Responsive Design

Set of techniques used to create documents that adapt to the devices on which they are viewed

Responsive Design
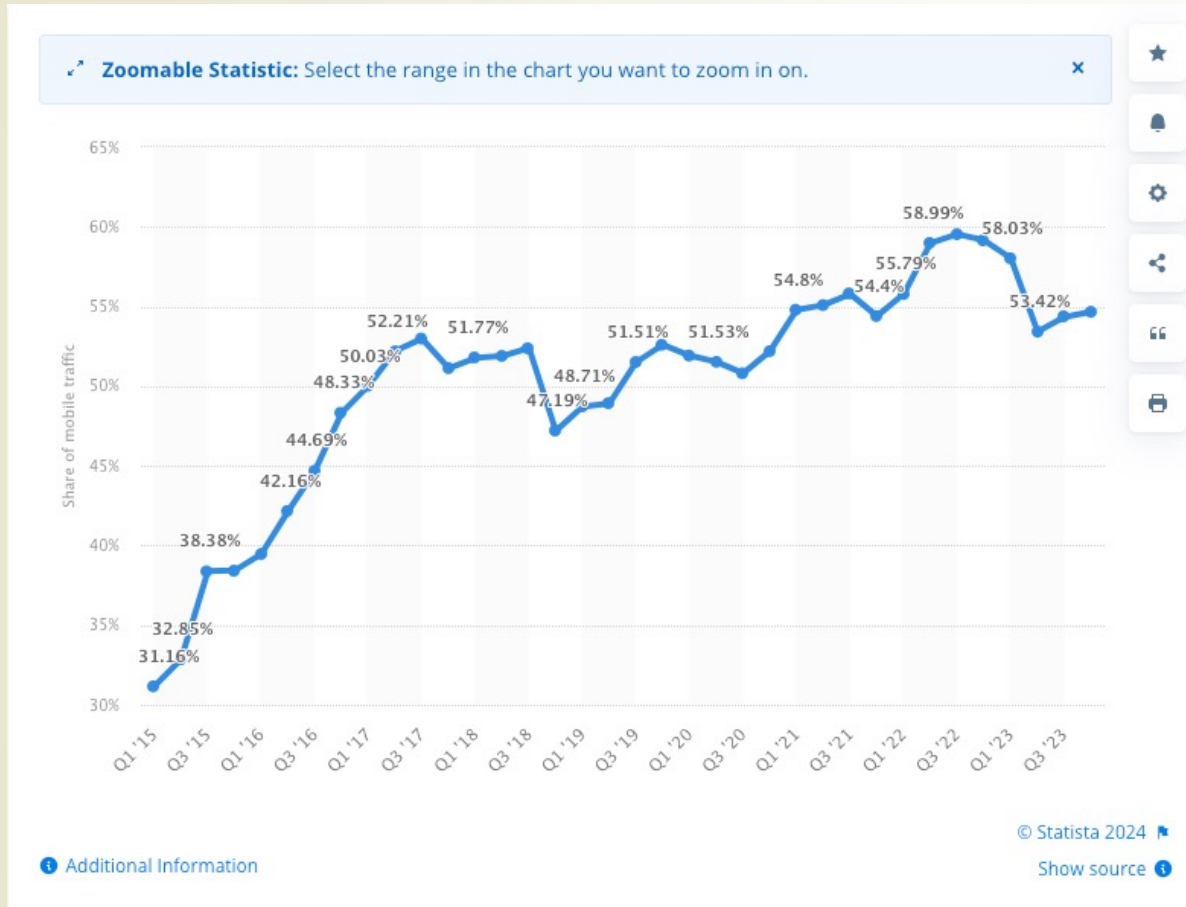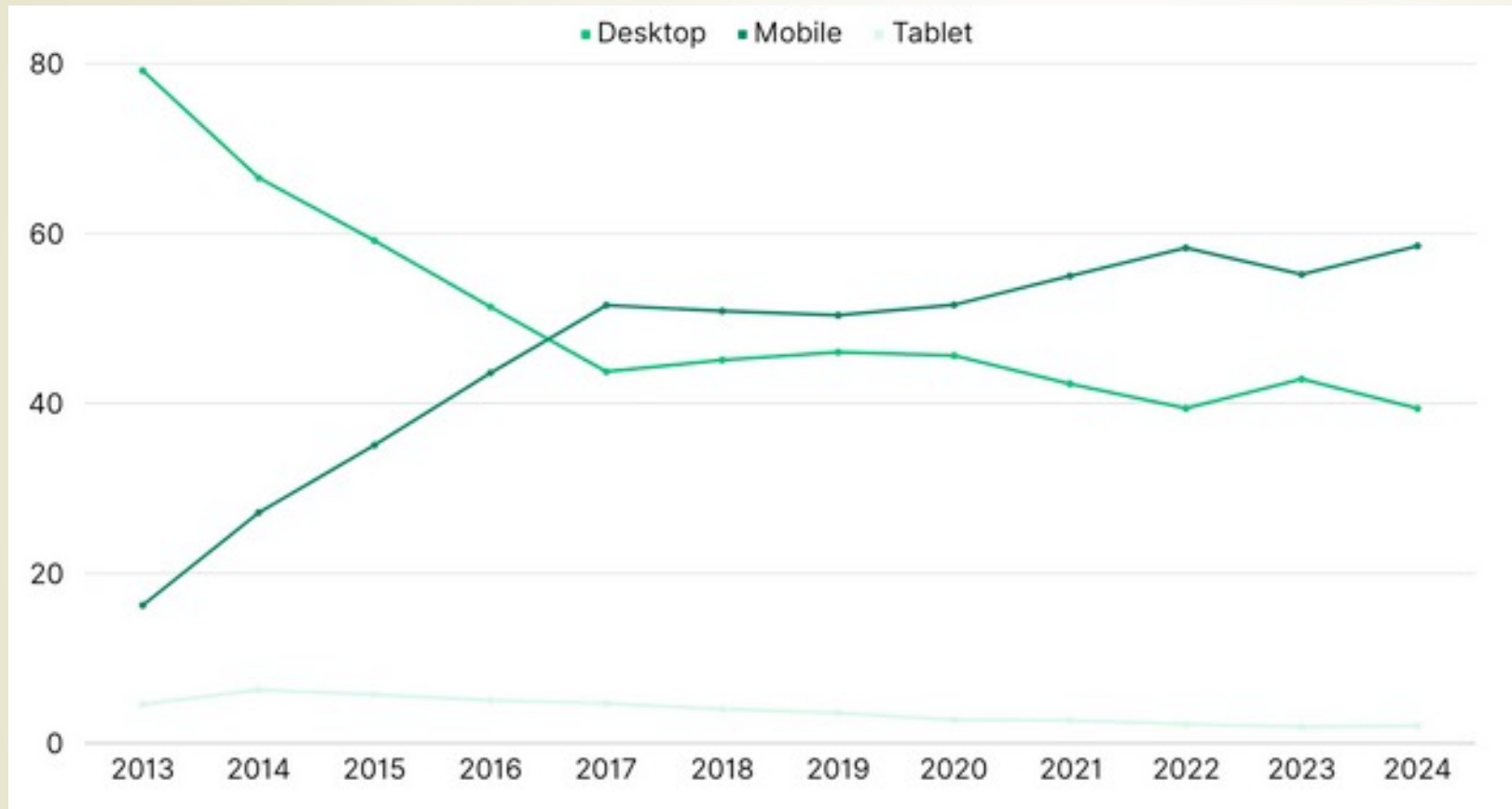
Examples

