# HTML Basics

GENERAL ASSEMBLY

# Learning Objectives

- Meet each other
- Discuss web development and its history
- Identify correct tags for content
- Apply HTML tags to a webpage
- Experiment with other HTML tags
- Describe and draw the Document Object Model
- Create and link an external stylesheet
- Experiment with CSS
- Be excited about learning to code!

# Agenda

- Introductions
- What is web development?
- What is HTML?
- What is CSS?
- Lab Time
- Questions and Answers

# Introductions

# Who am I?

- Teacher
- Programmer || Hacker || Code Enthusiast (Addict)
- Generative (Algorithmic) Artist
- Web Proponent
- @threequal on Twitter

# Who are you?

- What is your name?
- What do you do?
- What got you interested in coding?
- Have you done any coding before?
- Potentially, what is your guilty pleasure?

# What is this course about?

- HTML
- CSS
- Responsive Websites
- Programming
- JavaScript
- Lots of other stuff

# Getting the most out of it

- Do much more than we ask
- Ask a lot of questions
  - Not just in class!
- Work together
- Embrace your inner nerd

# How I teach...

- I'm a dork
- I make lots of incredibly bad jokes
- Respectful interruptions are always welcome
- I'm very open about my methods
  - For example, I always wait ten seconds
- I'll try to keep it interesting
- I always want to keep learning

# Tools

- Google Chrome
- Github Atom Text Editor
- Slack
- Schoology

# Web Development?

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# What is coding?

- Coding, programming... Mostly they are interchangeable
- Computers are very general machines
- Coding is teaching them how to do something very specific
- There are so many styles of programming
  - From making forms
  - To creating art and music
  - To teaching computers to think for themselves

# What is the web?

- Billions of connected devices through a series of networks

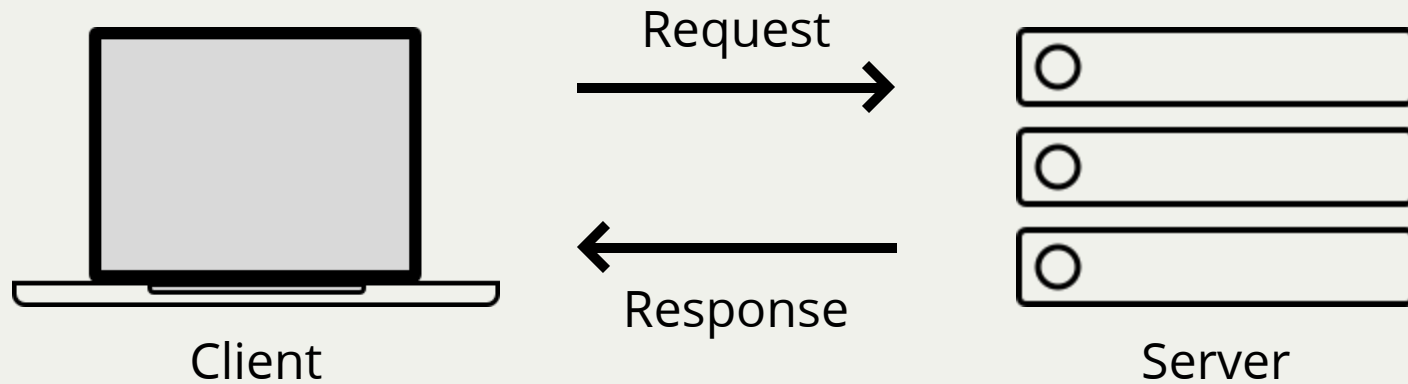**Is the internet and the web the same thing?**

