

# SOEN 287

## Web programming

Tutorial 04- Introduction to JavaScript

Tutorial Sections QA & QB

Florian Bobier-Boisvert



# About JavaScript

JavaScript can be implemented in a multitude of ways. We will focus on placing scripts in:

The `<head>` or `<body>` tags surrounding the script with `<script>` tags.

In an external file referenced by your `<html>` page with `<script src="myScript.js"></script>`.



# Key Component of JavaScript

In the process of scripting you will come across the need to **invoke** functions (also known as **calling**).

A JavaScript function will be executed once "something" invokes it.



# Invoking as a Function

```
<!DOCTYPE html>
<html>
  <body>
    <p id="demo"></p>
    <script>
      function myFunction(a, b) {
        return a * b;
      }
      document.getElementById("demo").innerHTML = myFunction(10, 2);
    </script>
  </body>
</html>
```



# Invoking with the Global Object

```
<!DOCTYPE html>
<html>
  <body>
    <p id="demo"></p>
    <script>
      function myFunction() {
        return this;
      }
      document.getElementById("demo").innerHTML = myFunction();
    </script>
  </body>
</html>
```



# Invoking with a Constructor

```
<!DOCTYPE html>
<html>
  <body>
    <p id="demo"></p>
    <script>
      function myFunction(arg1, arg2) {
        this.firstName = arg1;
        this.lastName = arg2;
      }
      var x = new myFunction("John", "Doe")
      document.getElementById("demo").innerHTML = x.firstName;
    </script>
  </body>
</html>
```



# Invoking with a Method

```
<!DOCTYPE html>
<html>
  <body>
    <p id="demo"></p>
    <script>
      var myObject;
      function myFunction(a, b) {
        return a * b;
      }
      myObject = myFunction.call(myObject, 10,2);
      document.getElementById("demo").innerHTML = myObject;
    </script>
  </body>
</html>
```



# Backtracking to forms

```
<form action="/login" method="post">  
  ...  
</form>
```

- To add a form to a page, we'll use the `<form>` element.
- The `<form>` element will wrap all of the elements included within the form, much like a `<div>` element.



# Input Element

```
<input type="text" name="username">
```

1. One of the primary elements used to obtain text from users is the `<input>` element.
2. The `<input>` element uses the `type` attribute to define what type of information is to be captured within the control.
3. Along with setting a `type` attribute, it is best practice to give an `<input>` element a `name` attribute as well.
4. The `name` attribute value is used as the name of the control and is submitted along with the input data to the server.

# List of HTML5 Input Types

- color
- email
- range
- time
- date
- month
- search
- url
- datetime
- number
- tel
- week

```
<input type="date" name="birthday">  
<input type="time" name="game-time">  
<input type="email" name="email-address">  
<input type="url" name="website">  
<input type="number" name="cost">  
<input type="tel" name="phone-number">
```

# Textarea

```
<textarea name="comment">Add your comment here</textarea>
```

On web page->

- The `<textarea>` element differs from the `<input>` element in that it can accept larger passages of text spanning multiple lines.
- The `<textarea>` element also has start and end tags that can wrap plain text.
- Because the `<textarea>` element only accepts one type of value, the `type` attribute doesn't apply here, but the `name` attribute is still used.

# Radio Buttons

```
<input type="radio" name="day" value="Friday" checked> Friday  
<input type="radio" name="day" value="Saturday"> Saturday  
<input type="radio" name="day" value="Sunday"> Sunday
```

On web page-> ☒ Friday ☐ Saturday ☐ Sunday

1. Radio buttons are an easy way to allow users to make a quick choice from a small list of options.
3. Radio buttons permit users to select one option only, as opposed to multiple options.

# Check Boxes

## CHECK BOXES

```
<input type="checkbox" name="day" value="Friday" checked> Friday  
<input type="checkbox" name="day" value="Saturday"> Saturday  
<input type="checkbox" name="day" value="Sunday"> Sunday
```

On web page-> ☒ Friday ☐ Saturday ☐ Sunday

- Checkboxes use the same attributes and patterns as to radio buttons, with the exception of *checkbox* as their *type attribute value*.
- The difference between the two is that check boxes allow users to select multiple values.

# Buttons

```
<input type="submit" name="submit" value="Send">
```

On web page->

Send

- After a user inputs the requested information, buttons allow the user to put information into action.
- The submit button is created using the `<input>` element with a type attribute value of submit. `<button>` element can also be used for the same purpose.
- The value attribute is used to specify the text that appears within the button.

Webpage

# References Online

- <http://www.w3schools.com/>
- [http://www.w3schools.com/js/js\\_function\\_invocation.asp](http://www.w3schools.com/js/js_function_invocation.asp)

