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 by CSS to ask the browser for more information about itself. It can query for information, and then using that information apply CSS properties if the information is equal to something. We can use them to ask for the browser’s window width, and then using that information, we can change aspects of our web applications depending on the screen size of the device. This makes a more responsive and better looking website for the user.

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

Bootstrap is a CSS/Javascript framework which is able to easily create responsive web designs. It is used by simply including it in the HTML file, and then using certain classes, we can give elements classes which Bootstrap will then style for us. It is an easy and simply way to create a responsive and professional looking website.

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

AngularJS is a collection of frameworks which extend the HTML platform and let you use HTML as a template language. Its main feature is the concept of data binding whereby you can assign information into a model and that information is shared across the client and server. In this sense, AngularJS gives more control to the client which can be scary to some web developers. It is used to easily share information between server and client.

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

The main differences between JavaScript and CSS frameworks are that the JavaScript frameworks allow developers more control over information flows and CSS frameworks allow developers more control and better ways to style the information which gets displayed. Some examples of JavaScript frameworks are AngularJS, BackboneJS, and jQuery. Some examples of CSS frameworks are Bootstrap, Foundation, and Pure CSS.

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 your application name is *Quiz1Server*)

This application assumes the use of NPM. To install the dependencies simply run “npm install”. Then, run “npm start”, and the server will start. You can access the server at localhost:3000.

1. (20) Explain *in detail* what the following code does; (also add comments to the code explaining what each line does)

var net = require('net')

var sockets=[];

var s = net.Server(function(socket) {

sockets.push(socket);

socket.on('data', function(d) {

for(var i=0; i<sockets.length;i++) {

if (sockets[i]==socket) continue;

sockets[i].write(d);

}

});

socket.on('end', function() {

var i=sockets.indexOf(socket);

sockets.splice(i,1); // or delete sockets[i]

});

});

s.listen(8000);