Assignment 3 - 100 points

CIS 115 – Spring 2015

Due Monday, 4/20 by Midnight

1. [20] Create a new page called images2.html. Similar to the last assignment, the user will be able to add images to the page dynamically, although this time each image will have an associated text caption and only one image/caption will be displayed at a time. Use a table to nicely arrange two text fields, one for inputting an image URL and one for inputting an image caption, along with text indicating the purpose of each text field, a button with label “Add Image”, and a button with label “Show Random Image”.

2. [10] Define a class which stores a URL and a caption. We’ll create an object of this type each time the user adds an image. Inside a `<script>` element, define an AnnotatedImage object using the following code:

   ```javascript
   function AnnotatedImage(url, caption) {
       this.url = url;
       this.caption = caption;
   }
   ```

3. [10] Use an array to store the objects so that we can look up a random url/caption in part 5. Also inside a `<script>` element, create a new instance of an Array using code similar to the following:

   ```javascript
   var annotatedImageArray = new Array();
   ```

4. [30] When the “Add Image” button is clicked, create a new instance of AnnotatedImage using the url and caption specified in the text fields. Add this instance to your array using the Array `push()` method. For example, considering an Array named “annotatedImageArray” and an AnnotatedImage instanced named “image”, you would add the AnnotatedImage instance to the Array using:

   ```javascript
   annotatedImageArray.push(image);
   ```

   The image/caption should be displayed and the text fields should be cleared as a result of clicking this button (but only one image/caption should be on the screen at a time).

5. [30] When the “Show Random Image” button is clicked, the page should display one of the images that have been added along with its caption (but only one image/caption should be on the screen at a time). Use the HTML `figure` and `figcaption` elements to display the image caption. Use the `Math.random()` and `Math.floor()` functions to select a random AnnotatedImage instance from the Array to display. If the Array is empty, clicking this button should have no effect (i.e., should not cause an error); you can detect this case by testing to see if the length of the Array is 0.

6. [+5] (Extra credit) Modify your page to add a “Show Next Image” button. When clicked, the next AnnotatedImage in the Array should be shown. If the last AnnotatedImage is currently being displayed, show the first AnnotatedImage. Clicking the button before images have been added should have no effect (i.e., should not cause an error). Hint: the easiest way to implement the button behavior is to keep track of index of the current AnnotatedImage. You can define an index variable and give it an initial value of -1 (so that 0 is the first index
used), similar to the way that you defined the Array, then modify the variable whenever a different AnnotatedImage is shown.

7. Upload your files to Blackboard (under Assignments ---> Assignment 3).