Take-Home Assignment 02

Team Project

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The Case Project for each module in this course will build on a website that you create on a subject of your choice. To begin, choose a topic for your website. This can be a topic related to your major, or a personal interest or activity. Plan a website containing at least five pages with a common layout and navigation system.

Note that you'll add pages to your site so ensure that your navigation system can support additional content. Ensure that all of your web pages pass validation (html, CSS, and JavaScript).

Team Case Project 1

Throughout the Team Case Projects in this course, you will continue to work on a website on a subject chosen by your team or adding JavaScript functionalities to your previous Web Design project. Working in a team of 3–5 people, discuss and agree on a topic for your website. This may be a topic related to your major, another area of study, your college or university, or a shared interest. Work together to plan a website that has, at a minimum, the number of pages equals to twice the number of group members, and to create a common layout and navigation system. Note that you will add pages to your site in later classes, so ensure that your navigation system can support additional content. Decide as a group who will create which page and create the pages individually. When you have finished creating the individual pages, ensure they pass validation, and then work together to assemble the resulting website, identifying and fixing any issues as a group.
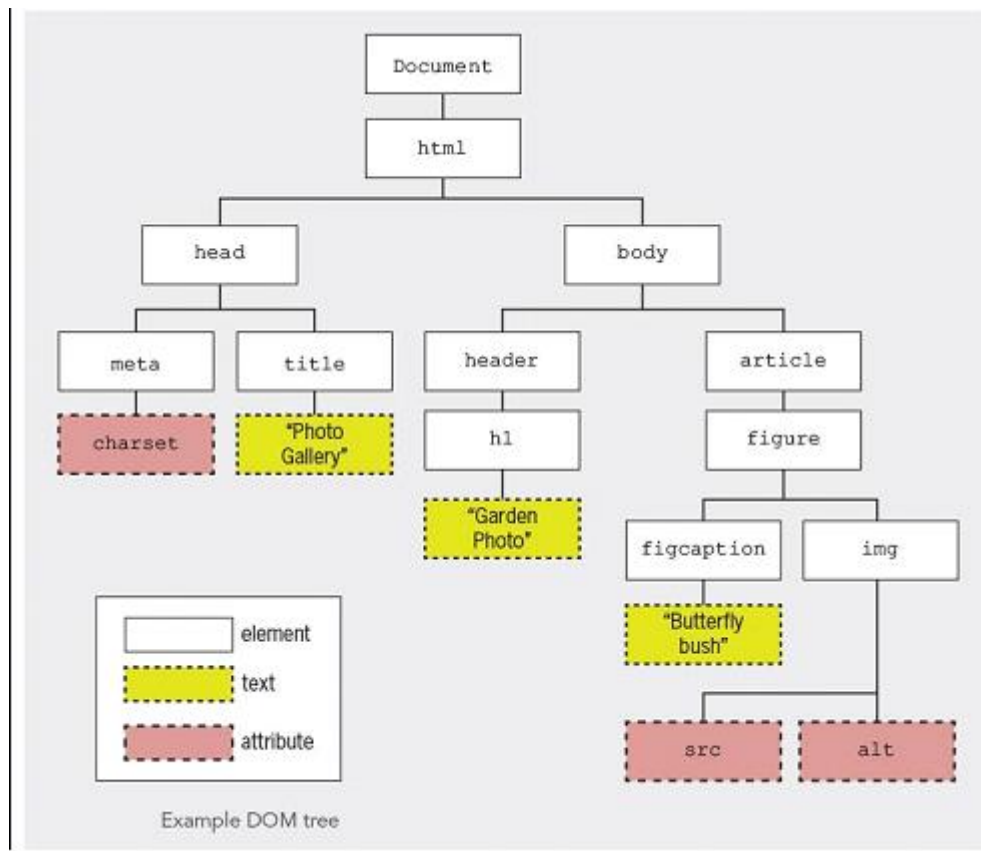
Team Case Project 2

Choose one of the web pages from your team website to enhance the user interface with at least **two functions**. Common uses of functions include performing actions based on user input (validation, personalization of the web page) and performing calculations. Divide your team into subgroups equal to the number of functions your page will include. After each subgroup has created its function, come back together as a full group, and incorporate the functions in the web page. Test the user interfaces to verify the page works as planned, doing any troubleshooting, and making any edits to the functions as a full team.

