

Advanced CSS & Coding Right on Spec

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(Did you know Google had a Star Trek slide theme? I didn't!)

Grab the slides and examples from
<https://github.com/TheOneTAR/Refresh>



Make it so!

What We're Going To Do Today

- Rapid review of Intro CSS
- Selector Magic
- Lunch
- Fun CSS stuff
- Introduction to Designer Specs
- Tools helpful for developing to spec
- Hands on lab
- Profit!

CSS Refresher

- Cascading Style Sheet
 - A language for defining styles (color, size, etc) of HTML elements.
- Can be embedded inline, defined at the top of a document, or imported
- “Cascade” is in reference to how styles can be inherited, overridden, and inherited across multiple CSS definitions

Cascading Order

- Browser Default
- External Style Sheet
- Internal Style Sheet
- Inline Style

Basic Selectors

- element
- .class
- #id

Example 1

em vs px vs pt vs %

CSS allows 4 different units to define size, each with their own consequences.

You can define almost anything that takes a size value using one of these 4 units.

em

scalable unit that is a multiple of the current font size

If the base font size is 12pt, then

1em = 12pt

2em = 24pt

1.5em = 18pt

px

pixel, the single dot on a screen. This is the best way to get "pixel perfect", but it doesn't scale nicely for accessibility.

Think about it. 14px on a smartphone is much smaller than 14px on a desktop.

pt

points, the traditional print/paper size unit, at
 $1\text{pt} = 1/72$ of an inch.

It also doesn't scale nicely for accessibility.
16pt on a phone is large in comparison to the
phone size.

