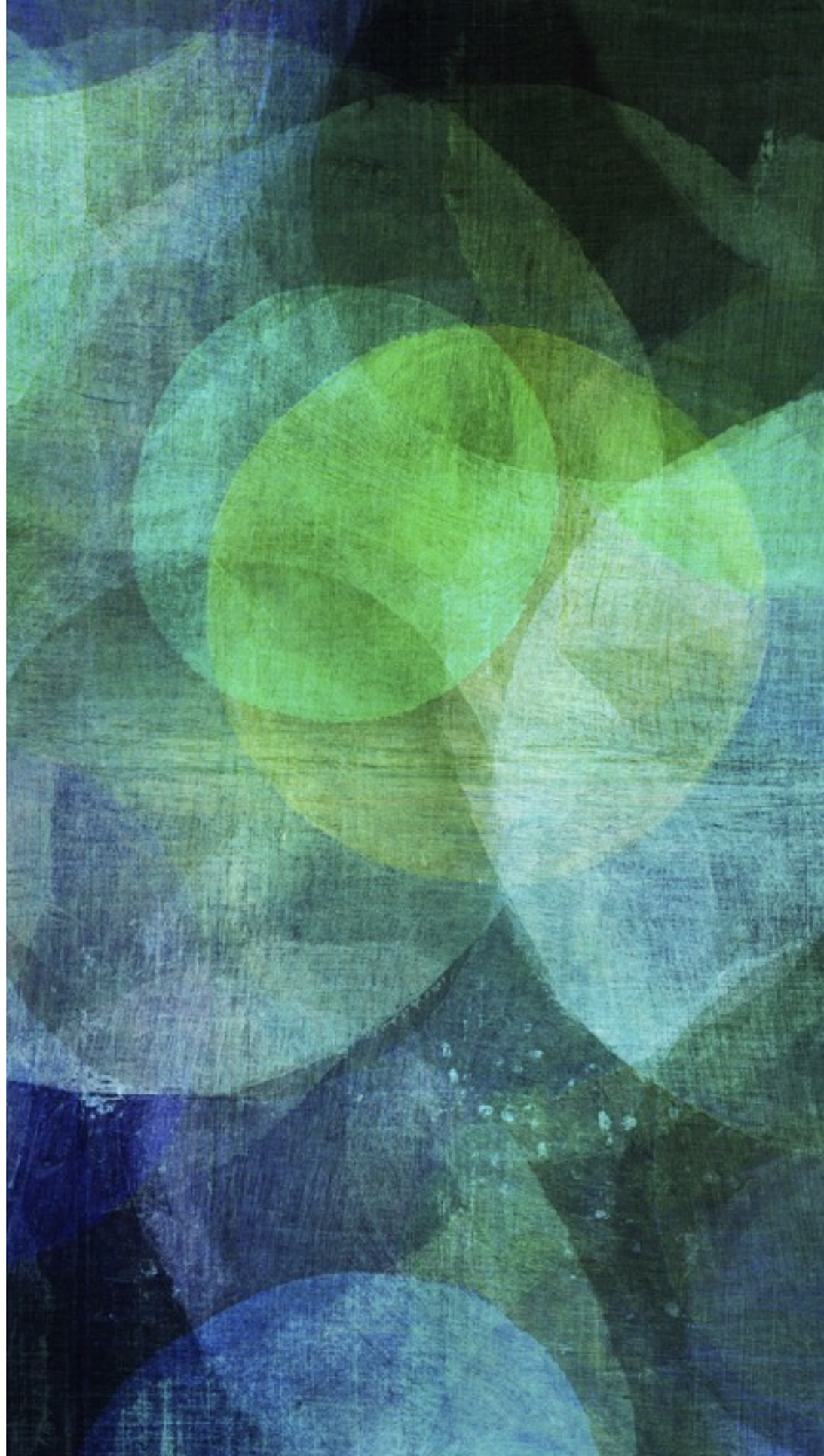
HTML + CSS

ScottyLabs WDW
Scott Krulcik

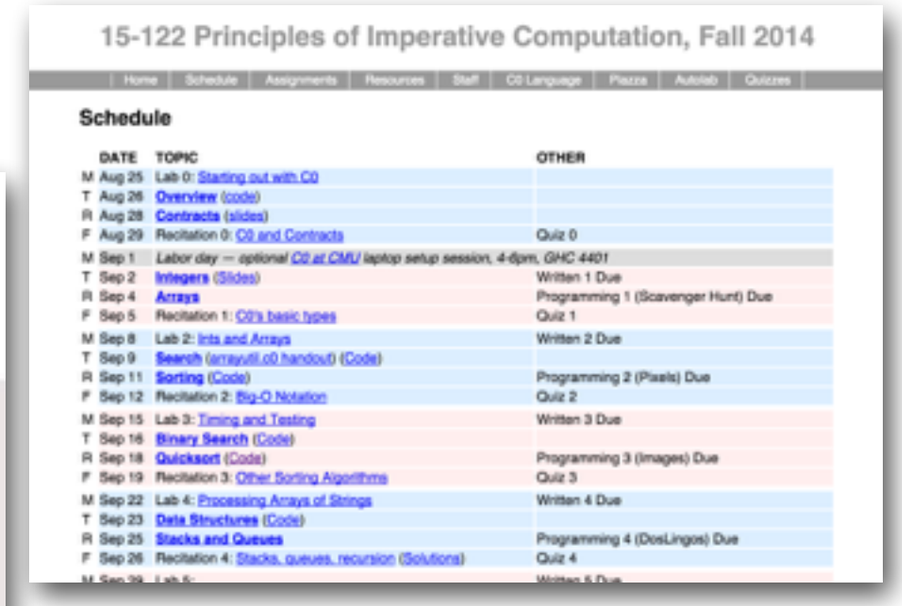
OVERVIEW

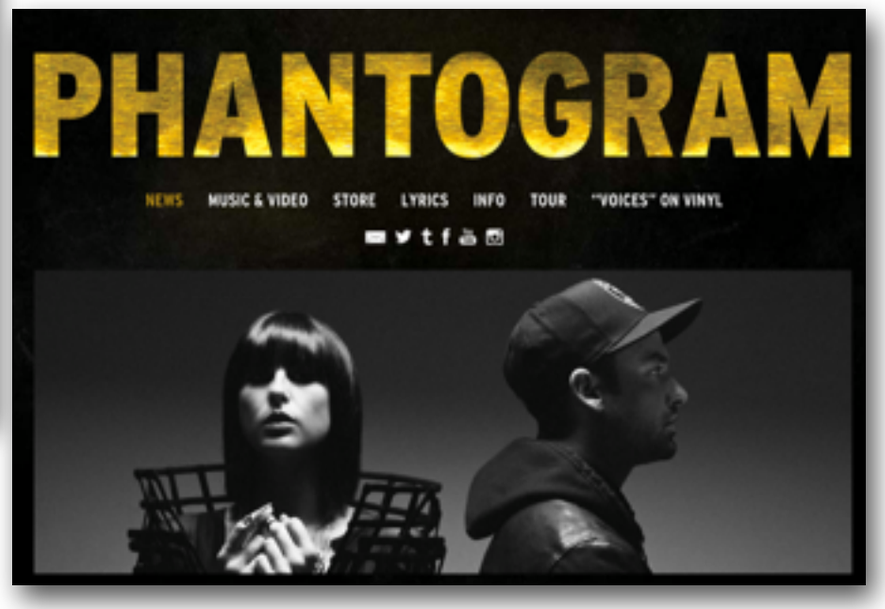
What are HTML and CSS?
How can I use them?



WHAT ARE HTML AND CSS?

- HTML - HyperText Markup Language
  - Specifies webpage content hierarchy
  - Describes *rough* layout order of content
- CSS - Cascading Style Sheets
  - Tells the browser how the content should look when displayed
  - Allows for fine-tuned control of layout
  - Responsible for “responsive” designs





*With just HTML and CSS, we can build a complete **Static Website**.*

