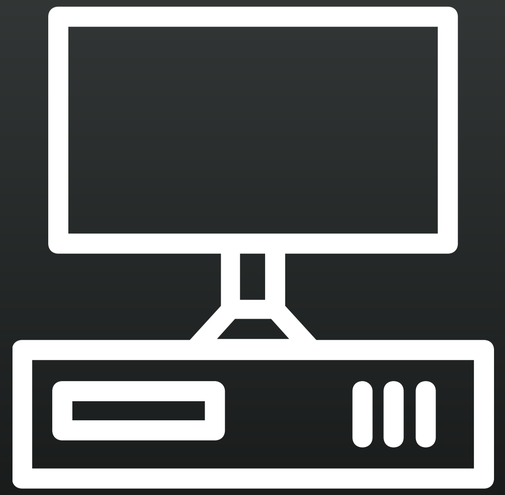
Adapting to Reality

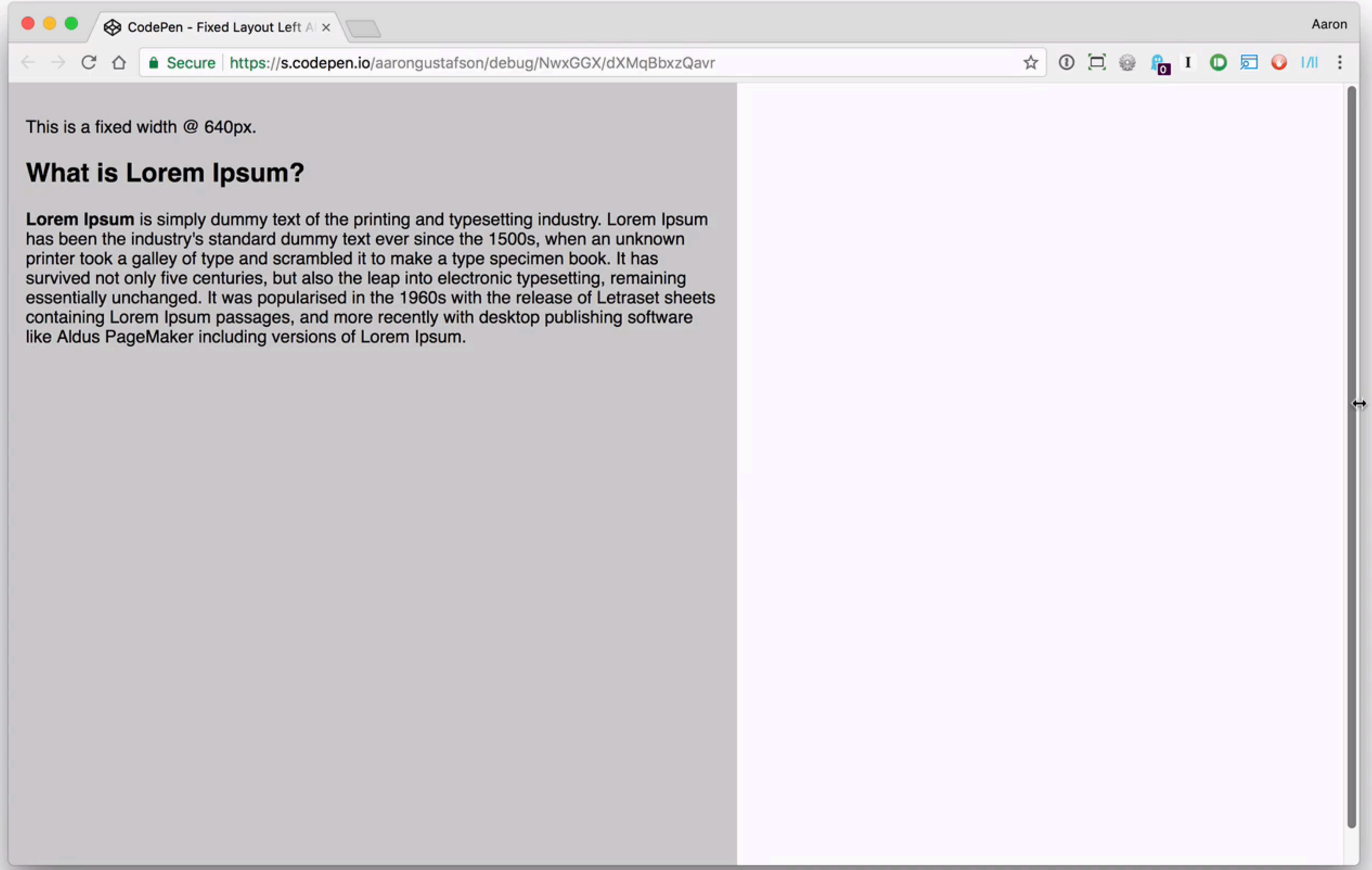
Aaron Gustafson
front-end.social/@Aaron
noti.st/AaronGustafson

Web design & development is hard

In the beginning...



640 × 480


CodePen - Fixed Layout Left A
Aaron
Secure
https://s.codepen.io/aarongustafson/debug/NwxGGX/dXMqBbxzQavr
This is a fixed width @ 640px.
What is Lorem Ipsum?
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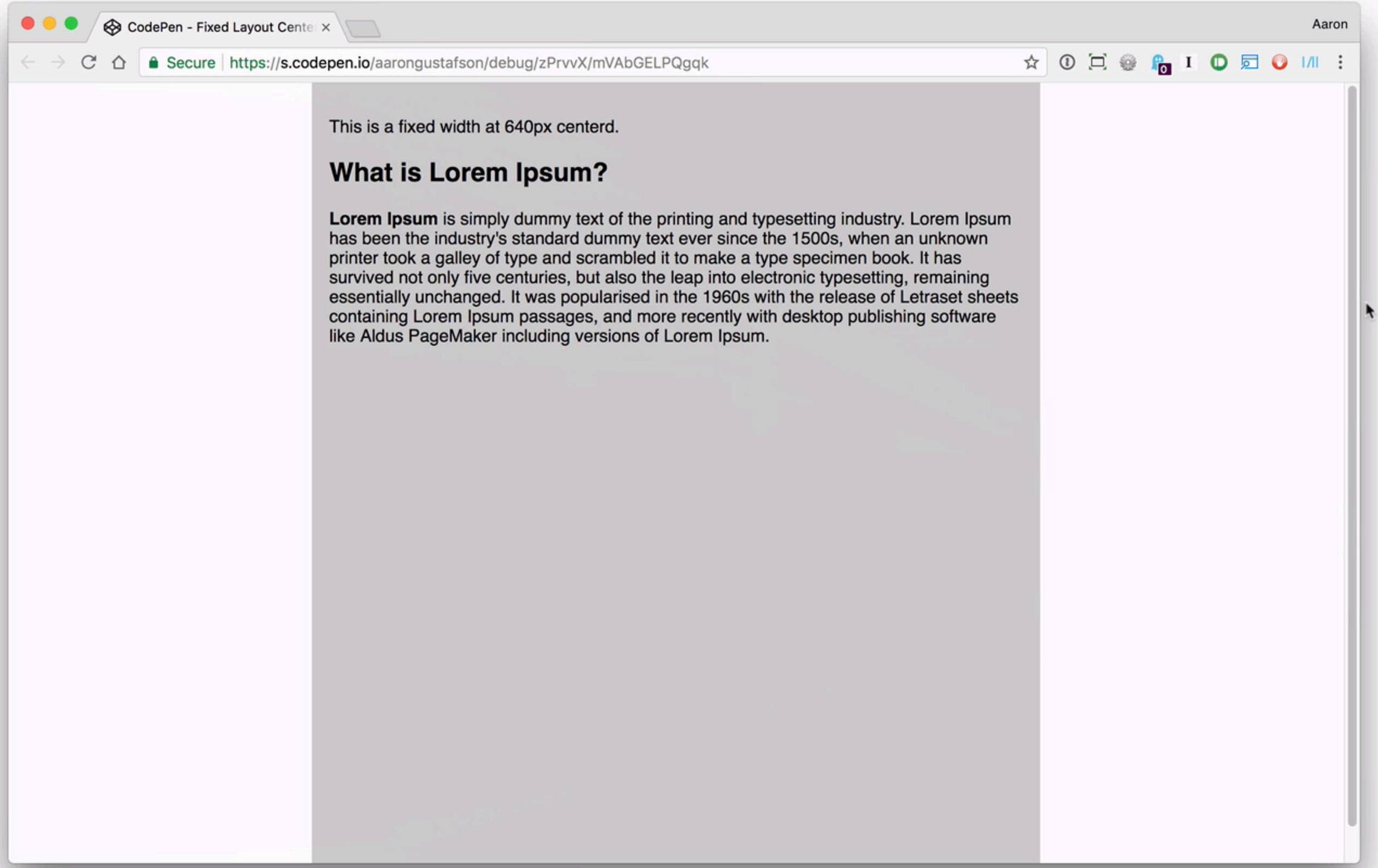
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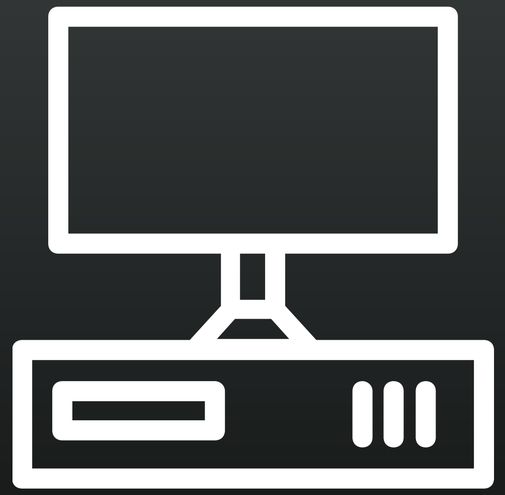
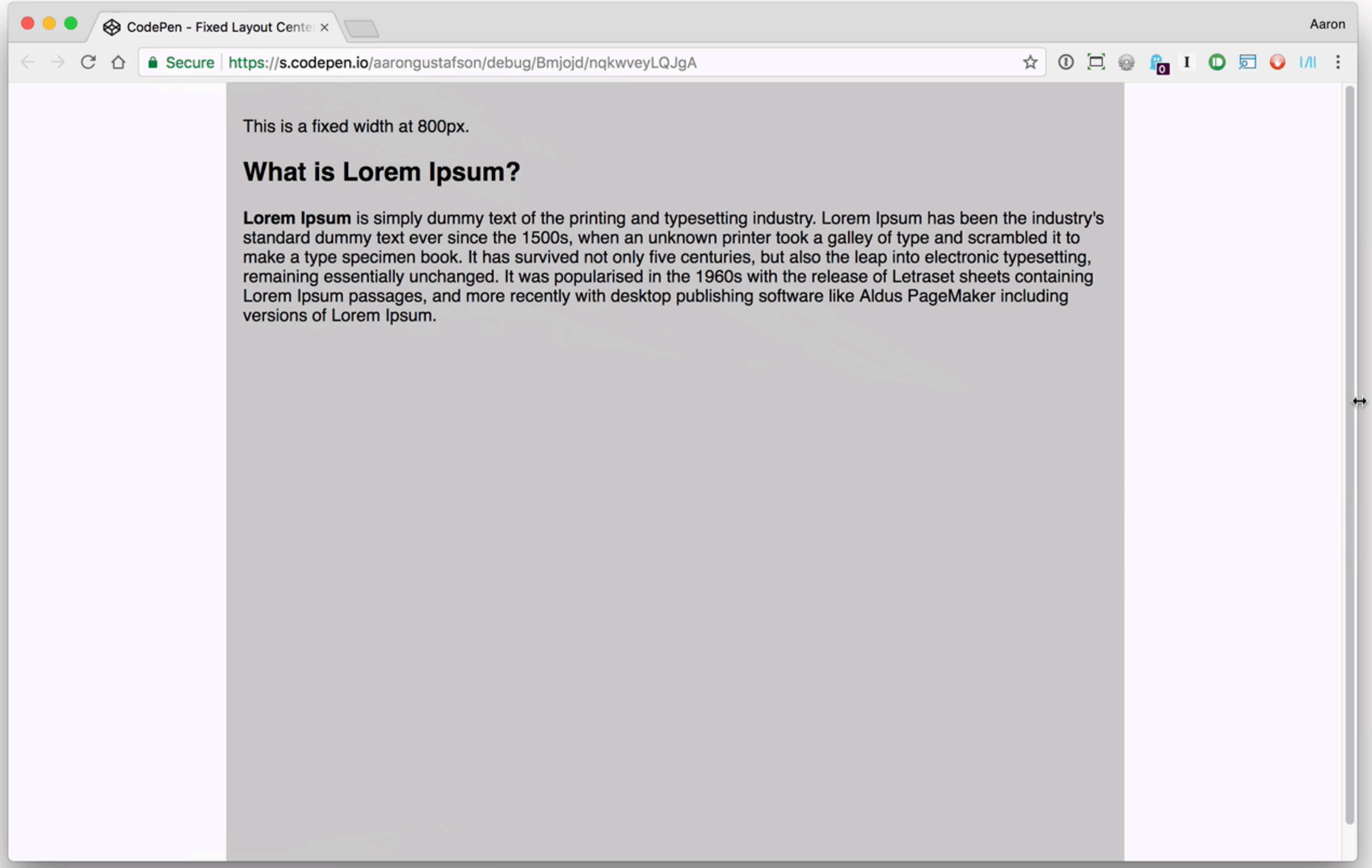


