

The background is a dark navy blue. In the top-left and bottom-left corners, there are overlapping geometric shapes in shades of blue, green, orange, and red. In the top-right and bottom-right corners, there are overlapping geometric shapes in shades of green, blue, purple, and orange. The text is centered in the middle of the image.

# **HCDE 438**

# **MODERN**

# **WEB**

## **DEVELOPMENT**

***hello!***

# Today

- › Intro and course logistics
- › Fill out the pre-course survey
- › Break (15mins)
- › Brief tour of HTML and CSS
- › Lab-time! Get started on your portfolio!

# **Your instructors**

Hannah Twigg-Smith

Raina Langevin

## Course details: COVID

```
if (symptomatic == true) {  
    stayHome();  
}  
// this goes for instructors too
```

# Course details: communication

Discord: for all chatter and discussion, Q&A

Please set your Server Profile nickname to match or approximate your Canvas course name so we know who you are.

Announcements cross-posted between Discord and Email

Email instructors for personal/academic matters

# Logistics: Discord

- › Do NOT message instructors on Canvas!  
Use Discord (or email for personal matters) instead.
- › Instructors will repost any private messages with technical questions in the appropriate public channels

# Logistics: Assignments

- Portfolio
- Mini-projects: browser extension, audio visualizer, game
- Dev reflections
- Cheatsheet
- Final Project: Proposal, iteration one, final version



# Logistics: Grading

- › Portfolio site: 10%
- › Mini Projects: 40%
- › Hair-Tear Shares: 10%
- › Final Project: 30%
- › Peer Teaching: 10%

***Take the course intro survey!***  
***Linked on Canvas home page***

# **Already forgot to mention office hours...**

- › Hannah: Wednesdays 10-12
- › Raina: Fridays 1-3 on Zoom
- › Additional hours by request!

## Breakout activity, 4 minutes

- › Introduce yourselves
- › Calculate your group's coding experience in years and months (YY.MM)
- › Report back (so nominate a reporter)
  - › Names
  - › Total experience in years and months

**What even is a “web technology”?**

# Three main components

- › *Content*: HTML
- › *Style*: CSS (or LESS, SASS, SCSS)
- › *Function*: JavaScript (or Typescript, Coffeescript)

# **Brief tour of fun things!**

[https://developer.mozilla.org/en-US/docs/  
Web/Demos](https://developer.mozilla.org/en-US/docs/Web/Demos)

# **What else?**

What about the browser?



# Desktop

- › 66.18% Chrome (and variants: Brave)
- › 11.17% Edge
- › 9.59% Safari
- › 7.1% Firefox
- › 3.29% Opera

# Mobile

- › 66.23% Chrome
- › 24.14% Safari
- › 4.54% Samsung Internet
- › 1.66% Opera
- › 0.47% Firefox

# HTML/CSS

## Introduction

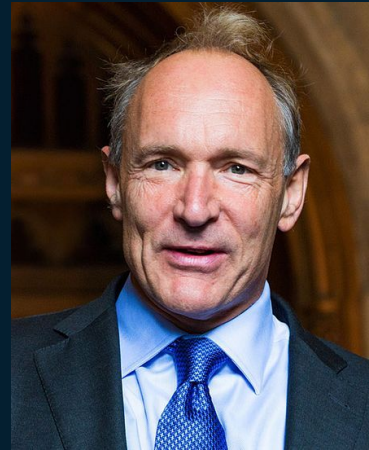


# History of the web

1989, researcher Tim Berners-Lee created the World Wide Web while working at the

**The CERN institute in Switzerland**

- › HTTP: HyperText Transfer Protocol
- › HTML: HyperText Markup Language
- › Ran on Steve Jobs' NeXT OS



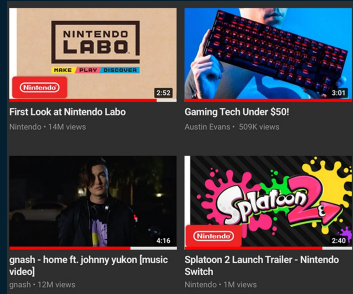
# More history

- **1995:** Netscape releases Javascript and the **Document Object Model**, allowing web pages to be partially interactive
- **2000:** CSS is introduced in Windows IE
- **2005:** The DOM and Javascript is adopted by all browsers
- **2012:** The HTML5 standard is released, finally making the web a viable platform for fully interactive applications.
- **2017:** Javascript gets an update with ES6



