CPS530 : Web Systems Development
Lab 05 > Going Beyond JavaScript with jQuery [Fall 2024]

I. Overview and Objectives

jQuery is a fast, small, and feature-rich JavaScript library. It makes things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a multitude of browsers. With a combination of versatility and extensibility, jQuery has changed the way that millions of people write JavaScript.

The learning objective of this lab is to implement different working solutions using jQuery.

Reading and related topics: Course slides (Lesson #5) and the following online resources:

https://archive.cs.ryerson.ca/user_guide.php#a93
https://www.w3schools.com/js/DEFAULT.asp
https://www.tutorialspoint.com/javascript/index.htm
https://www.javascripttutorial.net/
https://javascript.info/
https://ihypress.de/programming/javascript/
https://www.w3schools.com/jquery/default.asp
https://www.tutorialspoint.com/jquery/index.htm
https://www.javatpoint.com/jquery-tutorial
https://www.tutorialrepublic.com/jquery-tutorial/

II. Lab Tasks

Create one web page containing the solutions to all three problems. You can use

jQuery or vanilla JavaScript for problems 1 and 2. You must use jQuery or a combination of jQuery and vanilla JavaScript for problem 3.

Problem 1:
- Create a form that asks the user for their name, address and phone number. For the phone number use the *(area code) exchange-numbe*r ***(416) 555-5555*** format.
- Write a JavaScript function to validate the form items name and phone number (a name cannot have anything but letters and the phone number must be exactly as shown: 3 digits in parentheses, followed by 3 digits, a dash and 4 digits.
- Write a JavaScript function to transform the phone number into th*e area code- exchange-number* format like ***416-555-5555***.
- Write a JavaScript function to display the name, address and phone number (with the new format) with large characters and an attractive appearance. Be creative!
- Create a button that will validate the form and produce the final display. Use the DOM only, you cannot refresh the page or use a server-side program to produce the final display.

Problem 2:
Write a JavaScript function that counts in real time the number of characters in a <textarea> form element. Have the number updated in real time and shown in large font next to the input form element. Create a second function that counts only the letters (A-Z and a-z) and display that count as well next to the input form.

Problem 3:
Write a function that when you click an image, it becomes full screen (have the image size increase slowly as an animation). In the full screen image, place an icon so that when you click it, the image reverts to its original size and position. Use Google Material Icons for the icon.

III. Submission Guidelines

- This lab is to be done individually.
- You <u>must</u> host your webpage on your CS student account (moon server) making it publicly available (www).
- Submit to D2L the complete webpage in a zip file containing all necessary assets.
- Provide the link to your live page (https://...) in the submission comment section.
- For submission you will have one **lab05.html** page that has the solutions to all three problems.
- Note that if your page is not hosted, you will get a zero grade. The assets alone will not be marked.
- You should submit your lab as soon as possible after your lab session using D2L.

Submissions will be accepted until **October 30, 2024 at 11:59 PM**. After that, the D2L submission box will become unavailable.

Have fun!