

Homework 3 - Optional - AJAX - APIs

Due Tuesday, April 5 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, we will use our JavaScript and PHP skills to create an AJAX (Asynchronous JavaScript and XML) based web application. AJAX allows for smoother user interaction and a better user experience.

This homework is worth up to a 3% Extra Credit on your final grade. You'll get points for the parts that work so even if you get a 33, it will improve your final grade by 1%. **No late submissions accepted.**

What your site will contain

In this homework, you will complete a small web game: A Harry-Potter themed "Choose-Your-Own-Adventure".

The files for this assignment are in your server account in the hw3 folder. These will consist of the following files:

In shared location on server

- css/ (for styling purposes, includes fonts)

Leave these alone

- index.php (basic HTML of the page and some PHP, not to be touched)
- includes/... (don't modify)
 - sql files for setting up the database
 - Hints for Spotify and the Goblet
 - function file to add a version to the js files so your browser doesn't cache

Modify these

- Config.php
- js/ (files for your JavaScript/jQuery)
 - js/ajax.js
 - js/goblet.js
- ajax/ (contains the PHP files that will receive your ajax actions)
 - ajax/ajax.php .
 - ajax/goblet.php

(Detailed instructions are included in the comments of the files in the assignment)

1. You should modify the goblet.js and goblet.php file in order to make the following changes to names that will be submitted to the database:

- Input Checking and Submission: Check the inputs to see if the name is already in the database. This is done for you as an example
- Insert a new entry into the database. Don't forget about input sanitization and to make sure the user knows if the input has succeeded.
- Drawing from the Goblet of Fire

2. You should modify the ajax.js and the ajax.php file to do the following:

- Retrieve the current storyline from your database, and populate the respective fields on the page.
- With the database, you can also update the embedded Google map to represent the location in the story.
- Playing the background music with the © Spotify API

2. You need to upload an “**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)

- Name Entry ___/20
 - Correctly indicates if the input is correct:(No duplicates returns proper error)___/5
 - Persists a new wizard to the database
(10 - always works, 7 - usually/partially works, 3 - something works)___/10
 - Sanitizes inputs correctly ___/5
- Goblet Selection ___/20
 - Successfully retrieves a name from the goblet ___/10
(10 - always works, 7 - usually/partially works, 3 - something works)
 - Removes the name from the database after it has been selected ___/10
(10 - always works, 7 - usually/partially works, 3 - something works)
- Spotify Interactivity ___/15
 - Retrieves tracks from Spotify, AlbumId is not hardcoded. ___/10
(10 - always works, 7 - usually/partially works, 3 - something works)
 - Music from album is randomized in the playlist, audioplayer autoplays ___/5
- Google Maps Interactivity ___/15
 - Map displays ___/5
 - Map's marker set to the corresponding location at the current point of the story ___/10
- Ajax storyline interactivity ___/15
 - Ajax call works, returns data from database ___/10
(10 - always works, 7 - usually/partially works, 3 - something works)
 - Populates fields correctly in the storyline ___/5

2) "evaluation.pdf" in CMS (5 points) Some functionality must work to get these points

3) Code Clarity (5points) Some functionality must work to get these points

- Is the code well formatted, readable, and commented? ___/3
- Is the code efficient (no hard-coding or redundant code)? ___/2