

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?



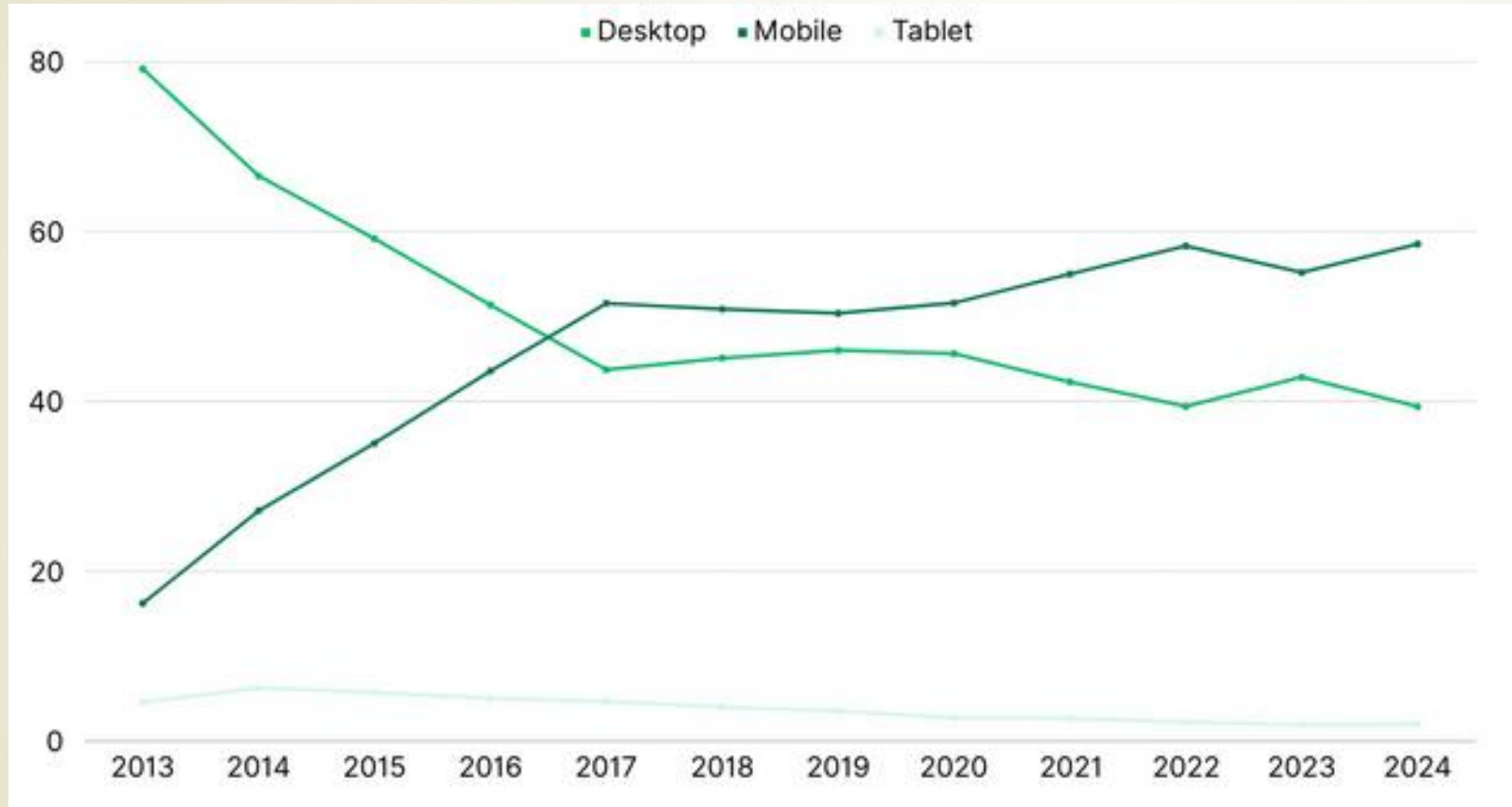
Mobile Devices - % of Global Internet Traffic



