Web Science

Quiz 1: March 10, 2016

100 points max

Place your name on the top of the document in the header

Enter your answers directly into this document (with the exception of #2 and #3)

All answers should be in be in Your Own Words, and use proper grammar

Make sure your answers use an alternative font and/or color

Save the document as

ITWS4500-S16-Quiz1-*yourname*-quiz1.docx

Place all documents/files including this one in a folder named

ITWS4500-S16-Quiz1-*yourname*-*yourRCSID*

When finished with the quiz, zip your folder and all related files into a file named

ITWS4500-S16-Quiz1-*yourname*-*yourRCSID*.zip

And submit it to LMS

1. **Frameworks** (25 points): (Answer in complete sentences, explain your answers)
   1. (5) What is a Media Query? How is it used? Why do we use them?

**A media query is used in CSS to determine what device is being used to access the given web page. We can use them to change sizes of elements based on the screen size**

1. (5) What is Bootstrap? How is it used? Why is it used?

**Bootstrap is a framework made for creating scalable sites. It is used by creating the smallest size first, then allowing for larger screens, as opposed to the other way around.**

1. (5) What is AngularJS? How does it work? Why is it used?

**Angular is created using directives that can run and output javascript within elements of HTML. It allows a programmer to add output of Javascript functions, using a controller to manage the directives in the HTML tags.**

1. (10) Describe the difference between JavaScript and CSS frameworks. Provide at least 2 examples for each in your answer.

**CSS frameworks are used for styling, while JavaScript frameworks are used for a lot more. The npm frameworks used in class are good examples of JavaScript frameworks. The Twitter module made it easier to access the Twitter API, and the Express framework made it simple to create a server. Two CSS frameworks are Bootstrap and YAML, both of which use mixins, variables and other such elements not inherent in CSS to make the coding more intuitive.**

1. **Node.js** : (40 points) Create a webserver in node.js, using express – (NOT express-generator), which will output a simple HTML page with a button labeled ‘Run’ when GET request is received on <http://localhost:3000>. Upon clicking the button, the server should get the current temperature in Spokane, WA and output a sentence that says whether it is Freezing (<10F), Cold (btw 10 and 40), Warm (btw 40 and 70) or Hot (>70) – display the corresponding message in a unique color for each category.

1. (15) Build a package.json file for Q2. If we run it, there should be no errors or warning when we try to install & run your code from #2 above. (You may assume yout application name is *Quiz1Server*)
2. (20) Explain *in detail* what the following code does; (also add comments to the code explaining what each line does)

var net = require('net') **//set variable net (also ensures net module is installed)**

var sockets=[];**//creates array**

var s = net.Server(function(socket) {**//sets up net server, opens a socket**

sockets.push(socket); **//adds the new socket to the array**

socket.on('data', function(d) {**//when data is passed in, pass as variable ‘d’**

for(var i=0; i<sockets.length;i++) {**//goes through all sockets**

if (sockets[i]==socket) continue; **//…except for the current socket**

sockets[i].write(d); **//writes the data this socket got to the other**

**//sockets**

}

});

socket.on('end', function() {**//when this socket closes**

var i=sockets.indexOf(socket); **//find this socket in the list**

sockets.splice(i,1); // or delete sockets[i] **//close this socket**

});

});

s.listen(8000); **//listen on port 8000**

**This code sets up a server to serve many sockets. When a client passes data into the current socket, the sockets tells the other open sockets. When a socket closes, it deletes the information that was stored for it on the server in the array.**