School of Electrical Engineering and Computer Science

The University of Newcastle

SENG2050 Introduction to Web Engineering

Assignment 1 (15%) – Semester 1, 2022

Due: Electronic submission (Canvas) by 11:59pm on Sunday 20 March

Outline

The main objective for this assignment is to implement a discussion board (refer to Seng2050 web site for an example). The Web site should display all the messages and should allow user to post a new message or to reply a message listed on the discussion board.

This assignment exercises your knowledge for the creation of well-structured Web pages, CSS for the addition of visual formatting, JavaScript to validate user input in the Web browser, and Java servlets to handle the user input in the server and then the generation of dynamic content. In this version of implementation, it is not necessary to use the advanced techniques such as Java Beans or session control, cookies etc.

Don't waste time looking for nice background images or fiddling with the font and colors. You will be marked on your site's functionality, not how pretty it looks!

This assignment MUST be implemented using Java Servlet. No JSP or other frameworks allowed.

Detail of HTML pages and Inputs

There are TWO HTML pages to be displayed.

The Page A presented to the user should consist of the following elements:

1. An appropriate heading.

2. A list of elements, each corresponding to a message from user.

- I. Each element should contain a title of the message, name of the user, time of the posting.
- II. A reply to a particular message should be listed as a sub-element, which also contains title, username and posting time. The reply should be indented, so to a reply of a reply. No message has more than 10 replies.
- III. Click on a message (or a reply of a message, a reply of a reply of a message etc.) will lead to PAGE B
- IV. A form with the following inputs:
  - An appropriate heading
  - A text input for the user's name, the default value is "anonymous"
  - A text input for the title of the message. If empty field is found, then the user should be alerted and cannot submit.
  - A text input for the content of the poster, input should not be longer than 50 characters and no shorter than 5 characters.

- A "Post" button to submit the message to server and then the message should be displayed as an element in Page A.

The Page B should consist of the following elements:

I. An appropriate heading.
II. The title of the message and posting time
III. The content of message
IV. A form which is the same as the form on Page A.

General requirements

Different elements, such as title of the message, the posting time, should be displayed in different formats, for example, using italic, bold or different colours. All the visual formatting should be handled by CSS, again, don't worry about how nice it looks, we only need you to demonstrate the ability of control the virtual formatting of the HTML.

JavaScript should be used to ensure that all input forms are validated before data is sent to the Web server.

Don't need to worry about user authentication.

The posted message should be handled well by the web server, no missing message or mis-placed replies. Page A should be updated every time when there is a new message posted. The massages do not need to be persistently stored on server.

Submission

Please submit to CANVAS. You should submit all the files which contribute to your Web pages, including HTML, CSS, java source code, and images. Given the number of students in class, unlikely we are chasing individuals for missing files, so you are marked on what you have submitted. Please also make sure the files compile on standard lab machines.

Marking Guidelines

The following serves as a rough guide to how marks are allocated to each part of the assignment, and indication to common mistakes that you can lose marks for. The lists are by no means exhaustive, and marks can vary at the lecturer's discretion.

o Total Marks: 100

- HTML and CSS: 25
    - Is your XHTML syntax valid (use a validator)?
    - Do your tags make semantic sense?
    - Are you using tags just for their visual effect?
    - Are you using CSS to advise the browser about visual formatting?
- Servlets: 20
    - Have your Servlets been structured right (package)?
    - Do your Servlets work efficiently?
- Form Inputs: 10

- o Do your form inputs match the assignment specification?
- o Are your form inputs validated?
- Formatted output : 15
  - o Does your formatted output match the specified formats?
  - o Has a reply been displayed properly as a sub-element?
  - o Does your output match the input data?
- Handling messages : 30
  - o Does your Web server loss any messages?
  - o Does your output match the input data?
  - o Does Page A get updated and newly posted message are displayed?
  - o Does the relationship of a message and a reply handled well?