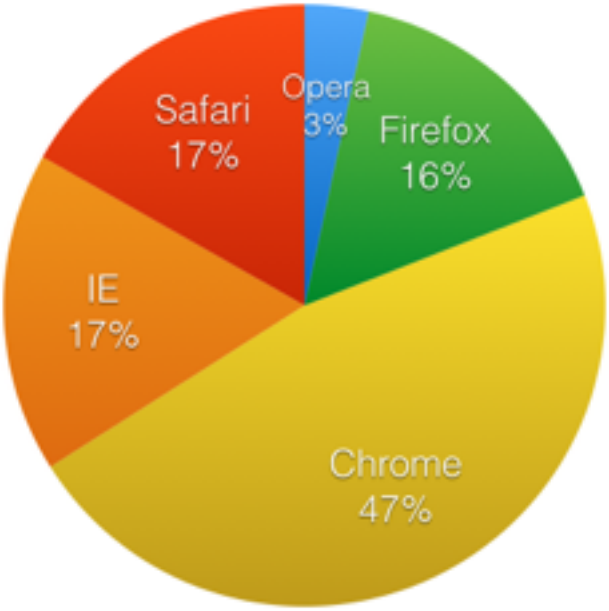
The only problem with this whole web development thing is... well, ok... there are a lot of problems.

- **Not everyone uses the same web browser.** The percentage of people who use the various versions of the available web browser software is almost constantly in flux. And we have to think about how our sites will look on phones and tablets too!
- **Web browsers don't treat things like margins, padding, line heights, and font sizes all in the same way.** Check out a website in Chrome, then browse to it using Internet Explorer. The likelihood that the website will look different is quite high. It happens that every web browser has its own **user agent stylesheet** – which is used to style elements that are not otherwise styled using your own CSS.
- Each browser version has its own weirdness; for example, older versions of Internet Explorer just don't do what you'd expect at all, at times.



Browser usage statistics, March 2015.
Source: w3counter.com

Ugh. Oh well, I should just give up then.

Hang on! There are solutions!

As web technology has matured, browser developers and web developers alike have worked hard to invent several solutions to these problems.

CSS Resets

The goal of a CSS reset is to maintain consistency among browsers by "resetting" the styling of HTML elements to a common baseline.

Media Queries

We can use media queries to apply different CSS rules for different screen resolutions (e.g. an iPhone vs. a desktop computer).

IE Conditional CSS

Most web browsers support the application of different CSS rules per version of Internet Explorer to deal with the quirks.

*If implementing these solutions sounds painful to you (and it should), you're in luck. It turns out that dealing with screen resolutions, platforms, accessibility, and idiosyncrasies among web browsers have indeed already been thought through by the legions of web developers that have come before you. And the best solutions have been bundled in these things called **CSS frameworks.** We'll look at one of the most popular ones – **Bootstrap**.*

What is Bootstrap?

Bootstrap is one of today's most popular CSS frameworks. It's an open-source project that was originally authored by a couple of developers at Twitter.

