**Interactive Development with JavaScript – Module 10**

**Events**

The HTML language has events, or actions that occur. JavaScript is a language that allows responses or reactions to be applied to these events. These events may be generated by a browser or a user. Some of these types of events might be Window, Form, Keyboard, or Mouse. To apply event handlers, the three most common approaches used are HTML attribute, method attachment, and addEventListener. HTML attribute and method attachment techniques are considered more dated approaches where the addEventListener is more current. The addEventListener is a more complex approach.

* HTML attribute
  + This approach is adding functions as an attribute to the HTML markup.
  + Syntax:

<tag onclick="functionToRun">​

* + Example:

<body onclick="functionToRun()">​

* Method Attachment
  + This process attaches a reference to a function to be executed with the occurrence of an event.
  + Syntax:

target.onclick = referenceToFunction;​

* + Example:

window.onclick – functionToRun; ​

* addEventListener
  + This is a built-in function in JavaScript which listens to events.
  + Syntax:

target.addEventListener(click, functionToRun);​

* + Example:
  + window.addEventListener("click", functionToRun (){
  + document.getElementById("elementId").innerHTML =
  + something;

});​

**Window Events**

Generally, window events are considered global and apply to the tag. Some window events are:

* onafterprint
  + Action to be performed after a document is printed.
  + Syntax:

<body onafterprint="functionToExecute()">​

* onbeforeprint
  + Action to be performed before a document is printed.
  + Syntax:

<body onbeforeprint="functionToExecute()">​

* onerror
  + Action to be performed when an error occurs.
  + Syntax:

<img src="myImage.gif" onerror=" functionToExecute()">​

* onload
  + Action to be performed when a page has completed loading.
  + Syntax:

<body onload=" functionToExecute()">​

* onresize
  + Action to be performed when a browser window is resized.
  + Syntax:

<body onresize=" functionToRun()">​

**Form Events**

These types of events occur when an action has happened, usually inside an HTML form.

* onblur
  + Action to be performed when an element loses focus.
  + <input type="text" name="firstName" id="firstName"

onblur="myFirstNameFunction()">​

* + HTML tags that are not supported.
  + <base>, <bdo>, <br>, <head>, <html>,

<iframe>, <meta>, <param>, <script>, <style>, and <title>​

* onfocus
  + Action to be performed when an element gets focus.

<input type="text" id=" firstName " onfocus=" myFirstNameFunction (this.id)">​

* + HTML tags that are not supported.
  + <base>, <bdo>, <br>, <head>, <html>,

<iframe>, <meta>, <param>, <script>, <style>, and <title>​

* onchange
  + Action to be performed when a value of an element is changed.

<select onchange="changeFunction()">​

* + Supported HTML tags.
  + <input type="checkbox">, <input type="file">, <input
  + type="password">, <input type="radio">, <input
  + type="range">, <input type="search">, <input

type="text">, <select> and <textarea>​

* oninput
  + Action to be performed when an element gets input.

<input type="text" oninput="inputFunction()">​

* + Supported HTML tags.
  + <input type="password">, <input

type="search">, <input type="text"> and <textarea>​

* onreset
  + Action to be performed when Reset button is clicked.

<form onreset="resetFunction()"> … </form>​

* + Supported HTML tags.

<form>​

* onsubmit
  + Action to be performed when a Submit button is clicked.

<form onsubmit="submitFunction()"> … </form>​

* + Supported HTML tags.

<form>​

**Keyboard Events**

These types of events occur when a user interacts using the keyboard. These may be single interaction or some combination (a key with one or more modifier keys) on the keyboard. The event related order is onkeydown and onkeyup. • onkeydown o Action to be performed when a user is pressing a key.

* onkeydown
  + Action to be performed when a user is pressing a key.

<input type="text" onkeydown="keyDownFunction()">​

* + HTML tags that are not supported.
  + <base>, <bdo>, <br>, <head>, <html>,

<iframe>, <meta>, <param>, <script>, <style>, and <title>​

* onekeyup
  + Action to be performed when a user releases a key.
  + <input type="text" onkeyup="keyUpFunction()">
  + HTML tags that are not supported.
  + <base>, <bdo>, <br>, <head>, <html>,

<iframe>, <meta>, <param>, <script>, <style>, and <title>​

**Mouse Events**

Mouse events are usually considered to be the most important. They are generally occurrences from a mouse manipulator; however, mouse events can also be generated with newer technology such as touch screens. Mouse events have an event related order such as mousedown, mouseup, and onclick. As a result, the mousedown event finishes before the start of the mouseup event which finishes before the start of the onclick event. The events listed below do not support the following HTML tags: <base>, <bdo>, <br>, <head>, <html>, <meta>, <param>, <script>, <style>, and  <titles>. Some of the mouse events are:

* onclick
  + Action to be performed when a mouse is clicked on an element.
  + <button onclick="buttonFunction()">Click</button>
* ondblclick
  + Action to be performed when a mouse is double-clicked on an element.
  + <button ondblclick="dbButtonFunction()">Doubleclick</button>
* onmousedown
  + Action to be performed when a mouse is pressed on an element.
  + < button onmousedown =" mouseDown ()">Click</button>
* onmouseover
  + Action to be performed when a mouse pointer moves over an element.
  + <img onmouseover="mouseOverImg" src="image.jpg" alt="My Image">
* onmouseup
  + Action to be performed when a mouse is released over an element.
  + <button onmouseup =" mouseUp ()">Click</button>