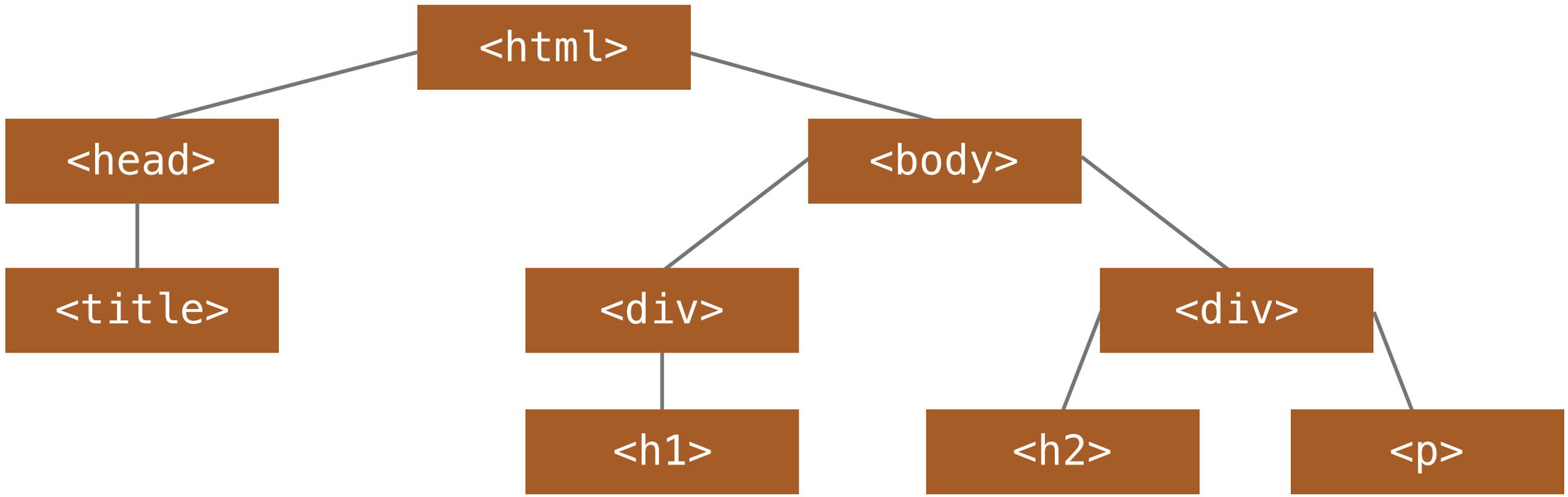
*We cannot build **Dynamic Websites** that adapt to different data.*

THE DOM

DOCUMENT OBJECT MODEL

Known as the “DOM” the Document Object Model is a convention that describes the hierarchal organization of page “elements”. It can be visualized as a tree, with the usual *parent*, *child* and *sibling* terminology used to describe element relationships.

THE DOM



- Each HTML element is an object, with its own style properties
- The DOM describes the inheritance structure of CSS
- The DOM also defines how to manipulate HTML elements dynamically (check this out in the Javascript presentation!)