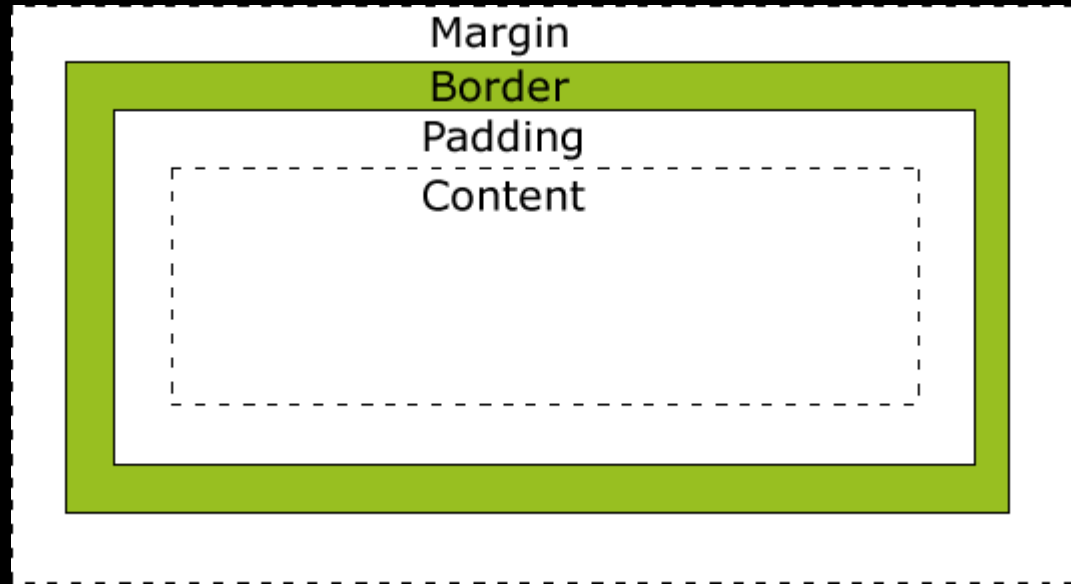
%

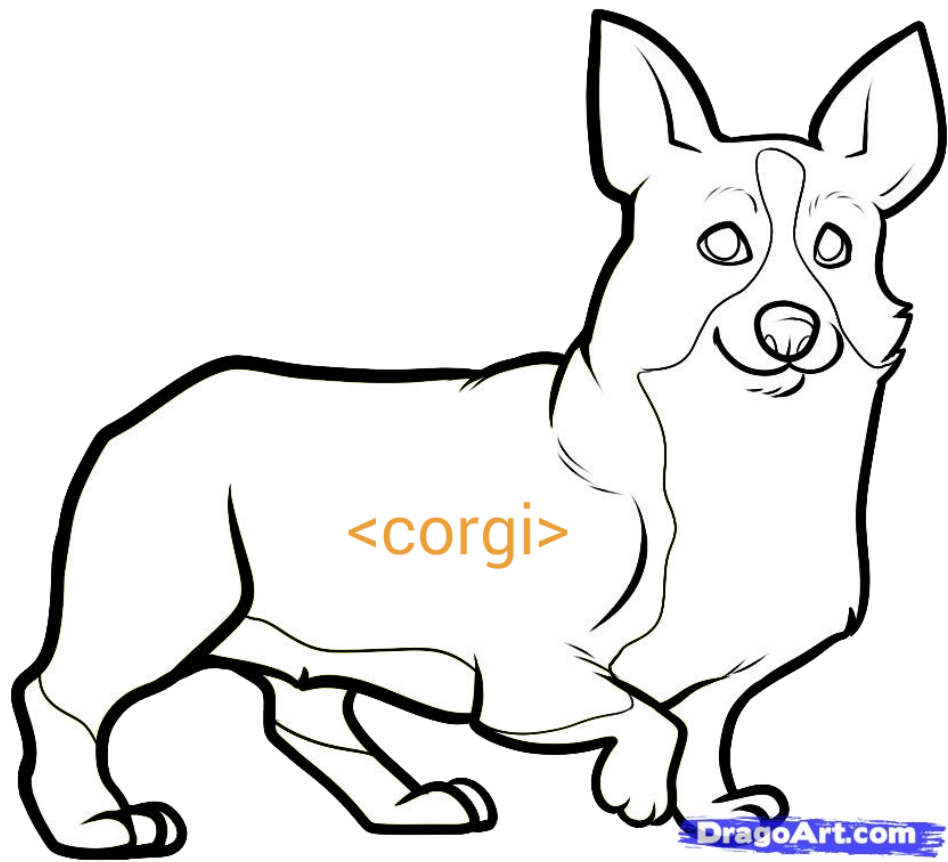
percent is similar to em in that it's a scalable unit, where 100% = the base font, or parent container

This is another good way to set size with accessibility in mind, but can be tougher to get "pixel perfect" look and feel.

