Code Your Own Website

Clarissa Littler

April 6, 2017

This class

In this class we'll be covering the basics of how both HTML & CSS work together to make well designed websites.

What you'll learn

- What is HTML
- What is CSS
- How you make a basic web page
- How to host your web site on neocities.org

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What you won't learn

- How to program
- How to use frameworks such as Bootstrap
- How to build web servers
- Most of HTML & CSS

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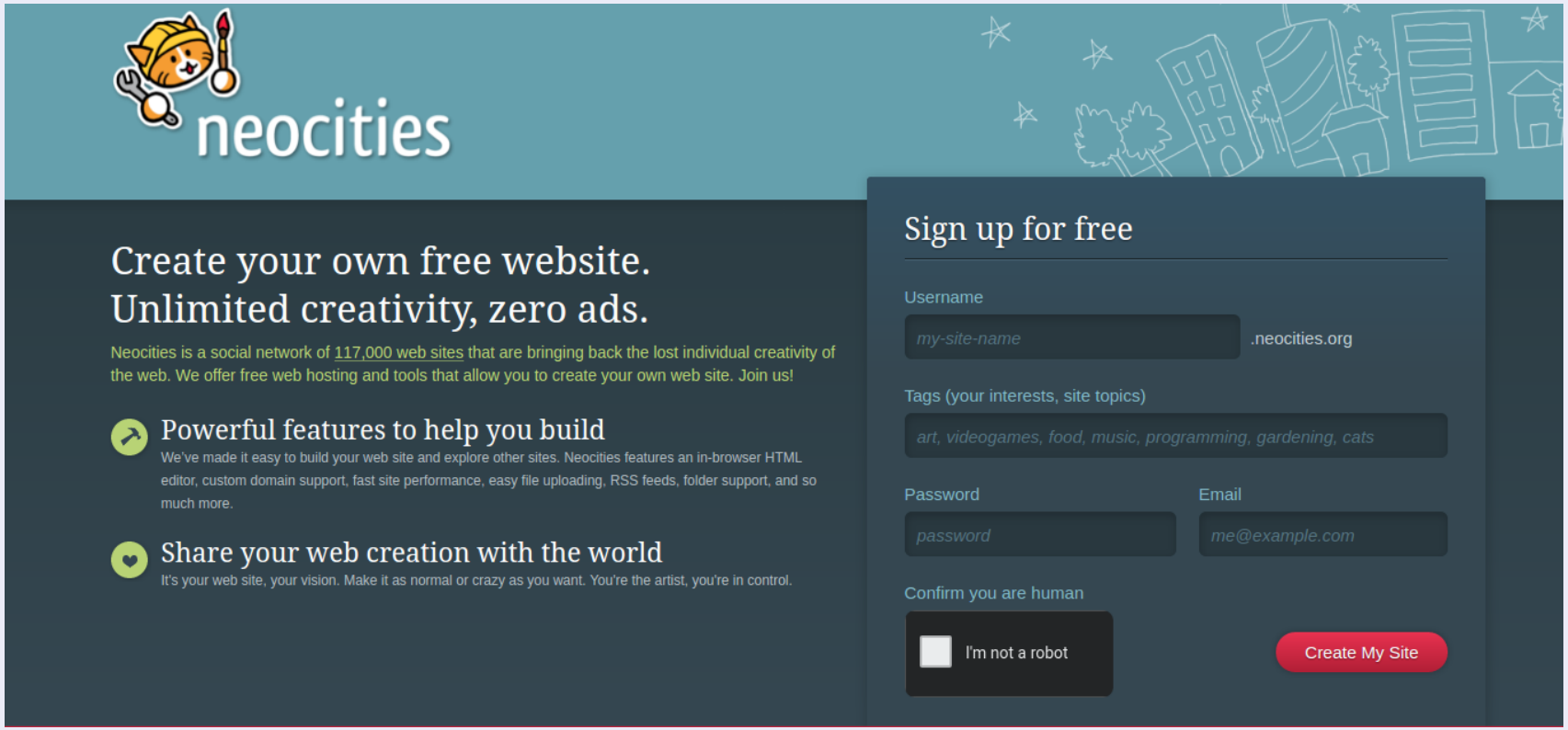
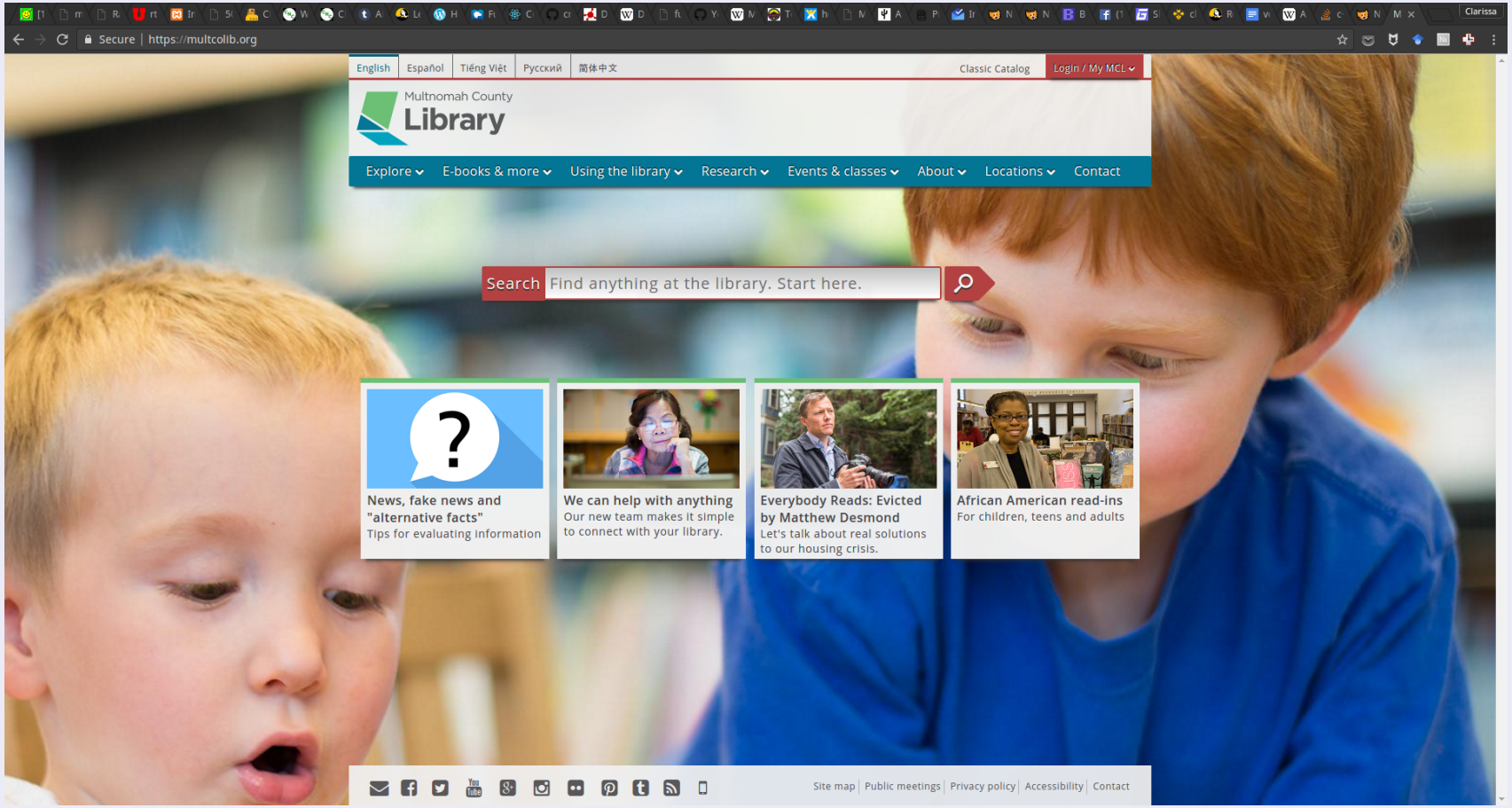
Make an account

