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ICT 4510

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Module 3 Discussion Questions: jQuery

1. What is jQuery?
   1. jQuery is a cross-platform JavaScript library that was designed to simplify the client-side scripting of HTML. It is free and is open sourced that utilizes the MIT license. jQuery is used to manipulate the DOM with much easier to render methods that help create animations and handle events. jQuery allows developers to also create plug-ins on top of the JavaScript library. It also makes handling server interactions with AJAX much easier than coding with standard vanilla JavaScript. Another benefit that many people like using from jQuery is the ability to use CSS selectors for the content in the web pages.
2. How can we include jQuery in our HTML documents?
   1. jQuery can be incorporated into our document in several different ways. The first way would be to officially download the version of jQuery that you would like from jQuery.com. You would then take the proper JavaScript/jQuery files and import them into the JS folder found inside your project’s directory. You would then be able to take the directory and link it as a source at the beginning or the end of your HTML document. If using jQuery in your document, you want to be sure that you place the reference to your jQuery location before any of the references or in-page JavaScript that are going to be found in the document as well. Other than officially downloading the documentation and different files from jQuery.com, there is another alternative. This would be to use a CDN or Content Delivery Network. A CDN is an online sever location that has an address/URL to be able to host the files that are needed. The way to utilize a CDN in your project is to reference the URL of the CDN in the source attribute of the opening script tag. There are many websites that act as and host CDNs of jQuery and many other files, libraries, or frameworks. Specifically for jQuery, the most famous website is AJAX.GoogleAPIs.com with certain directories for the version jQuery that you are looking for. The one downside to using a CDN is that the server may experience an error, migration, or change in the future. In the event that this happens, your website may not be able to properly read the code from the CDN files and therefore, your web page won’t render and be as interactive as you may have hoped.
3. How does the jQuery library simplify JavaScript development?
   1. First of all, there are too many reasons that jQuery would be able to simplify your work when developing websites or applications with JavaScript. jQuery can often be identified in a web page’s JS code by a $ sign located before the selector that is going to be used. A major benefit to using jQuery is the selectors that are used. Identical to CSS, the selectors for IDs and Classes are the same symbols with either a # for an ID and a . for a class. This a major benefit for people who never have coded with Vanilla JavaScript because they have been used to already differentiating the selectors for IDs and Classes by using hash symbols and periods. This is different than having to write document.”whatever” for the query selectors. As mentioned above, the major purpose for using jQuery is to be able to manipulate and change the DOM with ease. Most code is encased within the parent function which is titled with a document.ready function and then contains an anonymous parent function. This is much like invoking a function with document.onload in Vanilla JavaScript. Another benefit to jQuery is that it is open-sourced. Most of the time, the production level file of jQuery that is used on the website is very compressed/minified which will ensure fast loading as well. It is probably the most widely used cross-platform JavaScript library on the market and is completely free to developers of any type.
4. What is a jQuery selector?
   1. A jQuery selector is used to “find” the proper HTML elements by name, class, ID, type, attribute, value of attribute, and any other identification that can be found in the markup of the HTML and or CSS. Like I have already mentioned above and below, it is based on CSS selectors to make programming jQuery much easier and shortening the code that would otherwise start by document and go on for a while. Stemming off of the question below, jQuery selectors can be started with $ or jQuery. They mean the exact same thing.
5. Explain the $
   1. The dollar sign stands for the word jQuery and can also be completely written as jQuery before the parenthesis, much like $() or jquery(). It is an identifier for the jQuery library which will then enable developers to write jQuery code and the browser when the script and the source are loaded, will be able to run and convert the jQuery to standard Vanilla JavaScript. This will help make sure that no error with variable names will happen as well when the jQuery library is invoked.
6. How do we call a jQuery method?
   1. Calling a jQuery method/function is much like the same of Vanilla JavaScript. However, you will be invoking and calling those functions from event handler methods like click, ready, load, etc. The function can be written just like any other JavaScript function and then loaded by a selector and an event handler. Most of the jQuery code is written in the document.ready function that is written as the parent function to ensure that the JavaScript only runs after the page is completely loaded. Other than that, to run a standard jQuery function, you would write it the same way as a JavaScript function.
7. Explain Object Chaining
   1. In the past, writing jQuery was writing functions one at a time or otherwise, one after another. There is a technique that is known as method chaining that is used to run multiple jQuery commands, one after the other on the same elements. This is defined by W3 Schools at the below link. To chain different methods together, you simply append them from the previous method. Methods like CSS(), slideUp(), and slideDown() are a few examples of methods that would work well when chained together.
   2. <https://www.w3schools.com/jquery/jquery_chaining.asp>.
8. Ready() and Click() are common jQuery functions and event methods. Explain what each of these event methods does.
   1. The document.ready() method is simply similar to the document.onload or docunment.addEventListenter(‘load’, function()); event listeners. The ready method in jQuery is a simplified version of this that takes a function callback or an anonymous function as the parameter. Everything inside of the ready method will not be executed until the document/DOM is fully loaded with all of the HTML elements and CSS styles. Do not use the ready method with the <body onload=> function. All jQuery is recommended to be put inside of the ready method.
   2. The document.click() method is different than the ready method but is very similar to the document.onclick method. Anything that is called or written inside of the click method, usually an anonymous function or function call, will trigger an event when the element is clicked in the DOM. Any instructions of code within that method will fire and tell the DOM to react to the click event.
9. What are jQuery effects? List and describe two different effects.
   1. jQuery effects are methods that have been constructed by the jQuery library developers to manipulate and animate elements within the DOM. There are tons of different types of animations that jQuery supplies natively and others that can also be installed from a third-party open source API or library. These animations make manipulating the DOM elements much easier with appealing transitions and animations that can be executed over a specified amount of time and can adjust different CSS styles of the elements.
      1. The first of my favorite jQuery method methods in my opinion are personally the animate and the show/hide/toggle methods. The animate method allows you to run a custom animation on the specified element by declaring CSS styles inside of an object that acts as a parameter for the animate method. The other three methods are separate, but act much of the same. The show, hide and toggle methods allow for an element to be shown or hidden or toggled as they are defined, but you specify the amount of time in milliseconds that the animation will occur over. This makes writing things much easier in the JavaScript code instead of having to incorporate many lines of variables for selectors and loops to perform the different effects.
10. What do the following jQuery methods allow the developer to do? Give a description of each one.
    1. Append()
       1. The append method inserts specified content at the end of the selected elements. This allows you to append other elements and inner HTML or text content to those new elements with the effect of a parent method that is being called from an event listener.
    2. HTML()
       1. The HTML method sets or returns the content (innerHTML) of the selected element. When the method is used to return content, it returns the content of the first matched element. When the method is used to set different content, it overwrites the content in all of the matched elements.
    3. Empty()
       1. The empty method removes all child nodes and content from the selected elements. An example of this would be if you select a div with child node paragraphs or images and then applied the empty method. The empty method would then erase everything that is in your div’s child elements.
    4. Val()
       1. This method returns or sets the value attribute of the selected elements. When it is used to return the value, it will return the value of the first matched element. When it is used to set the value, it is used for the value of all matched elements. It is most commonly used for obtaining and setting the values in a HTML form element, like inputs.