640 × 480

Ok, we can go a little larger

800 × 600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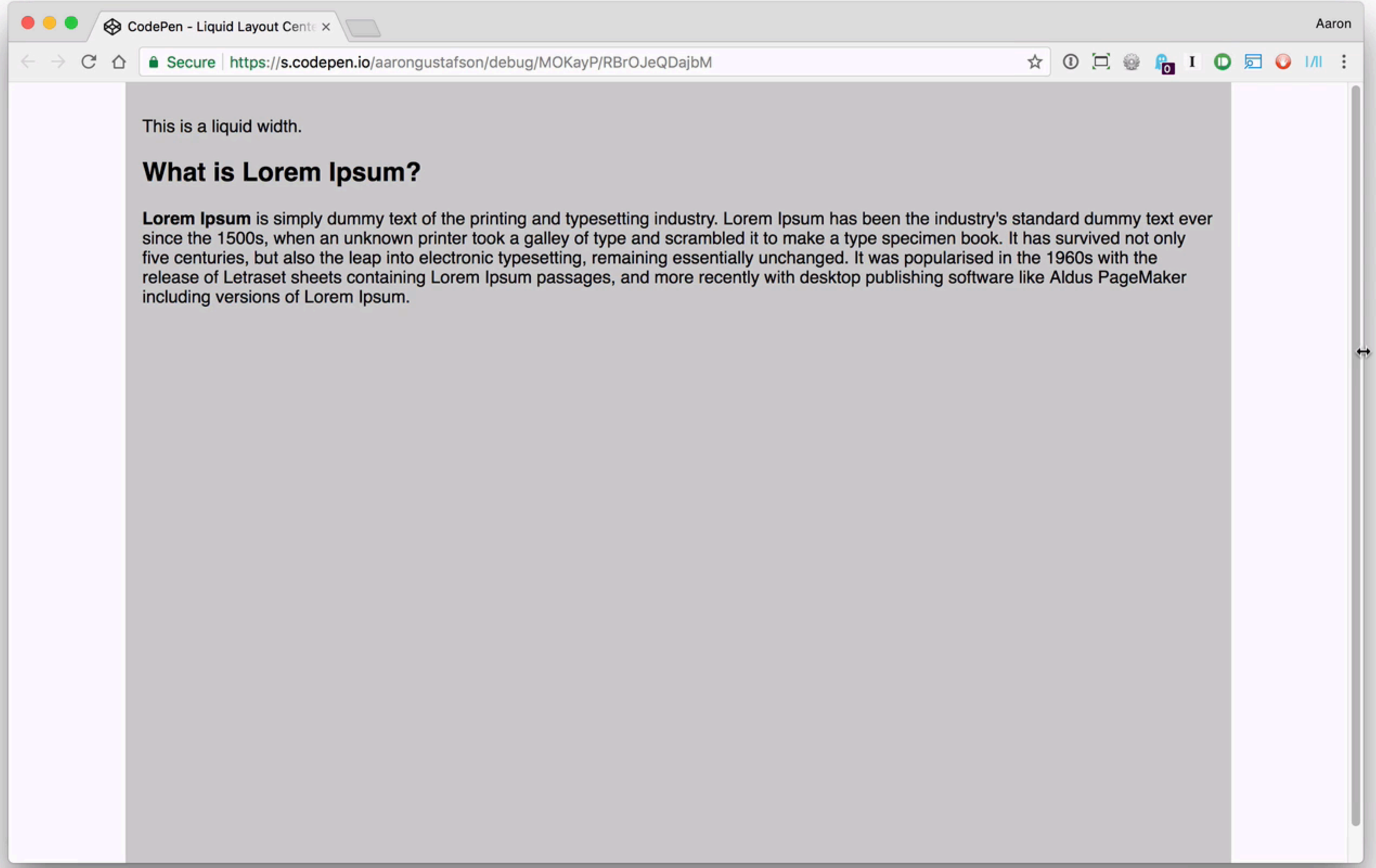
CodePen - Liquid Layout Cente
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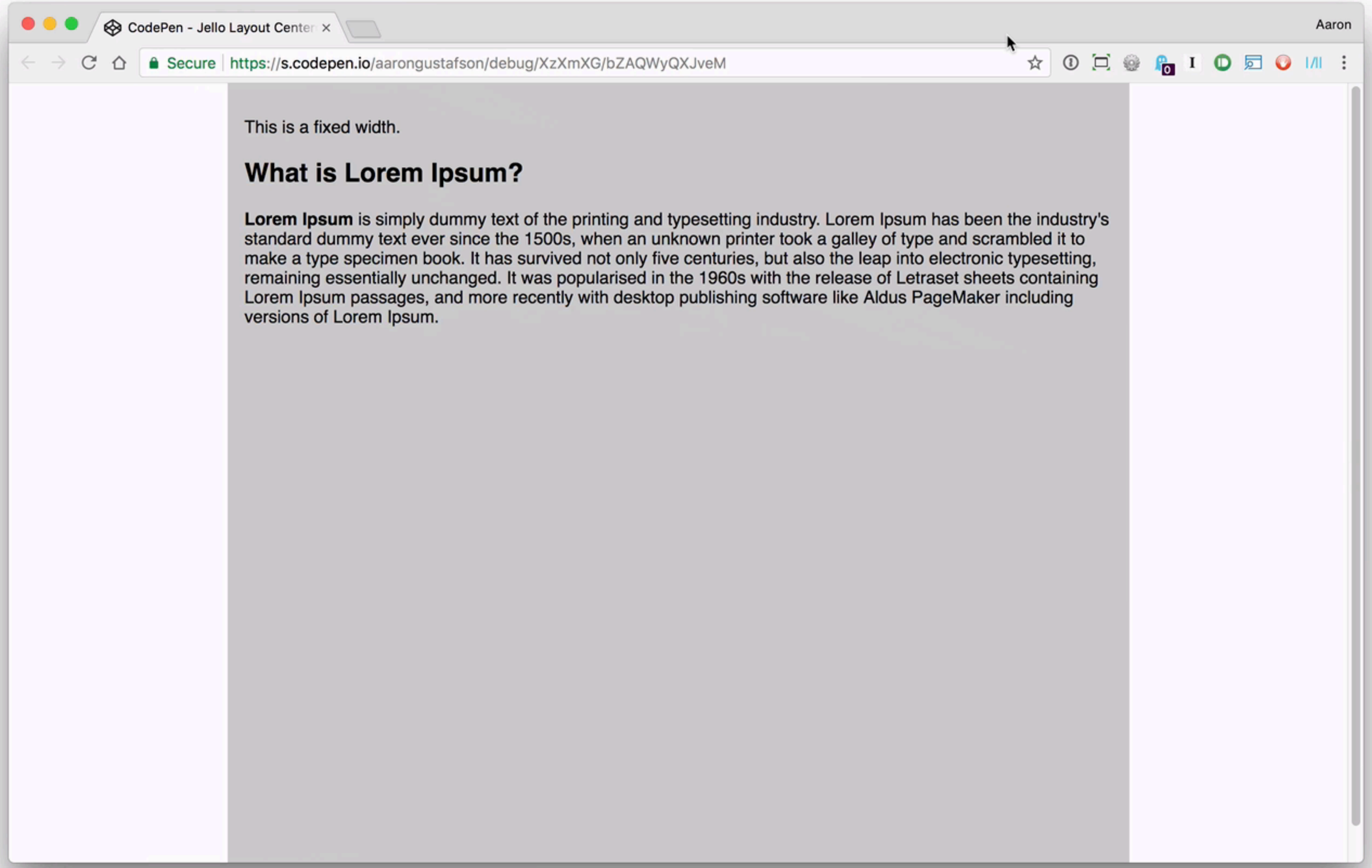
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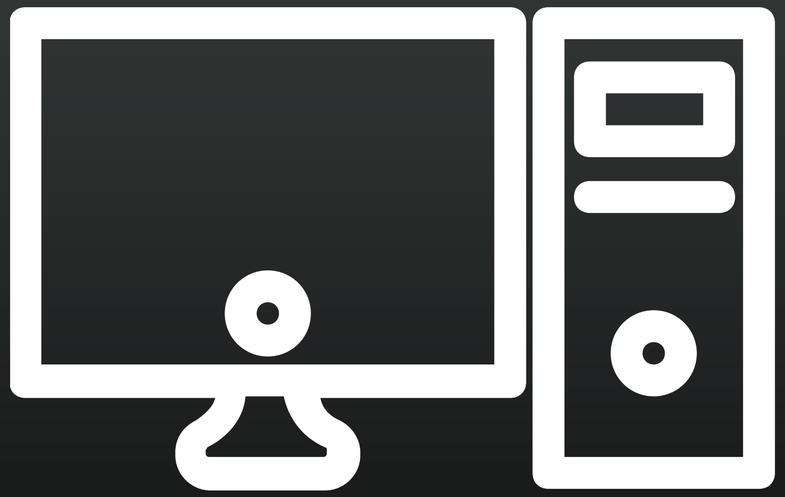
Ok, we can go a little larger

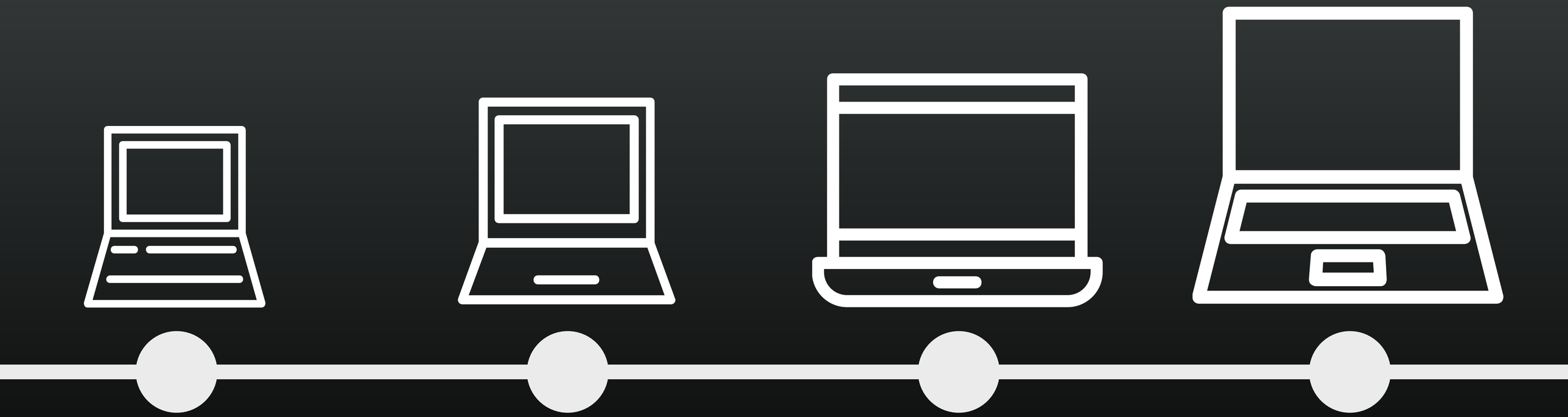
800 × 600

Ok, a bit larger, but that’s it



1024 × 768

Of course laptops…



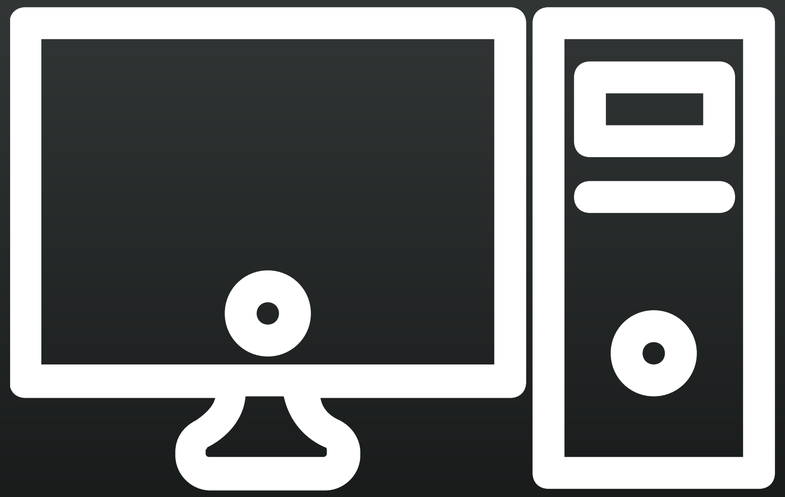
800 × 600

1024 × 600

1280 × 800

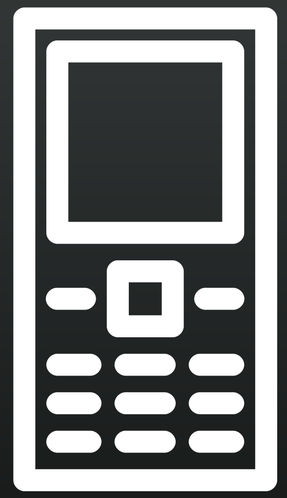
1366 × 768

The web’s “happy place”

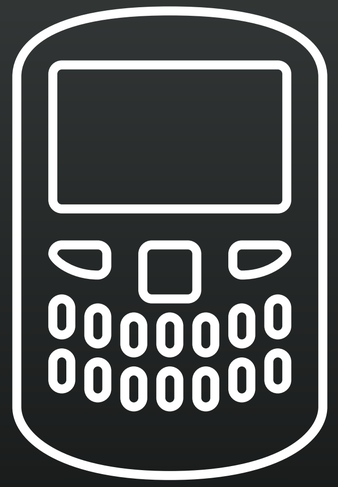


1024 × 768

We were ignoring mobile...