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



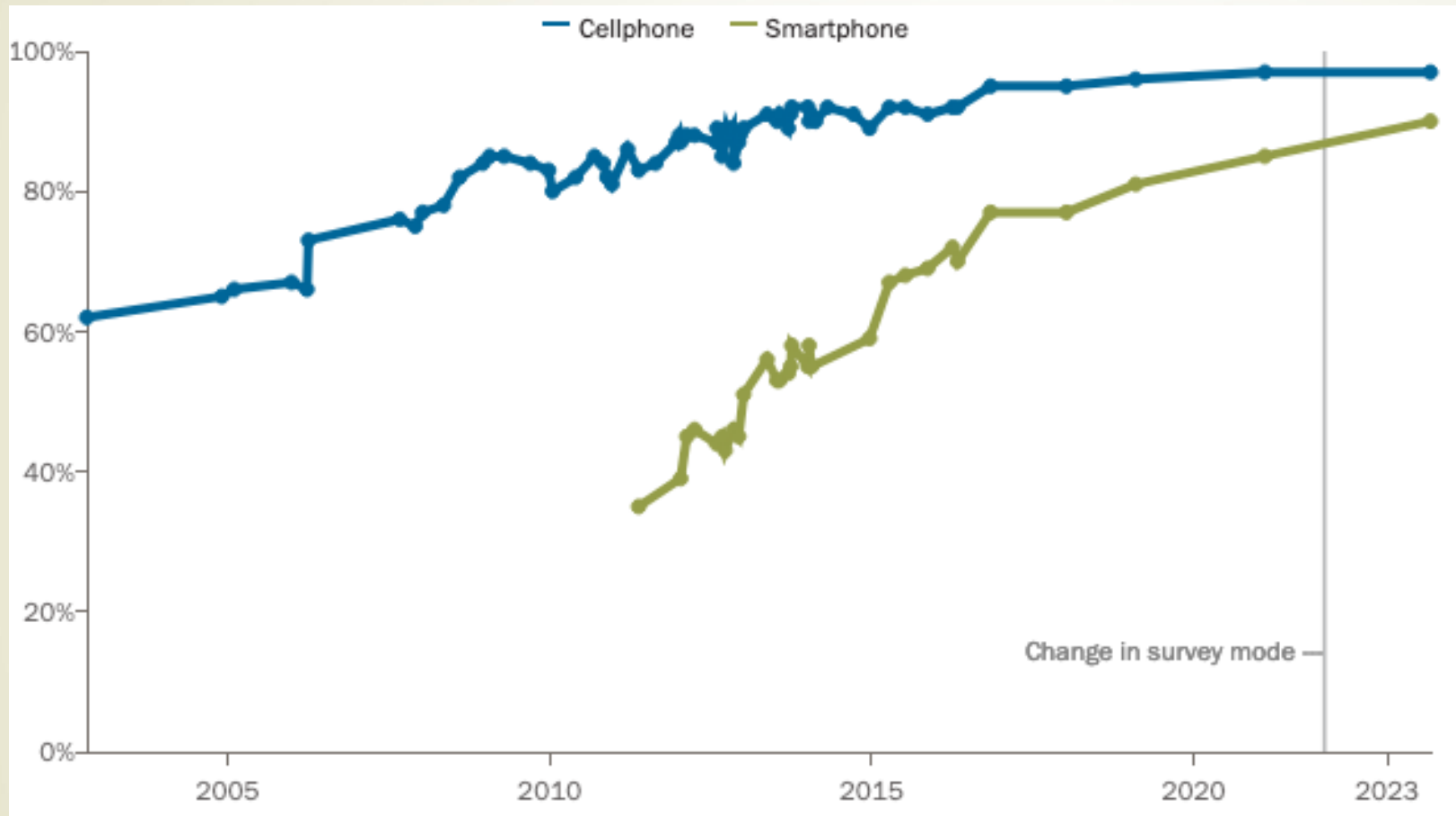
Mobile Devices - % of USA Internet Traffic



<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



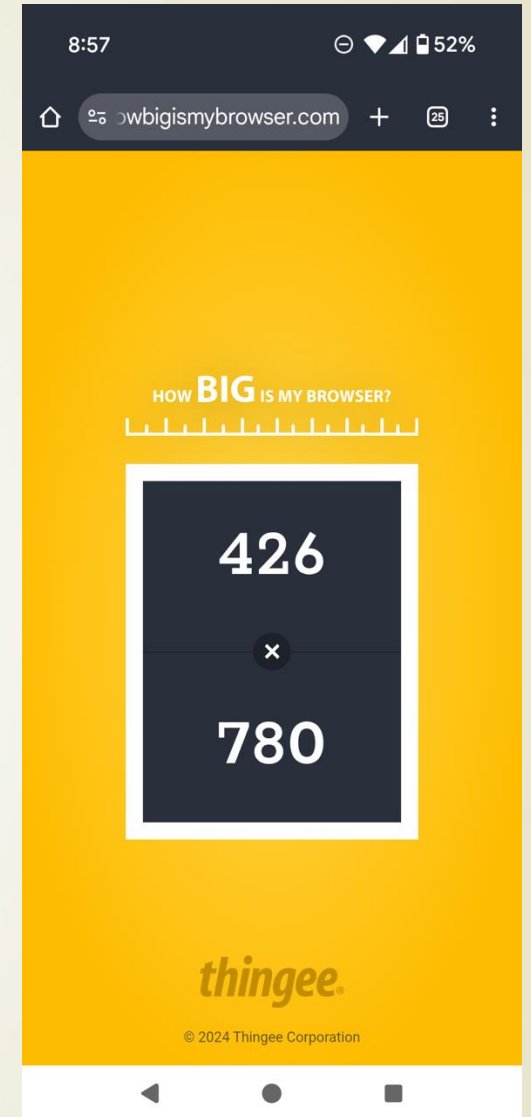
<https://howbigismybrowser.com/>
<https://www.omnicalculator.com/other/pixels-per-inch>