- Nope! The Web is a physical network of devices
- The Internet is the virtual network of information
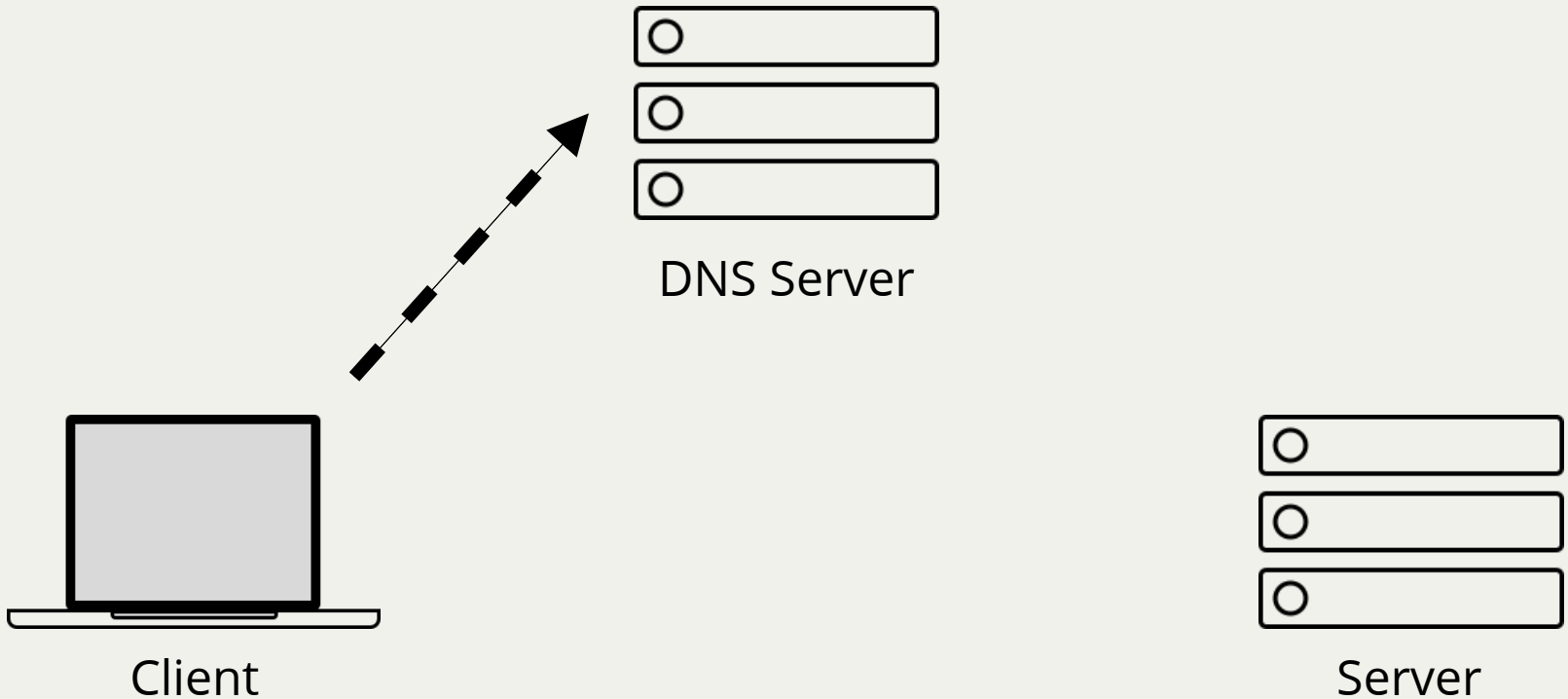
# Where did it come from?

- J.C.R. Licklider came up with 'The Galactic Network' (Aug. 1962)
- ARPAnet in the 1960's for the US Government
- Vint Cerf and Bob Kahn invented TCP/IP in 1974

