

ITMD-461

Class 13
November 19, 2014



Agenda

- Continue JavaScript
- JavaScript DOM
- Google Maps
- jQuery Intro (probably not till next week)

JavaScript

- Event Handling
- Three Methods (see page 478)
 - As attribute on HTML element
 - As a method attached to a DOM object
 - Using the add event handler method of a object
 - `object.addEventListener("click", myFunction);`
 - IE < 9 needs to use a different format - `attachEvent`
 - `object.attachEvent('onclick', modifyText);`
 - <https://developer.mozilla.org/en-US/docs/DOM/element.addEventListener>
function `addEventHandler(elem,eventType,handler)` {
if (`elem.addEventListener`) {
 `elem.addEventListener (eventType,handler,false);`
} else if (`elem.attachEvent`) {
 `elem.attachEvent ('on'+eventType,handler);`
}}

JavaScript DOM

- Document Object Model (DOM)
- Object representation of a HTML or XML Document
- All elements are represented by objects
- DOM is an API that can be used in many languages
- JavaScript uses DOM scripting to modify the elements on a page
- DOM is a collection of nodes in a tree (see 486)
- Also provides standard methods to traverse the DOM, access elements and modify elements



JavaScript DOM

- Accessing the DOM elements
- Use methods of the document object (see p 487)
- Most common by id
 - `var a = document.getElementById("elementid");`
- Can also access by class, tag, selector
- Use the `object.getAttribute("src");` method to get a attribute's value from an object
- Set of methods to manipulate DOM objects.
Some of the most common are listed on page 489



JavaScript DOM

- JavaScript & DOM Reference
- <http://reference.sitepoint.com/javascript/domcore>
- <http://www.javascriptkit.com/domref/elementproperties.shtml>
- <https://developer.mozilla.org/en-US/docs/DOM/element>
- <https://developer.mozilla.org/en/docs/JavaScript>



JavaScript Object Review

- JavaScript Object Literal format
- An object literal is a comma separated list of name value pairs wrapped in curly braces.
- ```
var myObject = {
 stringProp: 'some string',
 numProp: 2,
 booleanProp: false
};
```
- Value can be any JavaScript Datatype including a function



# Google Maps JavaScript API

- Google Maps JavaScript API v3
- <https://developers.google.com/maps/documentation/javascript/>
- Load the js API file from the googleapis server
  - API Key parameter is currently not required
  - Sensor parameter must be set to true or false
- Map options are set using a JavaScript Object
- Pass the container element and options to the maps constructor.
- `var map = new google.maps.Map(element, options);`
- Put all this in a function that runs when the document loads.
- Look at API docs for examples





# jQuery

- Most popular JavaScript library
- Written in 2005 by John Resig
- Simplifies and abstracts some browser inconsistencies of JavaScript
- Still need to use basic JavaScript stuff we discussed but this simplifies many of the DOM scripting tasks
- Add the jQuery JavaScript file to your html page as a external script then you can use jQuery
- Use google's cdn to load the library for performance increases.
- jQuery UI adds additional widgets and effects



# jQuery

- All code should go in the document ready function
- Code will execute when the page DOM is ready to be manipulated

```
$(document).ready(function(){
 //code goes here
});
```

- Elements are selected using CSS style selectors
  - `var element = $('#id');`
  - Returns a jQuery object
- JQuery API docs <http://jquery.com/>