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

Google Pixel 9 Pro



Released 2024, September 09

199g, 8.5mm thickness

Android 14, up to 15

128GB/512GB/1TB storage, no card slot

19%

1.9M, 2.15K, 3.0


RSS


342


EV MERCH


LOG IN SIGN UP


Search


























6.3"

1280x2856 pixels

50MP

4320p

16GB RAM

Google Tensor G4

4700mAh

27W 21W

REVIEW

OPINIONS

COMPARE

PICTURES

PRICES

NETWORK	Technology	GSM / HSPA / LTE / 5G	EXPAND
LAUNCH	Announced	2024, August 13	
	Status	Available. Released 2024, September 09	
BODY	Dimensions	152.8 x 72 x 8.5 mm (6.02 x 2.83 x 0.33 in)	
	Weight	199 g (7.02 oz)	
	Build	Glass front (Gorilla Glass Victus 2), glass back (Gorilla Glass Victus 2), aluminum frame	
	SIM	Nano-SIM + eSIM	
		IP68 dust tight and water resistant (immersible up to 1.5m for 30 min)	
DISPLAY	Type	LTPO OLED, 120Hz, HDR10+, 2000 nits (HBM), 3000 nits (peak)	
	Size	6.3 inches, 96.3 cm ² (~87.6% screen-to-body ratio)	
	Resolution	1280 x 2856 pixels, 20:9 ratio (~495 ppi density)	
	Protection	Corning Gorilla Glass Victus 2	
		Always-on display	

www.gsmarena.com/google_pixel_9_pro-13218.php



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!

JTC 372
WEB DESIGN AND DEVELOPMENT

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Instructor

[Ben O'Connor](#) is a contract web designer/developer. He has developed dozens of web sites for corporate clients. In addition to his contract work, Ben worked for a startup internet company, Cybercrop.com, and assisted in the development of an agribusiness web-based trading application.

Ben is intimately familiar with design concepts, graphic design and optimization, Cascading Style Sheets and coding in HTML. He also has extensive experience in developing database-driven sites using Lucee, PHP and MySQL, and in administering web servers using Apache.

Some recent web sites Ben has worked on:

- www.goldhillinn.com
- www.benoconnor.com

For more of Ben's print and web design, see www.benoconnor.com/websites.

