GMIT
INSTITIÚID TEICNEOLAÍOCHTA NA GAILLIMHE-MAIGH EO
GALWAY-MAYO INSTITUTE OF TECHNOLOGY

Higher Diploma in Science in Data Analytics

Web Application Development

Final Assessment

This assessment is worth 50% of the marks for this module
Due Date: Wednesday 19th May @ 23:59pm

WEBSITE DEVELOPMENT ASSIGNMENT

For this assignment, you must create a website that employs the principles of HTML5, CSS and JavaScript which meets the requirements specified below.

The website content can be of your choosing (or can be a personal site meeting the requirements outlined below). You should employ a common design theme and colour scheme throughout.

Requirements

Your website should:

- Have a minimum of 3 linked pages;
- Allow the customer to enter their login details and have login details validated via a login screen - hard-coded username and password values within the script are sufficient for this feature for the purposes of this exercise;
- Perform form validation through JavaScript or HTML to ensure that:
  - text fields are not empty;
  - a valid email address is entered.
- Access and change HTML on the web page through the DOM;
- Access and change styling through the DOM;
- Demonstrate the use of events;
- Contain 2 data visualisations using D3.JS (e.g., Bar Chart) of your choosing with
  - One from a CSV file
  - One from an array
- Both visualisations should allow the user to specify display settings, including an option to change colour, display size and animation options.

Submission Guidelines

*Please ensure you **submit a zip file** of your project **including your CSV file and any other external files used (such as images)***

Please note the following on your code and comments

All major blocks of code (HTML, CSS, JavaScript and D3.JS) should include comments that describe its function
All classes and ID's ***created by you*** must be accompanied by comments describing their purpose
All functions in JavaScript **must** include a comment describing their purpose

Format of comments in your project

HTML

- Lines of comments should relate to the line or block of code directly underneath and should provide a brief description of the purpose of the code

```
<!-- Weekly Table -->
<!-- Table will contain week day items, updated using the weeklyTable ID -->
<table border="1" id="weeklyTable">
    <tr>
        <td>Monday</td>
        <td>Tuesday</td>
        <td>Wednesday</td>
        <td>Thursday</td>
        <td>Friday</td>
    </tr>
</table>
<!-- End of Weekly Table -->
```

CSS

- Lines of comments should relate to the code directly underneath and should provide a brief description of the purpose of the line of code. All classes and IDs should have comments describing their purpose

Example:

```
/* Red Border class for input box on pages 2 and 3 */
.inputBoxBorder {
      border: thin solid red;
      }

/* Type class for paragraphs on all pages */
#setTypeRed {
      font-weight: bold;
      color: red;
      }
```

JavaScript & D3.JS

- Lines of comments should relate to the line of code directly underneath and should provide a brief description of the purpose of the line of code

Example:

```
//Declare variable to record product code
var choice;

//Function to save value in inbox to choice variable
function specifyProduct(){
    //Make choice variable equal to value in input box with id
    of 'inbox'
    choice = document.getElementById("inbox").value;
}
```

If you have code you wish to use but you are unsure of how it works, or code you sourced from an external location (such as w3schools), it should be referenced in the following manner:

```
<!-- Code block taken from: https://www.w3schools.com/graphics/svg_feoffset.asp -->
<svg height="120" width="120">
  <defs>
    <filter id="f1" x="0" y="0" width="200%" height="200%">
      <feOffset result="offOut" in="SourceGraphic" dx="20" dy="20" />
      <feBlend in="SourceGraphic" in2="offOut" mode="normal" />
    </filter>
  </defs>
  <rect width="90" height="90" stroke="green" stroke-width="3" fill="yellow" filter="url(#f1)" />
  Sorry, your browser does not support inline SVG.
</svg>
<!-- End of code block from W3Schools -->
```