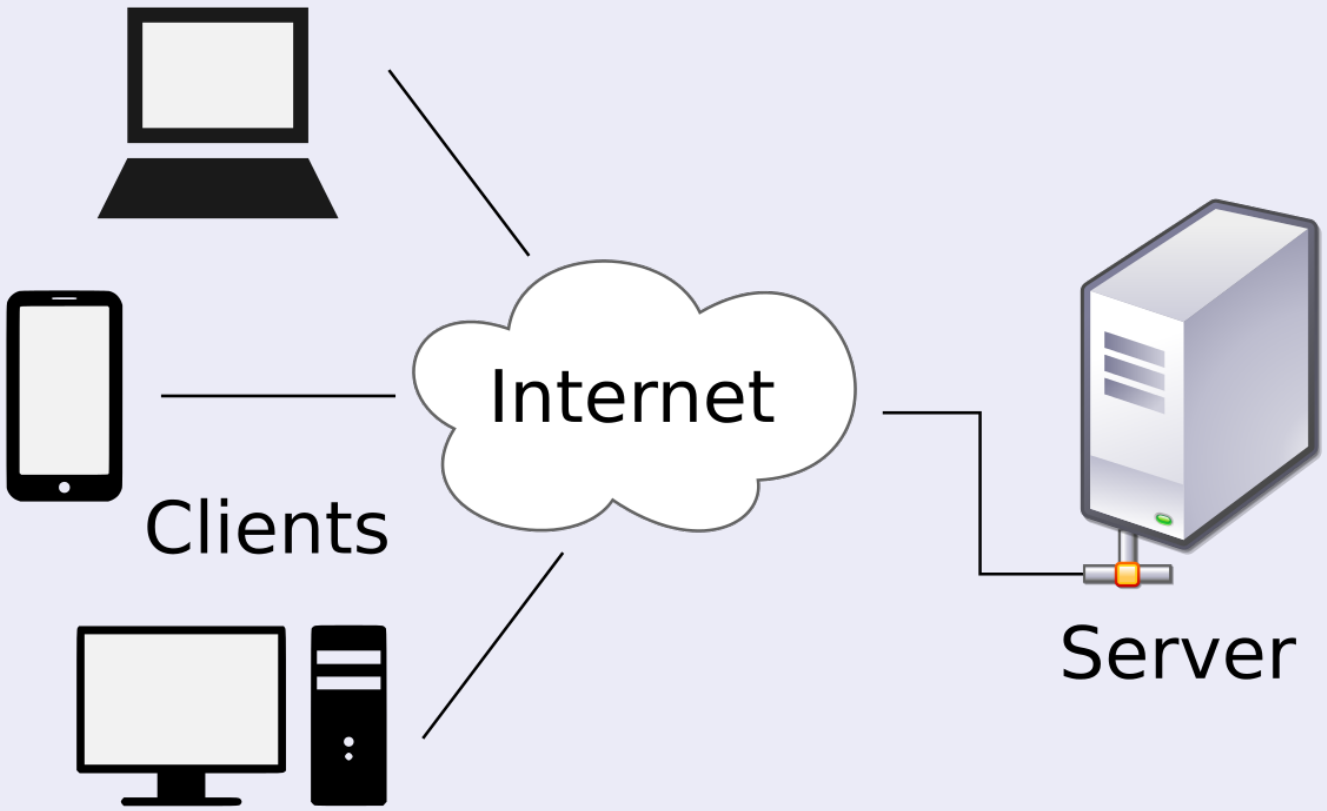


What's a website?



Technology behind a website

Client and server



The three pieces of a web page

- HTML
- CSS
- JavaScript

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HTML

What does HTML do?