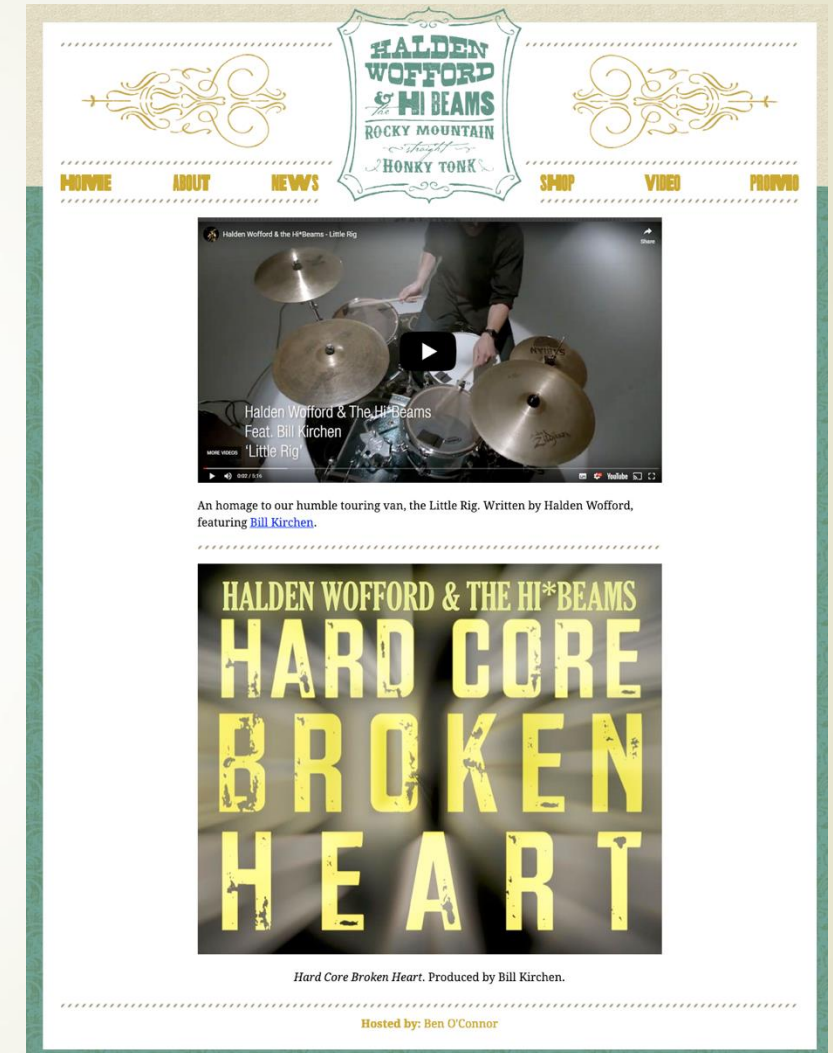
Ben is also a working musician who plays 80-100 dates in an average year in the Rocky Mountain region.





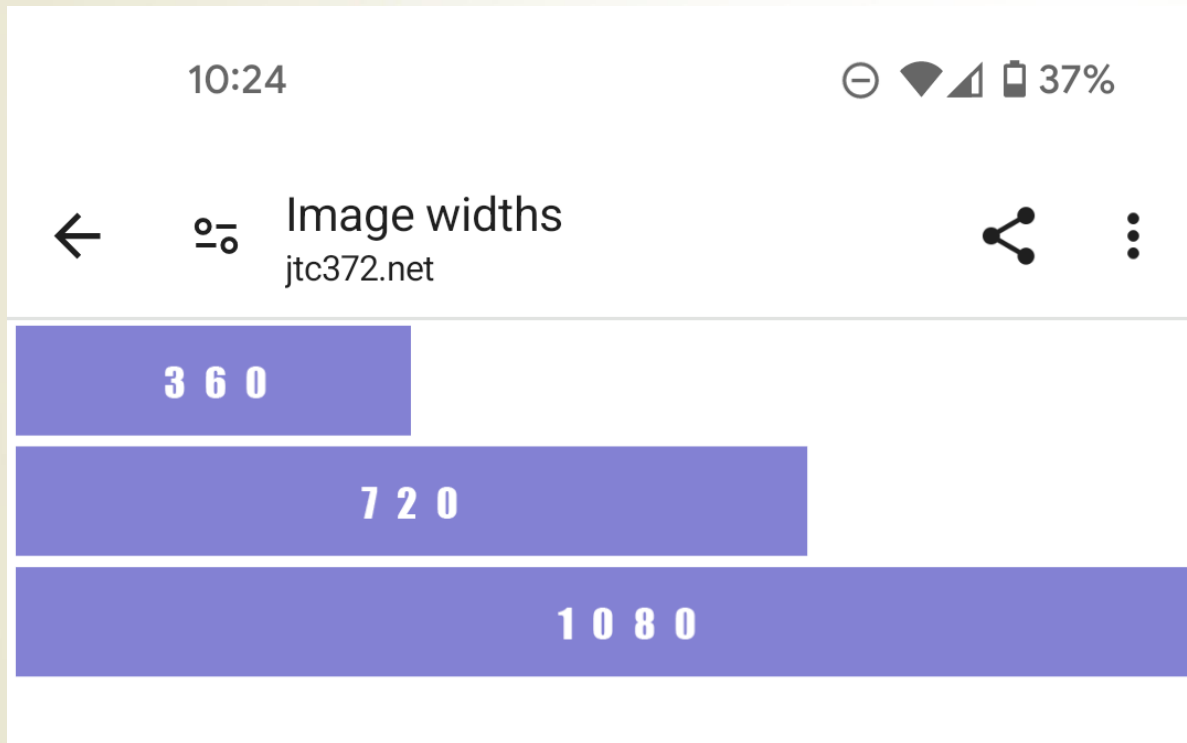
Text

- 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