Bootstrap =

Grid System
To help with layout across different screen sizes

CSS
Stuff to make ordinary HTML tags look good

Components
Things like menus that aren't part of HTML but most people need

Stuff that makes it work across browsers and screen resolutions

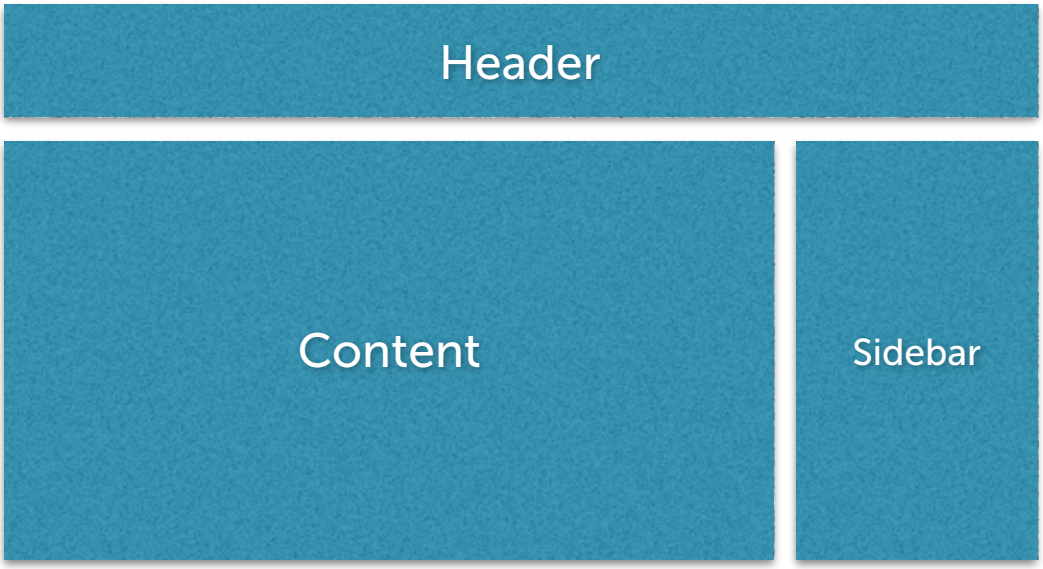
CSS Reset
Media Queries
Conditional CSS

The grid system

The Basic Idea

Any web page's basic structure and layout can be represented using a grid – rows and columns. In Bootstrap's case, the grid has exactly 12 columns (and as many rows as you want).

If you want your pages to look like this



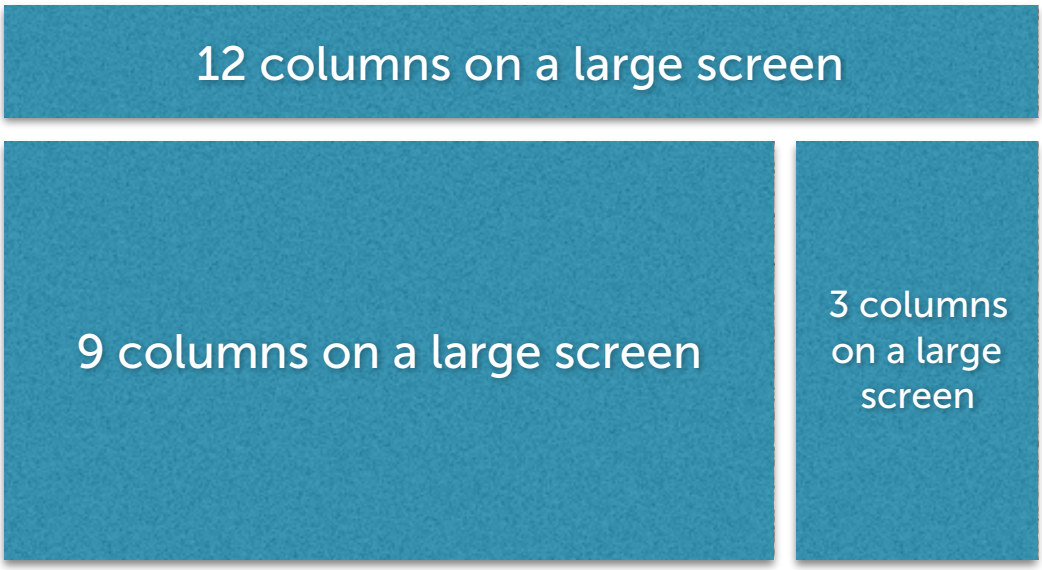
It's a grid with two rows

The code!

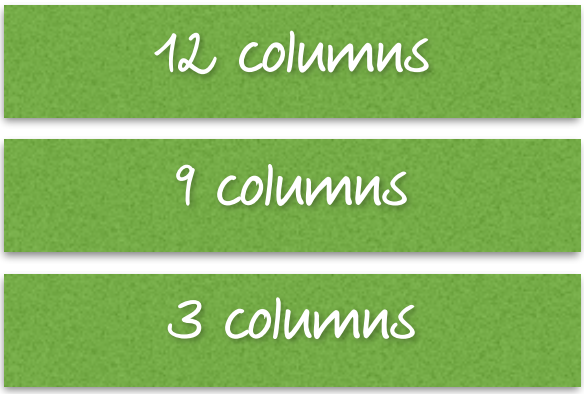
```
<div class="row">
  <div class="col-lg-12">Header</div>
</div>
<div class="row">
  <div class="col-lg-9">Content</div>
  <div class="col-lg-3">Sidebar</div>
</div>
```

The grid and screen sizes

On a laptop, this might work great...



But there's not enough room on a phone. So the columns take up the whole width, instead of displaying side by side.



You don't have to do anything to make this happen with Bootstrap, as long as you give the right class name to your divs. Sweet!

Examples

col-lg-9 = Display as 9 columns **if the screen is the large size or larger**, otherwise take up the whole width.

col-md-3 = Display as 3 columns **if the screen is the medium size or larger**, otherwise take up the whole width.