# HTML5

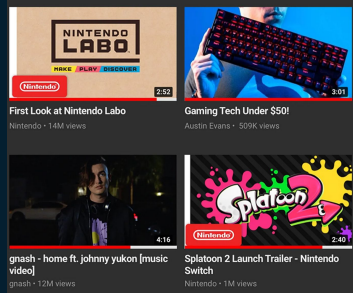
## Video





# HTML5

## Video



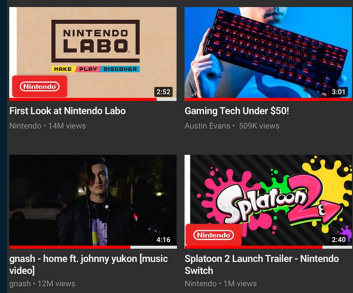
## Animations





# HTML5

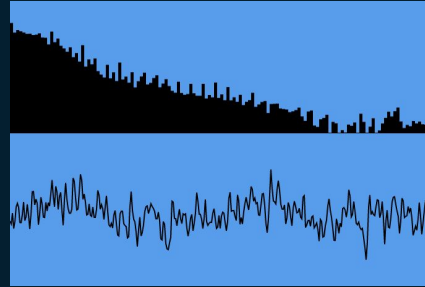
## Video



## Animations



## Audio

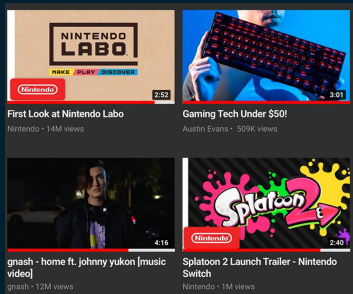




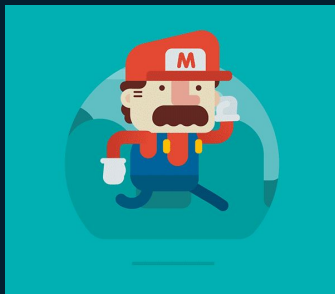


# HTML5

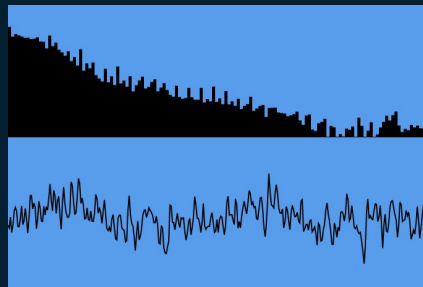
## Video



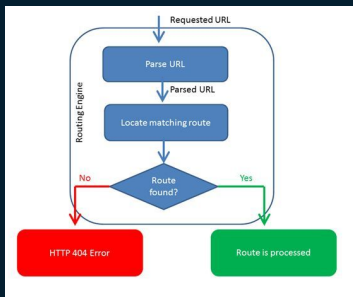
## Animations



## Audio



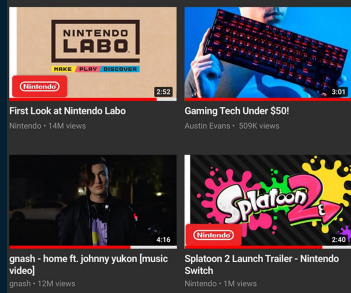
## Client routing





# HTML5

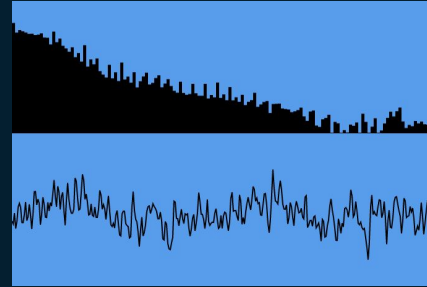
## Video



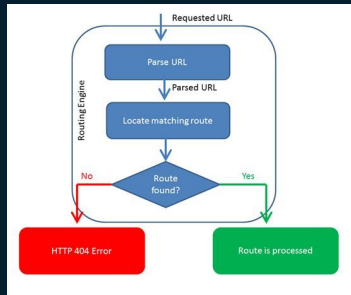
## Animations



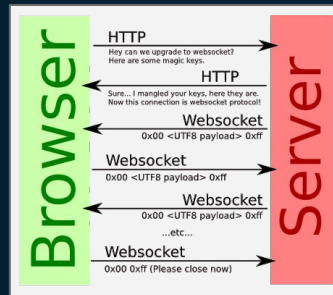
## Audio



## Client routing



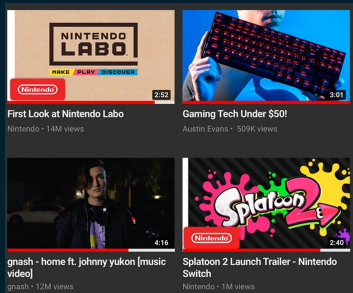
## Websockets



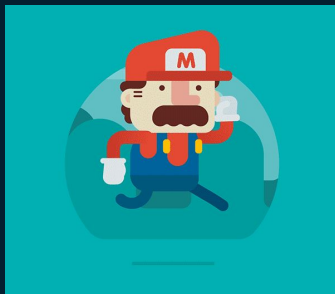


# HTML5

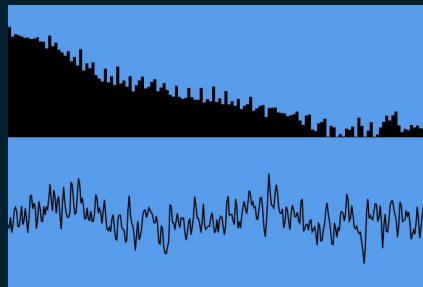
## Video



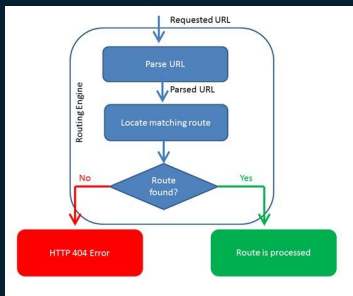
## Animations



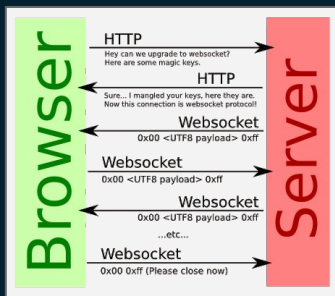
## Audio



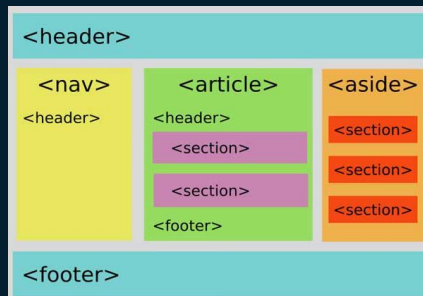
## Client routing



## Websockets



## Semantic tags



# HTML



Header

```
<header>
```

```
<button>
```

click here

```
<div>
```

```
<textarea>
```

Hello this is some text...

# HTML



In HTML, elements have “attributes” and “children”

attribute



```
<button class="my-button">
```

```
  click me!
```

```
</button>
```

children





# CSS: Cascading Style Sheets

```
.my-button{  
  background:  rgb(50,150,250);  
  color:  white;  
}
```

HTML



+



```
<button class="my-button">
  <div> click me! </div>
  <div class="smiley">😊</div>
</button>
```

```
.my-button{
  background:rgb(50,150,250);
  color:white;
}

.smiley{
  font-size:42px;
