



Intro to JavaScript Events

Web Programming

Summer 2019

Make that button do something!

```
<button>Click me</button>
```

- An **EVENT** is something that happens to an HTML **ELEMENT** (something on the page)
- A **BUTTON** is an **ELEMENT**
 - What are other **ELEMENTS**?
- What happens to buttons? They are “clicked”
- **OUR GOAL**: tell the program what to do when the button is clicked... to **HANDLE** that event
- Buttons are clicked, so the name of this handler is **onclick**

```
<button onclick='JAVASCRIPT INSTRUCTIONS'>  
Click Me </button>
```

Pedagogy sidebar: use terminology consistently to help students learn it. This might be hard for some.

What should the button do?

JavaScript can modify other HTML elements

- Change content
- Change style
- Hide or display

To modify an element, JavaScript has to be able to *find it*.

What did we do in CSS to apply a style to only one element?

We will use the same technique so JavaScript can find the desired element.

Update your page

1. Below the button, add a new paragraph element with the id “demo”

```
<p id="demo">Hello :-)</p>
```

2. We want to tell JavaScript to:

- Find that element
 - **document** is this web page
 - `getElementById` looks for the “id”
 - Case sensitive!! ByID won’t work
 - Look at the example below. How are we using single and double quotes?
- Change the content – the **innerHTML**

```
<button  
  onclick= 'document.getElementById("demo").  
    innerHTML = "Goodbye :-(";'  
  Click me</button>
```

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<https://usabilla.com/blog/how-to-design-for-color-blindness/>

Pedagogy Discussion

- Is it an effective strategy for students to type along as you lecture?
- What are some alternatives?

Another example

```
<button
  onclick='document.getElementById("demo").
    style.fontSize="35px";' >
  Click me</button>
```

- Same way to find the element
- **style** indicates a change to CSS
- JavaScript names are similar to, but NOT exactly the same as, CSS
 - CSS: font-size
 - JavaScript: fontSize
- Don't forget =
- Best to put value in "value" ("35px")
- Good practice to put ; after value (required in some cases)

Pedagogy sidebar:

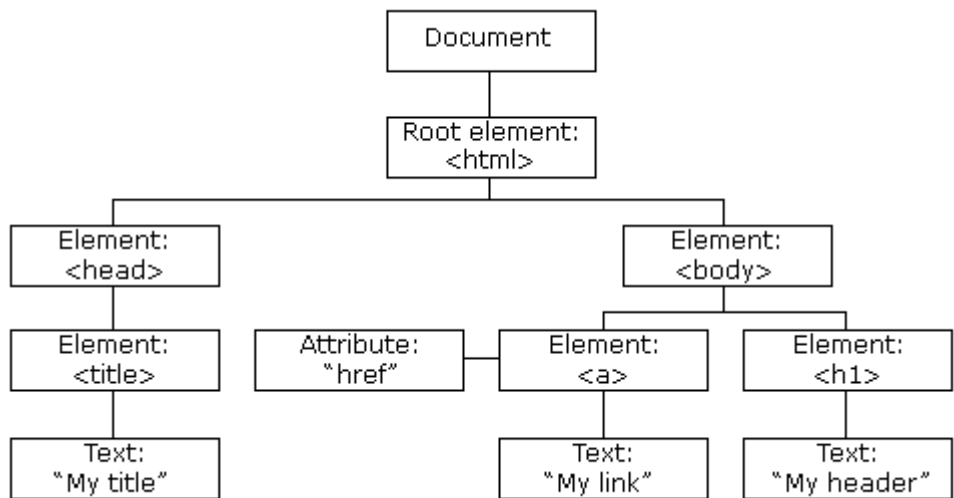
- how interested would your students be in changing HTML styles?
- Is it realistic for you to know all commands?
- Consider a "cheat sheet" (maybe online) for the commands students need. Keep it short!

Final example

```
<button  
  onclick='alert("Button Clicked!");'  
  Click me too!  
</button>
```

- Alert shows a pop-up box
- Very useful to see if button is being clicked

Document Object Model



JavaScript can:

- Change all the HTML elements on the page
- Remove existing HTML elements
- Add new HTML elements
- and more...

Important takeaways

- JavaScript and HTML know how to work together
- We've learned how to assign an id to an *element* so that JavaScript can locate it
 - Advanced/related topic: Document Object Model (DOM)
 - Professional programmers need to understand the DOM... but this workshop will focus more on basic programming constructs
- JavaScript is **CASE SENSITIVE**
- JavaScript responds to **EVENTS**
- **EVENTS** are attached to **HTML ELEMENTS**

Pedagogy Discussion

- Would you expect any gender differences related to any of today's pedagogy sidebars?
- What would lesson plans look like?
- How would you adapt the lesson plan for students with different abilities?
- What fun things can you do with just what we've learned so far?
 - Memes?
 - Greeting cards?

NOTE: We have more material in Day 2 and Day 3, so less time for this type of discussion. But Christine Liebe will give a 30-minute presentation on Broadening Participation in Computing from 4-4:30 tomorrow.

End of Day 1



Time to relax!