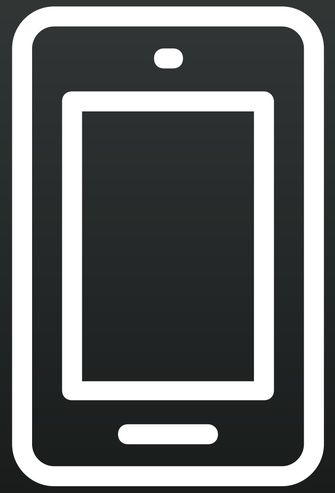


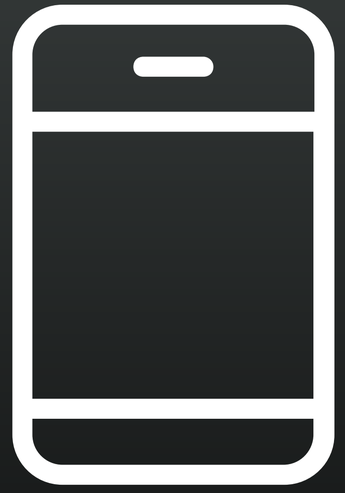
240 × 240



640 × 200

Until this happened

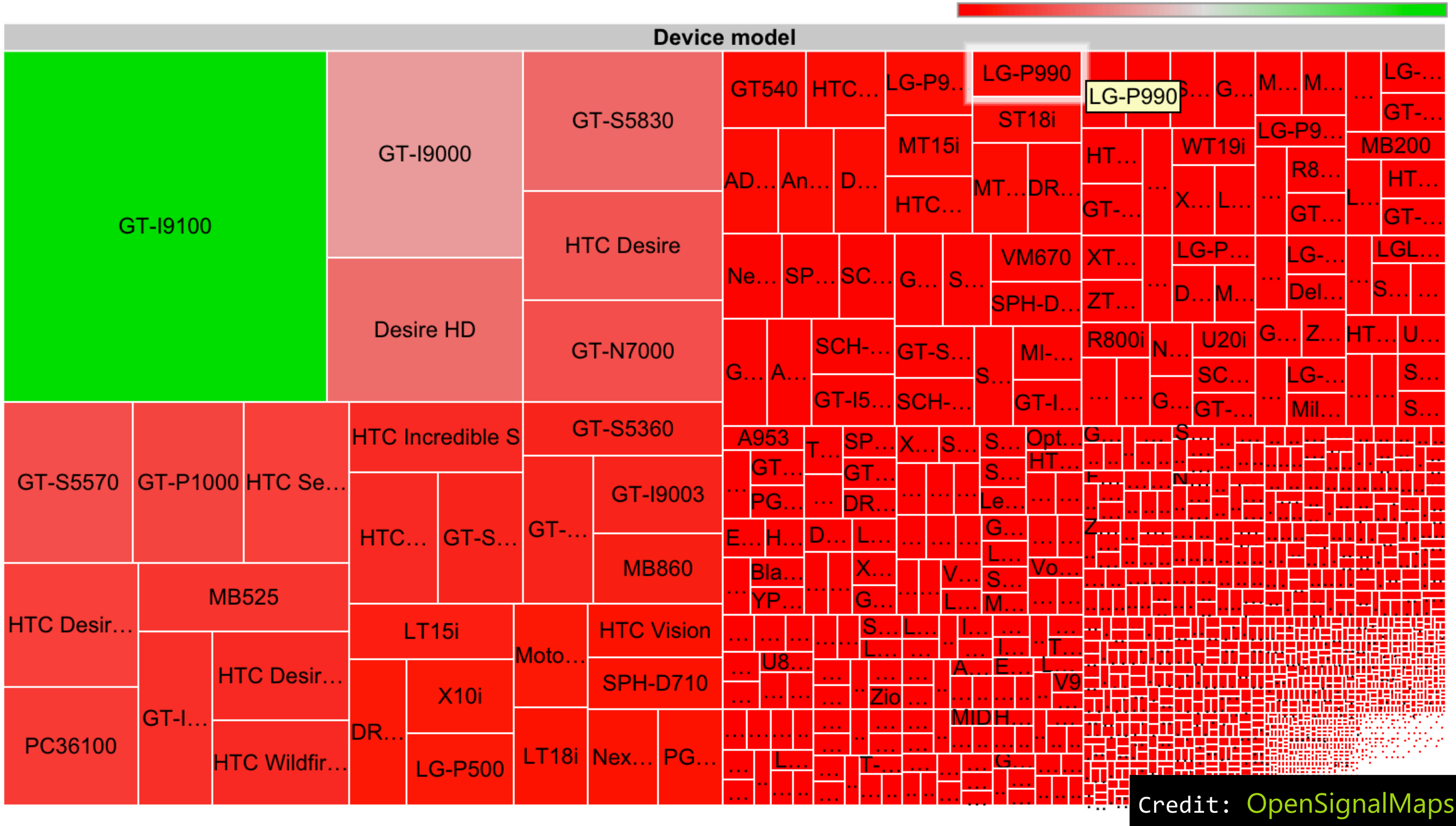




320 × 480

3840 × 2160

Don’t even get me started on tablets


Device model
GT-I9100
GT-I9000
Desire HD
GT-S5830
HTC Desire
GT-N7000
GT-S5570
GT-P1000
HTC Se…
HTC Incredible S
GT-S5360
HTC…
GT-S…
GT-…
GT-I9003
MB860
HTC Desir…
MB525
PC36100
GT-I…
HTC Desir…
HTC Wildfir…
LT15i
DR…
X10i
LG-P500
Moto…
LT18i
HTC Vision
SPH-D710
Nex…
PG…
GT540
HTC…
LG-P9…
LG-P990
ST18i
AD…
An…
D…
MT15i
HTC…
MT…
DR…
Ne…
SP…
SC…
G…
S…
VM670
SPH-D…
G…
A…
SCH-…
GT-I5…
GT-S…
SCH-…
S…
MI-…
GT-I…
A953
T…
SP…
GT…
PG…
X…
S…
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Opt…
HT…
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Bla…
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I…
U8…
Zio
A…
E…
V9
MID
H…
T-…
G…
LG-P990
S…
G…
M…
M…
LG-P9…
WT19i
HT…
GT-…
X…
L…
R8…
GT…
MB200
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GT-…
XT…
ZT…
LG-P…
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M…
LG-…
Del…
LGL…
S…
R800i
N…
U20i
SC…
GT-…
G…
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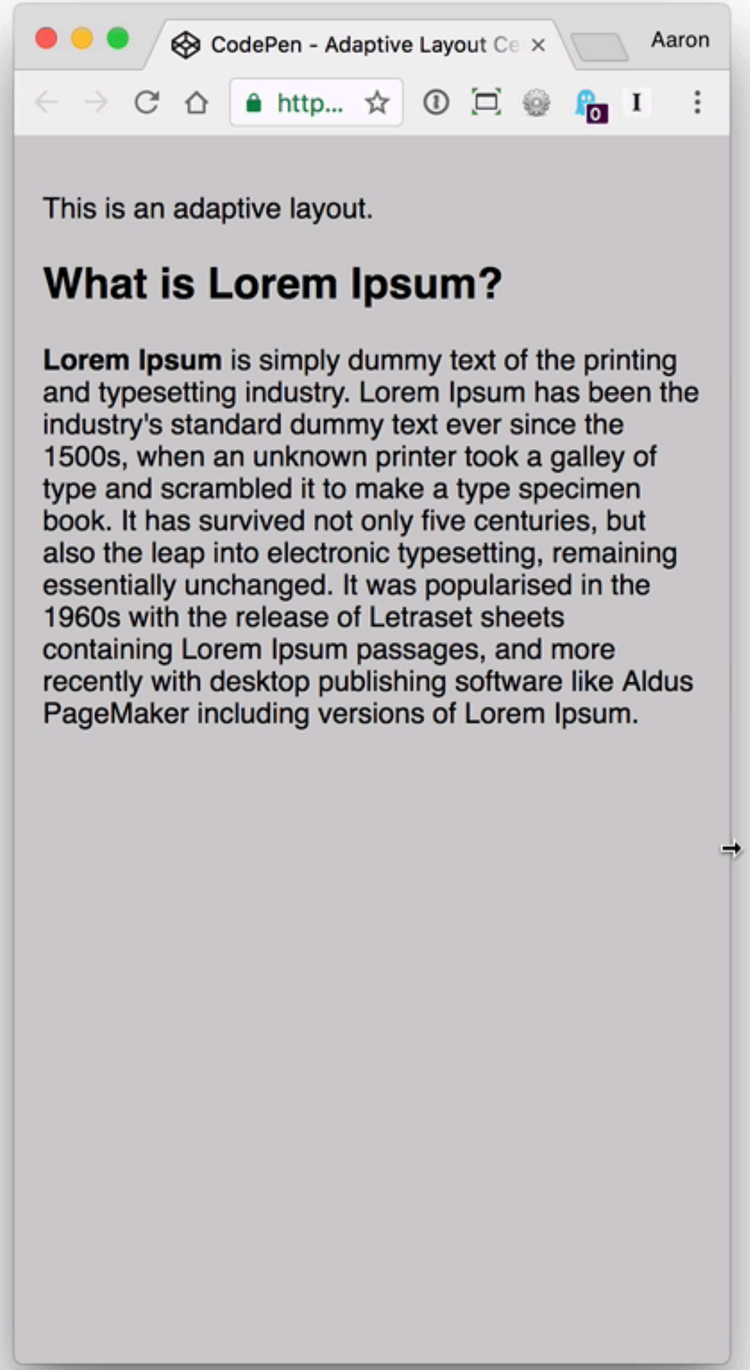
LG-…
Mil…
HT…
U…
S…
S…
Credit: OpenSignalMaps


CodePen - Adaptive Layout Ce
Aaron
http...
This is an adaptive layout.
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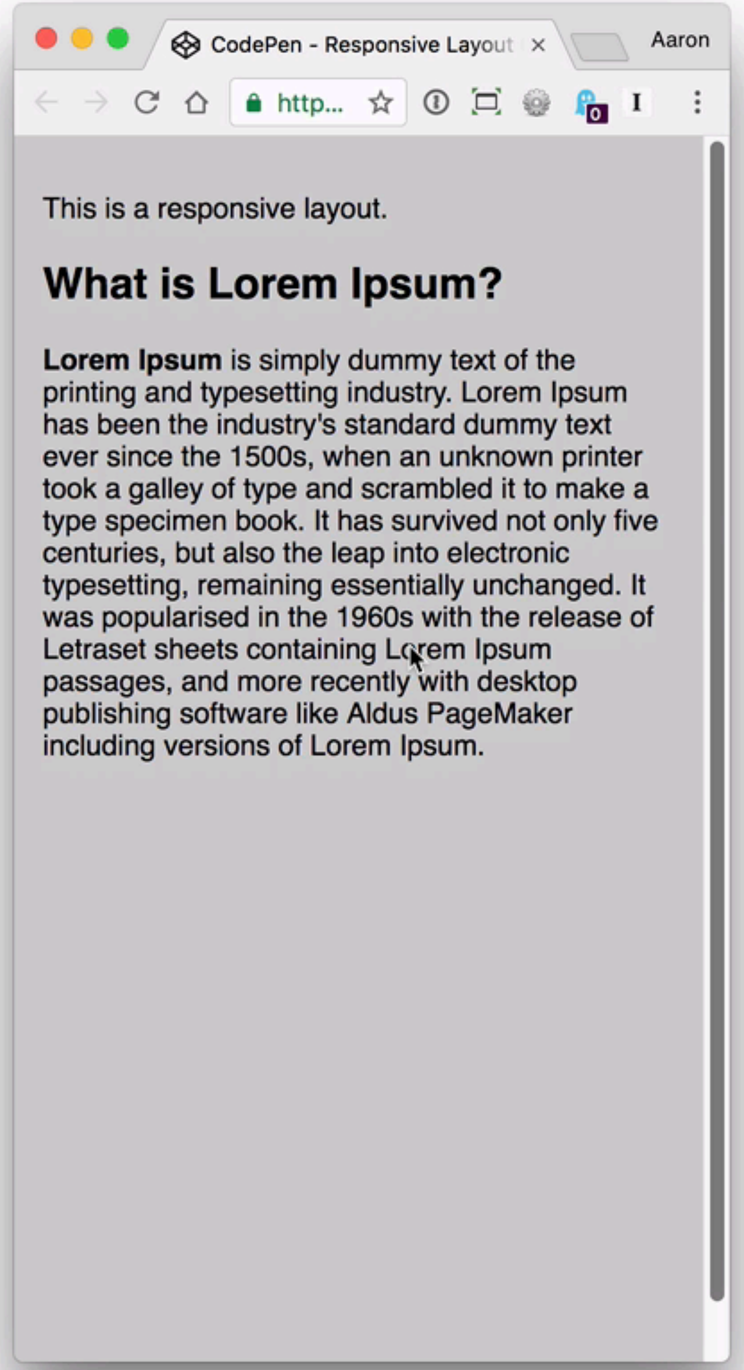
CodePen - Responsive Layout
Aaron
http...
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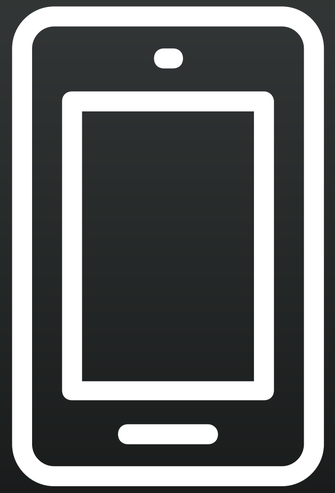
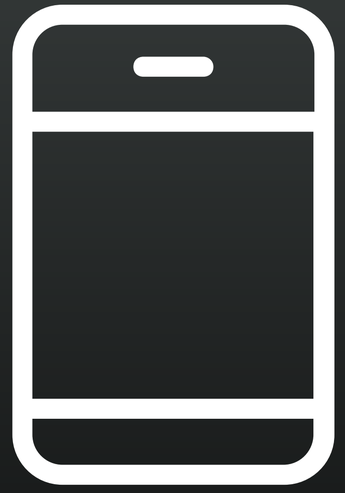
Until this happened