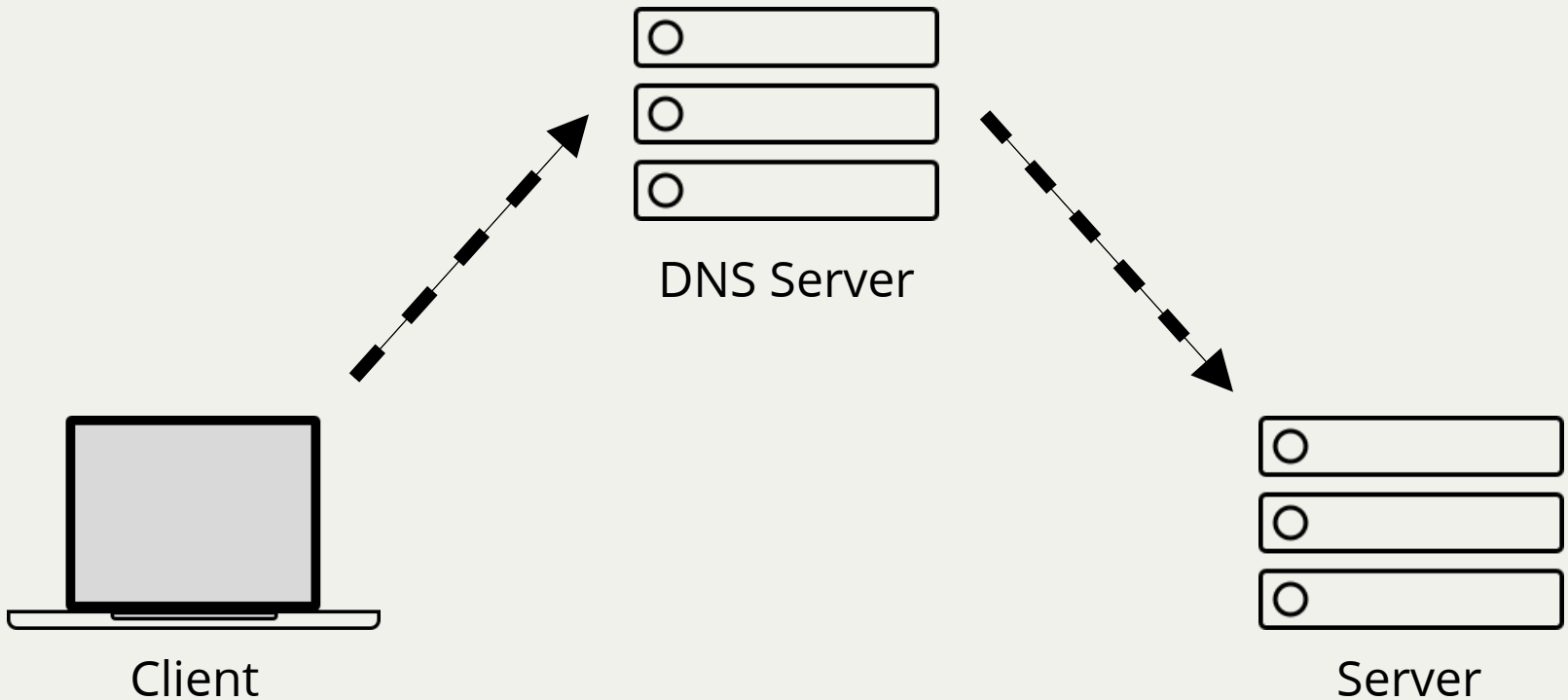Then, Tim Berners-Lee released the "World Wide Web" in 1991, with this site

