

# CS275 Web and Mobile App Development

## Assignment 2

*As with this and all future assignments, you must work individually*

### **Objective:**

The purpose of this assignment is learn how to utilize jQuery and Ajax to develop a web page to invoke the Open Weather Map web service and parse it's JSON response.

### **Overview**

The Open Weather Map web service, introduced earlier in the term, can provide weather information (forecasts, conditions, periodic 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

<https://openweathermap.org/api>

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 API key and zip code
2. Click on a button to launch a request for the most recent 5 day / 3 hour forecasts for the location specified in the zip code. That will produce an array of  $5 * 8 = 40$  forecasts.
3. Display this list of forecasts for the entire set of data. A single forecast line should include the following information in "English" units (eg. temperature in degrees F, etc.)

Date and Time ("dt\_txt") Weather description ("weather.description") Temp (deg. F)

## Assignment 2 Activities

1. If you have not already done so, sign up for a key at the Openwaethermap website:

<https://openweathermap.org/price>

2. Create the base HTML code, including text fields (to enter the key and zip code), a button (to launch the 3 day / 3 hour forecast script) and an empty div to eventually display the list of 3 hour forecast line items.
3. Create JavaScript code to:
  - a. Extract the key and zip code from their respective text fields.
  - b. Create a url request to obtain the 5 day / 3 hour data. The following url will accomplish this:

<https://api.openweathermap.org/data/2.5/forecast?zip={your zip code}&appid={yourkey}>

*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 40 forecasts from the JSON response
  - e. Finally, parse the JSON response to obtain and **display (as a table) the list of 3 hour forecasts across the 5 day period as specified in the Overview section of this document.**
4. Mobilize!
    - a. Use jQuery Mobile to add a header and footer to your page that are fixed at the top and bottom respectively.
    - b. Use jQuery Mobile's table data-type and ui-responsive CSS to make your table resize properly for mobile devices.

### *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.

**NOTE: Moving forward (including this assignment) you are responsible for identifying, addressing, and demonstrating different use cases.**

## **What to submit**

For submission you are to submit (as a single zip file):

- 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. Your main html file should have the filename <drexelID>\_HW2.html
- README file on how to run your code.

## **Grading (50) Points**

- 40 points : program correctness and along with adherence to the stated requirements
  - 5pts Website has correct elements in it
  - 5pts Website uses jQuery Mobile style
  - 5pts Website can get zip code and application key
  - 10 pts Website gets and displays hourly forecast correct
  - 5pts Website handles invalid Openweathermap code properly
  - 10pts Video demonstrates understanding of code and explores different use cases.
- 5 points : quality of internal documentation and code style
- 5 points : README file