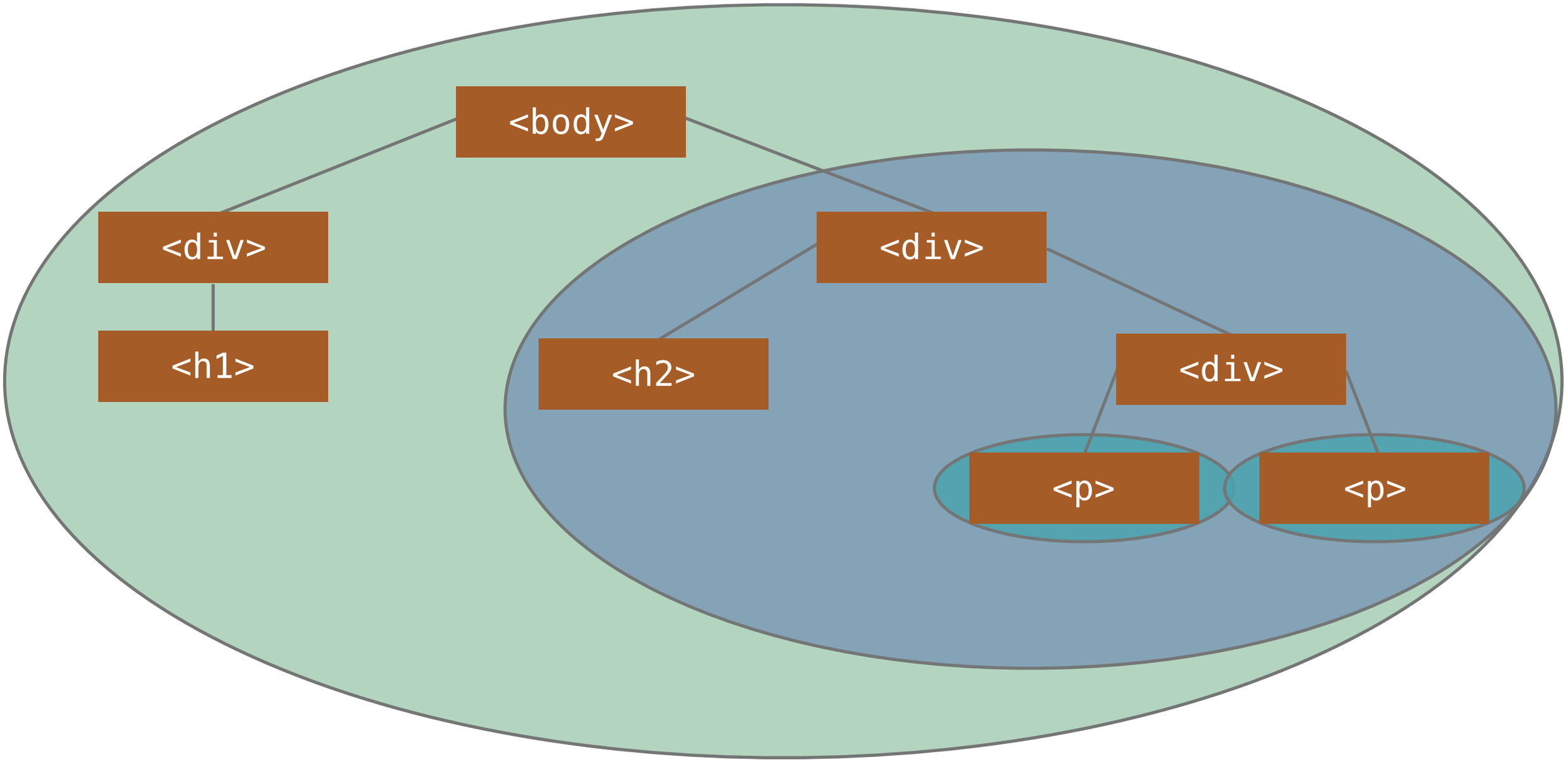
CSS STYLING


Sergey Brin's Home Page
Ph.D. student in Computer Science at Stanford - sergey@cs.stanford.edu
Research
Currently I am at Google.
In fall '98 I taught CS 349.
Data Mining
A major research interest is data mining and I run a mee at Stanford. For more information take a look at the MIDAS home page or s ling list achive. Here are some recent publications:
Extracting Patterns and Relations from
by Sergey Brin.
We demonstrate a technique for extracti n the duality of patterns and relations. We experiment with it by extracting a T '98 (postscript).
Dynamic Data Mining: A New
by Sergey Brin and Lawrence
We describe a new archite se of some of the dynamic itemset counting technol
Work in progress. (posts
Scalable Techniques for M
by Craig Silverstein, Sergey Brin, Rajeev Motwani, and Jeff Ullman.
We address mining for causality, not just correlation in data.
To appear in VLDB '98. (abstract , gzipped ps)
Dynamic Itemset Counting and Implication Rules for Market Basket Data
by Sergey Brin. Rajeev Motwani, Jeffrey D. Ullman and Shalom Tsur.
We present and algorithm for counting large itemsets faster than previous algorithms. We rely on partial results to guide the mining process.
Proceedings of the ACM SIGMOD International Conference on Management of Data, pp. 255-264, Tuscon, Arizona, May 13-15 1997. (html , postscript, gzipped ps, bibtex)
Beyond Market Baskets: Generalizing Association Rules to Correlations