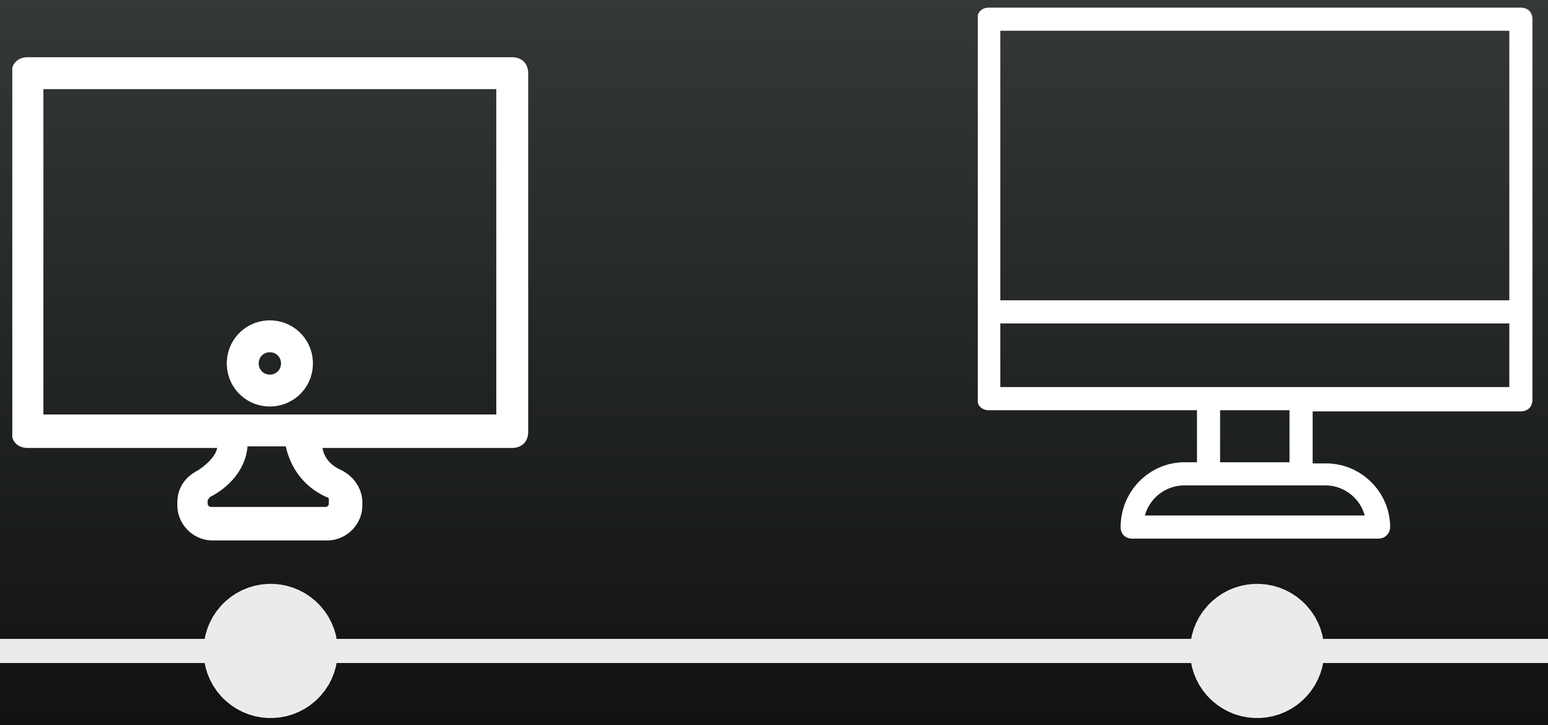




320 × 480

3840 × 2160

Desktops today…



1920 × 1080

7680 × 4320

Chasing screen sizes is clearly a fool's errand

One year after the iPhone

“In the second quarter of 2008 we detected 71 different screen resolutions among our visitors. In the first quarter of 2014 we detected **1062**

8 years ago!

— Jason Samuels
IT Manager,
National Council on Family Relations

Source

> In 2008, 27 screen resolutions showed up with more than 10 visits, in 2014 that number was **200**