Example 2

Anatomy of an Element/Box Model





padding

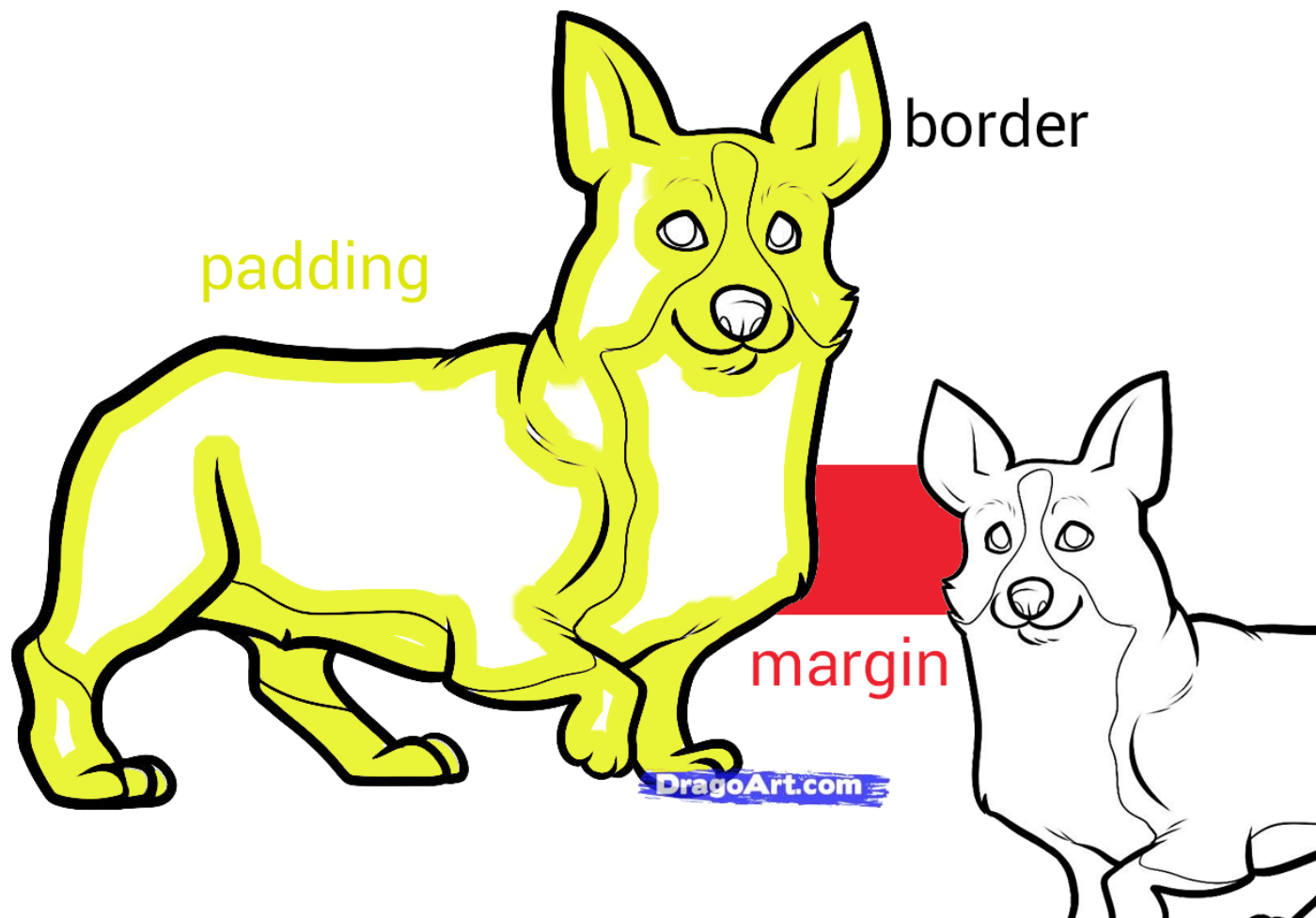


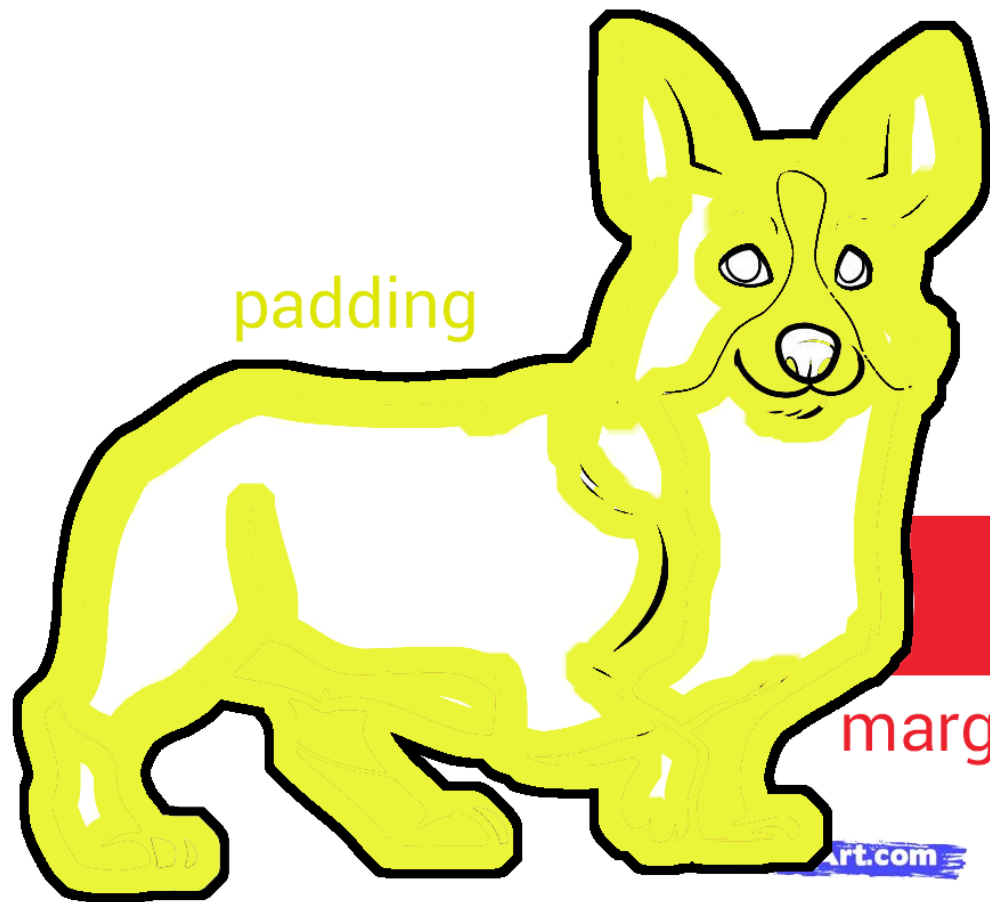


border

padding

DragoArt.com





border

margin



art.com



margin



Art.com

Padding

Padding is included within the size of the element, because it is inside the border.

- Percentage is in relation to its parent's width, including padding-top & padding-bottom – WEIRDNESS.
- Padding is also included in an element's click zone

Margin

Margin is independent of an element's size, but does relate to an element's parent.

- Percentages in margins are based on container's parent's width and height.

Margin (cont)

- Block elements have collapsing vertical margins – watch out!
 - The biggest place this comes into play is with stacked divs or images, where the element with the larger margin is the one honored, while the other is collapsed to zero. SitePoint has a better explanation of this, and it's exclusions: <http://www.sitepoint.com/web-foundations/collapsing-margins/>

Property Shorthands

For properties that affect all sides of an element/container (like padding, border, or margin), you can use the following shortcuts:

- `property: top right bottom left;`
- `property: top right&left bottom;`
- `property: top&bottom right&left;`
- `property: all-four-sides;`

Example 3

Positioning

The CSS positioning properties allow you to position an element. It can also place an element behind another, and specify what should happen when an element's content is too big.

Elements can be positioned using the top, bottom, left, and right properties. However, these properties will not work unless the position property is set first. They also work differently depending on the positioning method.

There are four different positioning methods

http://www.w3schools.com/css/css_positioning.asp

static

the default, normal way of positioning by the flow;
elements are not affected by top, right, bottom, and left
properties when they're statically positioned

fixed