Why Responsive Design?

Mobile Devices - % of Global Internet Traffic

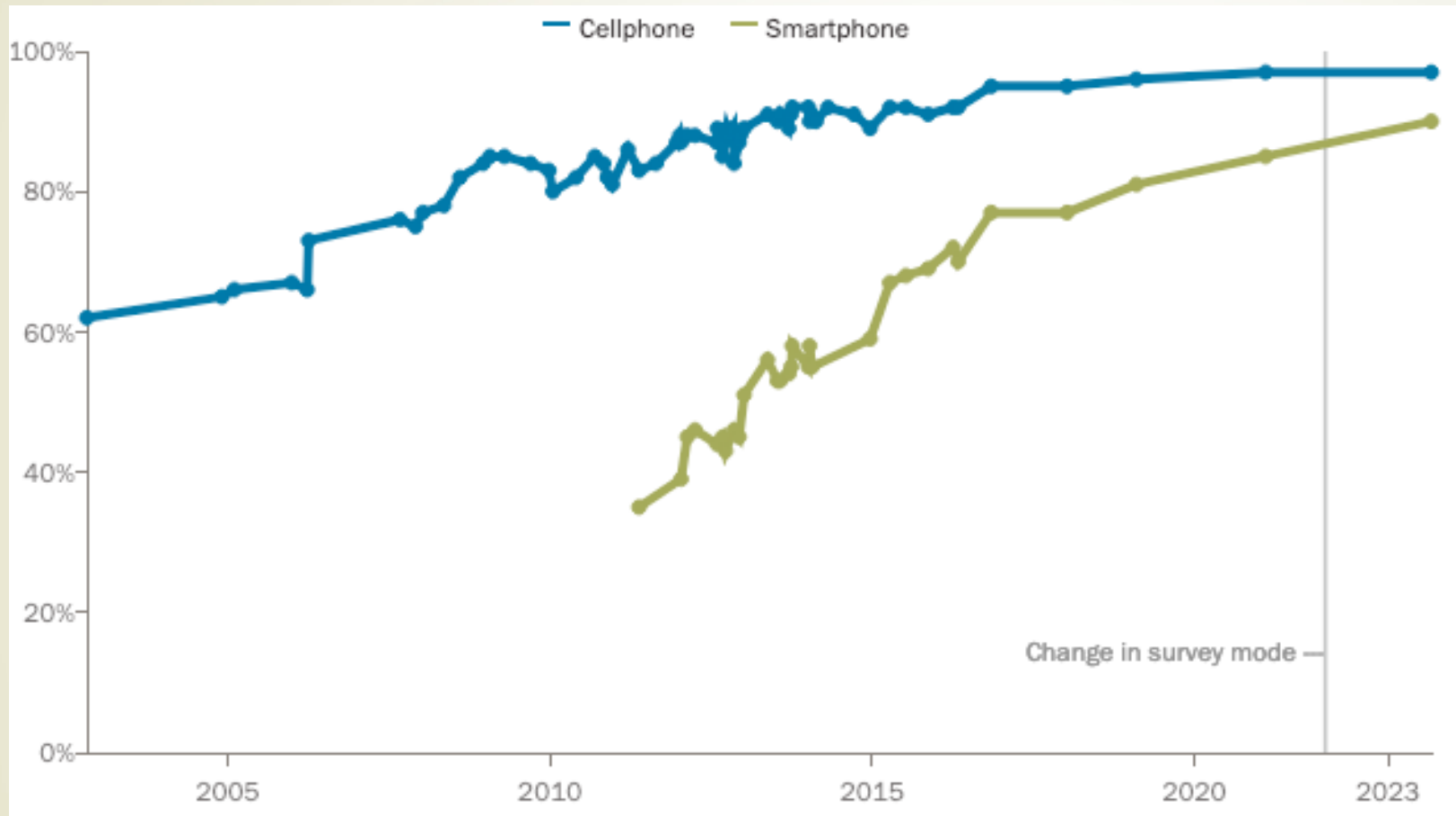https://www.statista.com/statistics/277125/share-of-website-traffic-coming-from-mobile-devices/

Mobile Devices - % of USA Internet Traffic

https://www.mobiloud.com/blog/what-percentage-of-internet-traffic-is-mobile

Mobile Phone Ownership - USA

https://www.pewresearch.org/internet/fact-sheet/mobile/

Google's Recommendation - Responsive Design

- Sees same URL and HTML for everyone

- Easier for google to index

- Easier for others to link to
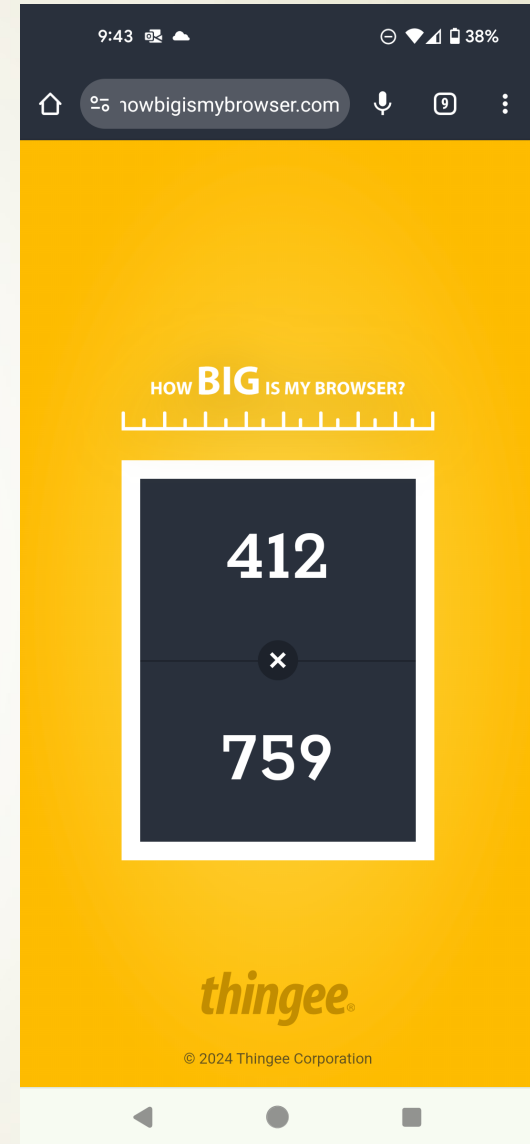
- Easier to manage SEO