CSS STYLING

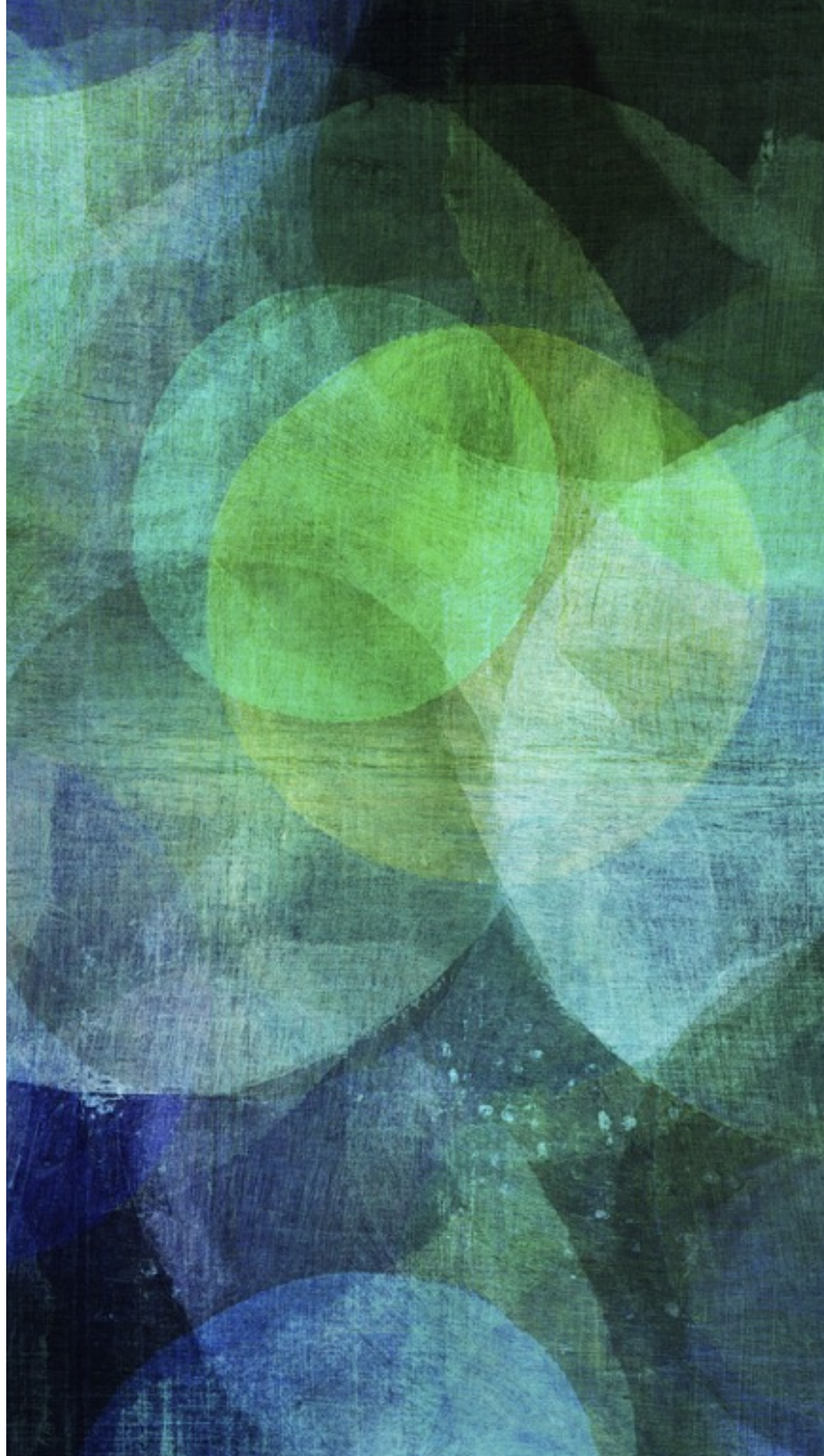

Nicola Rider
Web Designer / Art Director
HOME
RESUME
PROJECTS
CONTACT
llo,
bout me:
MY WORK
MY SKILLS
I'm a paragraph. Click here to add your own text and edit me. It's easy. Just click "Edit Text" or double click me and you can start adding your own content and make changes to the font. Feel free to drag and drop me anywhere you like on your page. I'm a great place for you to write more. Tell a story and let your users get to know you.

C FOR CASCADING



HTML TAGS

Components to compose webpages.



HTML TEMPLATE

```
1  <!DOCTYPE html>
2  <html>
3    <head>
4      <title>WDW Template</title>
5      <link rel="stylesheet" href="style.css">
6    </head>
7    <body>
8      <!-- Content Here -->
9    </body>
10 </html>
11
```

- `DOCTYPE` tells the browser how to parse the file
- `html` tags surround all HTML in the document
- The `head` section is where you set the title, and load stylesheets (more on this later)
- The `body` section is where the actual content of the page is written
- Download this from ####

FOLLOWING ALONG

skottyk.github.io/WDW_HTMLCSS

COMMENTING

```
<!-- Comment Text -->
```

HTML is mostly self-documenting, so only use comments where they are really needed.

DIV TAGS

```
<div> Content </div>
```

- Organizes content areas into logical blocks
- Guides the browser laying out the page to bundle groups of tags together
- Very useful for more complex CSS layouts

DIV TAG EXAMPLE

Harry Bovik

Contact: skrulcik@gmail.com

Work Experience

Software Engineer - *Carnegie Mellon*

Researching stuff that has to do with computers. Somehow related to *science*. Gotta love that scienc
And those *Computers*. Was awarded many awards for award-worthy accomplishments.

Software Development Intern

Worked on **really important** stuff. More stuff about jobs and crap. Responsibilty. **Big Data. Responsive Design. Agile Development.** Buzzwordified description of basic tasks.

