Web Science

Quiz 2: May 1, 2017

100 points max

* Add your code in separate files in a folder/directory called rcsid-quiz2/. (You will zip them up in the end)
* Include your written answers in this file. Include your name in the header. Use a different font/color, in-line, in this document. Save it as rcsid-quiz2.docx and place in into the root of your quiz2 folder when completed
* When finished, zip your entire server (ie ../rcsid-quiz2/\*.\*) into a file named using the class convention (rcsid-ITWS4500-quiz2.zip) and upload it to LMS. Make sure you include any basic instructions into a readme.
* The quiz is due at 5:50pm or it will be late. After 6 it will NOT be accepted.

1. Weather App (85 Points)
   1. Make sure to include a properly formatted package.json file in your server’s root – we will test your application by running ‘npm install’ and then ‘node server.js’ – it must work for us to test. (*please* **do not** zip up your node\_modules folder) (**10 points**)
   2. (35 points) Using node.js, create a server, named server.js, that when run will display a web page through port 8000. Once the request comes to the server, the server should perform the following tasks;
      1. Serve a page to the user, welcoming them and which will inform them of what is happening
      2. On your page should be a button, labeled ‘add’, and a text field ‘zip’
      3. When the user hits ‘add’, send the zip code to the server [**5 points**]
      4. Use the open weather API to get the weather for the zip code. [**10 points**]
      5. Write the results from the API into a mongo database. Your database should store (at least) [**10 points**]
         1. Zipcode
         2. Location name
         3. Current temperature
      6. Once complete, let the user know that their zip has been added and show a button labeled ‘display’
      7. When display is pressed, display the location and current weather of each zip code in the database. [**10 points**]
   3. (20 points) Extend the functionality of Q1 to include the following:
      1. On your page should be a button, labeled ‘output’
      2. When the user hits ‘output, read from your database and create a JSON file with the data. [**10 points**]
      3. Report back to the user that their data has been output to a file named **Q2Q1c-*yourRCSID*.json** [**10 points**]
   4. (15 points) Extend the functionality of Q1 to include the following
      1. When ‘display’ is clicked, create a bar graph [**5 points**]
      2. On the x-axis, label each bar with the location name [**5 points**]
      3. Each bar’s height should be the temperature at that location [**5 points**]
2. DevOps: Answer in your own words and in complete sentences with proper grammar using the information from the lecture on DevOps. (15 points)
   1. Part 1: What is DevOps? Why is it important? What does DevOps become when a Security component is involved? (elaborate) [**5 points**]

**Devops is a term used to describe a unified team of development and operation teams throughout the entire development phase of a system, allowing them to insert themselves in any facet of the development lifecycle. It’s important because it creates a sense of unity. Not only is the code and development consistent, all the working parts work together because everyone had a hand in it, as opposed to being handed a piece of software by another team out in Texas. When a security component is involved, DevOps becomes implementing automated solutions to continuously ensure the code is secure.**

* 1. Part 2: In the DevOps lecture, what was the company used as an example when talking about ‘Name days’ and ‘trying to break the system’? [**5 points**]
  2. Part 3: What is Chaos Monkey and how is it used? (Be specific and use your own words.) [**5 points**]

**Chaos Monkey is Netflix’s DevOps tool used for testing their AWS for resiliency and recoverability. It’s a tool that basically wreaks havoc on their services. It will simulate failures in their services to see how their system responds.**