TailwindCSS

An API for your design system.

CSS Frameworks

What are they supposed to do?

- Make it easier to work against a design system
- Be extendable for more bespoke UI components

CSS Framworks

What are they NOT supposed to do?

- Make it hard to change the default styling
- Couple unwanted behaviour with style
- Be boring

Problems to solve

- Abstract/normalize browsers
- Provide a layout system with responsiveness
- Provide consistent spacing, colours, etc
- The ability to make changes with confidence

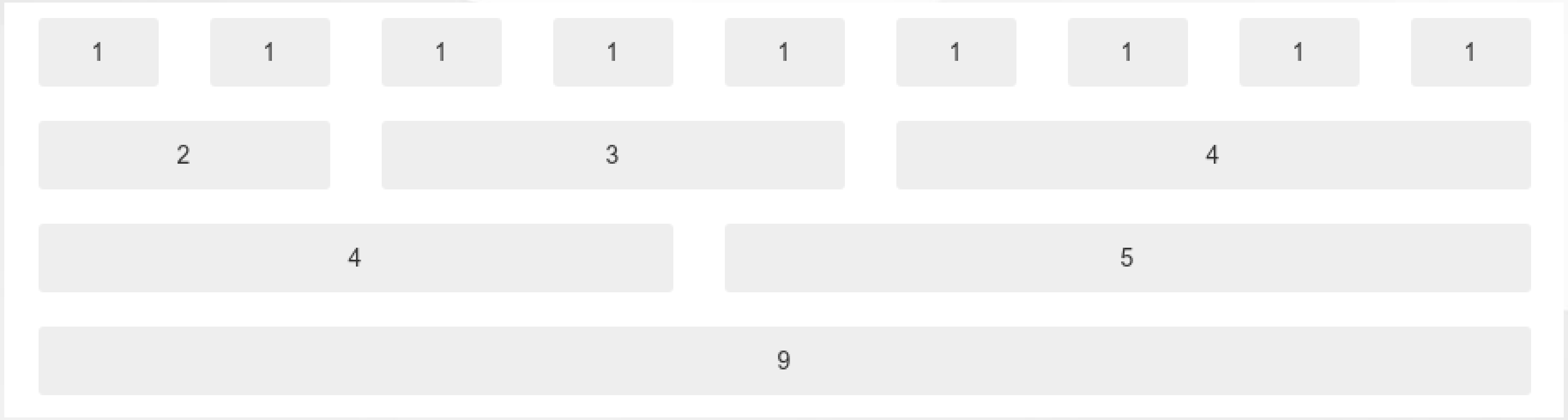
Types of CSS systems

- CSS Frameworks (Bootstrap, Bulma, Foundation)
- CSS-in-JS (Emotion, styled-components, Glamour)
- Web Components
- BEM / CSS Modules
- Utility-first CSS (Atomic, **TailwindCSS**)

Boostrap CSS

One of the originals.
Bootstrap is a CSS framework designed and developed by Twitter.

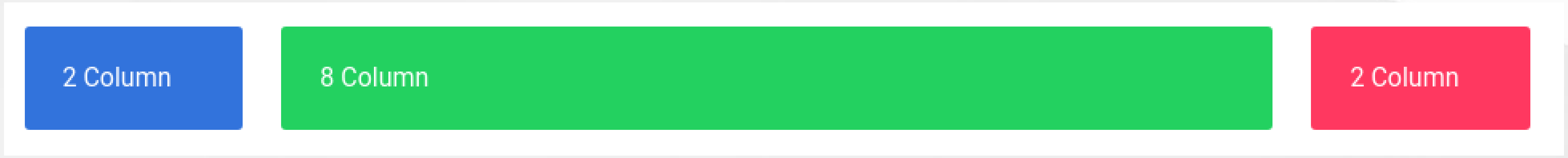
Giving designers a (960) grid and loads more...



Bulma example

Semantic class names.

```
<div class="columns">
    <div class="column is-2">
        <p class="notification is-info">2 Column</p>
    </div>
    <div class="column is-8">
        <p class="notification is-success">8 Column</p>
      ...
```



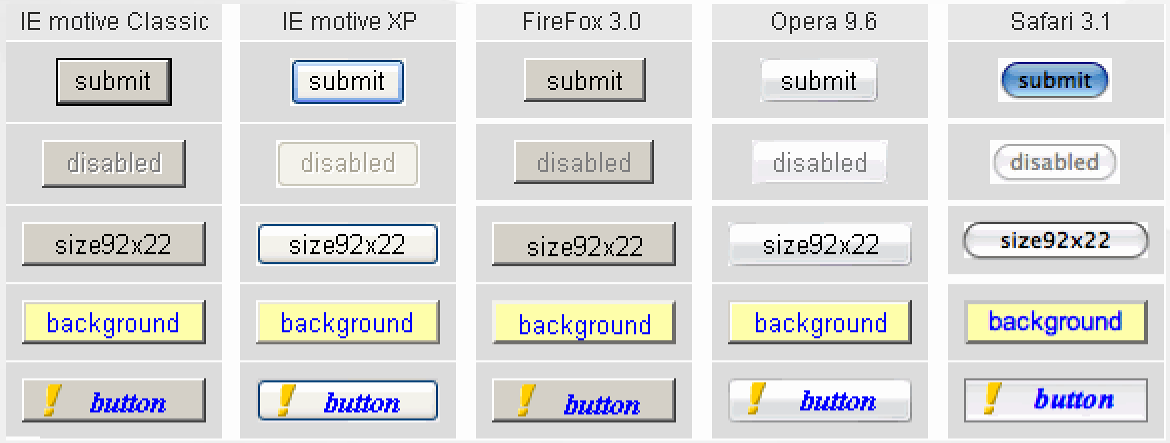
Do we need frameworks?

