The main objectives of this project are to:

• Use JavaScript with HTML elements

• Work with JavaScript variables and data types and learn how to use the operations that can be performed on them

• Add functions and control flow within your JavaScript programs

• Trace and resolve errors in JavaScript programs

• Write JavaScript code that controls the web browser through the browser object model

• Use JavaScript to make sure data was entered properly into form fields and to perform other types of preprocessing before form data is sent to a server

• Create JavaScript applications that use the object-oriented programming techniques

• Manipulate data in strings and arrays

• Save state information using hidden form fields, query strings, cookies, and Web storage

• Incorporate touchscreen support and mobile capabilities in web applications

• Dynamically update web applications with Ajax

• Build a web application using the JQuery Library

该项目的主要目标是：

• 将 JavaScript 与 HTML 元素结合使用

• 使用 JavaScript 变量和数据类型并学习如何使用可实现的操作对他们进行

• 在 JavaScript 程序中添加函数和控制流

• 跟踪并解决 JavaScript 程序中的错误

• 编写通过浏览器对象模型控制Web 浏览器的JavaScript 代码

• 使用 JavaScript 确保数据正确输入表单字段并执行其他操作表单数据发送到服务器之前的预处理类型

• 创建使用面向对象编程技术的 JavaScript 应用程序

• 操作字符串和数组中的数据

• 使用隐藏表单字段、查询字符串、cookie 和 Web 存储保存状态信息

• 在 Web 应用程序中纳入触摸屏支持和移动功能

• 使用 Ajax 动态更新 Web 应用程序

• 使用 JQuery 库构建 Web 应用程序

要求：

1. Site must include a script element that links to the modernizr.custom.05819.js file in each of your HTML document in your site. Ensure that all your pages pass validation.
2. include a mathematical calculation feature. uses at least one function to perform a mathematical calculation based on user input.
3. at least include 2 pages, must include one or more of your web pages in your personal site that incorporates content or functionality created by a series of if, if/else and else if statements or a switch statement. Your page (or pages) must also include at least one event listener. Make sure that all functionality is backwards compatible.
4. add exception handling to the code for one of the forms in your personal website. If your pages do not have a form, then you must add at least one form first. Your code should display one or more relevant error messages in an appropriate format and location. Add comments to the code, to describing how you used each one in your code.
5. add validation code for one of the forms on your individual website. Before adding validation, ensure that your form(s) use at least three of the following field types: check boxes, text boxes, option buttons, selection lists and text areas. Program validation for your forms must ensure that users enter values or select in all fields. Provide appropriate feedback to users when the form fails validation.
6. add a page to your site that will calculate the time elapsed since a user entered a date. The page should include a form that allows users to enter a day, month, and year (in relation to your site’s content). The page should then calculate and display the elapsed time in years, months and days. Your program must include code to convert day values in excess of 31 into months and months in excess of 12 into years. This page should be tied in to your project theme. (hint: perhaps you add a membership form and use this page to calculate time since someone became a member).
7. For this section of the project, you will add a feedback form to your project. Users should be able to choose one or more options from a list of at least five options. Include code that adds user selections to either an array or an object and ensure that if a user deselects one of the options, it is removed from the array or object. Add code to convert the array or object to a string.
8. For this section of the project, you will enhance your personal website to prevent security issues. Review each form field on your site and identify any additional validation that you could add. Look for situations where you could use regular expressions to limit allowable characters in order to exclude characters used in creating JavaScript code. Use word processing software to create a table as the sample below for planning additional validation. When you have reviewed each field, add the validation described in your table. Test each field until you are satisfied with your enhanced validation code. Sample：first line：‘file name’,'field label','validation performed before submission','validation left to web server'; second line:'Index.htm','Postal code','6 characters, 3 numbers, 3 letters','Verify that Postal code value is appropriate for province provided'.
9. For this section of the project, you will enhance your existing page about browser security to show users their current location on a map. Use CSS to specify the height and width for the element in which you display the map. You will enhance your existing website by including an Ajax service that you would like to include in your personal website. You can select any web service that would be suitable for your project. If you have an idea for data that you would like to access but are unsure what service might provide that data, try doing a web search on the description of the data plus “API”. For example, if you wish to add daily weather forecast data, you can try looking for “Weather forecast API.” You will find several free options that you can use. Use the documentation that you may find to construct an Ajax request and to display the data from the service on your website. Since you have not been exposed to PHP, please search for APIs that allow JSON-P or CORS requests which allow doing this without running a proxy.