# How does it work?
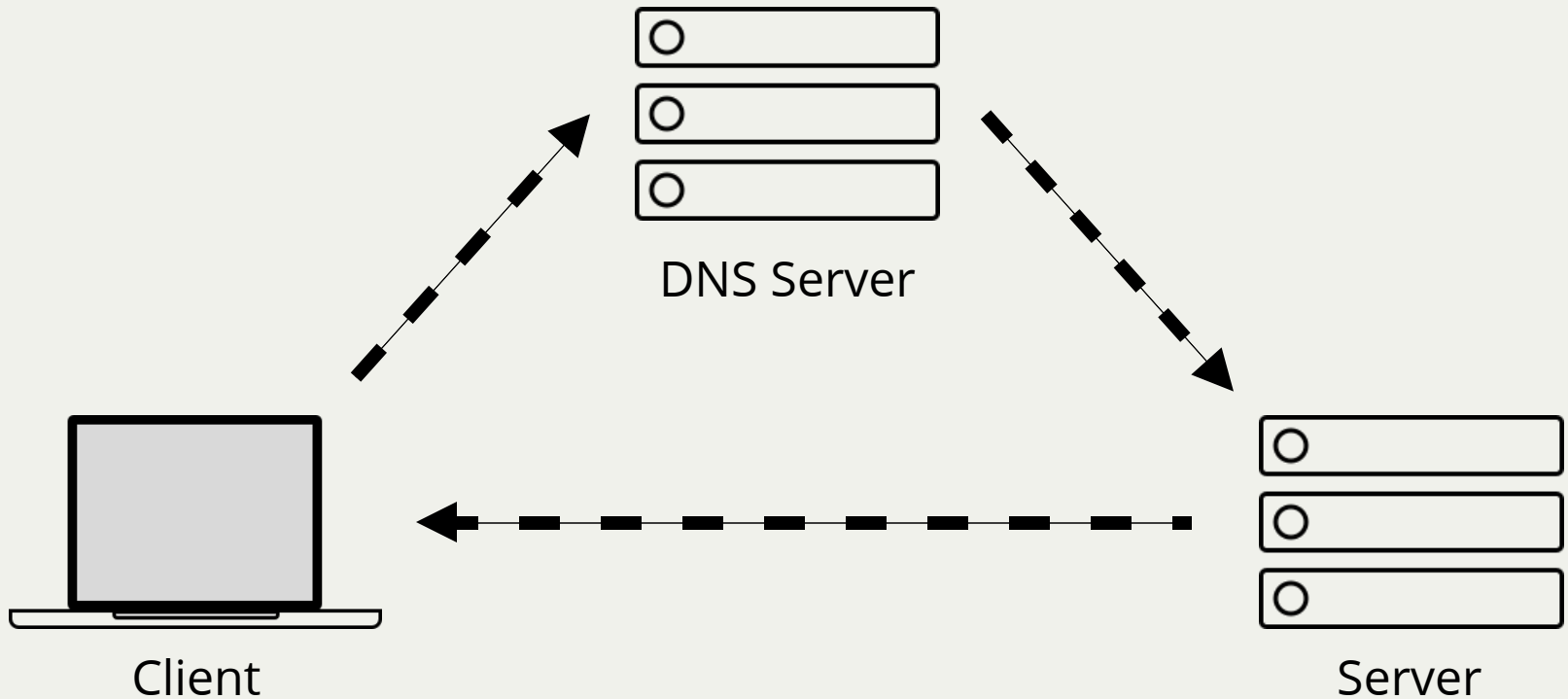
Client

Request →

← Response

Server

# How does it work?



DNS Server

Client

Server

# How does it work?



Client

DNS Server

Server

# How does it work?



DNS Server

Client