— Jason Samuels
IT Manager,
National Council on Family Relations

Source

Chasing screen sizes is clearly a fool's errand

Designing for screens is hard

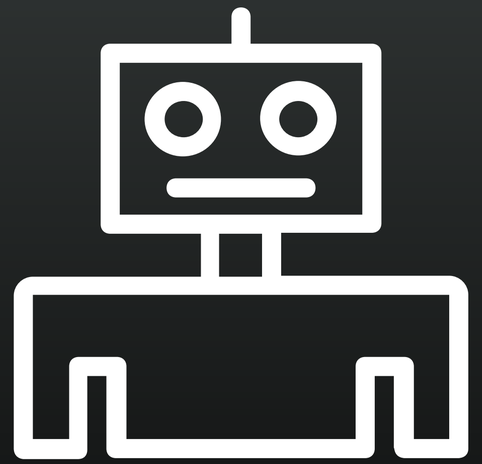
And then there's everything else

Your content can and will go anywhere that's connected

wearables

smart tvs

IoT

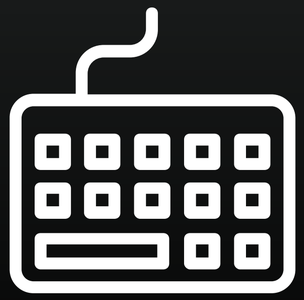


assistants

Meaning users will need to interact in different ways

touch

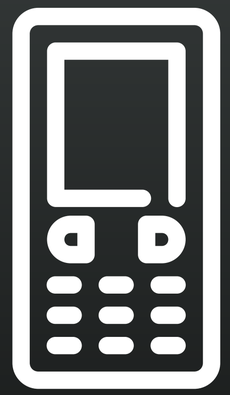
mouse



keyboard

Meaning users will need to interact in different ways

eye tracking



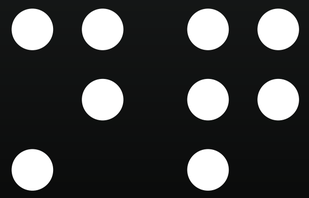
T9

touch

mouse

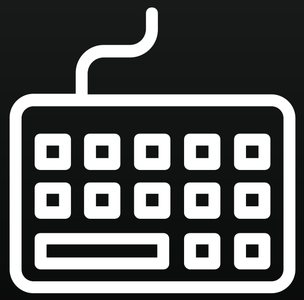
remote

pen



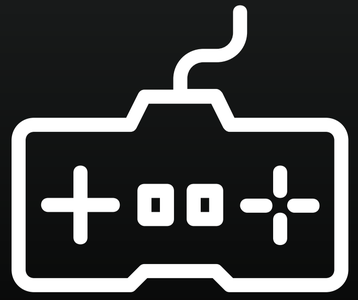
braille

print



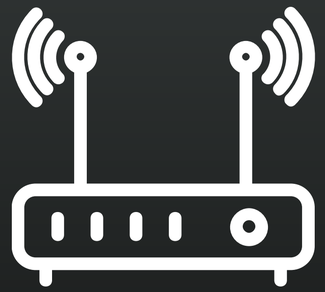
keyboard

audio



gamepad

Over varied networks and in changing conditions



wifi

hardline

mobile

homes

buildings

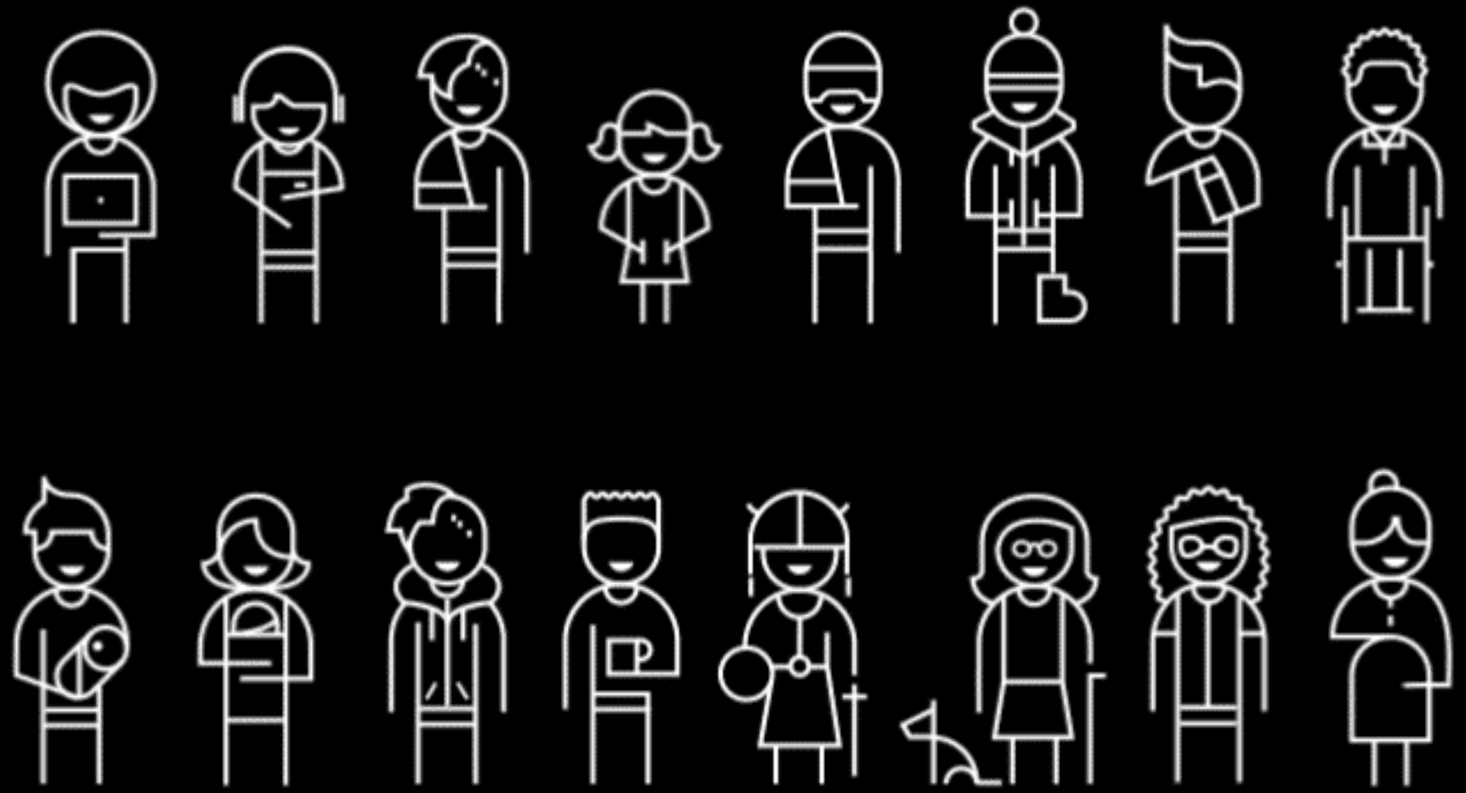
cars

buses

trains

airplanes

And, ultimately, our users all have different needs too



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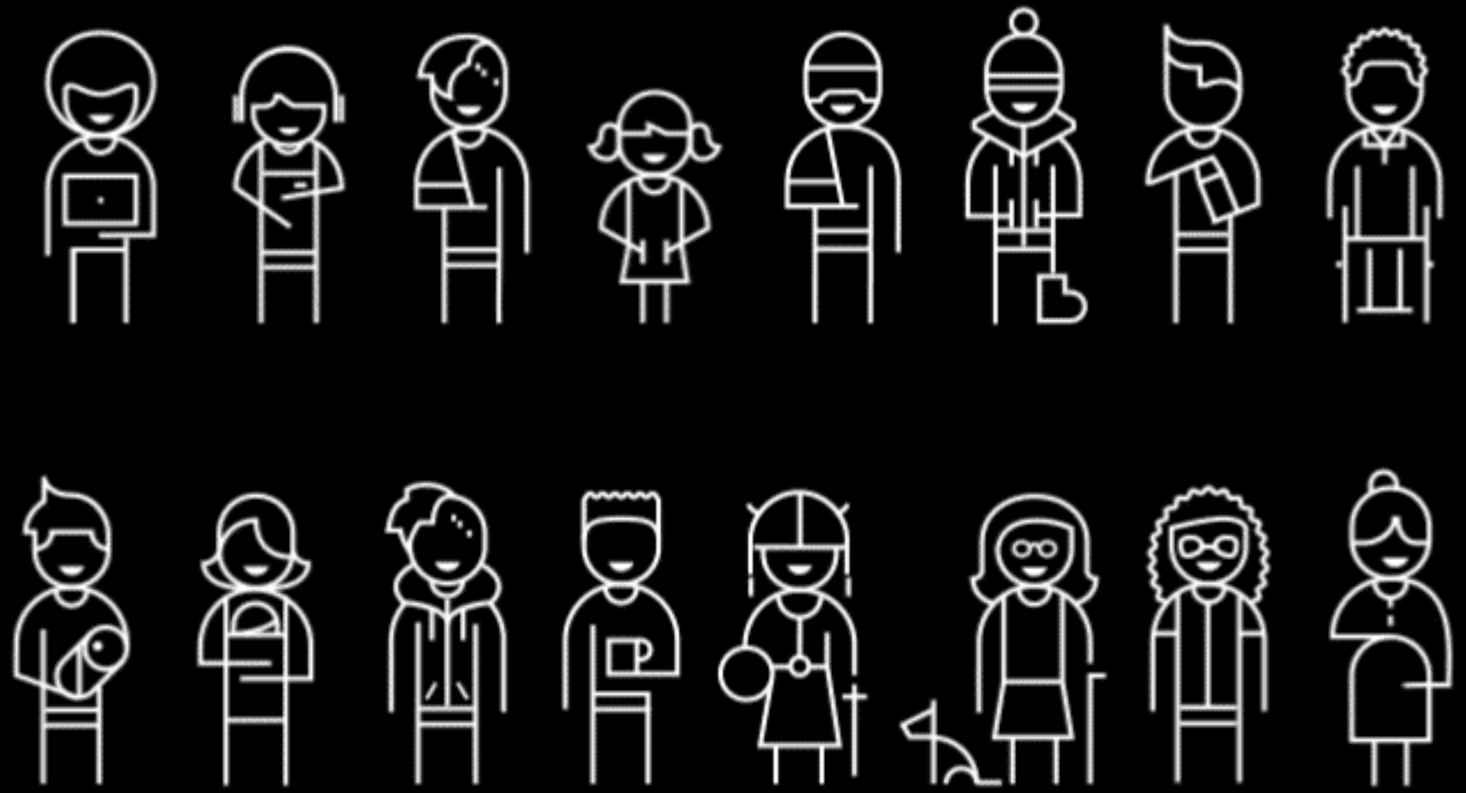


Anyone notice I haven't even mentioned browsers?

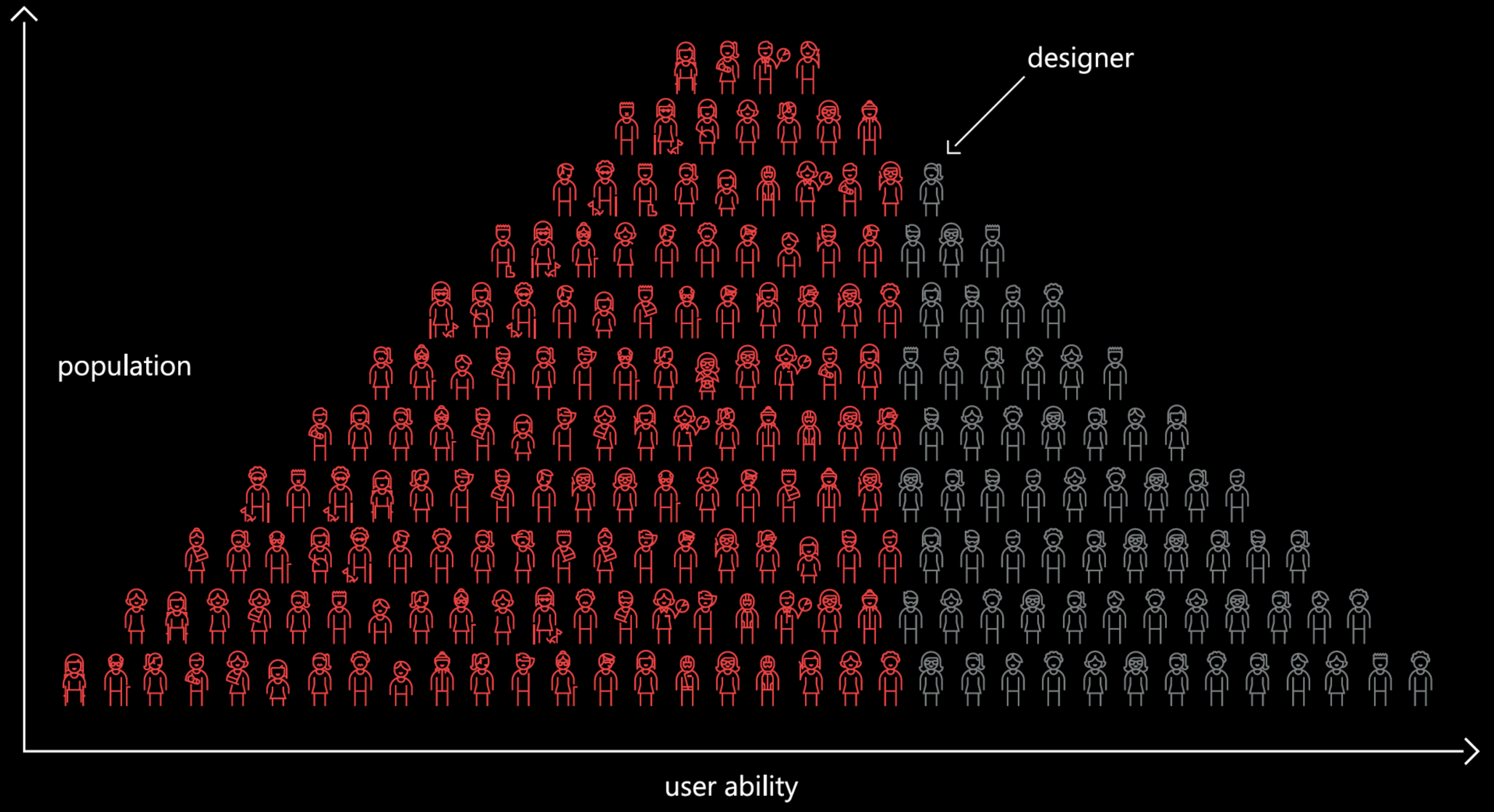
;-)

So…?

REALITY CHECK

Nothing about our users' experiences of the web has ever been as homogenous as we imagined.

Treat your
ideal scenario
as an edge case


designer
population
user ability
excluded
included

iPhone

Smartphone penetration

Global

66%

Differences by country

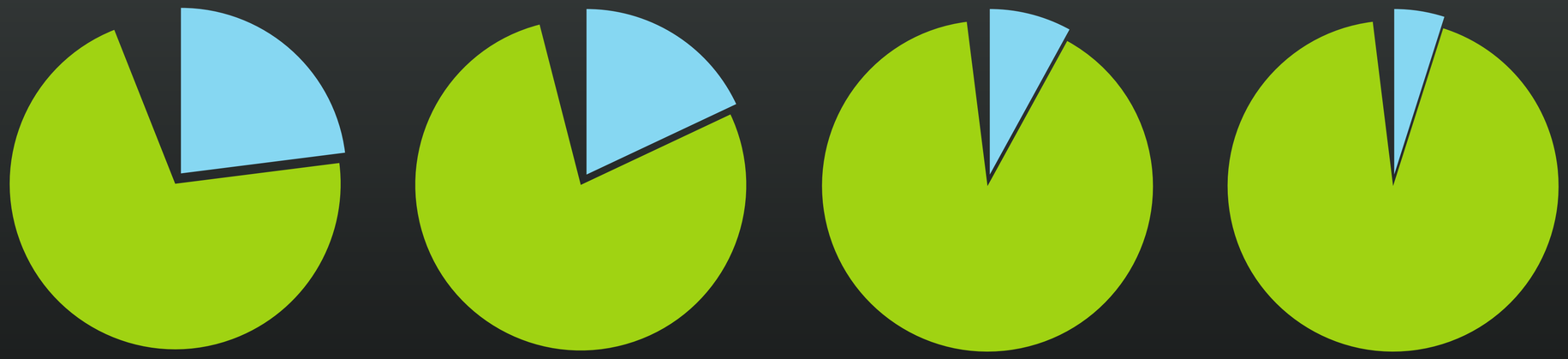
UK
83%

NL
79%

China
68.4%

India
46.5%

U.S. Smartphone penetration



< $30k
71%

$30-50k
78%

$50-75k
90%

>$75k
95%

49.55% of the population

Smartphone
Other

Penetration by density

Urban
83%

Suburban
83%

Rural
71%

Smartphone
Other

1 in 6 U.S. adults is a smartphone-only Internet user.

Not all smartphones are equal

Galaxy S21 Ultra 5G

6.8" (3200 x 1440)
12 GB RAM
128 GB Storage
4 Cameras (10–108 MP)
2.8GHz (1) / 2.4GHZ (3) / 1.8GHZ (4)
Android 11
$999

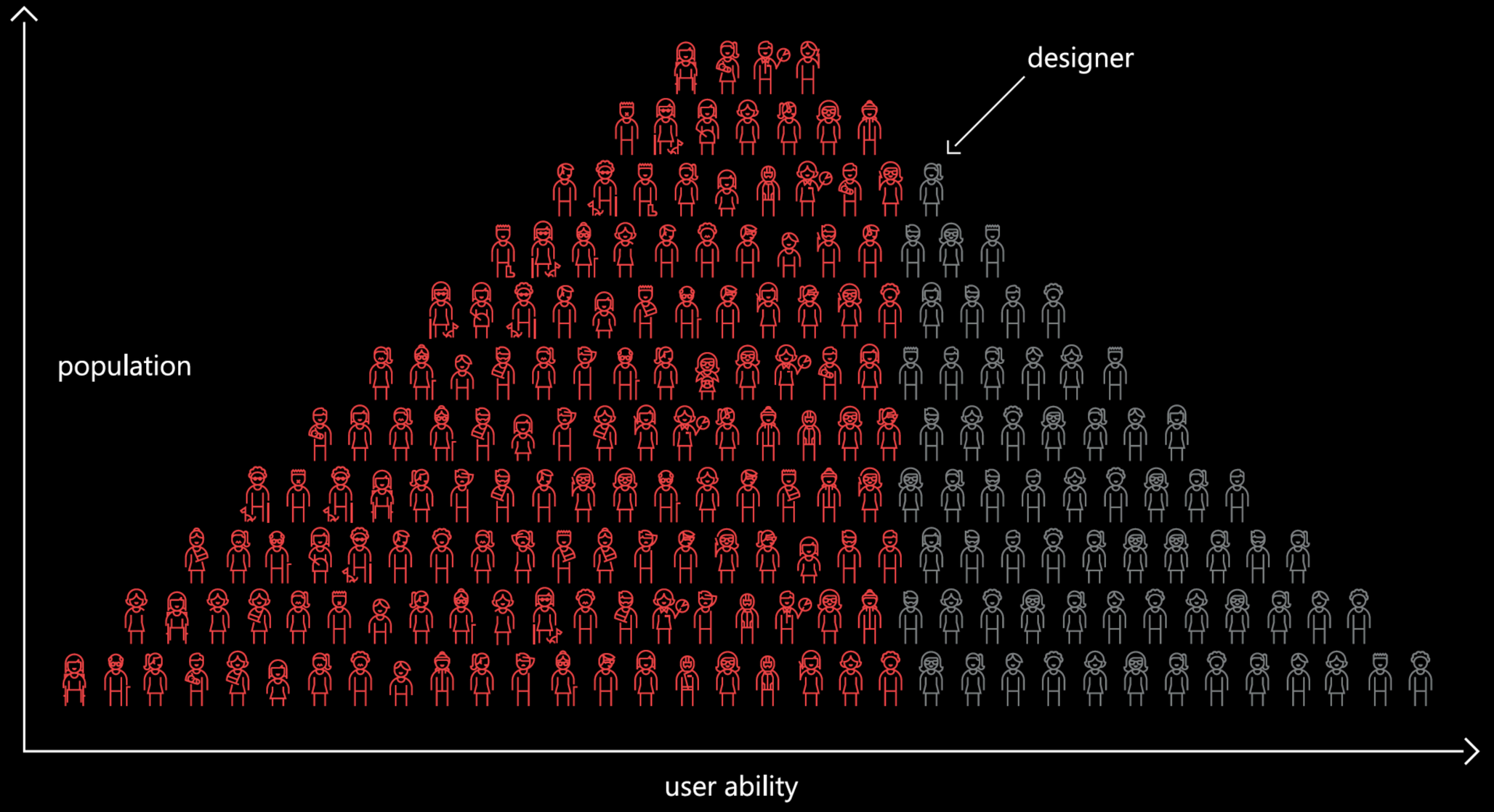
BLU Studio Mini

5.5" (1440 x 720)
2 GB RAM
32 GB Storage
13 MP Camera
1.6 GHz Octo-core
Android 9
$79