the element is set in relation to the browser window and will not move, even if the page is scrolled; positioning is by the top, right, bottom, left properties.

absolute

similar to fixed, but instead of the browser window, the element is positioned in relation to the first parent element that has a position other than static. That's important – the FIRST parent that isn't static positioned.

It's often tempting to just `position: absolute` or `fixed` everything, but this makes sites extremely unresponsive to various screen sizes, or devices.

relative

a relative positioned element is positioned relative to its normal position in the flow; the space it would normally take up is still preserved, even though the element is not there. Relative elements are often used to contain Absolute elements.

Example 4

Selectors

There are a lot of ways to select elements in CSS3. A lot: http://www.w3schools.com/cssref/css_selectors.asp

You already know the basics, like elements, classes, and ids, so let's dive into the more interesting ones.

- **element, element**
 - `div,p,a` will apply the style to all `divs`, `ps`, and `as`
- **element element**
 - `div p` – Selects all `<p>` elements inside `<div>` elements
- **element>element**
 - `div>p` – Selects all `<p>` elements that are direct children of a `<div>` element
- **element+element**
 - `div+p` – Selects all `<p>` elements that are placed immediately after `<div>` elements
- **element~element**
 - `p~ul` –Selects every `` element that are preceded by a `<p>` element

Example 5

Attribute Selectors

- **[attribute]**
 - Selects all elements with an attribute of attribute
- **[attribute=value]**
 - Selects all elements with attribute="value"
- **[attribute~value]**
 - Selects all elements with an attribute containing the word "value" – Important bit: containing the WORD
- **[attribute*=value]**
 - Selects every element whose attribute value contains the substring "value"

Example 6

Pseudo Classes

A pseudo-class is used to define a special state or property of an element.

