CS275 Web and Mobile App Development

Winter 2017

Lab2

As with this and all future labs, you must work individually

Objective:

The purpose of CS275 lab2 is learn how to utilize jQuery and Ajax to develop a web page to invoke the Weather Wunderground web service and parse it's JSON response.

Lab 2 Overview

The Weather Wunderground web service, introduced earlier in the term, can provide weather information (forecasts, conditions, hourly readings, physical location of the client, etc.) from URL based requests to a variety of data endpoints. The API for this application may be accessed at

http://www.wunderground.com

As noted in the API documentation, requests can be make in the form of specially coded URLs, which include the request parameters, to specific endpoints.

You are asked to develop a web page that:

1. Allows a user to enter his/her wunderground key
2. Click on a button to launch a request for the most recent hourly forecasts for the location where the client resides
    a. Read the *Lab 2 Activities* section to see how you can find your current location.
3. Display this list of forecasts along with their associated weather symbols in the web page

Lab 2 Activities

1. If you have not already done so, sign up for a key at the Weather Wunderground website:
   http://www.wunderground.com/weather/api
2. Create the base HTML code, including a text field (to enter the key), a button (to launch the hourly forecast script) and an empty `div` to eventually display the list of hourly forecast line items.
3. Create a JavaScript script to:
   a. Extract the key from the text field.
   b. Create a url request to obtain the location (zip code will suffice) of the client. The following url will accomplish this:
      http://api.wunderground.com/api/your_key/geolookup/q/autoip.json
      Note: At this point, you may want to manually run this request from the browser's address field in order to discover the JSON response structure needed to navigate to the zip code.
   c. Use jQuery's Ajax feature to launch the request.
   d. Parse the JSON response to obtain the zip code.
   e. Incorporate the obtained zip code into the following url to create the hourly forecast request:
      http://api.wunderground.com/api/your_key/hourly/q/your_Zip_Code.json
      As in the step above, manually run this request to determine the JSON response structure.
   f. Again, use jQuery's Ajax feature to launch this request.
   g. Finally, parse the JSON response to obtain and **display the list of hourly forecast readings along with their associated icons**.

Debugging Hints:

1. Most browsers allow you to right-click somewhere on a webpage and choose something like "Inspect". This will bring up a window that allows you to see errors in Javascript among other things.
2. JavaScript has a function `alert(object)` that pops open a window with the object printed out. This can be useful for debugging as well.
3. You could also make a `div` to change the `innerHTML` of for debugging purposes.

What to submit

For submission you are to submit:

- A screen cast video to Blackboard detailing a thorough code review of your program along with a demo execution of the application.
- Your source code, well internally documented.
- README file on how to run your code.

Grading (50) Points

- 40 points : program correctness and along with adherence to the stated requirements
- 5 points : quality of internal documentation and code style
- 5 points : README file