Note how the most important words are bolded by using the *strong* tag.

Mad *Skillz* Yo

Nunchuck skillz

Bow hunting skillz

Computer hacking Skillz

HEADER TAGS

```
<h1>,<h2>,...,<h6>
```

Used to denote prominent text such as:

- Title
- Subtitle
- Section Header

The number indicates prominence, with 1 being most prominent and 6 least prominent.

HEADER TAG EXAMPLE

h1 → **Harry Bovik**

Contact: skrulcik@gmail.com

---

h2 → **Work Experience**

Software Engineer - *Carnegie Mellon*

Researching stuff that has to do with computers. Somehow related to *science*. Gotta love that scienc
And those *Computers*. Was awarded many awards for award-worthy accomplishments.

h3 → **Software Development Intern**

Worked on **really important** stuff. More stuff about jobs and crap. Responsibilty. **Big Data. Responsive Design. Agile Development.** Buzzwordified description of basic tasks.

Note how the most important words are bolded by using the *strong* tag.

Mad *Skillz* Yo

Nunchuck skillz

Bow hunting skillz

Computer hacking Skillz

PARAGRAPH TAGS

```
<p></p>
```

- Standard way to denote a large block of text
- **<p>** tags add spacing between each other, if you want text with no spacing, it must be within the same **<p>** tag

P TAG EXAMPLE

h1 → **Harry Bovik**

Contact: skrulcik@gmail.com

---

h2 → **Work Experience**

Software Engineer - *Carnegie Mellon*

Researching stuff that has to do with computers. Somehow related to *science*. Gotta love that scienc
And those *Computers*. Was awarded many awards for award-worthy accomplishments.

h3 → **Software Development Intern**

Worked on **really important** stuff. More stuff about jobs and crap. Responsibilty. **Big Data. Responsive Design. Agile Development.** Buzzwordified description of basic tasks.

Note how the most important words are bolded by using the *strong* tag.

Mad *Skillz* Yo

Nunchuck skillz

Bow hunting skillz

Computer hacking Skillz

HEADER TAGS

```
<strong></strong>
```

Makes text bold

```
<em></em>
```

Emphasizes text (usually italics)

IN-LINE TAG EXAMPLES

em

Work Experience

Software Engineer - *Carnegie Mellon*

Researching stuff that has to do with computers. Somehow related to *science*. Gotta love that science. And those *Computers*. Was awarded many awards for award-worthy accomplishments.

Software Development Intern

Worked on **really important** stuff. More stuff about jobs and crap. Responsibilty. **Big Data. Responsive Design. Agile Development.** Buzzwordified description of basic tasks.

strong

HEADER TAGS

```
<ul></ul>
```

Un-ordered (bulleted) list

```
<ol></ol>
```

Ordered (numbered) list

```
<li></li>
```

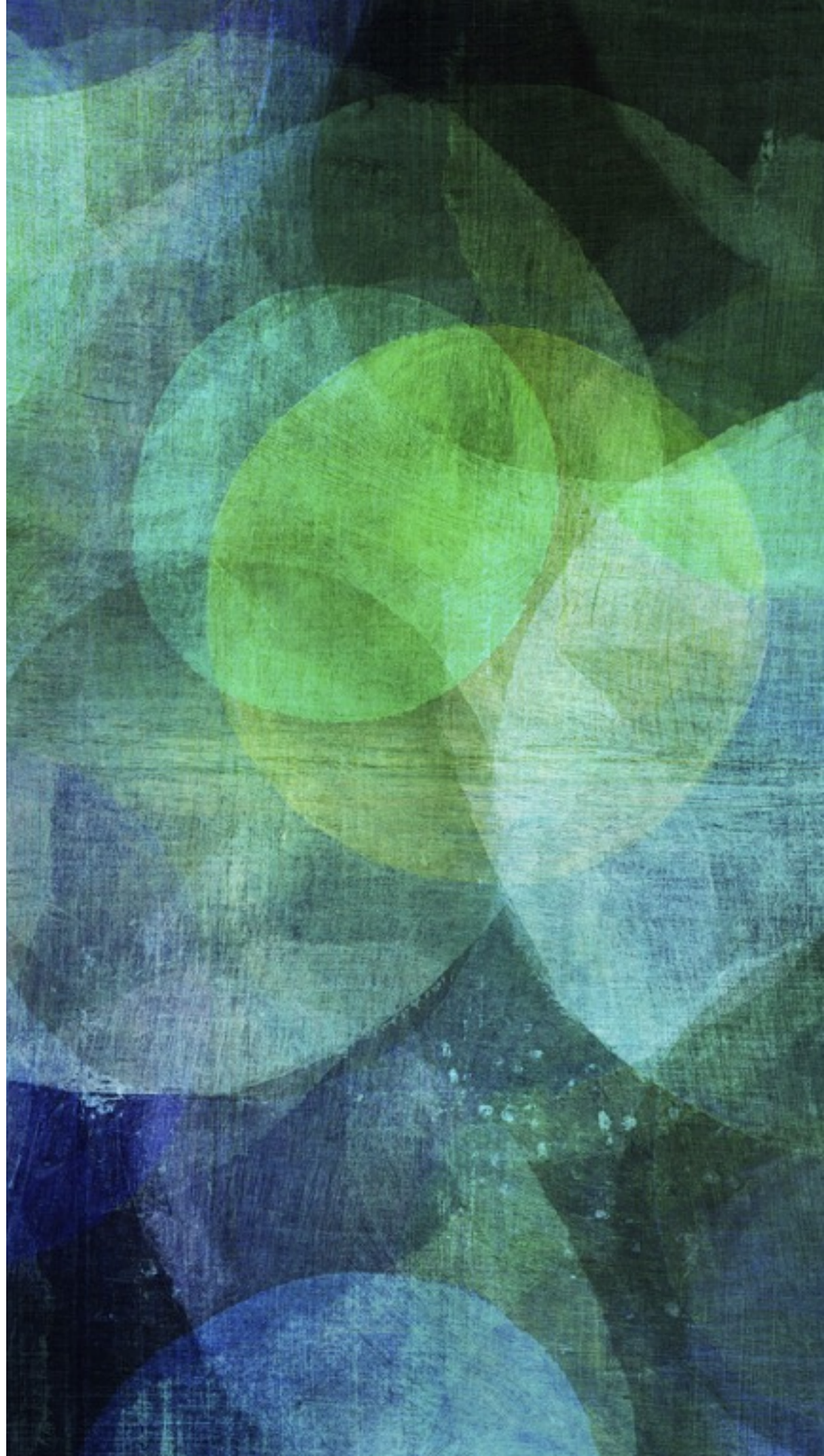
“List Item” - these tags go around each line/object in the list