Pseudo Classes (cont)

- :first-child
- :last-child
- :empty
- :active
- :hover
- :invalid
- :not(selector)

Pseudo Classes (cont cont)

- :nth-child(n)
 - 'The :nth-child selector allows you to select one or more elements based on their source order, according to a formula. It is defined in the [CSS Selectors Level 3 spec](#) as a “structural pseudo-class”, meaning it is used to style content based on its relationship with parent and sibling elements.'
 - the formula = $an+b$

<https://css-tricks.com/almanac/selectors/n/nth-child/>

Example 7

float & clear

With CSS float, an element can be pushed to the left or right, allowing other elements to wrap around it.

float: right|left;

Elements after the floating element will flow around it. To avoid this, use the clear property.

The clear property specifies which sides of an element other floating elements are not allowed.

clear: right|left|both;

student example

Matt Drake



Student Bio:

I'm an aspiring developer that has moved across the country from Georgia to take part in this class. I have always had an interest in all things electronic, but recently realized that my passion was with developing. I spent 13 years as an IT professional.

Student Goals:

My goal is to find a great company in the Portland area to develop for. My wife and I have always wanted to live on the west coast, preferably here in Portland. Now we have a baby daughter that we definitely want to raise here.

Matt Drake [Email](#)

Matt Drake [GitHib](#)

Cross Browser Fun!

Some properties in CSS require vendor prefixes to work in specific browsers.

Why?

Because CSS3 took so long to finalize, and browsers wanted to be able to leverage the styles.

<http://peter.sh/experiments/vendor-prefixed-css-property-overview/>

To save sanity, leverage Autoprefixer: <https://css-tricks.com/autoprefixer/>

border

Borders are one of the most powerful properties of an element. You can do a lot with borders.

- Size
- Style
- Color
- border-radius <https://css-tricks.com/almanac/properties/b/border-radius/>

Example 8

box-shadow

Box-shadow is essentially the same as the Photoshop “drop-shadow”

<https://css-tricks.com/almanac/properties/b/box-shadow/>

```
box-shadow: none|h-shadow v-shadow blur spread color |inset|initial|inherit;
```

Example 8 (again!)

gradient

CSS3 gradients let you display smooth transitions between two or more specified colors.

- Linear Gradients (goes down/up/left/right/diagonally)
- Radial Gradients (defined by their center)

Fun fact, this is how you add transparency to elements!

http://www.w3schools.com/css/css3_gradients.asp

Example 8 (again again!)

Embedding Fonts

```
@font-face {  
  font-family: myFirstFont;  
  src: url(sansation_light.woff);  
}
```