}
```



# CSS: Cascading Style Sheets

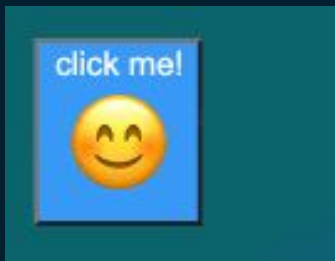


```
1  .class{
2      /* layout */
3      height: 100%;
4      width: 100%;
5      padding: 10px;
6      margin: 20px;
7      /* text styles */
8      font-family: 'Helvetica Neue', arial, sans-serif;
9      font-weight: 400;
10     text-align: center;
11     color: #444;
12     /* visual things */
13     border: 1px solid grey;
14     border-radius: 4px;
15     background: url(http://hdwpro.com/wp-content/uploads/2017/01/3D-Cool-Image.jpg);
16     z-index: 100;
17 }
```





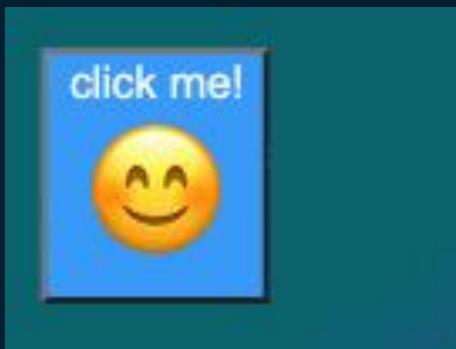
# :hover



```
.my-button{  
    background:rgb(50,150,250);  
    color:white;  
    cursor:pointer;  
}  
  
.my-button:hover{  
    background:white;  
    color:rgb(50,150,250);  
}
```



**:focus**



```
.my-button:focus{  
  background:black;  
}
```

# CSS: “position”



```
position: relative;
```

regular  
(elements stack)

```
position: absolute;  
top: 10px;  
left: 20px;
```

elements don't  
know about each  
other

# CSS: “display”



```
display: block;
```

“block” is the default

```
display: flex;  
flex-direction: column;  
align-items: center;  
justify-content: center;
```

“flex” is awesome!!!

# CSS: “display”



```
flex-direction:
```

```
row;  
column;  
row-reverse;  
column-reverse;
```

# CSS: “display”



```
align-items:  
justify-content:
```

```
center;  
space-between;  
space-around;  
flex-end;
```

## What's Next

- › Complete the in-class activity: `in-class/01_intro.md`
- › Once you have everything installed, start working on MP0
- › Next class: More about HTML and CSS.

For now, just make sure your environment is up and running!