We now have browser support for a lot of built-in functionality and CSS preprocessors.

Normalize(.css)

Make browsers consistent - Normalizing has a standard polyfill today.

It's called normalize.css



IE motive Classic	IE motive XP	FireFox 3.0	Opera 9.6	Safari 3.1
submit	submit	submit	submit	submit
disabled	disabled	disabled	disabled	disabled
size92x22	size92x22	size92x22	size92x22	size92x22
background	background	background	background	background
button	button	button	button	button

CSS Preprocessors

Making it easier to write CSS.

- **Sass** - *Syntactically Awesome Style Sheets*
- **Less** - *LEaner Style Sheets*
- (CSS-in-JS) - More on this later

Consistent spacing, font sizes, colours.
Object oriented styles.

CSS Preprocessors

Making it ~~easier~~ messier to write CSS.

```scss
/* style.scss */
@import './colors'; /* Modularity through imports */

$primary: #123123; /* Variables for consistency */

a {
  color: $primary;

  &:hover { /* Nesting rules */
    color: darken($primary, 20%); /* Functions */
  }
}
```

Grids and modern CSS

Provide a layout system

In 2021 all modern browsers support Grid Layout.
As well as media query breakpoints for mobile, etc.

CSS Variables

Pretty much only IE 11 doesn't support it ✗

```css
:root { /* Just the global selector */
  --primary: #123123;
}

a {
  color: var(--primary, blue);
}
```

Cascading Style Sheets

Making changes with confidence
CSS (**Cascading**) Sucks.

Isolating components from each other to minimize madness.
Ways to address this:

- Block Element Modifier (B.E.M.)
- CSS Modules

BEM flat class names

```
.button {
        border-radius: 3px;
        padding: 7px 12px;
        border: 1px solid #D5D5D5;
}
.button--state-success {
        color: #FFF;
        border-color: #4A993E;
}
.button--state-danger {
        color: #900;
}
```

CSS Modules, like BEM but automatic.

Generates unique class names automagically

```css
a {
  color: blue;
  text-decoration: underline;
}
```

```jsx
import classes from './style.css'

const Link = (props) => <a className={classes.a} {...props} />
```

Yeilds: `<a class="a-5b2d5ecc" />`

Problems / solutions

- Abstract/normalize browsers: **normalize.css**
- Provide a layout system with responsiveness: **Grid Layout / @media()**
- Provide consistent spacing, colours, etc: **Preprocessor or CSS variables**
- The ability to make changes with confidence: **BEM / CSS Modules**

So utility-first CSS?

It's kinda silly.
One class for each rule.

```css
.inline {
  display: inline-block;
}
```

```html
<div class="inline">
   Hello
</div>
```

Utility-first CSS

```css
.grid {
  display: grid;
}
.grid-cols-3 {
  grid-template-columns: repeat(3, minmax(0, 1fr));
}
```

```html
<div class="grid grid-cols-3">
  <div> 1 </div>
  <div> 2 </div>
  <div> 3 </div>
</div>
```

Utility-first CSS - Challenges

Did you see `grid-cols-3`?
Since these are class names there is no way of providing arguments.

We have to cover all our bases...

```
.grid-cols-3 { grid-template-columns: repeat(3, minmax(0, 1fr)); }
.grid-cols-4 { grid-template-columns: repeat(4, minmax(0, 1fr)); }
.grid-cols-5 { grid-template-columns: repeat(5, minmax(0, 1fr)); }
/* ... /*
```

That's a lot of class names.

Enter TailwindCSS

TailwindCSS generates classes based on a config file.

This gives you two things:

1. You're able to extend TailwindCSS
2. You have a central place where you define your "sub-atoms"

What does TailwindCSS look like?

```
<div class="py-12 bg-white">
  <div class="max-w-7xl mx-auto px-4 sm:px-6 lg:px-8">
    <div class="lg:text-center">
      <h2 class="text-base text-indigo-600 font-semibold tracking-wide uppercase">Header</h2>
      <p class="mt-2 text-3xl leading-8 font-extrabold tracking-tight text-gray-900 sm:text-4xl">
        When you think you have enough classes...
      </p>
      ...
```

OMG it's aweful! Make it stop

How do I compose this?

