

Homework 1 - Javascript - Due Tuesday February 24, at 5:00pm

Introduction

As we've seen in class, JavaScript and jQuery are useful for allowing you to alter webpages in response to user input without needing to run PHP on the server. Remember, JavaScript is the **language** used to write scripts in HTML, and jQuery is a JavaScript **library** that helps to simplify scripting syntax. In this homework, you will get a chance to exercise these skills.

What your site will contain

In this homework, you will alter the appearance of a block of text via JavaScript/jQuery in response to user input.

The files for this assignment are in your server account in the hw1 folder. These will consist of the following five files: stylesheet.css (for styling purposes), pokedex.txt (text to be displayed), index.php (basic HTML of the page and some PHP to display the text file), script.js (a file for your JavaScript/jQuery), and savePage.php (the action called by clicking the button to save the file). You **must not** modify the index.php file, but you are allowed to modify the other files.

Requirements

1. You should modify the script.js file in order to make the following changes to the text:
 - Font color: Change the font color to red, blue, or green by clicking on the appropriate radio button.
 - Text Display: Change the display of the text to either show only Pokemon headings (ie. name and images) via the "Hide All" button, or show both headings and description via the "Show All" button.
 - Font size: Change the font size in response to the user input in the text box. You should also check that if the user enters a font size smaller than 8px or larger than 80px, and display a warning message if the user does this.
 - Image Altering: Change all Pokedex images based on button clicked. "Pokemon, Return!" will replace all images with Pokeballs (pokeball.jpg). "Pokemon, Go!" will replace all images with Pokemon.
 - Search: We have already implemented this feature for you. When the user types in a phrase, the matching words in the text are highlighted using the ".matched" class in the CSS file.
 - Search and replace: When the user types in a phrase in the "Original" box, the matching text should be replaced by the user input in the "New Text" box. You should

make sure that the user is not trying to replace the text with any HTML tags. **You are welcome to simply strip the tags from the user input (and show the user in the "New Text" box the stripped text) or display a warning.** It should not replace anything if there is nothing in the "original" box.

- Advanced: please accomplish at least one from the following functions.
 - You may add files for this section but you cannot alter index.php
 - Save file: When the user hits the 'save file' button, the current version of the text (that is, after all the various text replacements from the search and replace feature) should be saved, so that this text is displayed when the user revisits the site.
 - Save the various settings of the font color, font family, etc. Recall that you **may not** modify the index.php file to implement this feature. You should display a message about whether the file saved successfully.

(Hint: you may find it helpful to look at the 'value' field inside each input field to determine how the CSS should be modified upon interaction. For the challenge part of the bonus, there may also be others ways to do it that have not yet been covered in class.)

2. You need to upload a **"evaluation.pdf"** file to **CMS**, and briefly describe the following 3 points in the file, in around 200 to 300 words:

- What difficulties you encountered when doing this assignment?
- How did you solve them?
- What did you learn from this assignment?

3. Your code should be well formatted and readable. Use proper nested indentation. Keep your code **efficient, neat, and organized** so that the TAs can easily read it and understand it.

Up to 10 points can be deducted for inefficient code - code should be hard-coded without redundancy. Be sure to comment your JavaScript code.

Example of inefficient code:

```
var numbers = [3, ... ,8];
var biggerThanFive = 0;
if (numbers[0] > 5) {
    biggerThanFive = biggerThanFive + 1
};
if (numbers[1] > 5) {
    biggerThanFive = biggerThanFive + 1
};
if (numbers[2] > 5) {
    biggerThanFive = biggerThanFive + 1
};
...
```

Efficient code:

```
var numbers = [3, ... , 8];
var biggerThanFive = 0;
for (var i=0; i < numbers.length ; i++) {
    if (numbers[i] > 5) {
        biggerThanFive++;
    }
}
```

Grading

Your grade for the assignment will be calculated as follows:

1) Functionality (85 points)

- Font color changes (10 - always works, 7 - usually works, 3 - sometimes works) __/10
- Text display (10 - always works, 7 - usually works, 3 - sometimes works) __/10
- Font size changes __/20
 - Font size changes automatically in response to user input (10 - always works, 7 - usually works, 3 - sometimes works) __/10
 - Input checking works __/5
 - Displays a warning message if invalid input __/5
- Image altering (15- always works, 10 - usually works, 5 - sometimes works) __/15
- Search and replace (20 points)
 - Check invalid input, e.g., HTML tags __/10
 - Replace __/10
- Advanced (as least one from the following two functions: 10 - always works, 7 - usually works, 3 - sometimes works) __/ 10
 - Save file works and saves the text.
 - Settings (color, size, decoration(s)) are saved and appear automatically when you close and reopen the page.

2) "evaluation.pdf" in CMS (5 points)

3) Code Clarity (10 points)

- Is the code well formatted, readable, and commented? __/5
- Is the code efficient (no hard-coding or redundant code)? __/5