In the 2017 survey, Smartphone users making < $30k/yr experienced app errors

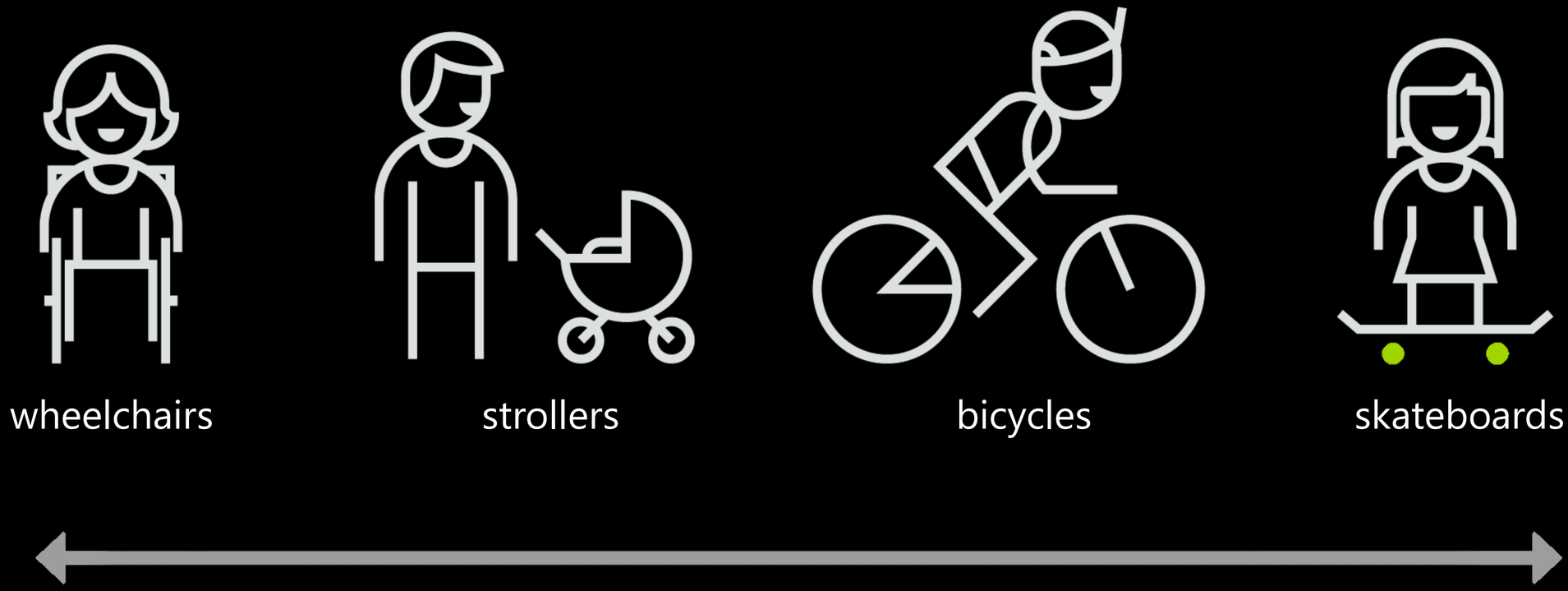
52% of the time

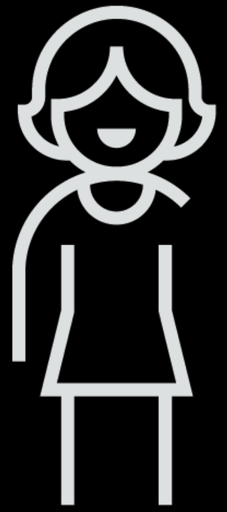
Source


designer
population
user ability
excluded
included

=

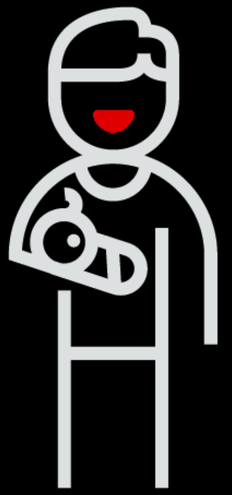
Photo Credit: Dylan Passmore


wheelchairs
strollers
bicycles
skateboards



one arm

arm injury



new parent

permanent

situational

26K

one arm

+

13M

arm injury

+

8M

new parent

permanent → situational

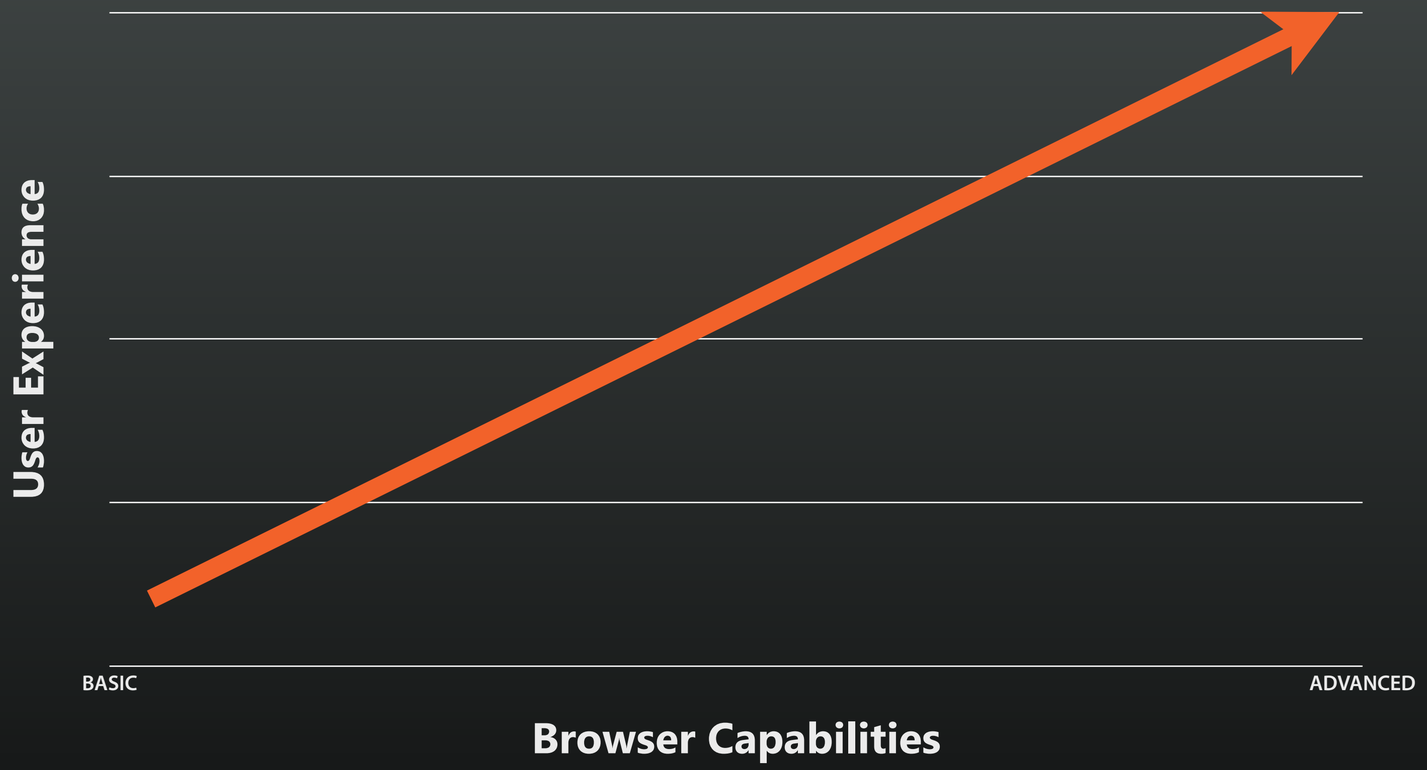
21 Million People

So how can we make our interfaces work for everyone?

Approach your job with an open mind and empathy for your users.

We try stuff,
make mistakes,
& learn from them

Progressive Enhancement


User Experience
BASIC
ADVANCED
Browser Capabilities

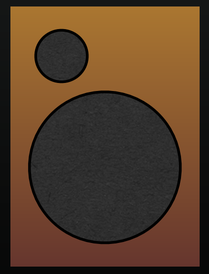
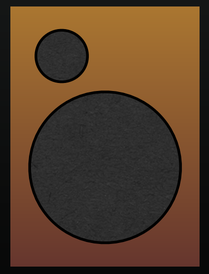
I like an escalator because
an escalator can never break,
it can only become stairs.

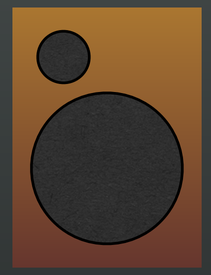
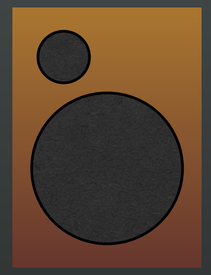
— Mitch Hedberg