SUMMARY OF TAGS

Tag	Purpose
`div`	Organize and group similar content
`h[1,6]`	Make titles/headers prominent
`p`	Organize body text
`strong`	Bold key words
`em`	Emphasize (italicize) key words
`ul/ol`	Bulleted list/Numbered List
`a`	Link to pages or sections
`table`	Make a table
`im`	Image

CSS PROPERTIES

Making HTML look less poopy.



READING CSS CODE

Selector
Defines which part of the DOM tree is affected.

```
1   h1, h2 {
2       font-family: 'Roboto', sans-serif;
3       background-color: #E3E4E5;
4       color: #0F0F0F;
5       display: block;
6       padding-right: 1em;
7   }
```

Property
Properties control color, fonts, layouts, etc.

Value
Can be a size, hex color, or pre-defined value

CSS SELECTORS

```
div
```

You can use any tag (div,h1,p, etc.) as a selector.
It selects ALL elements of that tag.

```
#my-id
```

Denoted by octothorpe/hashtag. Selects one specific element by id (this is preferred to “style=“ in HTML)

CSS SELECTORS

```
.my-class
```

Denoted by leading period. Selects ALL elements of a given class.

```
<div class="my-class"></div>
```

Adding a class in HTML

COMPOUND SELECTORS

```
selector1 selector2
```

Space Separated: Applies to all elements of **`selector2`** that are descendants of **`selector1`**

```
selector1 > selector2
```

> Separated: Applies to all elements of **`selector2`** that are *direct* children of **`selector1`**

COMPOUND SELECTORS

```
selector1, selector2
```

Comma Separated: Applies style to all elements satisfying any of the selectors.

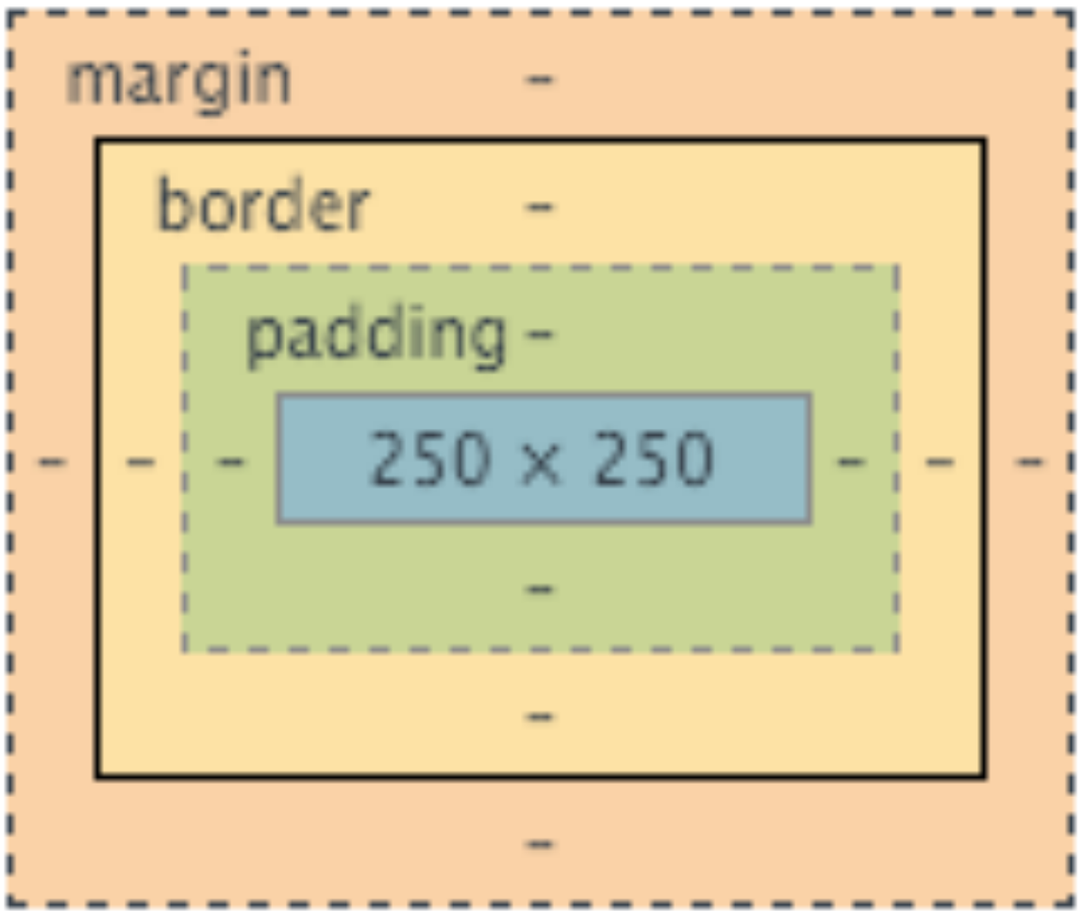
```
div.my-class.otherclass
```

Specific class: applies to all elements satisfying selector, that are of the given class.