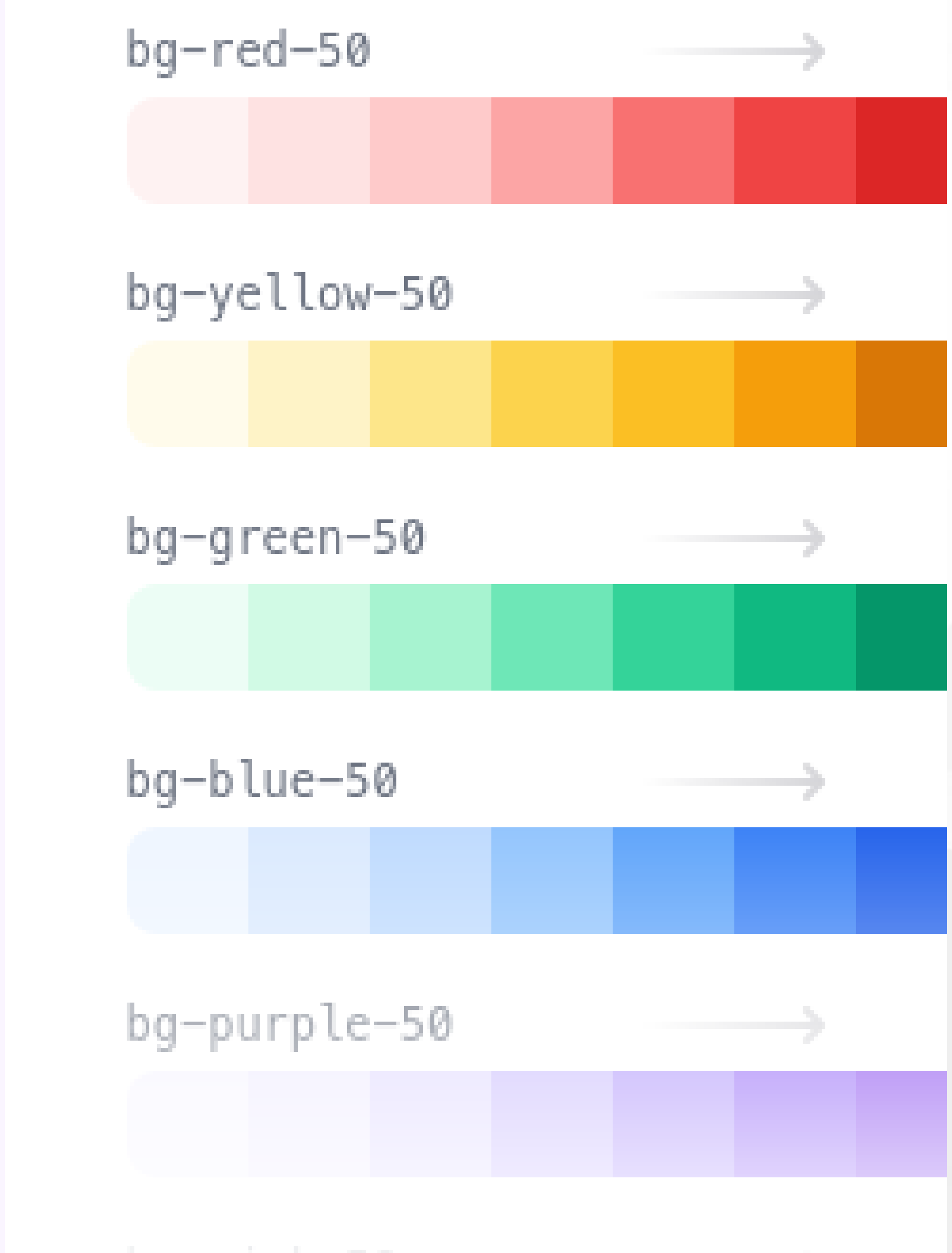
If you want to re-use styles, don't make a new CSS classes!
Use your frontend framework instead.

```
// React.js
const Link = ({link, children}) => {
  return (
    <a href={link} classNames="text-blue-400 hover:underline">
    { children }
    </a>
  )
}
```

Does this solve anything?

Problems / solutions

- Abstract/normalize browsers: **normalize.css** (Same)
- Provide a layout system with responsiveness: Yup, using **CSS standards**.
- Provide consistent spacing, colours, etc: **tailwind.config.js**
- The ability to make changes with confidence: **There is no cascading!**



Why is this better than <insert>?

Because you don't need to write CSS 😁

Oh, and because it's all about small composeable units.

Why do I like it?

- It scales well.
- You can safely change components. No more inhertience.
- You have a (small) central file for your sub-atoms.
- You stay in one file (your markup).
- Less magic.
- It's fun!

Bundle size

The default style sheet is fat (2.7mb!)

- https://unpkg.com/tailwindcss@^2/dist/tailwind.min.css

But we can purge them, reducing production css bundles
to around **16kb** or so!
It scans your code for classes you use and deletes all others.

Demo

- Installing TailwindCSS
- Using it for basic styles
- Adding a colour
- SVGs and icons
- One-off css
- Third party libraries and @apply

Links

https://github.com/ponelat/tailwindcss-example

https://TailwindCSS.com
https://TailwindUI.com
https://play.tailwindcss.com/