Server

# How does it work?



DNS Server

Client

Server

# How does it work?



GET

50.16.236.219

https://ga.co

HTML
CSS
JS
JPEG...
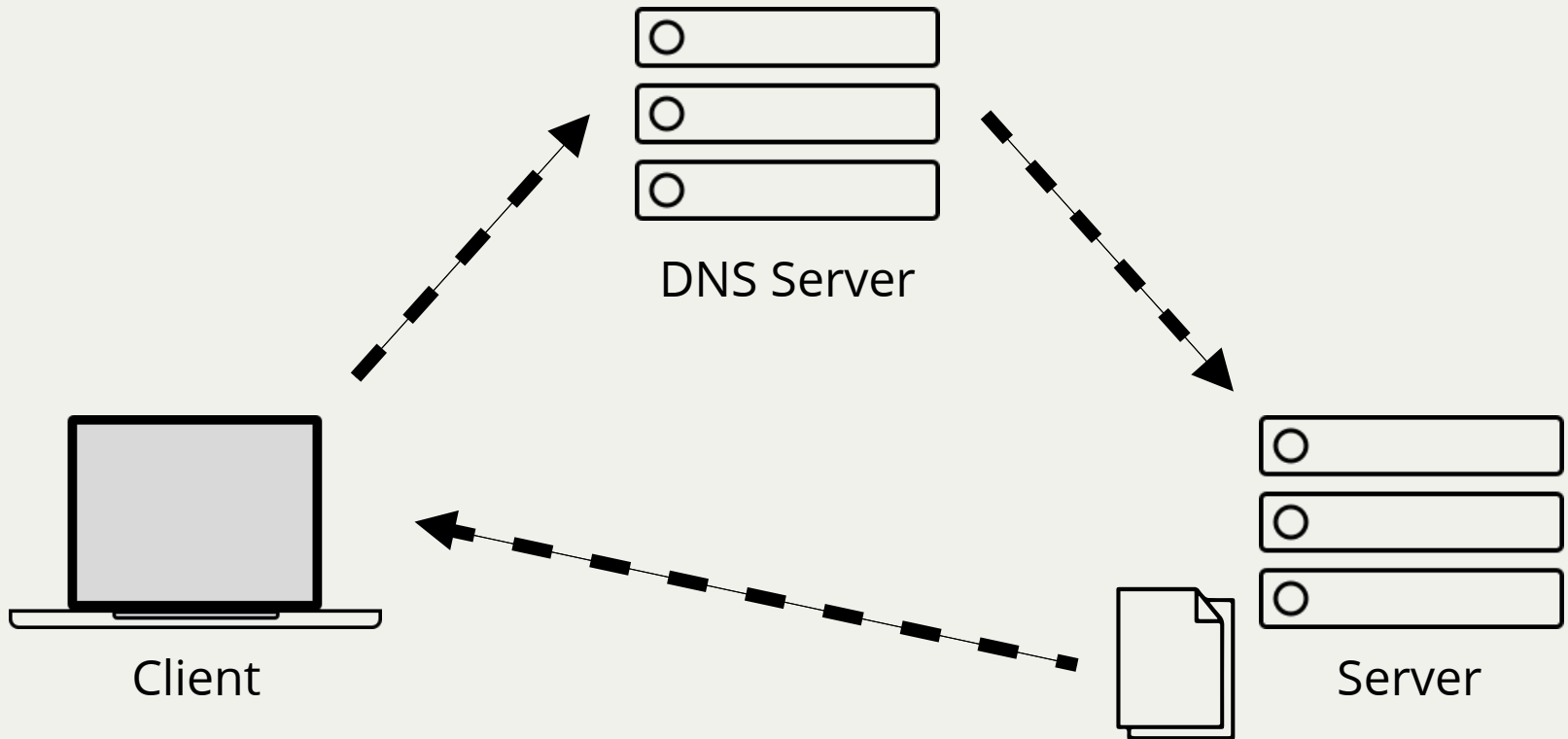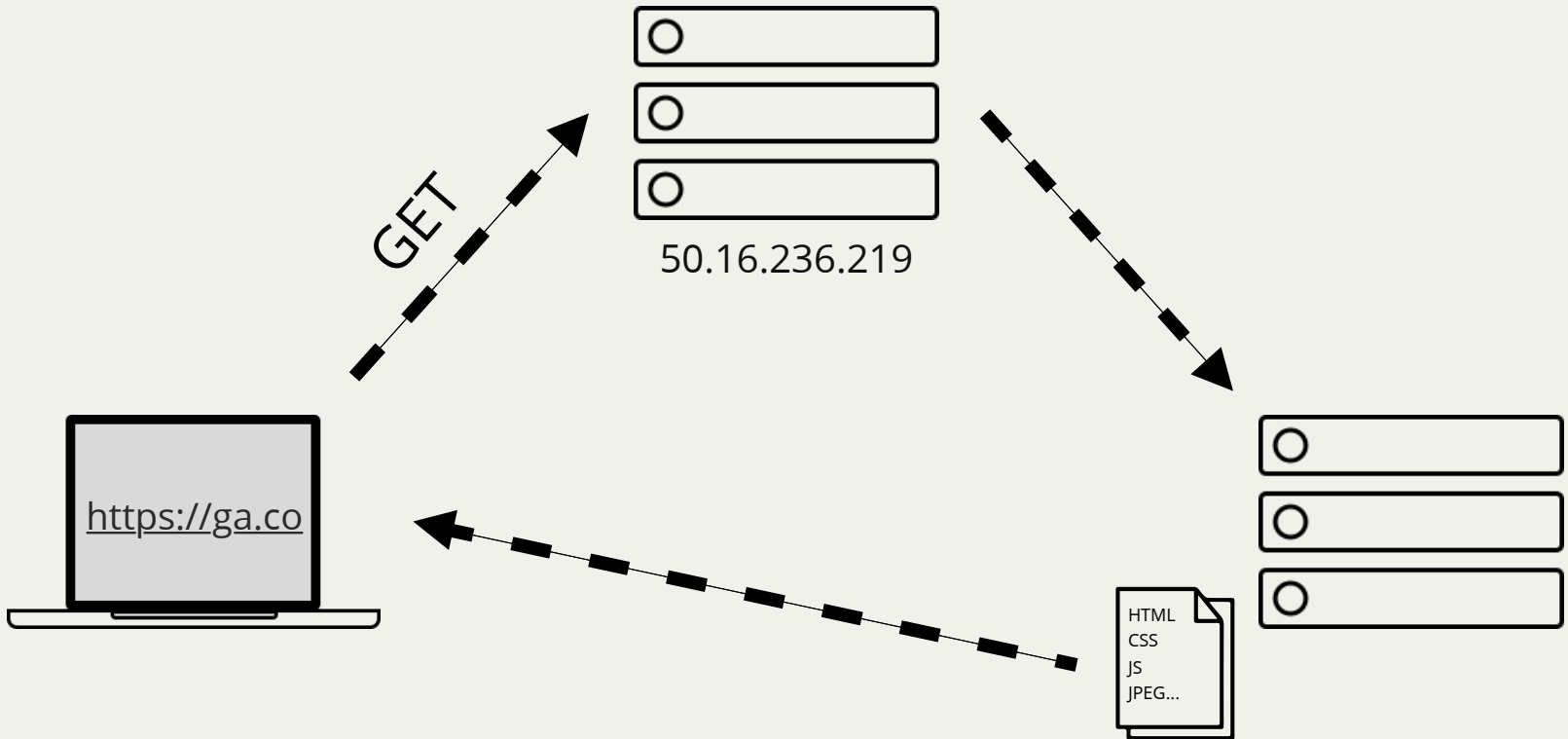
# What is web development?

