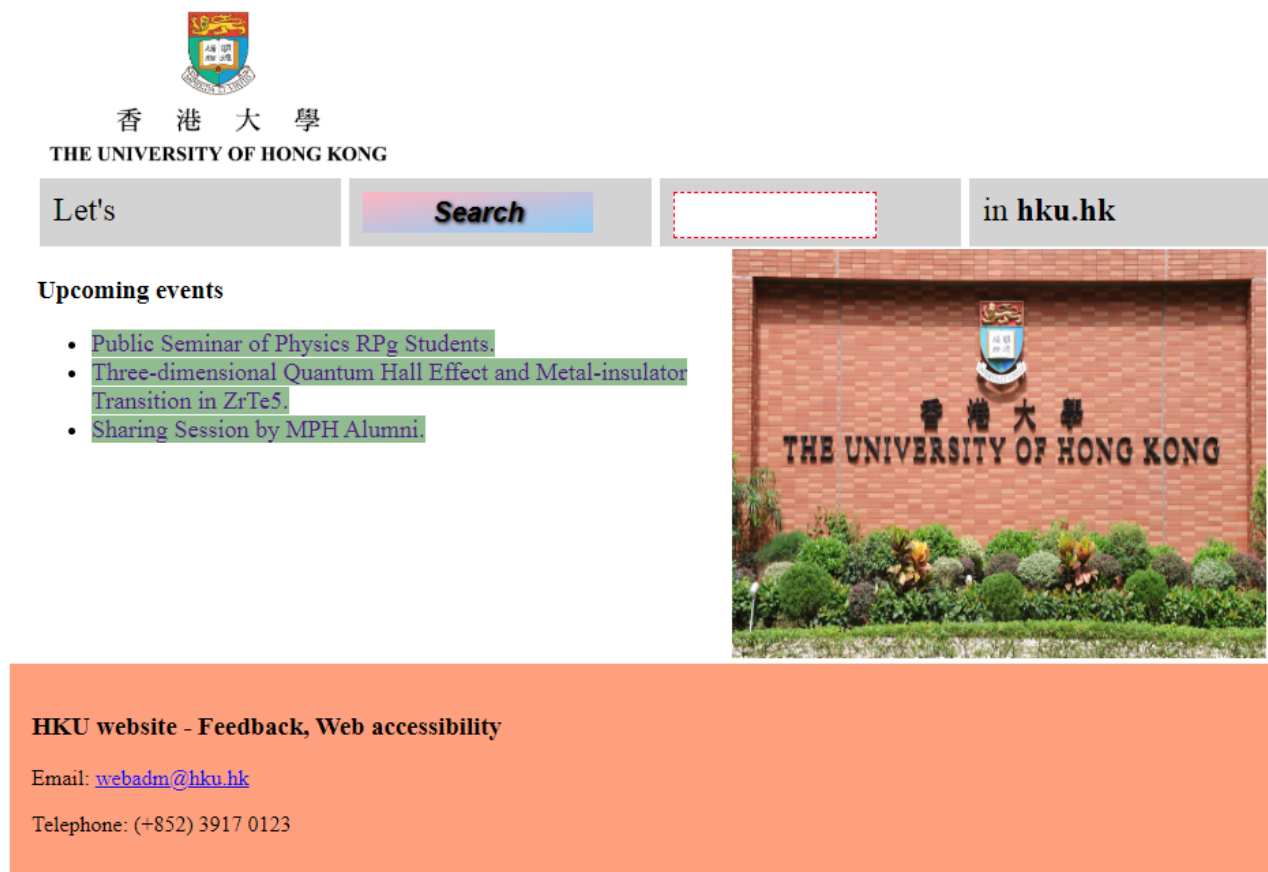


COMP3322A Modern Technologies on World Wide Web

Lab2: JavaScript Basics

Overview

In this lab exercise, we will re-create the web page in lab1 using JavaScript and DOM, and add a validation functionality to the search form. After finishing this lab, your page will still appear the same as what you achieved in Lab 1, as in the following screenshots:



Screenshot 1: when the screen width is larger than 580px



香 港 大 學
THE UNIVERSITY OF HONG KONG

Let's

Search

in **hku.hk**

Upcoming events

- Public Seminar of Physics RPg Students.
- Three-dimensional Quantum Hall Effect and Metal-insulator Transition in ZrTe₅.
- Sharing Session by MPH Alumni.



