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ICT 4510

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**Module 5: Discussion Questions 1 – 3**

1. What is AJAX?
   1. AJAX stands for Asynchronous JavaScript and XML. It is not a programming language! It is a combination of using JavaScript and the XMLHTTPRequest object method to take information from a given URL. The developer would the use that information that is retrieved from the server and post it to the DOM in a certain element. Most of the time, the information is posted most of the time in either the JSON format or the XML format. You are able to update the webpage without reloading the page, even after the page is completely loaded. You can also request, receive, and send data to the server even after the page has loaded as well. In order to ensure the AJAX is working properly, you have to create a new instance of the XMLHttpRequest object and assign it to a variable. Then, you have to ensure on a ready state change that it is at a ready state of 4 and a status of 200. These two values simply put are ensuring that the AJAX has been loaded correctly. Any code put inside of that if statement can act upon the DOM. You then make an open request and specify whether you were PUTTING or GETTING the information from the server. Lastly, you then send the request with the send method.
2. What is the XHR?
   1. An XHR stands for an XML HTTP Request. It is the key object in AJAX. It has allegedly been available since the Internet Explorer version of 5.5 in the early part of July, 2000. XHR is essentially an API that can be used by JavaScript, Jscript, VBScript, and other web browser scripting languages that can transfer and manipulate the XML data from or to a webserver, while using the HTTP protocol. The data that is returned from the different methods of the XHR requests can then be entered into a back-end database or even into the DOM. There many different methods of XHR such as abort(), getAllResponseHeaders(), getResponseHeader(headerName), open(method, URL), send(content), setRequestHeader(label, value). There are also two separate XHR properties known as onreadystatechange and readyState. The ready state goes from 0 to 4, 4 being complete. You can the retrieve the response text, response XML, status, and or status text.
3. What is the difference between JSON and JSONP?
   1. JSON is a domain-specific language and is based off of the JavaScript language. However, it is independent of JavaScript. JSONP is another form of JSON but with padding. It is a JSON data response but is encapsulated inside of a function call. According to Quora.com, JSONP is a simple way to overcome browser restrictions when sending JSON responses from different domains from the client. Standard JSON JavaScript data notation is considered to be a convenient way of transporting data between applications, especially when the destination is a JavaScript application. When using AJAX, most of the time the data received from the server request is most likely saved into a JSON file. In jQuery, there is a function that has been made that allows jQuery to directly get JSON from the server with the $.getJSON() method in short hand. This makes a little less work than you would have seen with the standard vanilla JavaScript version. However, before using any library of code, I find that it is imperative to understand how to program in the language without the library.