Introcution to JavaScript

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What learned we last Week?

- HTML Basics <h1>My Title</h1>
- CSS Basics h1 { color: red; }
- Developer Tools (Pressing F12 in Browser)
- DOM (Document Object Model) document.body
- Searching the DOM document.getElementById("title")
- Manipulating the DOM myElement.style.color = "red"
- Adding / Removing Elements document.createElement("h1") +
- Events myElement.onclick = () => { ... }

Goals of this week

- More about Events
 - More Events
 - Bubbling
 - Dispatching Events
- Displaying and Interacting with Data
 - Lists
 - Tables
 - Forms

More Events

- click (left mouse button)
- contextmenu (right mouse button)
- dblclick (double click)
- mouseover mouseout (hovering)
- mousemove (moving mouse)
- keydown keyup (keyboard)
- focus blur (focus)
- submit (submitting a form)

on<event> Attribute

```
<button onclick="console.log('clicked')">Click me</button>
<input type="text" onkeydown="console.log('key pressed')">
<script>
function enterDiv() {
    console.log("Mouse entered div")
</script>
<div onmouseover="enterDiv()"></div>
```

Event Bubbling

```
<div id="root" onclick="console.log('Root')">
    <div id="c1" onclick="console.log('Child 1')">
        <div id="c1-1" onclick="console.log('Child 1-1')"></div>
    </div>
    <div id="c2" onclick="console.log('Child 2')"></div>
</div>
```

Event Bubbling

```
Clicking #c1-1:
Child 1-1
Child 1
Root
```

```
Clicking #c2:
Child 2
Root
```

```
Clicking #c1:
Child 1
Root
```

event.target

```
<div id="root">
    <div id="child"></div>
</div>
const root = document.getElementById("root")
// When clickin on #child
root.onclick = function(event) {
    console.log(this.id) // "root"
    console.log(event.target.id) // "child"
```

Stopping bubbling

```
const root = document.getElementById("root")
const child = document.getElementById("child")

child.onclick = (event) => {
    event.stopPropagation()
} // #root will not recive event when clicking on #child
root.onclick = () => console.log("root")
```

Dispatching Events

```
const root = document.getElementById("root")
const child = document.getElementById("child")

root.onclick = () => console.log("root")

const event = new Event("click")
child.dispatchEvent(event)
```

Dispatching Custom Events

<div id="myElement"></div>

```
const myElement = document.getElementById("myElement")

document.addEventListener("myEvent", (event) => {
    console.log("myEvent:" + event.detail.message)
}) // myEvent: Hello World

let event = new CustomEvent("myEvent", { detail: { message: "Hello World" } })
myElement.dispatchEvent(event)
```

Displaying Data (Lists)

```
     Item A
     Item B
     Item C
```

- · Item A
- · Item B
- · Item C

```
    Item A
    Item B
    Item C
```

- 1. Item A
- 2. Item B
- 3. Item C

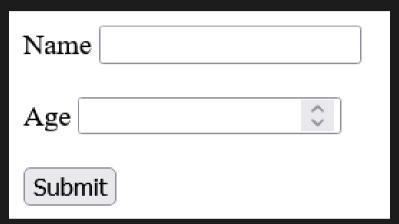
Displaying Data (Tables)

```
Name
 Age
John Doe
 54
```

Name	Age
John Doe	54

Interacting with Data (Forms)

```
<form id="myForm">
   <label for="name">Name</label>
   <input type="text" id="name">
    <br/><br/><
   <label for="age">Age</label>
   <input type="number" id="age">
    <br/><br/>
   <button type="submit">Submit
</form>
```



Interacting with Data (Forms)

```
const form = document.getElementById("myForm")

form.onsubmit = (event) => {
    event.preventDefault()
    const name = document.getElementById("name").value
    const age = document.getElementById("age").value
    console.log(name, age)
}
```

Tasks and Points

Goal is to get 100 Points.

- custom-events (20 Points)
- lists (30 Points)
- form (30 Points)
- tables (40 Points)
- more-events (40 Points)
- event-bubbling (40 Points)
- friend-list (80 Points)