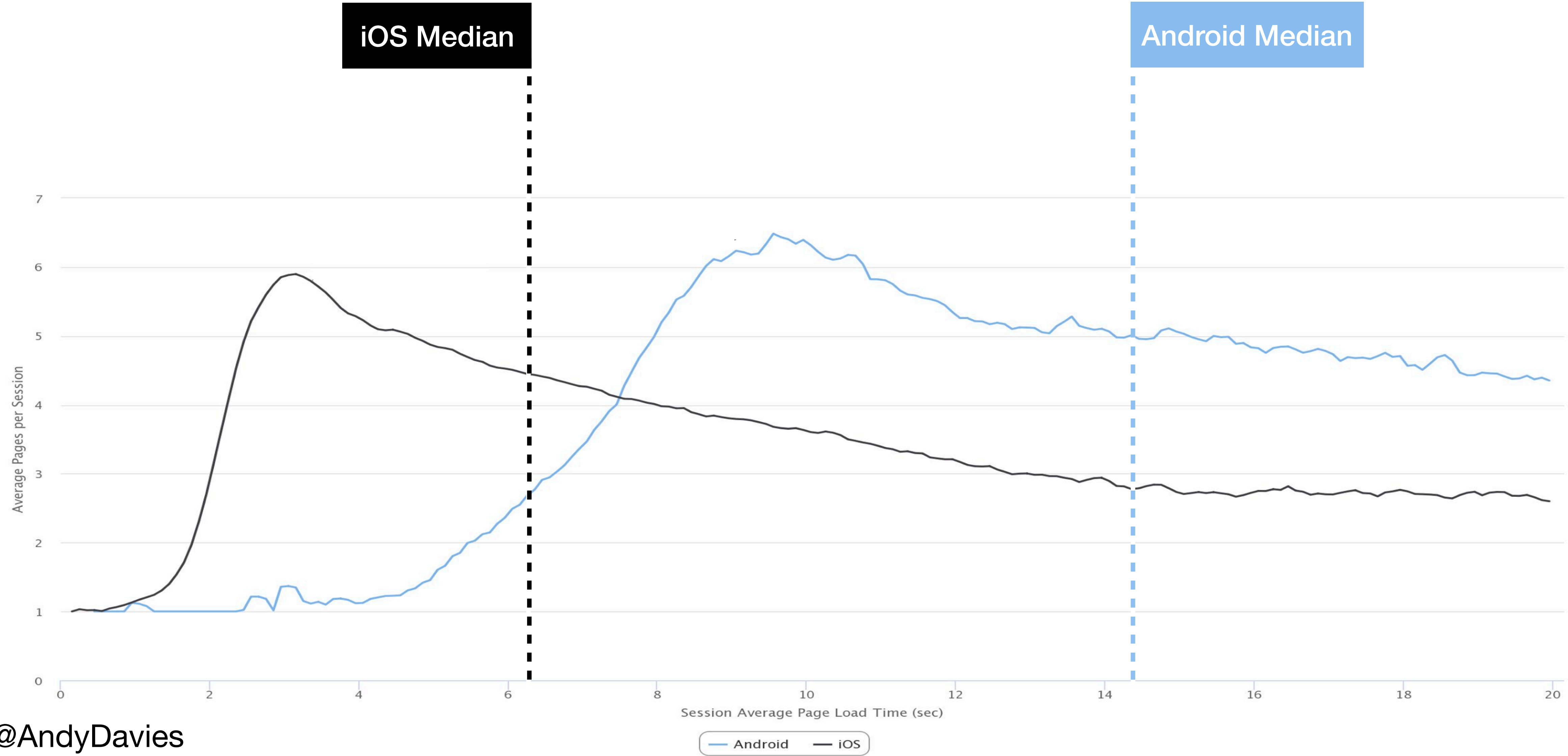
Geekbench Single-Core Scores

● iOS Single-Core ● Android Single-Core ● Budget Android Single-Core ● Low-End Single-Core