HTML describes the content of the page, but not how it looks

HTML

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HTML describes the content of the page, but not how it looks

CSS

What does CSS do?

CSS describes how a page looks, but not its content

CSS

What does CSS do?

CSS describes how a page looks, but not its content

JavaScript

What does JavaScript do?

The dynamics and the user interface of the page

What is HTML?

HTML stands for...

HyperText Markup Language

Without markup

```
A most striking title

Here we have some text, and some more text, and
even more on top of that. We're wondering what's going on
here

'Nother post from a few days ago,
 the most recent times you
 decided to blog.
```

With markup

```
<h1>A most striking title</h1>

<article>
  <p>Here we have some text, and some more text, and
    even more on top of that. We're wondering what's going on
    here</p>
</article>

<article>
  <p>'Nother post from a few days ago,
    the most recent times you
    decided to blog.</p>
</article>
```

Tags

```
<!doctype html>
<html>
 <body>
  <h1>This is a heading</h1>
  <p>
      This is a paragraph of text,
      where some of the text is <b>bold</b>, and
      after this paragraph, there will be a numbered list
  </p>

  <ol>
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The shape of every page

```
<!doctype html>

<html>
  <head>
    ...
  </head>

  <body>
    ...
  </body>
</html>
```

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Why do we need closing tags?

```
<body>
  <ol>
    <li>This is a list
    <li>but
    <li>there's ambiguity here

  <ol>
   <li> where does this part go?
   <li> is it a sublist or a second list?
```

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  </ol>
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   <li> is it a sublist or a second list?</li>
  </ol>
  </li>
  </ol>
```

Our first tags

- <h1> - <h6>
- <ol>, <ul>, <li>
- <p>
- <q>
- <blockquote>

Exercise 1

Instructions

1. Go to your neocities.org page
2. Choose to make a new file, call it `ex1.html`
3. Delete the starter text
4. Type the text in the right hand column, and hit `view`

Follow along

```
<!doctype html>

<html>
  <body>
    <h1>This is a heading</h1>
    <p>Here is a paragraph.
    It has a <q>quote</q> in it.</p>
    <ol>
      <li>here's a list</li>
      <li>it has elements</li>
    </ol>
  </body>
</html>
```

Attributes

The form of attributes

Attributes consist of key-value pairs

```
<a href="http://multcolib.org">our library</a>
<p id="theparagraph">text</p>
<div class="bolder">more text</div>
<img src="imagePath.png">
```

Links

```
<a href="http://multcolib.org">
  This is our link</a>
```

This is our link

Images

```
<img src="Chicken.jpg">
```

Exercise 2

Try making something original!

- Make a new file called "firstExercise.html"
- Put in an `<h1>`, two `<p>`, and an `<a>` or an `<img>`
- Save the file and view it. Does it look how you expected?

Making sites less plain

So far, all of our sites have been very dull: there has been no styling

What is CSS?

Cascading Style Sheets

Cascading Style Sheets are how we change how things *look* or are *laid out* on the site.

The shape of CSS to come

Selectors and Properties

```
selector {
    property: value;
    property: value;
    property: value;
}
```

The shape of CSS to come

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Selectors and Properties

```
selector {
    property: value;
    property: value;
    property: value;
}
```

Adding CSS directly to a page

Put the CSS code in the <style> tags

```
<!doctyle html>
<html>
  <head>
    <style>
      ...
    </style>
  </head>
  <body>
    ...
  </body>
</html>
```

Adding CSS directly to a page

Put the CSS code in the <style> tags

```
<!doctyle html>
<html>
  <head>
    <style>
      ...
    </style>
  </head>
  <body>
    ...
  </body>
</html>
```

Selecting by type

```
p {
    font-size: large;
    background-color: green;
    color: blue;
    width: 200px;
}
```

