Advanced Web Development and Web Scraping
Spring 2022
Assignment #5 – Chrome Browser Extension

Note: To turn in this assignment, create one or more zip files of your extensions and submit them through Blackboard. Each extension should be in its own folded so it can be loaded as an unpacked extension.

1. Create a Chrome browser extension that reformats Eastern's web pages to do the following:

    a. automatically run on Eastern's pages (and only Eastern's pages) by using a content script that runs when the url matches the pattern https://www.easternct.edu/*

    b. uses JavaScript to change the color of the menu bar, as in the class example

    c. hides the image below the menu bar (you will need to hide the second *<section>* element)

    d. displays a *div* with useful links, as in the class example (you may add/change the links if you wish). The div should be in a fixed position 20% from the top of the screen. You may specify additional styles, but you must use an external style sheet to style this div, either based on its id or a class name that you assign it (this is different from the example, which used an inline style).

2. Create a Chrome browser extension that lists the *src* attribute of all scripts running on a page. To do this you should display the *src* attribute of each script in an unordered list at the top of the page. You may style this how you want, for example, in a fixed or static position. If you choose, you may limit the scripts to *external* scripts (that begin with "http"). However, a script should be skipped if it does not have a *src* attribute (i.e., if the *src* is *undefined*). Note: Ad Blockers work by blocking scripts that are known to belong to ad networks.

3. Create a Chrome browser extension that uses JQuery to do one of the following when the user clicks on the extension icon

    a. changes either all images on the page to an image of your choice (by changing the *src* attribute of each image)

    b. changes the background image of the page by changing the background-image property (for more information, see https://www.w3schools.com/cssref/pr_background-image.asp).

c. Rick Rolls a user by changing the *href* of all links on the page appropriately. For more information, see this link. You may optionally change only You Tube links (though we have not covered how to do this).

Note: there is a Rick Roll extension at the following link, but yours will be better: https://chrome.google.com/webstore/detail/rick-roller/mjklaailjabbidpmbngdceejclkbikib/related

Note that to include images in your extension, you need to save the image in your extension folder (by convention, you should save the image in a folder named *images*). To access the image from your extension, get its location by including the following JavaScript code (in my case the image is stored in *images/picture.jpg*)

```
var imgURL = chrome.extension.getURL("images/picture.jpg");
```

The location will include the ID of your extension. In addition, the image must be listed in your manifest, using

```
"web_accessible_resources": [
        "images/picture.jpg"
    ],
```

4. Modify the highlighter extension as follows:

a. Allow the user to enter multiple search terms (up to 3), by including a button that lets the user add additional search terms. When this button is clicked, a new input box is displayed and the user can enter an additional search term. However, this button is *disabled* if one or more of the textboxes are empty. If textboxes 2-3 lose focus and are empty, then the textbox is removed (hidden). The easiest way to do this is likely to create 3 text boxes and hide/show them as appropriate.

b. The *highlight.js* script finds and highlights multiple keywords. The easiest way to do this is to create a regular expression with all search terms separated by the OR symbol ('|'). In this case, *qry* should have the following form when the regular expression is created: "word1|word2|another word"

c. In addition to highlighting the words, a summary is displayed on the top right corner of the screen, listing each keyword and the number of matches found.