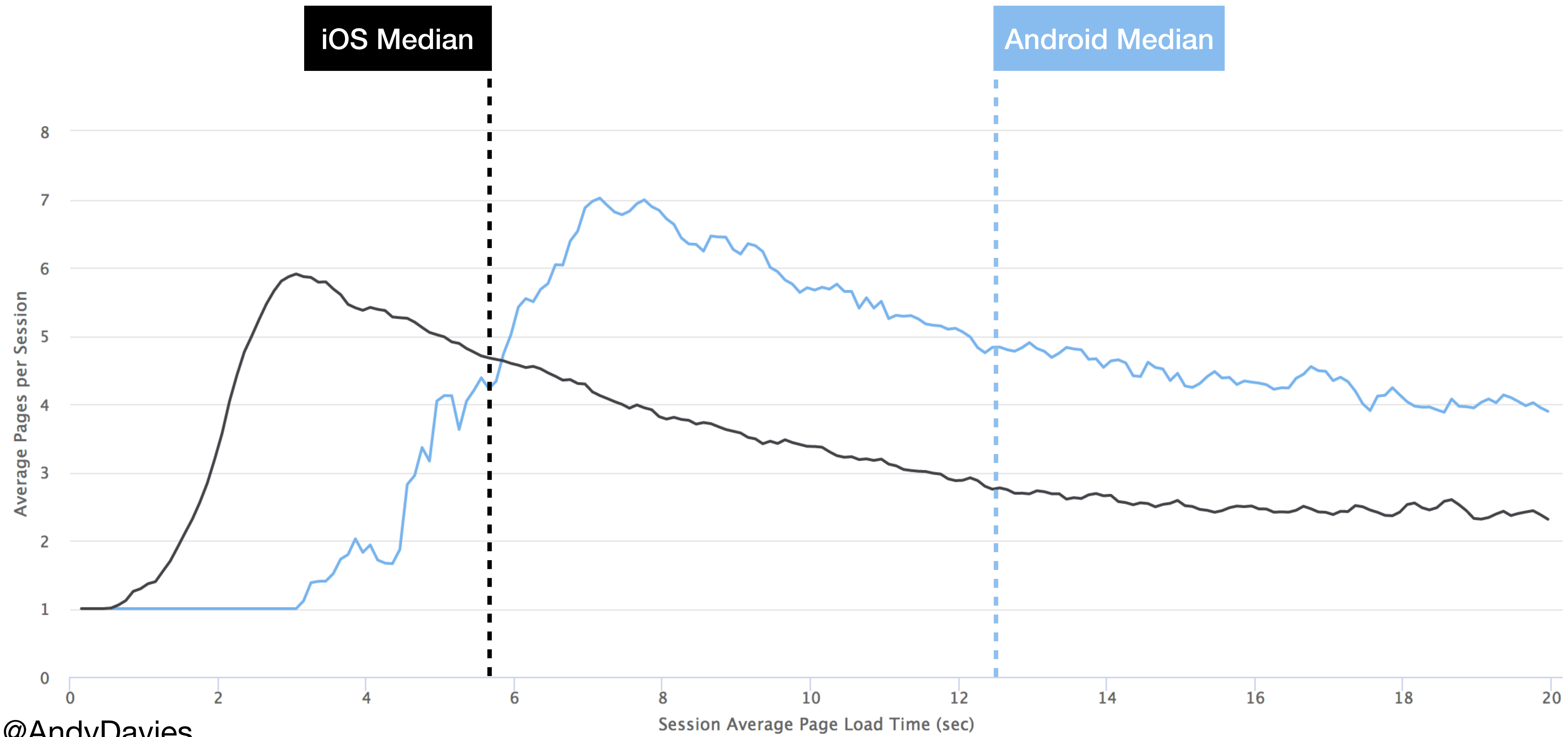


And guess what happens if we
improve those slow experiences?