Changing color

Text color

```
<head>
  <style>
    p {
      color: blue;
    }
  </style>
</head>
<body>
  <p>This text is here</p>
  <ol>
    <li>puppy</li>
    <li>kitten</li>
  </ol>
</body>
```

Background color

```
<head>
  <style>
    ol {
    background-color: purple;
    }
  </style>
</head>
<body>
  <p>This text is here</p>
  <ol>
    <li>puppy</li>
    <li>kitten</li>
  </ol>
</body>
```

Changing color

Text color

This text is here

1. puppy
2. kitten

Background color

This text is here

1. puppy
2. kitten

Exercise

Instructions

1. Take the file from your previous exercise
2. Add style tags in the head
3. Write code to turn your paragraphs red

Selecting by ID

```
#thesis {
    font-weight: bold;
}
```

Selecting by ID

```
<head>
  <style>
    #thesis {
      font-weight:bold;
    }
  </style>
</head>
<body>
  <p id="thesis">This paper presents a moral argument
    that cats are good</p>

  <p>To begin with we need to first define what a cat is.</p>

  <p>After defining cats, we need a phenomenologic
    account of being a cat.</p>
</body>
```

Selecting by ID

This paper presents a moral argument that cats are good

To begin with we need to first define what a cat is.

After defining cats, we need a phenomenologic account of being a cat.

Selecting by class

```
.important {
    font-weight: 900;
}
```

1. Things
2. That
3. Are bold

1. Things
2. That
3. Aren't

Block and inline elements

Block elements take up space around themselves

- <p>
- <h1>
- <ol> & <ul>
- <li>
-

Inline elements take up only the space of the text

-
- <a>
- <b>
-
- <i>
-

Changing height and width

```
.shortGraphs {
    width: 20em;
    height: 10em;
    background-color: purple;
}
```

Changing height and width

There's things to say here

And even more here

And, also, I'd like to say a few things here

Exercise

Instructions

1. Open your exercise file in the editor
2. Change the width of your paragraphs
3. Add a background color to your title

Difference between ID and class

ID

IDs are used for referencing a unique element

Class

Classes are used for referencing multiple elements

Pop quiz

You need to style one element differently: ID, class, or type?

Pop quiz

You need to style all the elements of a single type: ID, class, or type?

Pop quiz

You need to style multiple elements, possibly of different types: ID, class, or type?

Div and span

Tags for styling

 and don't look like anything but can be used to style other text and elements

Div and span

Tags for styling

`<div>` and `<span>` don't look like anything but can be used to style other text and elements

Div and span

Tags for styling

 and don't look like anything but can be used to style other text and elements

div vs. span

div styles block elements

```
<div id="makeitbig">
  <p>Here's some text</p>
  <ol>
    <li>list item</li>
    </li>list item</li>
  </ol>
</div>
```

span styles inline elements

```
<span class="spanner">And
    this text
    <em>should</em>
    be styled too</span>
```

Styling with span

```
<head>
  <style>
    .emphasized {
      color: red;
      font-weight: bold;
      font-style: italic;
    }
  </style>
</head>
<body>
  <p>This is some
    <span class="emphasized">important</span>
    text, like
    <span class="emphasized">super</span>
    important.
  </p>
</body>
```

This is some ***important*** text, like ***super*** important.

Styling with div

```
<head>
  <style>
    #dividend {
      width: 10em;
      font-family: "Goudy Bookletter 1911", sans-serif;
    }
  </style>
</head>

<body>
  <div id="dividend">
    <p>
      Fourscore and something years ago
    </p>
    <p>
      Our four puppers
    </p>
  </div>
  <p>Sorry, that was silly</p>
</body>
```

Fourscore and
something years ago

Our four puppers

Sorry, that was silly

Exercise

Instructions

1. Open the exercise file you've been working on
2. Group together a chunk of text you'd like to style with a `<span>`
3. Change the color of the text in your style

Using the Mozilla Developer Network

```
https://developer.mozilla.org/en-US/
```

That's all

Any questions?