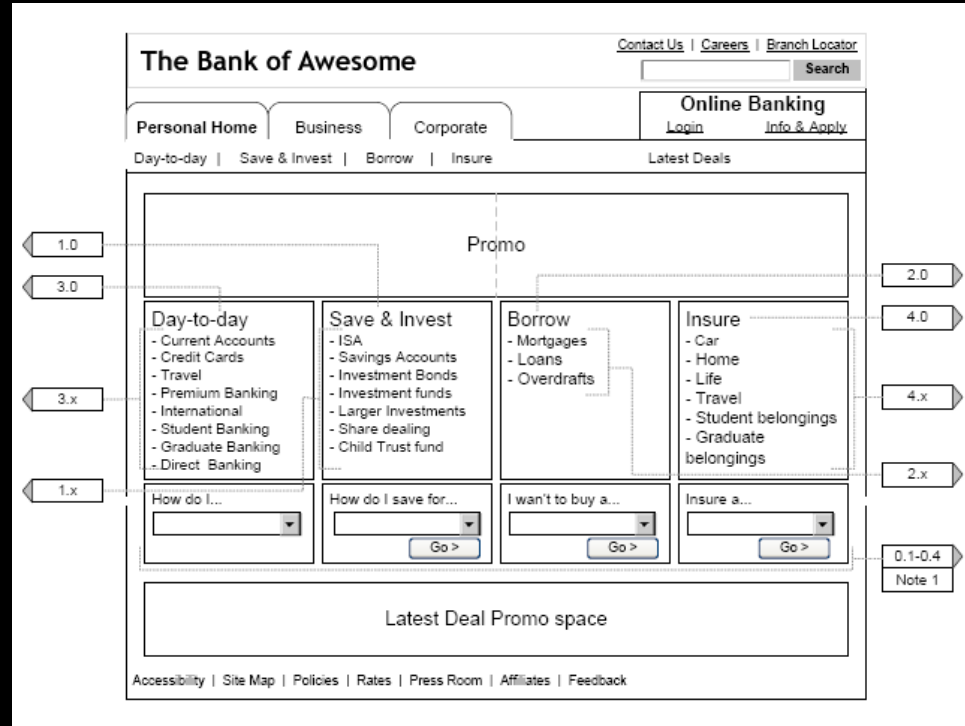
<https://www.google.com/fonts>

The background is black with several colored geometric shapes. On the left, there is a vertical purple bar and a blue L-shaped block at the bottom. A horizontal bar at the bottom is divided into four segments: purple, light purple, yellow, and red. On the right, there is a red L-shaped block and a yellow vertical bar at the bottom right.

**And now for
something
completely
different**

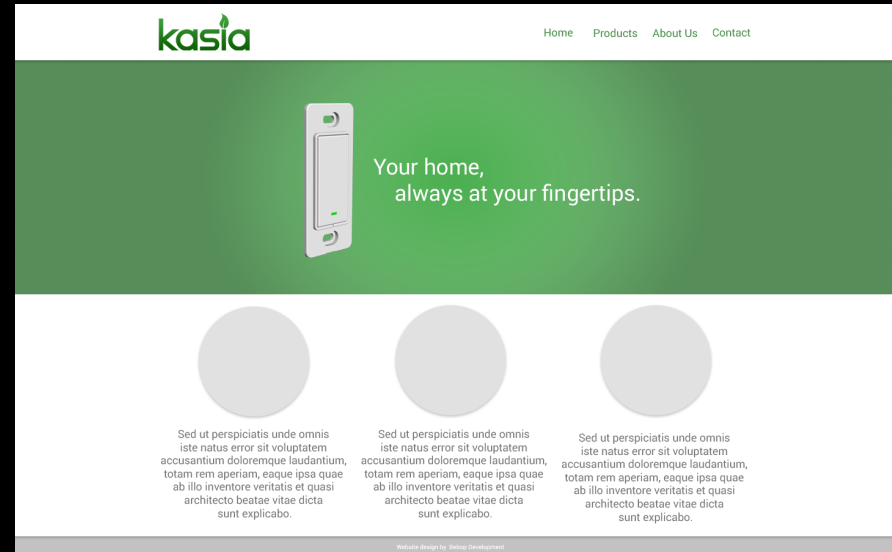
Developing to Spec – Wireframes

Wireframes are the blueprints of a design – they outline the components, general placement, and interaction.



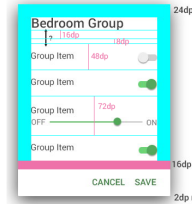
Designing to Spec – Mockups

Mockups are realistic representations of a design – with all the colors, positioning, and elements flushed out. Mostly.



Designing to Spec – Specs

Specs are essentially mockups with specifications and rules for the design outlined. Redlines



Titles have 16dp of padding below them.
The list has 8dp of padding on top.



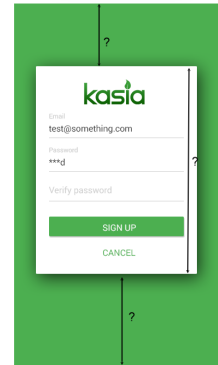
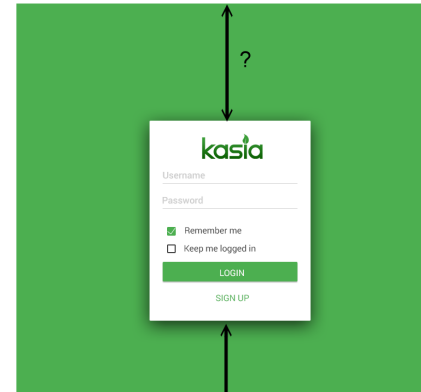
16dp
8dp

Note that buttons are 48dp in height, but only have colored area of 36dp, as per Google Specs.

Use Google's location service?
Let Google help apps determine location. This means sending anonymous location data to Google, even when no apps are running.

DISMISS AGREE

* Not to scale



Helpful Tools

Chrome Ruler – Helpful for when there's no specs

Colorzilla – Color picker widget

Kasia.com



Remember! `css-tricks` and `w3schools` are your friend!