Mono

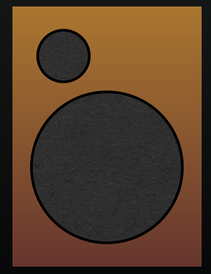
Stereo

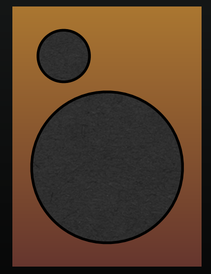
Surround Sound

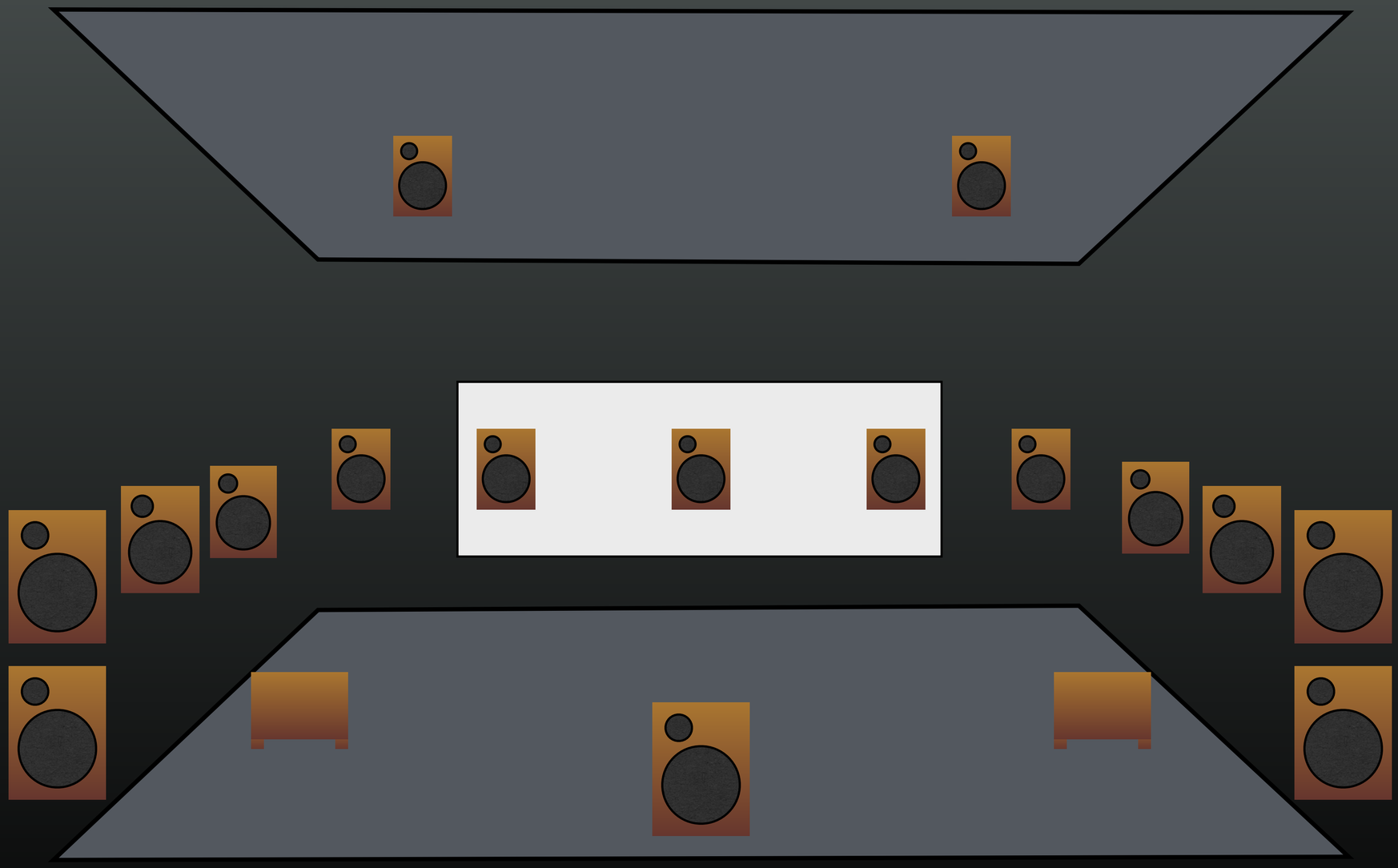



5.1 Channel Surround





7.1 Channel
Surround



16.2 Channel Surround

Sometimes it’s all you need

Kindle 3 = Free global data

Graceful Degradation

Modern Browsers

Older Browsers

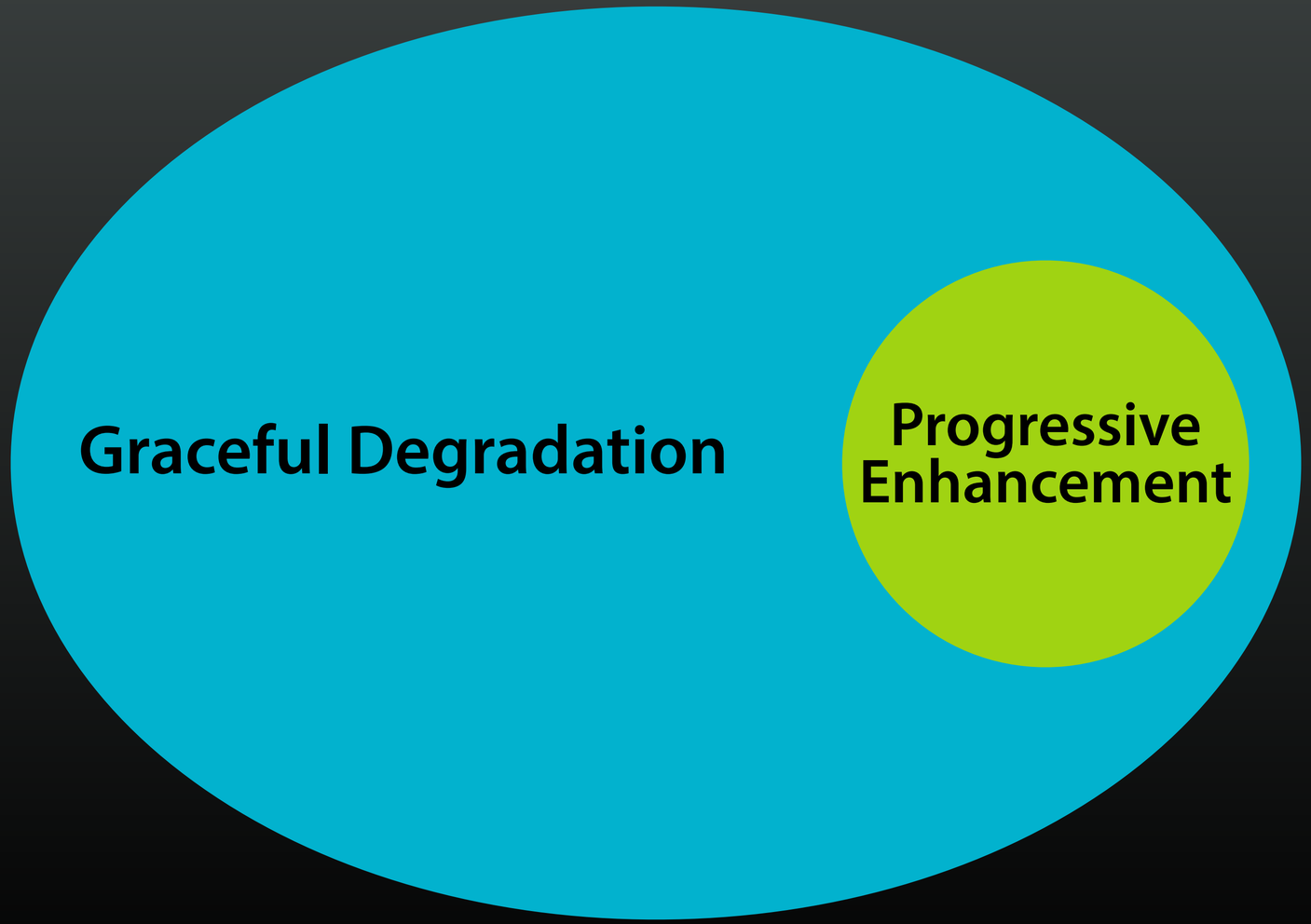
Modern Browsers

Andrew Wight
@AndrewUX
Progressive enhancement is an escalator that becomes stairs. Graceful degradation is building a lift then having to add stairs.
14 May 12
Reply
Retweet
Favorite

I’m sorry, you need more channels

YOU MUST BE THIS TALL
TO RIDE WITH AN ADULT

They're actually related



Technological restrictions

Sky's internet service mistakenly blocks web-critical plugin

Sky blocked jQuery, a plugin crucial to the operation of many of the internet's biggest websites, after wrongly classifying it as malware on Sunday night

Share 66
Tweet
Share 8
Email

Alex Hern
Follow @alexhern Follow @guardiantech

theguardian.com, Tuesday 28 January 2014 07.51 EST

Jump to comments (42)

Parts of the web were broken after a crucial plugin was mistakenly blocked. Photograph: Culture RM/Alamy

Technology
Web filtering · Internet · Broadband · Malware

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BSkyB

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BSkyB

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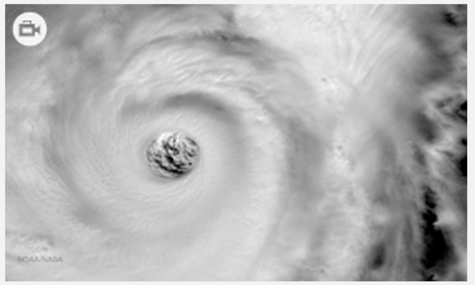
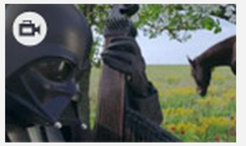
BSkyB signs new five-year deal for exclusive rights to HBO TV catalogue
Broadcaster struck

Today's best video

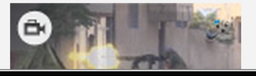


Japan's Typhoon Vongfong seen from International Space Station - video
Nasa footage shows the powerful eye of Typhoon Vongfong as it makes its way towards Okinawa, Japan



Ukrainian Darth Vader makes election run
Who knew Star Wars villain Darth Vader was in fact a Ukrainian Cossack at heart?

Robotic suit helps explore ancient wreck
New artifacts found in Greek island shipwreck, which sank in first century BC

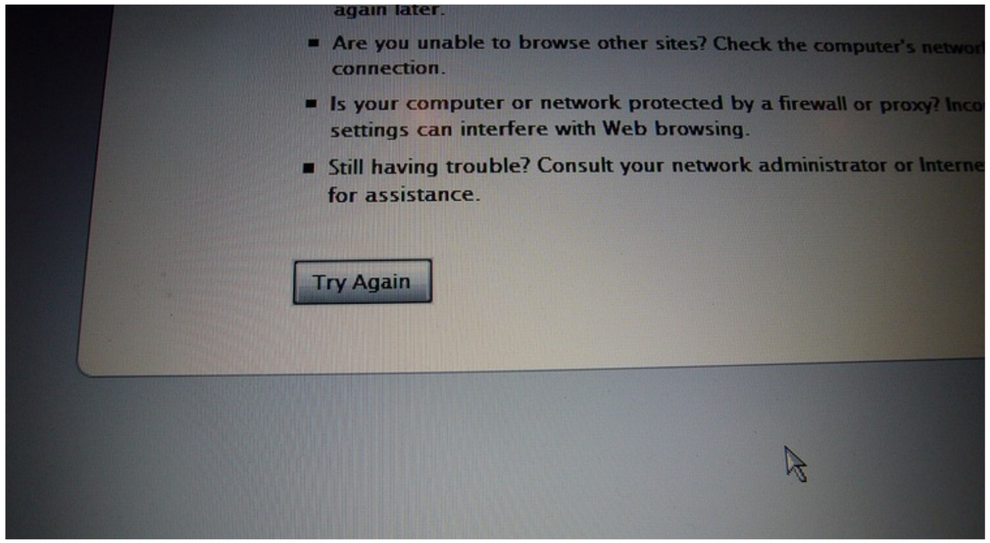


Isis video 'shows street battle in Kobani'
Video posted on social

The Switch

FCC to Marriott: No, you can't force your customers onto terrible hotel WiFi

By Brian Fung October 3 Follow @b_fung



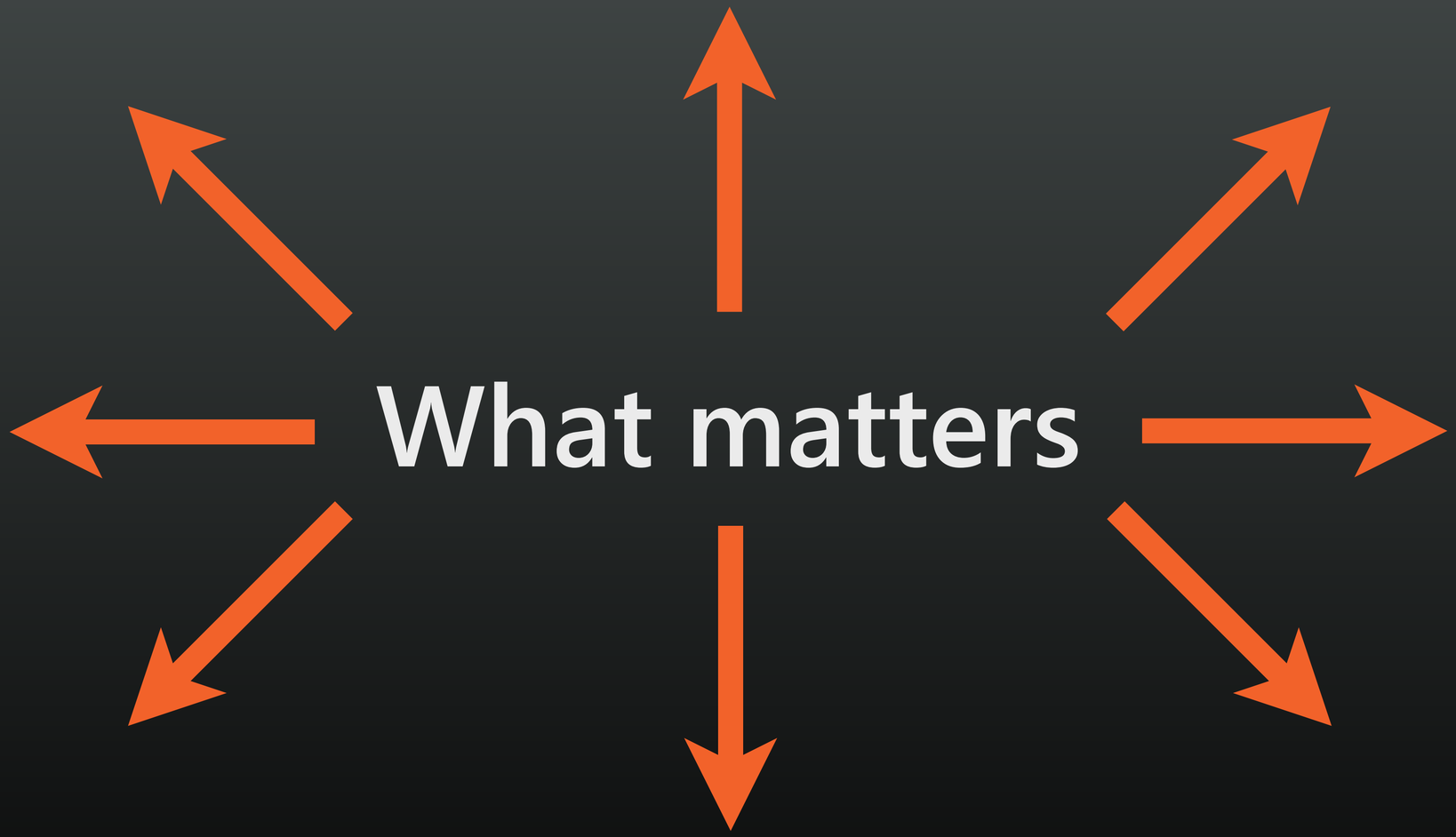
Advertisement

Aw, Snap!

