Intro JS Events

Intro to JS

ASSESSMENT

Take the next 5-7 minutes to review today's assessment.

- Go to Week 1 > Day 2
  - Project: Knock Knock

MINDSET

- This is your first **dive into JS**.

  - Dives typically put you in the deep end.

- Learning to comprehend and utilize unfamiliar parts of a language

  - When unfamiliar with a language we ignore unfamiliar grammar and rules

  - We utilize extra-linguistic associations between symbols and their context to comprehend "what the heck is going on."

We are learning by utilizing copy-paste :P At the beginning of learning we will often be *__copying and modifying examples__* them to build our understanding.

OBJECTIVES

- **Discuss and utilize** JS event listeners to handle common events: click and maybe hover

- **Identify and apply** event handlers

  - (not **analyzing and synthesizing functions**, etc)

- **Identify and utilize** DOM selection and selectors

External Scripts

We will be adding scripts to the body of the html before the closing `</body>` tag.

- Body and head loads first

- Easier to start manipulating document

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Sample</title>
  </head>
  <body>
    <p>Hello World</p>
    <!-- Script Comes last -->
    <script src="script.js" charset="utf-8"></script>
  </body>
</html>
```

THE DOM

- The HTML you write gets turned into elements represent as **OBJECTS in memory.**

- Each element has a set of associated properties (think CSS, height, width, background color, position)

- Elements can be selected easily using their **ID, ClassName, or some identifying CSS selector** and then manipulated

DOM Example

Somewhere in our **HTML**

```
<p id="about-me">
  My name is...
</p>
```

Somewhere in our **script.js**

```
// Selected using getElementById
document.getElementById("about-me")
```

Here we can dynamically select the element and interact with it! *This is huge power of JS.*

Pair and Share

- Go to Yahoo.com

- Open up the Chrome Dev JavaScript Console

- Select the element with **id** of **"Main"**

    - *Discuss what you see with the person next to you*

- Try the following

    ```
    document.getElementById("Main").style.visibility = "hidden";
    ```

- Discuss what you think this is doing

EVENTS

One of the core powers of JavaScript is to facilitate creating a Graphical User Interface.

- It needs to respond to different types of events
    - Clicks
    - Hovers
    - Scrolls

Using Events

Somewhere in our **HTML**

```html
<p id="about-me">
  My name is...
</p>
```

Somewhere in our **script.js**

```javascript
document.getElementById("about-me").addEventListener("click", function () {
  // We add code to run when clicked!
  alert("I was clicked!");
});
```

Using Events

Somewhere in our **HTML**

```html
<p id="about-me">
  My name is...
</p>
```

Somewhere in our **script.js**

```js
document.getElementById("about-me")
```

First we select our targeted element using it's **id**

Using Events

Somewhere in our **HTML**

```html
<p id="about-me">
  My name is...
</p>
```

Somewhere in our **script.js**

```javascript
document.getElementById("about-me").addEventListener("click", function () {});
```

Listen for an **Event** on our selected element

Specify the type of Event

Provide this odd function thing to **handle** the **click**

Using Events

Somewhere in our **HTML**

```
<p id="about-me">
   My name is...
</p>
```

Somewhere in our **script.js**

Put some code in between the curly's, **{ }**

```
document.getElementById("about-me").addEventListener("click", function () {
   // We add code to run when clicked!
   alert("I was clicked!");
});
```

YOUR TURN

- Go to Yahoo.com (In a brand new tab)

- Open the chrome JS console

- Utilize DOM selection and Event listening to do the following

  - Select the element with **id** of **Main**

  - When it is clicked alert **"I was clicked".**

- **Click the page somewhere to see a message**

DOM MANIPULATION

Write the following HTML on JS Bin...

```html
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Sample</title>
  </head>
  <body>
    <p id="about-me">Replace me</p>
  </body>
</html>
```

DOM MANIPULATION

Manipulating innerHTML

- Try the following in the console tab

    - ```javascript
      document.getElementById("about-me").innerHTML = "<h1>Hello world!</h1>";
      ```

DOM MANIPULATION

In the **CSS** tab add a **CSS Rule** like the following

```css
.box {
  height: 200px;
  width: 200px;
  border: solid 1px black;
}
```

DOM MANIPULATION

In the console try the following:

- Add the **box** class to the classList of the element

  - `document.getElementById("about-me").classList.add("box");`

- Remove the **box** class from using class name removal: `classList.remove("box")`

  - `document.getElementById("about-me").classList.remove("box");`

REVIEW

- Utilize IDs to select elements from the DOM

- Utilize event listening to respond to clicks

- Learn to manipulate elements in the DOM
  - innerHTML
  - style
  - classList

NEXT

- Discuss and utilize JS variables, expressions, and control flow statements

- Define and apply JS functions to package up simple procedures

Basically we have to familiarize ourselves with the grammar and rules of JS.