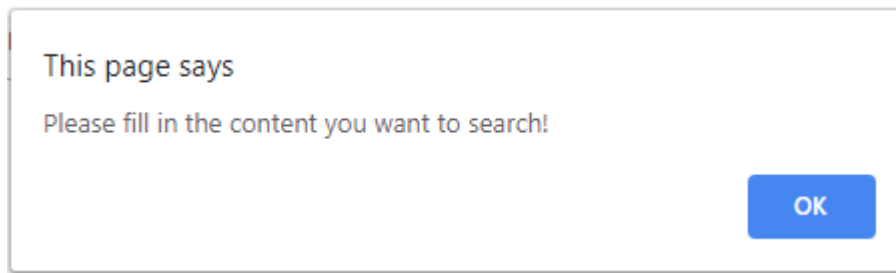
HKU website - Feedback, Web accessibility

Email: webadm@hku.hk

Telephone: (+852) 3917 0123

Screenshot 2: when the screen width is no larger than 580px

If you click the “Search” button when the search input textbox is empty, an alert will appear as follows:



Screenshot 3: Clicking search button when the search area is empty

Note: Due to compatibility of difference browsers, the same CSS/JavaScript code may lead to quite different display; we will check the assignment in the Chrome browser. So you are recommended to use the Chrome browser to develop/test your page as well.

Lab Exercise

[Step1]: Download "**lab2_materials.zip**" from HKU Moodle, and extract it to a folder named "lab2". In this folder, there are five files; in this lab, you only need to add codes in **index.html** and **index.js**.

[Step2 (Reference **index.js**)]: In **index.html**, link to the external JavaScript file **index.js** by adding "`<script src='index.js'></script>`".

[Step3 (Handle onload event on the page)]: In **index.html**, set `loadPage()` to be the event handler function of the onload event on the `<body>` element. The function will be triggered when the web page has been loaded by the browser. Part of the `loadPage()` function has been given in **index.js**, which calls functions `removeElement()`, `loadEvents()`, `loadFooter()` and `styleSearchButton()` to generate the page view as shown in the screenshots.

[Step4 (Remove the `` element in the events division)]: In **index.js**, there is an empty function "`removeElement()`", please complete the function to remove the `` element in the "events" division. You can first use "`document.getElementById()`" to access the parent element, then use `parent.children[0]` to access the `` element, and then use `parent.removeChild()` to remove the child element from the parent.

[Step5 (Implement Event List)]: In **index.js**, there is an empty function "`loadEvents()`", please complete the function to add the same contents in the event list as what we did in lab1. Please first use "`document.getElementById()`" to access the "events" division. Then create an "h3" element using "`document.createElement()`", set the element's innerHTML to be "Upcoming events", and then append the element as a child to the "events" division using "`appendChild()`". In similar ways, please create ``, ``, and `<a>` elements to implement the list of events, including three list items as follows. All three list items should be hypertexts. The mapping between list items and links is the same as lab1 and shown as follows:

List Item	Hyperlink
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Public Seminar of Physics RPg Students.	http://hkuems1.hku.hk/hkuems/ec_hdetail.aspx?guest=Y&UEID=67201
Three-dimensional Quantum Hall Effect and Metal-insulator Transition in ZrTe5.	http://hkuems1.hku.hk/hkuems/ec_hdetail.aspx?guest=Y&UEID=67198
Sharing Session by MPH Alumni.	http://hkuems1.hku.hk/hkuems/ec_hdetail.aspx?guest=Y&UEID=66860

Hint: you can use “setAttribute”

(https://www.w3schools.com/jsref/met_element_setattribute.asp) to set a hyperlink as the value of “href” attribute in a <a> element.

[Step6 (Implement Footer)]: In **index.js**, there is an empty function “loadFooter”. Please complete the function to add the same contents in the footer as what we did in lab1.

[Step7 (Set Background of Search Button)]: In **index.js**, there is an empty function “styleSearchButton”. Please complete the function to set the background of the search button to “linear-gradient(to left top, lightskyblue, lightpink)”. Use DOM **style** property on the object referencing the search button.

[Step8 (Form Validation)]: In `loadPage()` function in **index.js**, add an event listener `inputValidation` to the “submit” event on the <form> element. Complete the `inputValidation` function to achieve the following: when the search button is clicked, if the search input textbox is empty, show an alert “Please fill in the content you want to search!” and display the same web page with cursor in the search textbox after the user clicks “OK” on the popup box (i.e., the page should **NOT** be redirected to the Google search page in this case). To achieve this, please use `event.preventDefault()` (read more at https://www.w3schools.com/jsref/event_preventdefault.asp) which prevents the form from being submitted. (Compare it with how we achieve “not submitting the form when validation is not passed” in the example on pages 23-25 of lecture slides **6_JavaScript_COMP3322A_f2019.pdf**, where we register the handler of the submit event through the “onsubmit” attribute in the <form> tag).

Submission:

You should submit the following files:

- (1) index.html
- (2) index.js
- (3) style.css
- (4) log.jpg
- (5) HKU.jpg

Please compress all the above files in a .zip file and submit it on Moodle before **23:59 Wednesday Sep. 25, 2019:**

- (1) Login Moodle.
- (2) Find “Labs” in the left column and click “Lab 2”.
- (3) Click “Add submission”, browse your .zip file and save it. Done.
- (4) You will receive an automatic confirmation email, if the submission was successful.
- (5) You can “Edit submission” to your already submitted file, but **ONLY** before the deadline.

