



# THE UNIVERSITY OF WINNIPEG

## Applied Computer Science Internet Programming ACS-2909-001

### Assignment 4

**Total Marks: 30 Marks**

**Due date: Thursday, Dec. 7, 11:59 pm (CST)**

#### Objectives

This assignment aims to familiarize you with the dynamic behaviour that the JavaScript language can provide to a webpage. The assignment is divided into two parts. In the first part, you will add dynamic features such as event handling when clicking on and hovering over HTML elements to a given webpage. In the second part, you will use XMLHttpRequest (XHR) to communicate with an external URL and retrieve values in JSON format. These values will be used to generate new HTML elements and manipulate existing ones. The goal of this task is to reinforce your understanding of Ajax in client-server communication using JSON.

#### Part A (10 Marks)

You are given three files: assign4\_partA.html, assign4\_partA.css, and assign4\_partA.js. Your task is to complete the JS code implementation as follows:

1. Add click event handlers to the h1 and div elements wrapping "Abstract," "Introduction," "Contributions," and "Results." Clicking on an element should toggle its style, with none of the changes enabled initially. Toggling rules:
  - a. For h1, toggle between static and fixed positioning.
  - b. For the specified div elements, toggle the padding background color between green (#1ee62f) and red (#e61e1e).
2. Implement mouseover and mouseout event handlers for the img element and the p element with id="tableId." Hovering effects:
  - a. For img, increase the size by 20% when hovered over, returning to original size when the mouse leaves.
  - b. For p element with id="tableId", toggle background color between blue (#0000ff) and green (#1ee62f) when hovered over.
3. Use addEventListener for all event handling.
4. Do not modify any part of the given HTML file.

#### Part B (20 Marks)

Create a webpage utilizing Ajax's XHR to communicate with a server, fetch JSON data, and generate colorful sticky notes at random.

1. The page features an add\_button labeled "ADD NOTES".
2. The page also includes a del\_button labeled "DELETE ALL".
3. You are provided with both HTML and CSS files, and you are not permitted to alter them.
4. Your task involves creating a JavaScript file named "assign4\_partB.js" and placing it in a directory called "partB\_js".
5. Clicking the add\_button initiates a GET XHR request to the local JSON file (programmingLanguagesStory.json) in the partB\_json folder.

- a. Parsing the response JSON data produces an array of 10 objects, each containing two string properties and one number property. This results in 10 randomly colored sticky notes (one for each object).
  - b. Each sticky note displays text in the format: name + " (" + year + ")<br> " + contribution + "<br> <br>"
6. Clicking the del\_button removes all existing sticky notes.

**Note:** The attached video illustrates the task requirements and shows the dynamic aspects of both parts.

**Submission Instructions**

Zip all files and folders into a single archive named *StudentNumber\_Assignment4.zip*. Submit the zip file through Nexus.