CSS FONTS

- Changing fonts completely changes the look and feel
- Want to make a bad website look good quickly? Just change it to a nicer font!
- Google Fonts
  - Massive Open Source font collection
  - Free for commercial use 👍
  - Loads from their servers, which are definitely faster than whatever you are using

THE BOX MODEL



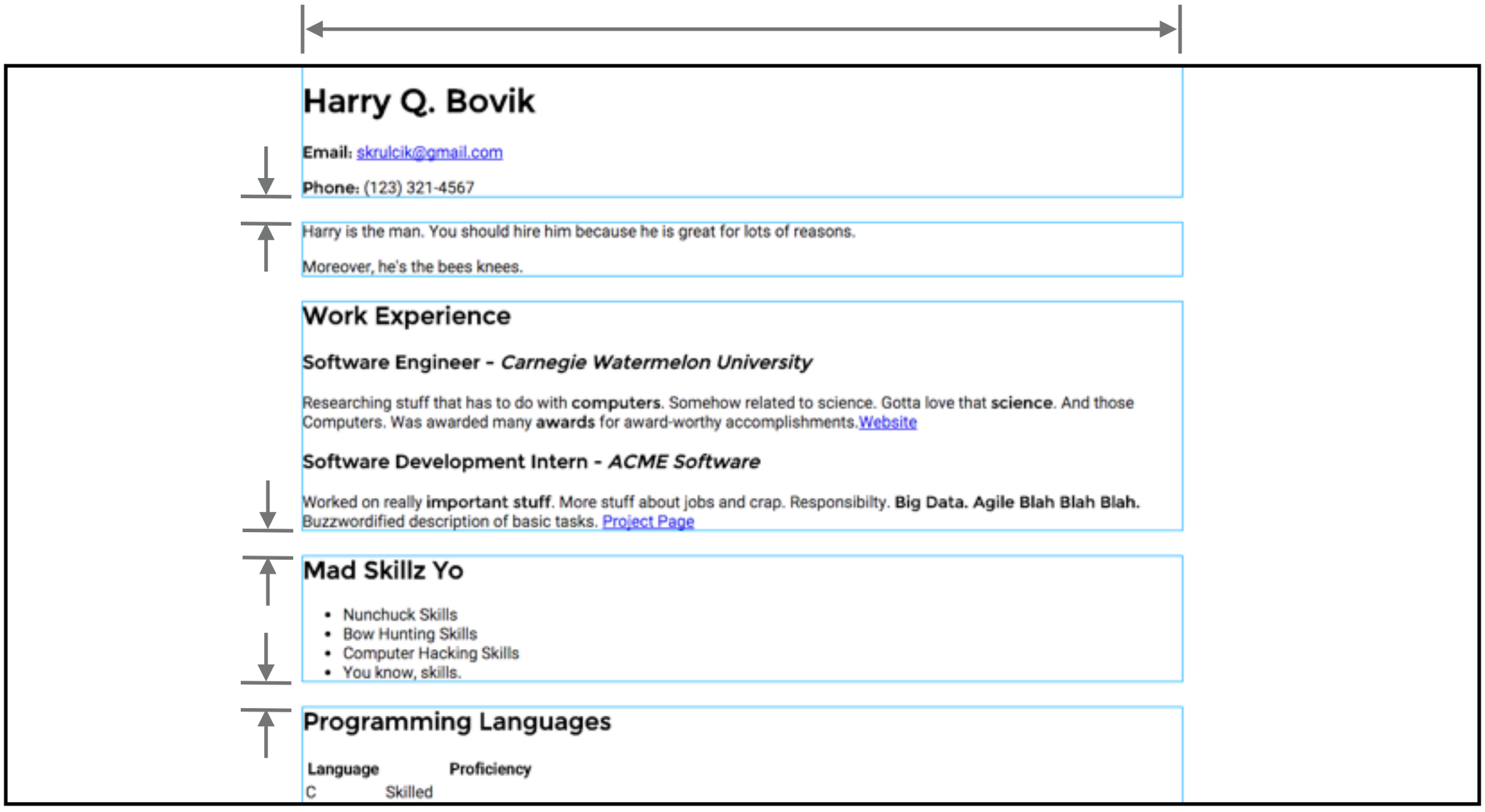
- Describes multiple CSS properties in one simple diagram
- Can be used to define spacing and layout for a DOM element
- Editable box model available via Google Developer Tools

LAYOUT PROPERTIES

- **`margin`** - Amount space between elements at the same level in the DOM tree
- **`border`** - Defines the line surrounding element
- **`padding`** - Size of inset space between an object border and its content
- **`width/height`** - Exactly what you would expect
- These properties take scalar values either in the following formats: "**`<num>px`**" for pixels, "**`<num>%`**" for percent of width, "**`<num>em`**" for size based on regular font size.