The creation and management of both websites and web-based applications

Made up of the Front-end and the Back-end

Most developers will try to convince you it is magic

# What is the front end?

It is what the user <u>sees</u>

It powers the visuals and interactions of the web

It is meant to be pretty, like <u>this</u> (or <u>this</u>, or <u>this</u>, or <u>this</u>)

Made up of HTML, CSS and JavaScript

# What is the back end?

It is what goes on behind the scenes

Consists of databases, servers etc.

Lots of languages:
Ruby, Node.js, Python, C++, Go etc.

# What do we do?

- Take a design and turn it into code and assets
- Use HTML and CSS to create the page
- Add interactions with JavaScript
- Lots of other responsibilities
    - Accessibility, performance, cross-browser differences, cross-device differences, responsive etc.

# The Front End

# The Languages

## HTML

Defines the content (the bones)

## CSS

Defines the style (the clothes, hair, skin, eyes etc.)

## JavaScript

Adds the functionality (the brain)

# HTML

# HTML - Content (Bones)

- **H**yper **T**ext **M**arkup **L**anguage
- Currently at <u>version 5.1</u> (it's <u>open source</u>, too)
- It is a system for defining, or tagging, pieces of text

```html
<h1>Hello World</h1>

<p>I am a paragraph</p>

<ul>
  <li>I am a list item</li>
  <li>I am another list item</li>
</ul>
```

# <u>HTML</u> - Content (Bones)

We rely on visual cues to show importance

Computers and search engines can only understand text

... for now

# HTML - Content (Bones)

## The Condensed History

- In 1980, physicist Tim Berners-Lee proposed a system for researchers to share documents
- In 1989, Berners-Lee wrote a memo proposing an Internet-based hypertext system
- In late 1990, Berners-Lee specified HTML and wrote the browser and server software

Tim Berners-Lee
Web Developer

# HTML5

HTML was never designed to deliver a rich experience, it was just a way to share documents

HTML5 changed that. It introduced rich, native functionality that can be used directly in the browser. Things like video, audio, canvas, svg. It also was a huge push for **web semantics**

# HTML - Content (Bones)

An element is made up on an:

- Opening tag
- Attributes
- Content
- Closing tag

```
<a href="https://ga.co">General Assembly</a>
```

# HTML - Content (Bones)

```
<tag attrName="attrValue">
    Content
</tag>
```

# <u>HTML</u> - Content (Bones)

Common <u>tags</u> include:

