COSC 360
Lab 5 - JavaScript

Information:

This assignment has two parts. Part I and II will involve the submission of JavaScript files.

Instructions:

Part I: Form Validation

In this exercise you will use JavaScript to pre-validate a form before submission.

1. Download the provided HTML5 code and CSS. Place them in your local development directory. You will be able to view the page without a webserver. Examine the lab5-1.html file to understand how specific elements have been identified. Do not modify the HTML code.
2. Create an external JavaScript file called lab5-1.js and place it relative to your html file as script/lab5-1.js. **Place all your JavaScript in this file**.
3. Create an external CSS file called lab5-1-hightlight.css and place it relative to your html file as css/lab5-1-hightlight.css. Create a CSS style that can be used to highlight blank field (i.e. missing data). Have the style change the colour of the field to a colour that will draw the user's attention (red).
4. Setup a listener on the form's submit event so that the code prevents the submission of the form (preventDefault()) if either the title or description field is left blank or the accept license box is not checked; otherwise submit the form.
5. Enhance the JavaScript so that blank fields trigger a change in the appearance of the form using the style from step 3.
6. Add another listener to the fields so that when the user types into a field (changed event), JavaScript removes the colour styling as the field is now valid.

Testing:

1. Test the form in your browser to make sure fields function correctly. Attempt to submit the form with either field blank and ensure the offending field is highlighted. Ensure that the page is not refreshed.
2. Type into the highlighted fields and check to ensure that the error colour is removed.

Submit your JavaScript and CSS files. These will be validated against existing HTML.

Part II: Node Highlighting Helper

In this exercise you will write a helper script that could be used on any web page to help identify different elements simply by including the JavaScript file. Use your submitted code from lab 3 (the table and form lab) as a basis for testing. The goal here is to use only JavaScript to create the desired end result as shown in Figure 1 below.

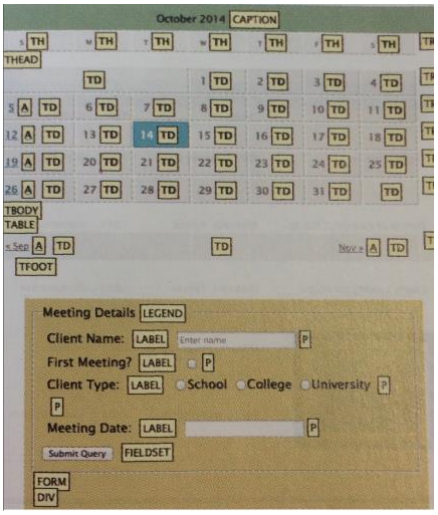

Figure 1 - Node Helper Example

1. Create a copy of your submission for lab 3 and rename it lab5-2.html.
2. Create a JavaScript file called lab5-2.js and place it relative to your html file as script/lab5-2.js. Place all you JavaScript in this file.
3. Your script should navigate every element of the DOM for a given page. For each element in the body of the page, determine whether it is a textNode (type 3) or not.
4. Have your script create a new child node for every **non-text** node encountered. The new node should take on the class "hoverNode" and innerHTML equal to the parent tag name. Define appropriate styles for this CSS class in your script so that the element is yellow (as shown in figure 1).
5. Add listeners so that when you click on the newly created nodes, they will alert you to information about the tag name, so that when a node is clicked a pop-up alerts you to information about the node including its ID and innerHTML.

Testing:

1. Test your script by loading it onto any page (but start with the page from lab 3). All the tags should be identified and yellow pop-up boxes are displayed.
2. Reflect on how to improve/enhance this script into a more useful tool for web development and debugging.

Submit your JavaScript and CSS files. These will be validated against existing HTML.