THE UNIVERSITY OF WINNIPEG

Applied Computer Science
ACS-3909
Advanced Internet Programming

Winter 2022

Assignment 2

Due date: March 9, 2022, 11:59 pm (CST) **Total Marks: 25**

Objectives

Get to understand more advanced servers using Node.js and Express. You will create a server that can handle different web pages using express, handlebars, and endpoints. You will also design a small website using partials. A single web page has many advantages, such as simplicity and making navigation easy and mobile-friendly. In this assignment, you will have the chance to create a single web page and specify the desired background colour by reading a request parameter given in the URL.

1) **(10 marks)** Use Express and Handlebars to create a site that takes the user on a virtual tour of Internet history. You will be provided a handout of three files: CSS stylesheet, JSON file that includes the Internet history information, and a demo video that describes the behaviour of the server. The requirements are as follows:
   a) The user should start on the home page at "The-Birth", where the Internet was born in 1969.
   b) Create a separate page for each of the following milestones of Internet development:
      - The-Birth
      - The-First-Website
      - The-Birth-of-at-Sign
      - Welcome-to-the-Wired-World
      - Dot-Com-Boom
      - Web-2.0
      - Cloud-Computing-Takes-off
      - Today

      You should include an image related to the corresponding milestone on each page.
   c) At each milestone, the next button should lead the user to a new page with information about this new Internet era. The next button of the last milestone returns the user to the first milestone (i.e., The-Birth).

   10 marks will be awarded as follows: a and c worth 2 marks each, and 4 marks for b.

2) **(5 marks)** Create a small web application containing 4 pages (index, lectures, marks, contact). Place a menu bar at the top of each page that links to each page. This menu should be created using the partial concept.

   5 marks are for the web application that performs the above functionality.

3) **(10 marks)** Create a single-page web application such that it reads a request parameter given in the URL that specifies the desired background colour of the requested page. For example, *fuchsia*, *yellow*, or *red*. If no parameter is supplied or the parameter has no value, set the background colour to *white*. Sending the string *random* will randomly select a colour for the background.

2 marks are for creating a web application that serves a single page, 5 marks are correctly adding functionality to change the background colour, and 3 marks are for the random feature.

Submission Instructions

Zip all files and folders into a single archive named *StudentNumber_Assignment2.zip*. Submit the zip file through Nexus. Do **not** include your node_modules folders.