April 2017



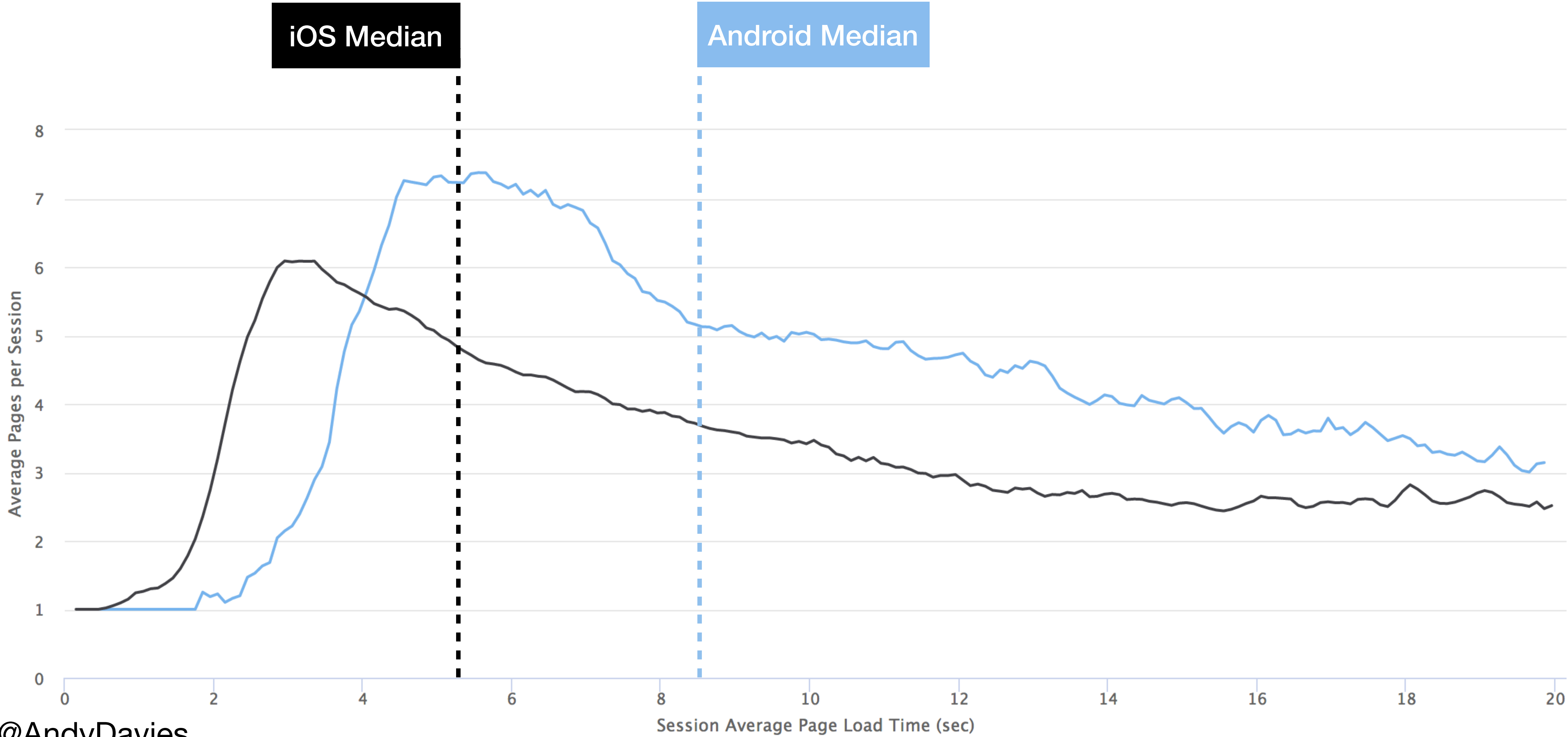
June 2017



@AndyDavies

— Android — iOS

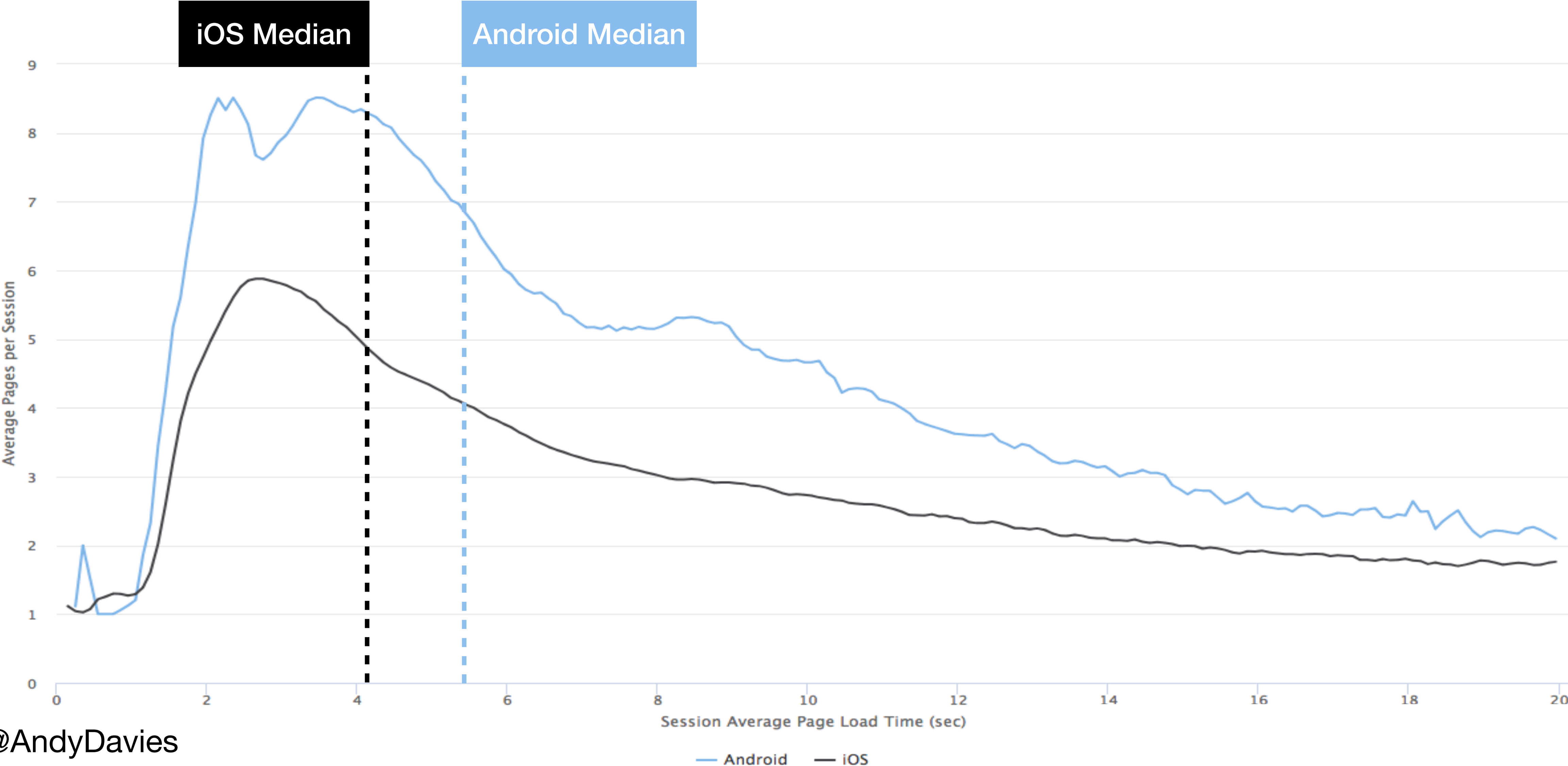
August 2017



@AndyDavies

— Android — iOS

April 2018



@AndyDavies

— Android — iOS

**Our site's success depends on
how our visitors behave**

**Our visitors' experience influences
their behaviour**

**How we design, develop and deliver
our pages determines our visitor's
experience**

@AndyDavies

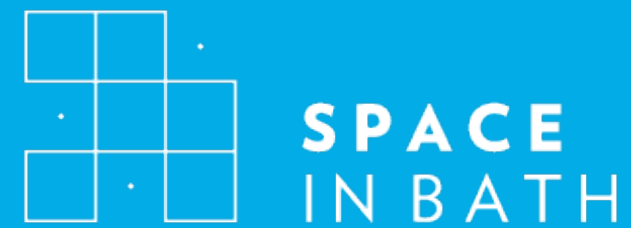
hello@andydavies.me

<https://noti.st/andydavies>



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INVEST IN
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Improvement
District

...and to our festival supporters!

EVIDENT



resolution



 **Rocketmakers**

■■■■■■■■■■
**REAL TIME
CONSULTANTS**

Claritum



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 Software **SOLVED**

Mayden Academy 

 **RIVIAM**
digital care

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