Original Site is still up and running: <http://ict.neit.edu/001389421/se251/>

The API expired and the database for the app was taken down by NEIT

**Spring 2016 - SE 251 Advanced JavaScript**

**Lab 1**

Objective: The objective of this assignment is to refresh your HTML and CSS skills by creating a web site that will hold all of your assignments for the quarter. You will get used to uploading files to a remote server and also have a URL that you may share with potential employers. There are plenty of JavaScript jobs in the area! You will update this web site throughout the quarter.

Create a page (index.html) that will hold links to all of your assignments along with a link to another page (badges.html) that will hold all of the Code Academy badges for this class for the quarter. Post this page on ict.neit.edu. You will update this page throughout the quarter.

Your page must include links to each of the assignments and badges received. You must also have a Comments section that will hold a comment indicating the last changes you made along with the date and time of the last change. Display the newest comment first. Finally, display a list of at least ten external resources that may help you become a JavaScript

**Lab 2 – Random grid**

Objective: The objective of this assignment is to show off your Array and looping skills.

Create a form with a textbox and a button. The textbox can hold a number that will represent the number of rows and columns in a table. Once the submit button is clicked you will generate a two dimensional array with each of the elements of the array holding a random number between 1 and 100.

After creating the array you will loop through it and the number is a multiple of 3, display the cell with a red background color; if not a multiple of 3 but a multiple of 2, display the cell with a blue background color. Finally, display the average for all cells.Note that you can display this grid without creating an array first, and this would be more efficient, but the focus of the assignment is on arrays and loops so we’re not worrying about efficiency for now.

**Lab 3 – Math Problems**

Objective: The objective of this assignment is to practice with functions, arrays and objects.

Dynamically create 20 math problems (multiplication, division, subtraction and addition). When the user clicks the “Check my Answers” button, your application must grade the user’s responses. The math problems must be created as an array of objects before they’re rendered.

**Lab 4 – Availability Calendar**

Objective: The objective of this assignment is to practice DOM manipulation with jQuery.

Your task is to create a JavaScript application that allows a user to specify their availability to an employer. You will need to dynamically create a grid that looks like the below. It is okay to hard code the months and years (2015-2017). Changing the month and/or year will update the grid to represent the correct month and year.

Note the following:

* clicking a cell in the grid once will set the availability to green;
* if a cell is green and you click it again; it will turn red
* clicking a red cell will clear the background color
* clicking the all month available button will set all days of the month to green
* clicking the all month unavailable (red) button will set all days of the month to red

**Lab 5 – Actors**

* Deliverable: a link to your solution on ict.neit.edu. You will need to submit a link to your main page Create a web page that'll keep track of actors' information. For each actor we track the following: first and last name, birth date, gender and what types of movies they have appeared in (action, comedy, drama, science fiction).
* The page should have a div with a form that allows for adding, updating or deleting actor's information. Update and delete buttons are only displayed when eating an existing actor; the add button is only displayed when adding an actor. First and last name is displayed as two text boxes. Use drop downs (day, month and year) for birth date. Gender is displayed as radio buttons and for the types of movies you use check boxes. You should not be able to add or update an actor unless valid selections are made.
* Since we are not (yet) storing the information in a database you are to track the actors in an array of objects. As each actor is added you will add the actor to the array and you display each actor's name as a link. As you click on the link you can update or delete the actor's information.

**Lab 6 – Local Storage**

Objective: The objective of this assignment is to demonstrate your understanding of local storage and Ajax.

Deliverable: a link to your solution on ict.neit.edu. You will need to submit a link to your main page which will need to include links to each of the pages you created for this assignment.

1. The first link should contain a link to the actors assignment. This time, persist the actors data when you add an actor and display all the actors from local storage when you load your page
2. The next three links contain links to each of your Ajax experiments. Find three publicly accessible APIs and write some JavaScript code that displays some of the data on the page. Or, if you get really excited about one particular API, make at least three different $.get calls to that API.

**Lab 7 –Car Race**

Objective: The objective of this assignment is to practice with the Canvas HTML tag.

Deliverable: a link to your solution on ict.neit.edu. You will need to submit a link to the working Canvas assignment.

Your task is to create a web page that shows two cars (blocks) racing each other when a Play or Replay button is pressed.

**Lab 7 – Scores**

Objective: The objective of this assignment is to demonstrate your understanding of how Ajax and PHP interact.

Create a JavaScript page that uses a PHP/MySQL backend to keep track of high scores. Your HTML/JavaScript page holds a form that allows you to enter a name and a high score. The name and high score are to be stored into a table when the user clicks the Enter Score button. The PHP script returns the top 5 scores and you will need to display these scores on your page upon page load and when you add a new score.

-This lab was not posted to the website

**Final Project**

Objective: The objective of this assignment is to practice and demonstrate the skills learned in this quarter’s class.

Deliverable: a link to your solution on ict.neit.edu. You will need to submit a link to this particular assignment. Include a link to your zipped code

Create a JavaScript application that as a minimum incorporates the following components:

* an Ajax call to a PHP script
* An Ajax call to a web service
* Incorporate a jQuery UI component. Pick one from [https://jqueryui.com/](https://jqueryui.com/ )
* Include the use of Canvas (optional)

You have two deliverables for this assignment:

* (5 points) The first one is done by sending me a detailed description of this final project you’ll be working on over the next two weeks. You may not start phase two until you have received my approval of this proposal. Do not merely seek to do the bare minimum requirements. You are expected to work 20-30 hours on this project and your proposal and final web site must reflect this effort. I will take a hard look at the quality of the final project and pay attention to the effort that put in it, lines of code produced etc. Your work must be unique. No copying and pasting from prior assignments or other sources.
* (95 points). The second deliverable is the finished web site posted on ict.neit.edu along with the zipped code.

\*\*there was a mix up with the web service that I used in this app. Once the mix up was recognized, I took the service access out of the app. The app connected to my bank account quite effectively.