



Ollscoil
Teicneolaíochta
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Atlantic
Technological
University

Higher Diploma in Science in Software Development

Web Applications Development

Data Analytics

Final Assessment

This assessment is worth 50% of the marks for this module

Due Date: Wednesday 18th May @ 11:59pm

BUSINESS 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 it can be a personal site, meeting the requirements outlined below).
You should employ a common design theme/style and colour scheme throughout.

Requirements

Your website should:

1. Allow the customer to enter their login details and have login details validated (via a login screen);
2. Perform form validation through JavaScript or HTML to ensure that:
 - a. text fields are not empty;
 - b. a valid email address is entered.
3. Access and change HTML on the web page through the DOM;
4. Access and change styling through the DOM;
5. Demonstrate the use of events;
6. Contain two **D3** data visualisations (e.g., Bar Chart) of your choosing
 - a. One from a CSV file
 - b. One from an array
7. Both visualisations should allow the user to specify display settings, including an option to change colour, display size and animations.
8. Have a minimum of 3 linked pages;

You should also provide a document briefly outlining the details of your project illustrating if/how you have implemented each of the items above, along with any other information you deem is relevant. An example document is provided – you can use this as a template or alternatively create your own.

Your submission should also follow the submission guidelines provided on page 2 of this document.

Please note the following on your code and comments

All major blocks of code (HTML, CSS, JavaScript and D3) 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

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 Example

- 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:

HTML/Bootstrap code from an external source, such as W3Schools, getBootstrap.com, etc:

```
<!-- Reference 1 - Following Code block taken from https://www.w3schools.com/quiztest/result.php?qtest=BS5 -->
<!-- Determine geo location of user using JavaScript function -->
var x = document.getElementById("demo");

function getLocation() {
    if (navigator.geolocation) {
        navigator.geolocation.getCurrentPosition(showPosition);
    } else {
        x.innerHTML = "Geolocation is not supported by this browser.";
    }
}

function showPosition(position) {
    x.innerHTML = "Latitude: " + position.coords.latitude +
    "<br>Longitude: " + position.coords.longitude;
}
<!-- End of Reference 1 -->
```

You can use the document provided to outline your implementation details, or you can use your own format.

An example of what you may include in the document is shown below:

Project Requirements Implementation

ITEM 1	Reference
<i>Allow the customer to enter their login details:</i>	See page "login.html" and the associated JavaScript functions from login.js
<i>Login details validated (via a login screen) before receiving a summary of the order:</i>	Validation performed using HTML5 on "login.html" page
<i>Username:</i>	user
<i>Password:</i>	pass
<i>Brief description of how this was implemented:</i>	Used HTML5 validation for username and password, and the authentication was via the JavaScript function called "authenticate()" in the login.js page. The function uses a DOM query to extract both the values and checks against the values stored in the CSV.