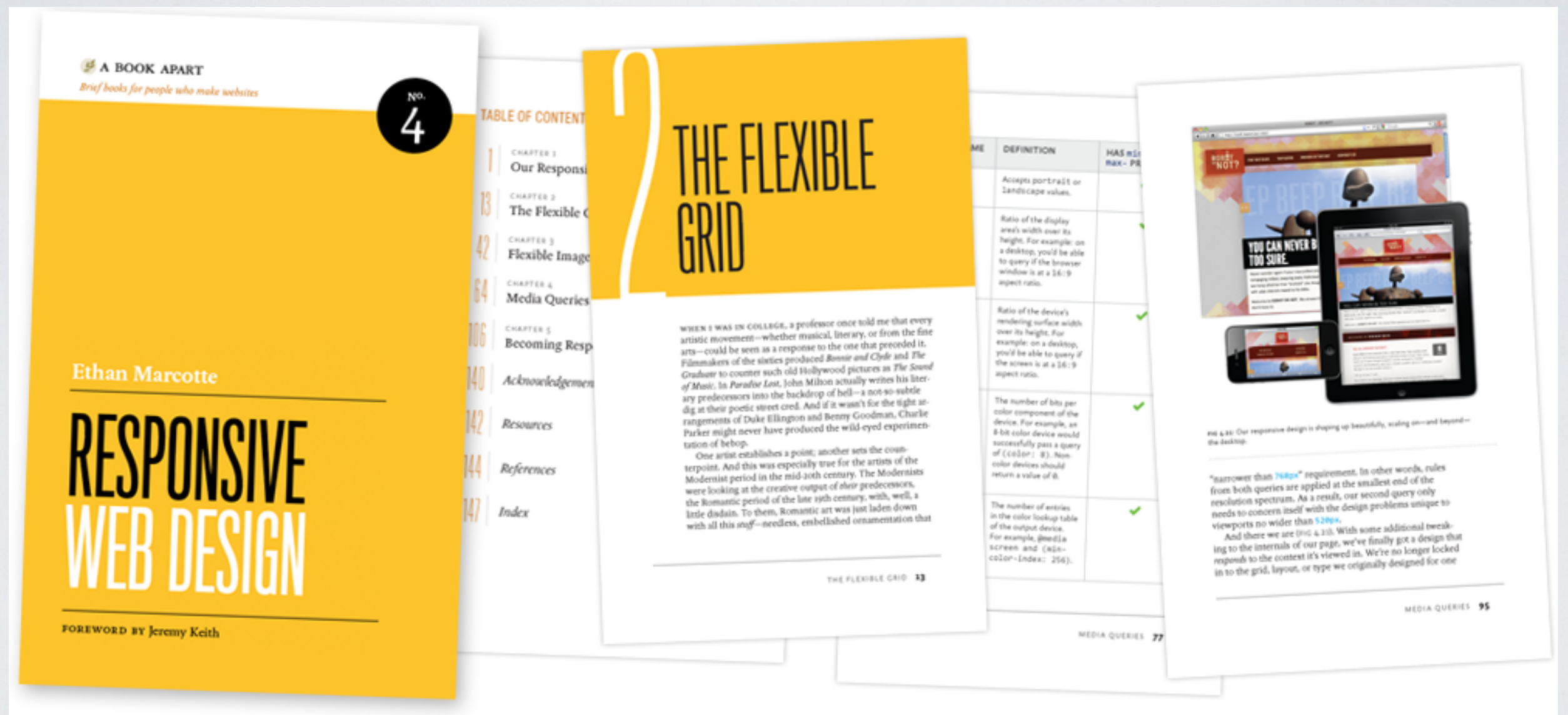# RESPONSIVE WEB DESIGN

Prof Josh Miller

WHY?

- By mid-2012, more people had access to the web via smartphones than desktops

- 20% drop in home use of PCs, replaced with smartphones/tablets

- ... but we always design with a "desktop-first" / mobile later approach. Why?

  - (but this is probably a good place to start, and then later read this book: https://abookapart.com/products/mobile-first)

SOLUTIONS

- Different versions of site content - detect server-side or client side

- Responsive flexible design

- No matter what solution, consider relevant content, consider interaction... rethink the site

RESPONSIVE WEB DESIGN

http://www.alistapart.com/articles/responsive-web-design/

RESPONSIVE LAYOUTS

- % width layouts

- media queries

- "mobile first" design

DEVICES

- wide screen desktops: 1200px +

- tablets (ipad): 1024 landscape, 768 portrait

- phone (iphone): 480 landscape, 320 portrait

- … but **so many devices** are other sizes

EXAMPLES

- http://mediaqueri.es/

HOW TO BUILD

- Either start with large (desktop) layout and work to small, or start mobile ("mobile first") and work up to large

- Add/remove/modify elements for each size- **never copy and paste everything, only include the elements you actually need**

- Be as general as possible, don't add specific ranges unless you need them

THE ORDER OF YOUR CSS

1. Reset CSS

2. General/desktop stuff

3. "Tablet" and smaller (include ONLY the things that change from desktop)

4. "Big phone" and smaller (include only things that change from tablet)

5. Phone changes

GETTING STARTED

```css
body {
    background-color: yellow;
}


/* @media screen and (min-width: 481px) and (max-width: 1024px) { */


@media screen and (max-width: 1024px) {
    body {
        background-color: blue;
    }
}

@media screen and (max-width: 480px) {
    body {
        background-color: red;
    }
}
```

MOBILE

- iphone in particular, tries to render a 980px page at 320 width by default- to fix, add to HTML:

  - `<meta name="viewport" content="width=device-width">`

TESTING

- Some browsers can't get small enough - Inspect element in chrome (and every other browser)

- browserstack.com

DESIGN CONSIDERATIONS

- Phone/tablet: people use big fat fingers- buttons should be easy to click

- Phones are small, small text is small. Small text on phones is really small

- Mobile devices are low bandwidth, design accordingly

IMAGES

img { max-width: 100%; }

img { width: 100% }

BACKGROUND IMAGES

- center image, fixed, no repeat...

- then add:
  background-size: cover;

FONTS

- Scale manually

- Use font hosting services for speed

- Use EMs?

- vw & vh are helpful