## **<u>Actual Content</u>**

h1, h2, h3, h4, h5, h6, p, a, img, button, form

## **<u>Dividing Content</u>**

div, article, section, header, nav, footer

# Content Tags

```
<h1>Hello World</h1>

<h2>Doughnut Recipe</h2>

<h3>Method</h3>

<h4>Making the Dough</h4>

<!-- ... -->

<h4>Proofing the Dough</h3>
```

# Content Tags

```
<h5>Ingredients</h5>

<ul>
    <li>Plain Flour</li>
    <li>Sugar</li>
    <li>Butter</li>
</ul>

<h4>Method</h4>

<p>Start by combining all <em>dry</em> ingredients...</p>
```

# Content Tags

```html
<a href="https://goo.gl/BEVv9s">
    Another Doughnut Recipe
</a>

<img src="https://goo.gl/XYjT7U" title="Doughnut">
```

# Document Structure

```
<!DOCTYPE html>
<html>

<head>
  <meta charset="UTF-8">
  <title>My HTML Page</title>
</head>

<body>

  <!-- Content goes here! -->

</body>

</html>
```

# Coding Style!

- All HTML tags, attributes and values should be lowercase
- All open tags should be closed
- All attributes should use double quotation marks
- Indent for developer clarity
- Google's HTML Style Guide and MDO's Code Guide

# HTML Syntax Errors!

- Forgetting to close a tag
- Forgetting to open or close quotes
- Missing angle brackets
- [MDN: Handling common HTML problems](#)

# Exercise!

Fix the syntax errors!

- Open the page in the browser and try and guess what is going wrong
- Solve any syntax errors that you can find
- Indent it correctly
- If you get it done, have a look into some more tags

# <u>HTML</u> - Content (Bones)

You can see a list of the tags, and how to use them at these places:

- <u>MDN HTML Element Reference</u>
- <u>HTML Reference</u>
- <u>W3Schools Tags</u>

# Exercise!

Markup the GA Press Release

- Turn it into HTML
- If you get it done:
  - Add an image tag for the GA logo
  - Turn each campus into a link to the GA website for that campus (e.g. Sydney should go here)

# HTML Review

- What is HTML?
- What is an element?
- What are attributes?
- What is the DOCTYPE

# CSS

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# CSS - The Style (Clothes)

- **C**ascading **S**tyle **S**heets
- Currently at version 3
- You apply properties and values to HTML. It's a presentation language

```css
h1 {
  font-family: "Comic Sans";
  color: hotpink;
}

p {
  text-align: center;
}
```

# <u>CSS</u> - The Style (Clothes)

- A CSS **Rule** is made up of:
  - A **selector**
  - Curly brackets
  - **Declaration**(s)
- A CSS **Declaration** is made up of:
  - **Property**
  - **Value**

# CSS - The Style (Clothes)

```css
selector {
  /* DECLARATION */
  property:  value;
}

body {
  background-color: limegreen;
  color: chartreuse;
}
```

# CSS - The Style (Clothes)

## You reference HTML with CSS

```
<!-- THE HTML -->

<h1>Hello World</h1>


<p>Angle brackets - ugh!</p>
```

```
/* THE CSS */

h1 {
    font-size: 25px;
}

p {
    font-style: italic;
}
```

# CSS - The Style (Clothes)

How do we add styles to our page?

Three ways:

- ~~Inline Styles~~
- ~~Style Tag~~
- External File ✓

# <u>CSS</u> - The Style (Clothes)

## Adding an external CSS file

```html
<link href="css/style.css" rel="stylesheet">
```

## Why external files?

1. Reusability
2. I won't cry
3. Performance
4. I won't cry

# Exercise!

Style your GA Press Release

- Add an external CSS file
- Use things like:
    - font-family
    - font-weight
    - text-decoration
    - background-color
    - color

# Lab Time!

Cookie Recipe

It's HTML and CSS time

# CSS Review

- What does CSS stand for?
- What version of CSS are we up to?
- What is a CSS rule made up of?
- How do we link up HTML and CSS?

# Homework

- Write HTML and CSS!
- Start thinking of something that you would like to build

# Q & A

General Assembly

# Feedback Time

Lesson 1: **HTML Basics**

https://ga.co/fewd32syd

# Thanks!

**GENERAL ASSEMBLY**