Measure Monitor

Screen dimensions

Diagonal screen size	21.5 in ▾

Screen resolution

Horizontal pixels	1,920
Vertical pixels	1,080
Total pixels	2.074 Mpx

Pixels per inch

PPI	102.46
Dot pitch	0.00976 in ▾

Now Phone - Pixel 5a

https://howbigismybrowser.com/

Now Phone - Pixel 5a

Released 2021, August 26
183g, 8.8mm thickness
Android 11, up to Android 14
128GB storage, no card slot

6.34"
1080x2400 pixels

12MP
2160p

https://www.gsmarena.com/google_pixel_5a_5g-11059.php

Now Phone - Pixel 5a

- Released 2021, August 26
- 183g, 8.8mm thickness
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- 128GB storage, no card slot

6.34"
1080x2400 pixels

12MP
2160p

Screen dimensions

Diagonal screen size	6.34 in ▾

Screen resolution

Horizontal pixels	1,080
Vertical pixels	2400
Total pixels	2.59 Mpx

Pixels per inch

PPI	415.1
Dot pitch	0.00241 in ▾

https://www.gsmarena.com/google_pixel_5a_5g-11059.php
https://www.omnicalculator.com/other/pixels-per-inch

Virtual Resolution!

- Accounts for pixel density difference

Responsive Design Code

Doctype

```
<!doctype html>
```

Set Viewport

```
<meta name="viewport" content="width=device-width, initial-scale=1">
```

Media Queries

- Use to load external stylesheet(s)
- **Example:** jtc372.net
- `<link href="css/narrow.css" rel="stylesheet" media="only screen and (max-width:700px)">`
- Evaluates stylesheet when screen width less than 700px
- Order matters!

Text

- Text will not seamlessly scale - may require multiple break points

- **Example:** www.hibeams.com

Images

- Images display at native resolution, not virtual resolution
- **Example:** https://www.jtc372.net/course/examples/image-width.html
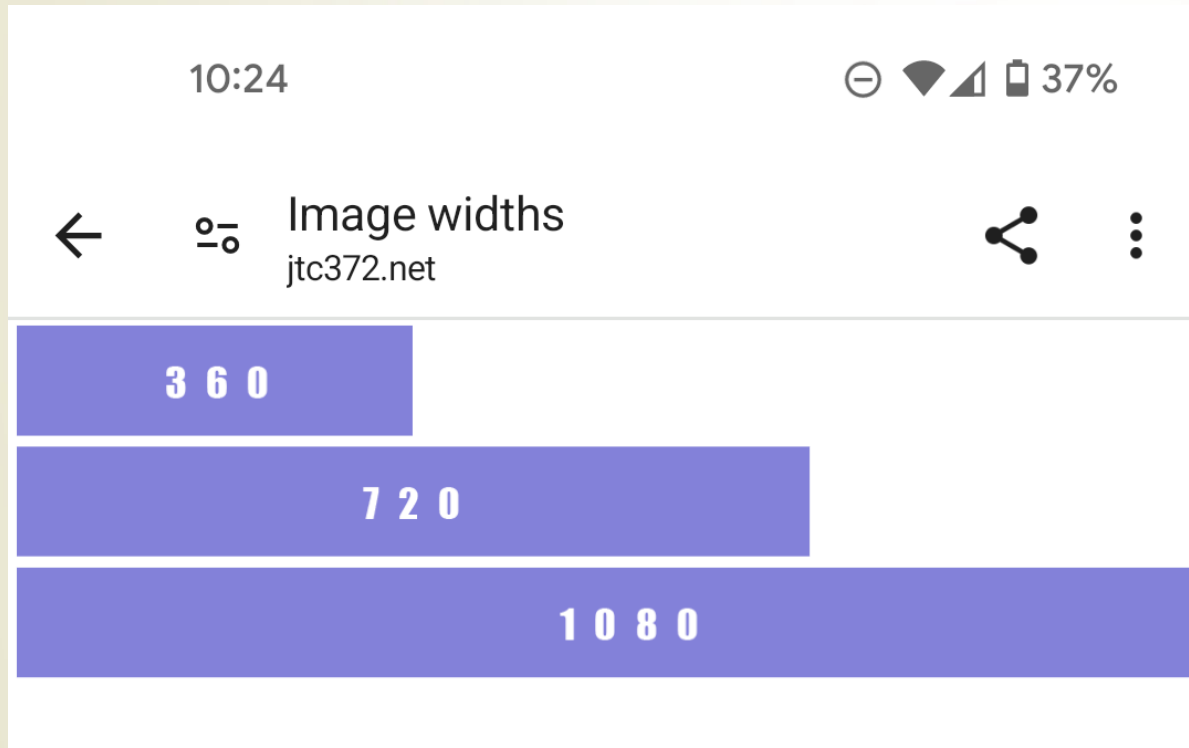
Navigation

- Hamburger Menu
- Collapsed box with 3 lines
- Standard
- Variations

Other…

- Load Time – Google wants 2s
- Do media query exercise together