ENSF-381: Assignment 3

Winter 2025

Department of Electrical and Software Engineering Schulich
School of Engineering

Due: March 14, 2025, at 11:59 PM

Enhance the Learning Management System (LMS) built in Assignments 1 and 2 by adding interactivity and dynamic features using JavaScript. Focus on DOM manipulation, form validations, API integration and real-time updates to create a responsive user experience.

Administrative Details

- The submission should be a *single compressed file (.zip)* that includes the complete source code and resources (e.g., images), ready for execution without modifications.
- Name the submitted file as: Assignment3_ENSF381_Section#_Group# Example: Assignment3_ENSF381_L02_Group01.zip
- Submit ONLY ONE copy.
- Include group members' names and UCIDs at the top of the index.html file as comments.

Specifications:

Implement the following features across the LMS pages:

Instructions:

- If you did not complete Assignment 02, a reference solution will be available on March 04, 2025, in D2L to help you proceed with this assignment.
- Concepts which will be needed but are not discussed in class: window.location.href, input.checked, setInterval

1. Course View Page (course view.html) - 20 Marks

Requirements:

- a) Dynamic Enrollment:
 - Clicking "Accept" or "Decline" on pending courses updates the UI without reloading the page as follows: accepted courses move to the "Enrolled" section; declined courses are removed.
- b) Hover Effects:
 - Highlight course tiles on hover (e.g., change background color to #ffffff).

2. Attempt Quiz Page (attempt quiz.html) - 30 Marks

Requirements:

a) Quiz Timer:

- Add an html element to display a 10-minute countdown timer in MM:SS format. [Use setInterval and element.textContent to implement the timer.]
- Automatically redirect to leaderboard.html when time expires. [$Usewindow.location.href\ for\ automatically\ redirecting\ to\ other\ pages.$]

b) Answer Validation:

- Validate radio/checkbox selections and show alerts for incomplete answers. [Useinput.checked]

c) Score Calculation:

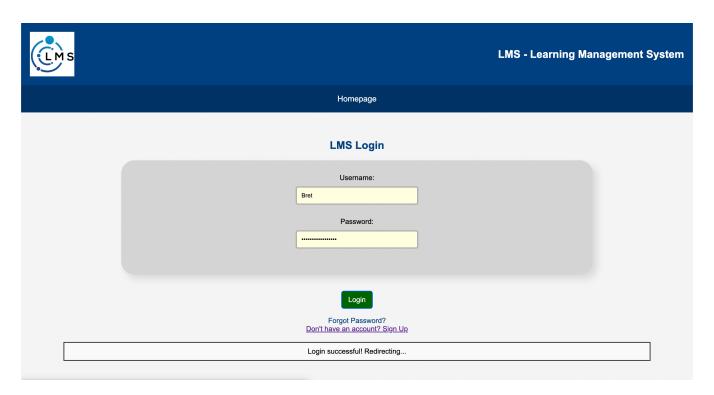
- Track correct answers and display a final score on the page.
- Assume Q1's correct answer is "Hyper Text Markup Language". Correct answer gives +50 marks. Incorrect answer results in 0 marks. [Use input.checked]
- Assume Q2's correct are both checkboxes. For each selected checkbox, the student gets +25 marks. [*Use input.checked*]
 - The final score displayed is out of 100.

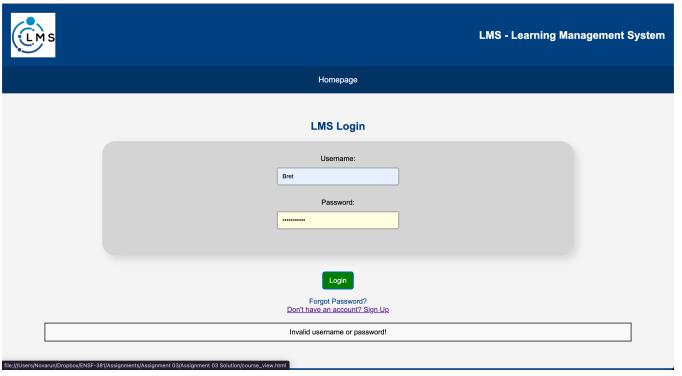
3. Login Page (login.html) - 20 Marks

Requirements:

a) API Validation:

- Fetch user data from https://jsonplaceholder.typicode.com/users
- Validate credentials against the API's username and email fields.
 - Username entered must match with any one of the usernames returned by the API.
- Password entered must match with the corresponding users email address as returned by the API.
 - Display success/error messages in a styled dynamic box.
- In case of success, display the message for 2 seconds and then automatically load course_view.html. [Use window.location.href for automatically redirecting to other pages.]
 - b) Update the Login page to include a link for loading a Sign Up page for new users.





4. Signup Page (signup.html) - 30 Marks

Requirements:

a) Create signup.html:

- Include a form with fields for username, password, confirm password, and email.
- Add a "Signup" button.
- Style the "Signup" button with a contrasting color of #4CAF50 (green), padding of 10px, border radius of 5px, margin of 10px, and opacity of 0.5.
- Add a hover effect by changing the background color to #45A049 (a slightly darker shade of green) and opacity of 1.0.
- The page should be in the same theme and layout as the Login page that was developed as part of Assignment 02.

b) Form Validation:

i) Username:

- Must be between 3 and 20 characters long.
- Allowed characters: alphanumeric characters (letters A-Z, numbers 0-9), hyphens (-), and underscores ().
 - Must start with a letter.
 - Cannot contain spaces or special characters other than hyphens and underscores.

ii) Password:

- Must be at least 8 characters long.
- Must contain at least one uppercase letter, one lowercase letter, one number, and one special character.
 - Allowed special characters: !@#\$%^&*()- =+[]{}|;:",.<>?/`~.
 - Cannot contain spaces.

iii) Confirm Password:

- Must match the password entered in the password field.

iv) Email:

- Must be a valid email address format (e.g., username@example.com).
- Cannot contain spaces.
- Must contain an "@" symbol followed by a domain name (.com, .net, .io).
- c) When the user clicks on the "Sign up" button, perform the validation and:
- (i) Display error messages in a dynamic box for invalid inputs.
- (ii) On successful signup, redirect the user to the Login Page.

