Introduction to ITWS



1. Technology (coding): (40 points, 30 minutes)
   1. Create a JSON file containing at least 5 greetings (eg ‘Hello Moto!’) – make sure your file is properly formatted. (10 points)

{

"Greetings:": [

"Salam!",

"My name's Skyler White, Yo!",

"Whats up, Dood?",

"What's crackin’?",

"selamat pagi!",

"Hey! Listen!"

]

}

* 1. Using JavaScript and/or jQuery, write the code necessary to display a random greeting which you will read from your JSON file and display somewhere in your header. (20 points)

$(document).ready(function () {

greetingGetter();

});

function greetingGetter(){

$.getJSON("quiz.json", quizOutput);

function quizOutput(quizData) {

let x = Math.random() \* quizData.Greetings.length;

output = "<h1>" + quizData.Greetings[x] + "</h1>";

$('#quizFiller').html(output);

}

}

* 1. Bind an event to the greeting, so that when the user clicks on it, they are presented with a new greeting (10 points)

$('#quizFiller').click(function () {

greetingGetter();

});

1. Technology (description) (20 points, 15 minutes): Web Development
   1. What is a CDN and how do we use them in this class? Be Specific and give an example used in class (3 points)

A CDN is a Content Delivery Network. This is a network that shares content from a single origin server to other machines across the world. One example of us using a CDN in class is using JQuery. (<script type="text/javascript" src="https://ajax.googleapis.com/ajax/libs/jquery/3.6.3/jquery.min.js"> </script>)

* 1. Explain, in detail, what is happening in the following code samples (10 points) {i:3,ii:3,iii:3,iv:3}
     1. <!DOCTYPE html>

This is the tag that goes at the beginning of an HTML file, it specifies what this file is in specific. We could also use XHTML or XML, but in this code we are using HTML.

* + 1. getElementsByTagName(p);

This is a javascript command that gets a collection of all of the HTML items with the tag P, which is presumably a tag name that we specified beforehand within the function.

* + 1. <div id=”myInfo” class=”infoData personal”>

<button type=”button” onclick=”popMsg();”>

<a href=”#” class=”linktype”>Go Somewhere</a>

</button>

</div>

This creates a div with an ID of myInfo, and two classes (infoData and personal). Within it, there is a button that runs a JS function called “popMsg”. There is also an anchor tag within it that says “go somewhere”. which goes to the top of the page if clicked. (href=”#” goes to the top instead of a specified ID).

* + 1. jQuery(“#myInfo”).css({“background-color”:”pink”,”font-size” : “115%”});

This runs a jQuery command on items with the ID myInfo, and it changes the CSS of items with said ID to have a background color of pink, and it increases the size of the text by 115%

* 1. Let’s say that I am trying to run my JavaScript code above, and the file is not loading. How would I test out my code and try and identify the error. (Be specific and explain your debugging process) (5 points)

I would use alerts, and also go to chrome developer tools and check to see what errors the console may throw.

1. Web Science (20 points, 15 min) (Explain in detail)
   1. According to the Lecture by Dr. Erickson, what is Web Science? Why is it important?

Web Science is the study of the World Wide Web as a scientigfic object, recognizing it as a transformational and disruptive object.

* 1. What unintended consequences result from sharing our data? Be descriptive and include an example from your own personal experience or our in-class/Discord discussions.

Sharing our data can lead to it being collected and used for advertisers or other purposes. One popular example of data sharing leading to bad consequences is the Facebook/Meta lawsuit[[1]](#footnote-0). There is also an issue with data-breeches and the now constant need for cyber security and awareness of the masses of where their data is going. And many actions to prevent the mining of our data (like GDPR) have only prompted even more sinister

* 1. How could Web Science concepts (from your answer to a) be used to help identify and perhaps mitigate these issues (which you described in b)?

While not mentioned in my answer to part a, a pivotal part of web science is the web science method, which can be used and applied in many places. But most importantly, it was shown in the Lecture by Dr. Erickson that this can even be applied to web governance. So by using Idea -> Social/Tech -> Micro -> Macro -> Issues, we can find and mitigate the issues mentioned about how to govern the web.

1. Cybersecurity/HCI (20 points, 10 minutes) (Explain in detail)
   1. According to the lecture, what is the weakest link in web security? Why?

Humans (or us). Computers are almost entirely perfect, but humans can be influenced and/or uneducated, making us the greatest liability. In the bank heist example we saw, none of the plan would have worked if one unsuspecting employee never clicked on a hacked email. No matter how strong your defenses are, all it takes for a whole castle to crumble is for one person to lower the gates for a (literal) trojan horse.

* 1. What is the CIA Triad?

Confidentiality, Integrity, Availability

* 1. What are SSH keys and how do they work? How have we used them in this class beyond this cybersecurity lecture?

We use SSH keys every single time we want to log into our Azure terminals (ssh rcsid@rcsid.eastus.cloudapp.azure.com). This gives us a clue into what SSH keys are, it stands for Secure Shell, and is a protocol found on all OSs to establish a secure connection between remote computers over an insecure network.

1. <https://www.cnbc.com/2022/12/23/facebook-parent-meta-agrees-to-pay-725-million-to-settle-privacy-lawsuit-prompted-by-cambridge-analytica-scandal.html> [↑](#footnote-ref-0)