CSS LAYOUT EXAMPLE

```
margin-bottom: 1.53m;
width: 60%;
```



CSS COLOR

```
color: #046380;
```

- CSS supports Hex colors (**#FFFFFF** = white, **#FF0000** = red) and built-in colors like black, teal, and red

- Properties to define color:
  - **color** - specifies foreground (text) color
  - **background-color** - specifies background color
  - **border-color** - used instead of **border** property if you want to specify color of border only

CSS SHADOW

```
box-shadow: 5px 5px 5px #888888;
```

Order of arguments:

1. Horizontal Offset
2. Vertical Offset
3. Blur Radius (Optional)
4. Color (Optional)

The **`text-shadow`** property has the same options.

CSS FLOAT PROPERTY

```
float: right;
```

- Allows text and other elements to wrap around the floated object (think the images in a news article)
- Float can be **`none`**, **`left`**, **`right`** or **`inherit`**
- Using floating, and the **`display`** property, we can put multiple divs on the same line

CSS DISPLAY PROPERTY

```
display: block;
```

- Defines how the browser tries to arrange the elements on the page
- Over 20 possible values, some basics:
  - **`inline`**: think **`<em>`** or **`<strong>`** tag
  - **`block`**: put in its own vertical area, like **`<p>`** tag
  - **`flex`**: designed for dynamic sized blocks to occupy the same vertical area

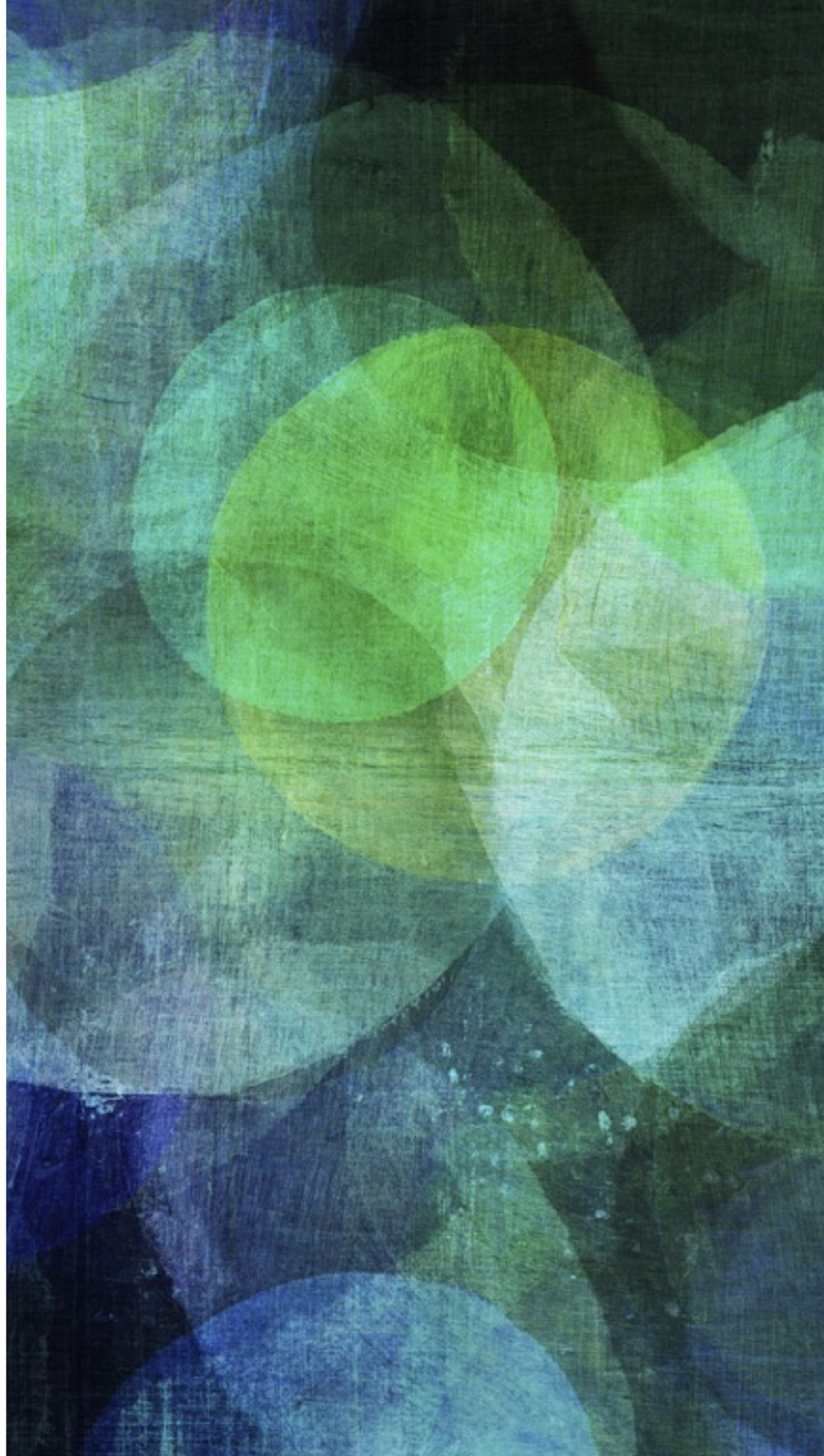
RESPONSIVE DESIGN – CSS MEDIA QUERIES

```
@media (max-width: 600px) {}
```

- Media queries allow us to change CSS based on properties of the device and browser
- Often used to make “mobile-optimized” versions of sites
- Common Queries:
  - **`max-width`**, **`min-width`**, **`width`**
  - **`max-aspect-ratio`**, **`min-aspect-ratio`**, **`aspect-ratio`**

RESOURCES

Where to go next!



RESOURCES

https://github.com/SkottyK/WDW_HTMLCSS/wiki/Resources-For-Future-Exploration