Google Chrome ran out of memory while trying to display this webpage.

Learn more

Send feedback


What matters

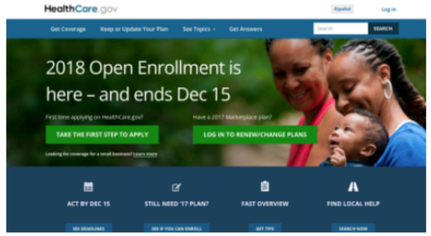
“Mobile first”

It’s all about process

Step by step

1. Focus on what matters.

The essential nugget



GOVERNMENT

Obamacare sign-ups begin; cost-sharing reduction still available

By CHLOÉ MORRISON

Step by step

2. Write it out, then read it back.

How does this photo make you feel?

◎ Embarrassing

◎ Upsetting

◎ Saddening

◎ Bad Photo

◎ Other

Step by step

2. Write it out, then read it back.

How does this photo make you feel?

◎ Embarrassing
◎ Upsetting
◎ Saddening
◎ Bad Photo
◉ Other `it’s embarrassing`

Step by step

2. Write it out, then read it back.

Please describe the photo

◎ It’s embarrassing

◎ It’s a bad photo of me

◎ It makes me sad

Step by step

3. Look for semantics that support 1 & 2.

Step by step

3. Look for semantics that support 1 & 2.

.h-entry (feed)

a (also rel-tag)

heading (also .p-name)
a (also .u-url)

img (also .u-photo)

paragraph
a
(also .p-author
& .h-card)

Step by step

4. Think about how design can improve comprehension.

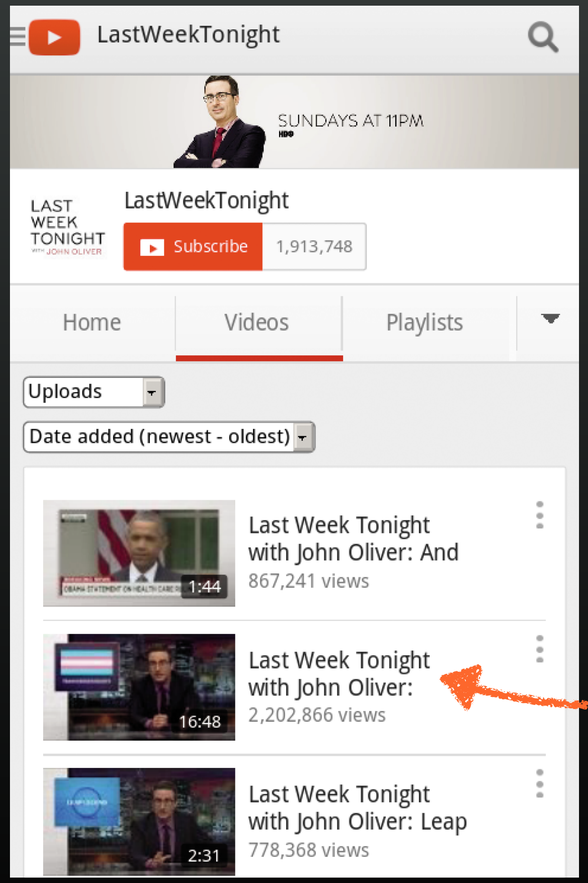
Less important & distinct from content

Visually the most important text

distinct from the content & diminished in importance

Step by step

5. Consider how your design choices impact the reading experience.



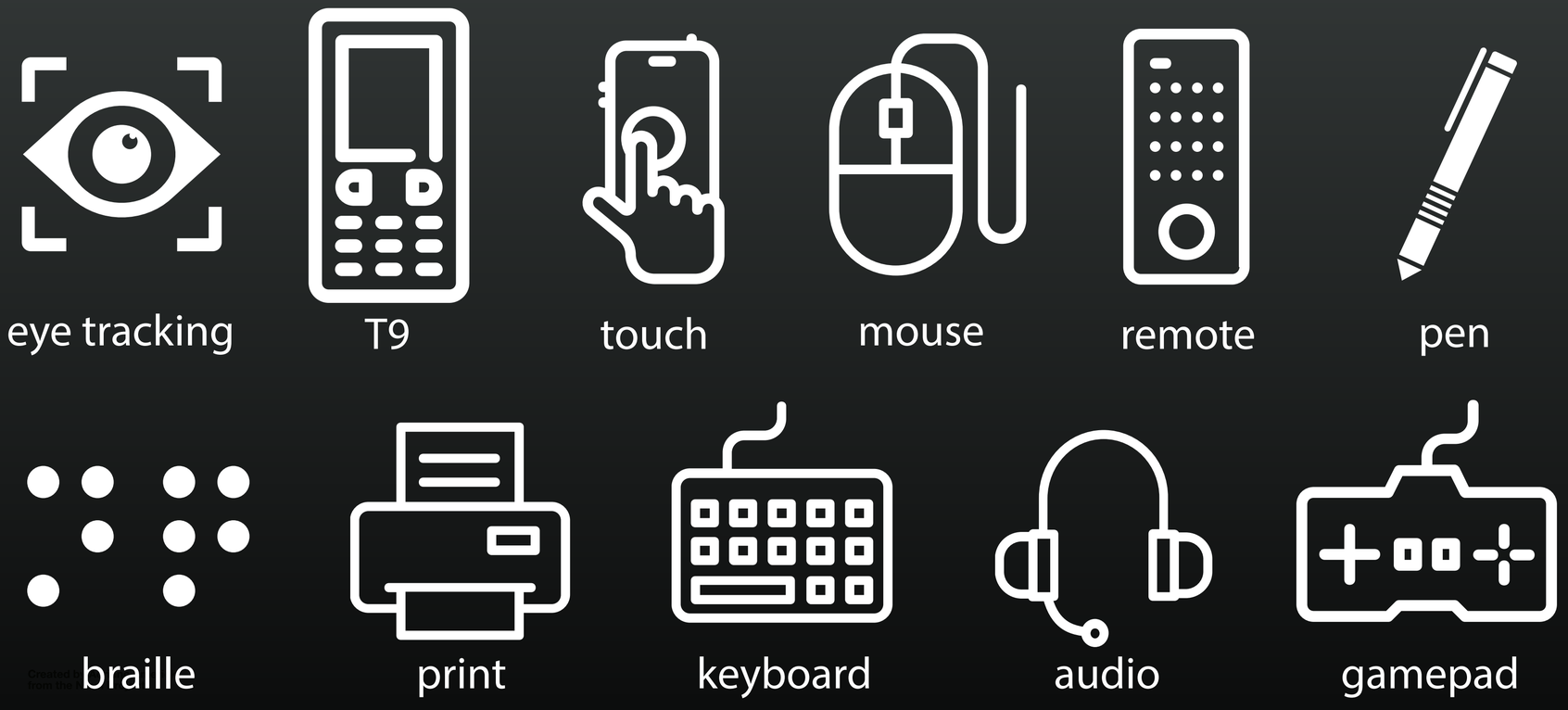
Can't tell what the episode is called

Step by step

5. Consider how your design choices impact the reading experience.

Step by step

6. Think about the many different ways folks might interact.



Step by step

6. Think about the many different ways folks might interact.

eye tracking

touch

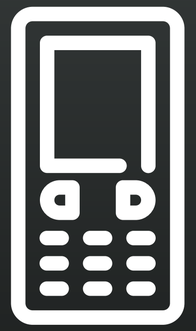
mouse

Hover?

Step by step

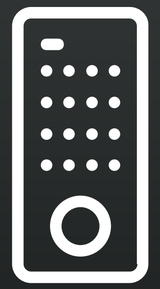
6. Think about the many different ways folks might interact.

eye tracking

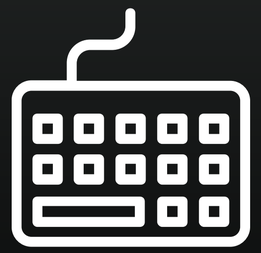

T9

touch

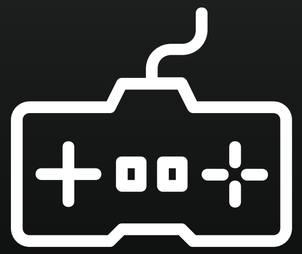
mouse


remote

pen


keyboard

audio


gamepad

Focus & target?

Step by step

6. Think about the many different ways folks might interact.

touch

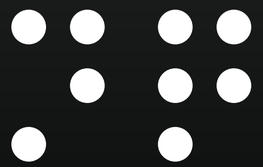
mouse

pen

Gestures?

Step by step

6. Think about the many different ways folks might interact.



braille

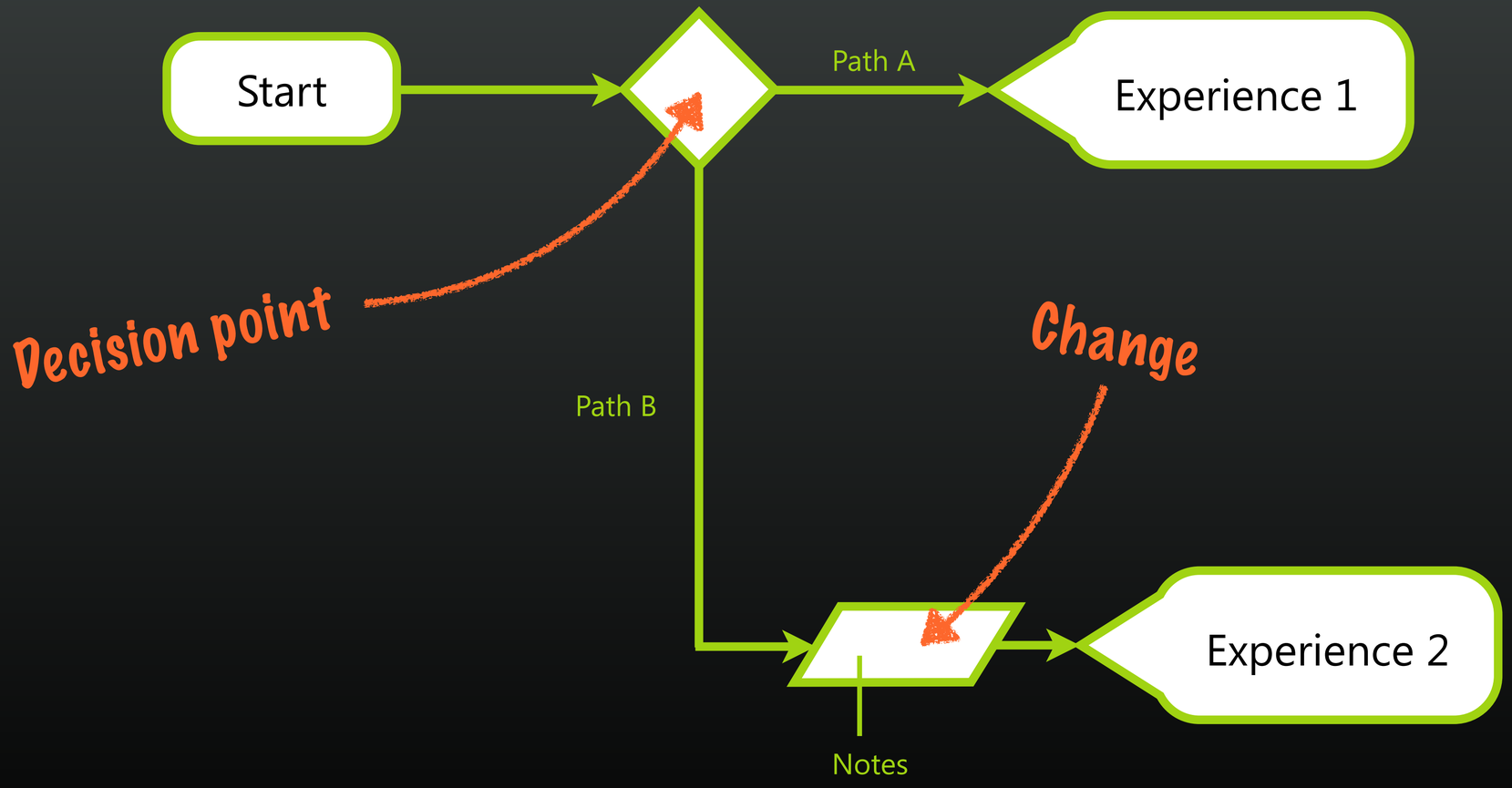
print

audio

Text expansions?

Step by step

7. Map the potential experiences.



Step by step

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2. Write it out, then read it back.
3. Look for semantics that support 1 & 2.
4. Think about how design can improve comprehension.
5. Consider how your design choices impact the reading experience.
6. Think about the many different ways folks might interact.
7. Map the potential experiences.

Step by step

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6. Think about the many different ways folks might interact.
7. Map the potential experiences.
8. Iterate.

Thank you!

@AaronGustafson

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aaron-gustafson.com

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