Team Case Project 3

Choose one of the web pages from your team web site to enhance with code that uses an **array** and a **loop**. Arrays are often used to store a set of related data, either provided by the developer or added by a user. Loops are often used in combination with arrays to perform a common action on each element in an array. Plan the structure of the code as a team, then divide into two groups. One group should create the code for the array, and the other the code for the loop. After each group has completed its work, come back together as a full group, and incorporate the code in the group web page. Test the code to verify the page works as planned, doing any troubleshooting, and making any edit to the user interfaces as a full team.

Team Case Project 4

In this project, your team will draw the DOM tree for an HTML document. To start, break into pairs, with each pair responsible for a different HTML document in your team website. With your partner, sketch the DOM tree for the selected document. Your tree should show the hierarchy of the site, including elements, attributes, and text content, like Figure below.

Example DOM tree

When all the pairs are finished creating their DOM trees, assemble as a full group and compare your trees. Identify and discuss any differences between trees. Make any changes necessary to your own tree based on feedback from the rest of the team. Note that you can use any software to draw the DOM tree. For example, Live DOM Viewer (https://software.hixie.ch/utilities/js/live-dom-viewer/), https://yoksel.github.io/html-tree/en/ or https://gojs.net/latest/samples/DOMTree.html

Team Case Project 5
Add validation code to all forms on your team website. First, ensure that each form uses at least three of the form controls such as check boxes, text boxes, option buttons, selection lists, and text areas. Next, as a team, plan validation for each field in the form.

Your validation should require a value in each field and should verify at least one other aspect of at least one field. Divide your team into two groups—one that will write code to verify that all fields have values, and the other to write code to verify another aspect of the entered data. Each group's code should also incorporate appropriate feedback to users when it encounters validation errors. When both groups are done, work as a team to integrate the code into the document. Strategize as a team about how to test for all possible validation scenarios. Test and debug the code until your completed program until all validation works reliably with different combinations of valid and erroneous data.

Team Case Project 6

In your team website, add a page that enables users to add data to a table by entering data in a form for the contents of one row at a time. Start by deciding what kind of information you want to enable users to enter. Next, create a page that contains a form with fields for each item of data you want to collect. The page should also include a table with heading rows corresponding to each of the form fields. As a team, design, and code a constructor function to serve as a template.

Group Case Project 7

Have each group member demonstrate the enhancements they created for the Case Project to the group (if you have created different versions of the same task), including reviewing the code. From the different group members' implementations, decide on what information would be most useful to collect on the group feedback form, and whether to store it in an array or an object. Then write the code together to add these features to the group site, ensuring that the code removes an option from the array or object if a user deselects it. Add code to convert the array or object to a string.

Group Case Project 8

Have each group member present the table and website from their Case Project to the group. When presenting your website, solicit feedback from other group members regarding additional validation that you could add to your site, and discuss as a group the pros and any cons of the suggested enhancement. After all group members, have presented their sites and received feedback, implement any suggestions for your site that your group generally felt would be good additions.

Group Case Project 9

Identify data provided by an API that you would like to include in your group website. Also, identify data provided by an Ajax service that you would like to include in your group website. If you have an idea for data, you'd like to access but are unsure what service might provide that data, perform a web search on a description of the data plus "API." For instance, if you were looking for a source of tide tables, you might search for "tide tables API." Use the documentation for the web service to construct an Ajax request and to display selected data from the service on your website.

Group Case Project 10

Examine the documentation of jQuery methods and properties at api.jquery.com. As a group, pick a jQuery method that would enhance the appearance or function of one or more pages of your group website. As a group, agree on which sections of your code need to be changed to implement this method. Make the changes as a group and continue to save and test your changes until the feature works as you expect.

1. After successful CSS, HTML, and script validations, include all files and folder related to the Team Project in yourName_JS_Project folder, and then compress the folder.

2. To compress a folder, right-click the folder, point to **Sent To**, and then select Compressed (Zipped) Folder.

3. Submit the zipped folder to your instructor using OmniVox Services – in Take Home Assignments – Project folder.

4. Remember to list all members of your project and the roles, if any, playing in this project.