CSCI 4131 – Internet Programming
Spring Semester 2019
Homework Assignment 2

Due Date: Friday February 8th at 3:00pm
Late Submission Date (with Penalty): Saturday, February 9th at 6pm
No submissions are accepted after the late submission date.

1. Description

The objective of this assignment is to expose you to client-side JavaScript, CSS, the Document Object Model, and jQuery. You will refactor and build upon your first homework assignment to accomplish this. Specifically, when you complete this your website will consist of the following 5 pages:

1. A Schedule Page
2. A Favorite Places Page
3. A Form Input Page
4. A Success page (which will be displayed when the form is filled out and submitted successfully)
5. A Widgets Page

This assignment description is 11 pages long.

The following tasks are required by this assignment

i.) The navigation bar should be styled and updated to enable navigation between all four pages of your updated website (and navigation from the form success page to the four base pages).

ii.) Update your Schedule page as follows:

1. Each item on your schedule should have a time range, an event name, and an event location. The event location on each item can be associated with a hyperlink describing something about the location. The events on your calendar should be displayed in ascending order based on the start time of the event.

2. A thumbnail image of the location and a pop-up image of the location should be displayed when your mouse hovers over an event calendar. *Use your best judgment in selecting the pictures and do not use copyrighted material. Note, you can use pictures you create (take).*
The larger image should be displayed to the center right of the schedule, and the schedule and image should be displayed on one page without a scrollbar.

iii.) Create a new page containing the list of hyperlinks to your favorite places from assignment 1

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iv.) Create a new page named consisting of a schedule input form that will be used to add events to your Schedule in later assignments.

   a. The form should use HTML5 input elements and/or JavaScript to perform basic validation on the form's input files from the calendar.
   b. Upon successfully entering data into the form that enables the form to be successfully submitted (i.e., submitted without displaying an error), the form should display a success page THAT YOU CREATE, which enables navigation to the other four pages in your website.

v.) Update your widgets page as follows

   a. Add a Twitter **Stream** (that should replace the tweet on your page from assignment 1).
   b. Add an Instagram widget
   c. Add a Password Strength validator written solely in JavaScript (it cannot use jQuery) that behaves the same as the jQuery example we provide

vi.) Style all your webpages with CSS. Specifically, create and use a single external style file, entitled **style.css** to style the pages on your Website. Your webpages should not contain any inline or embedded styling. Your styling should be accomplished using css commands (i.e., css code) that are specified in your **style.css** file.

2. Required Functionality

Updates to the Schedule Page

Once the Schedule page is loaded into the browser, it should display the schedule of the week's events as shown in the screenshots below. Note the font styling should be the same as shown in figure 1 (Days of the week in bold font, time ranges in italics, event type and location in normal font, etc.). The choice of font-type is up to you – but note that san-serif fonts are recommended for displaying text on electronic devices (e.g., computer, tablet, smart-phone, google-goggles, etc.).

The rows of your schedule should be displayed in alternating colors in a manner similar as displayed in figure 1 below. Note, you can choose the colors, they don't have to be the same as in figure 1, but they should ***enhance*** the readability of your calendar.

The placeholder image shown (provided with the assignment) should be displayed as pictured next to your schedule. The schedule and picture should fit on a single web-page without scroll-bars.

As shown in figure 2, when you hover over the text describing a location on your schedule with a pointing device (e.g., a mouse or your finger on a touch screen), a small (thumbnail) image of the location should be displayed and larger version of the image should be displayed next to the schedule. The larger image should persist even on mouse-out.

For instance, figure the schedule page that is displayed when the page is first displayed, and figure 2 shows the schedule page displaying the thumbnail image and large image of Walter library when a pointing device hovers over an event which has the location of Walter.

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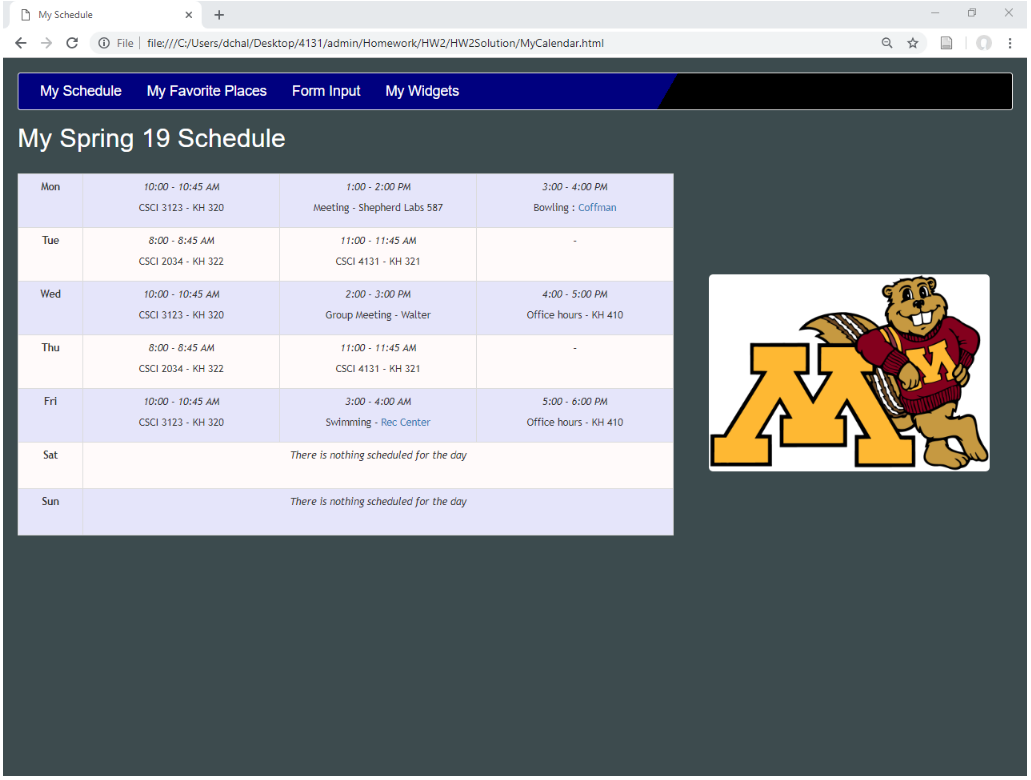
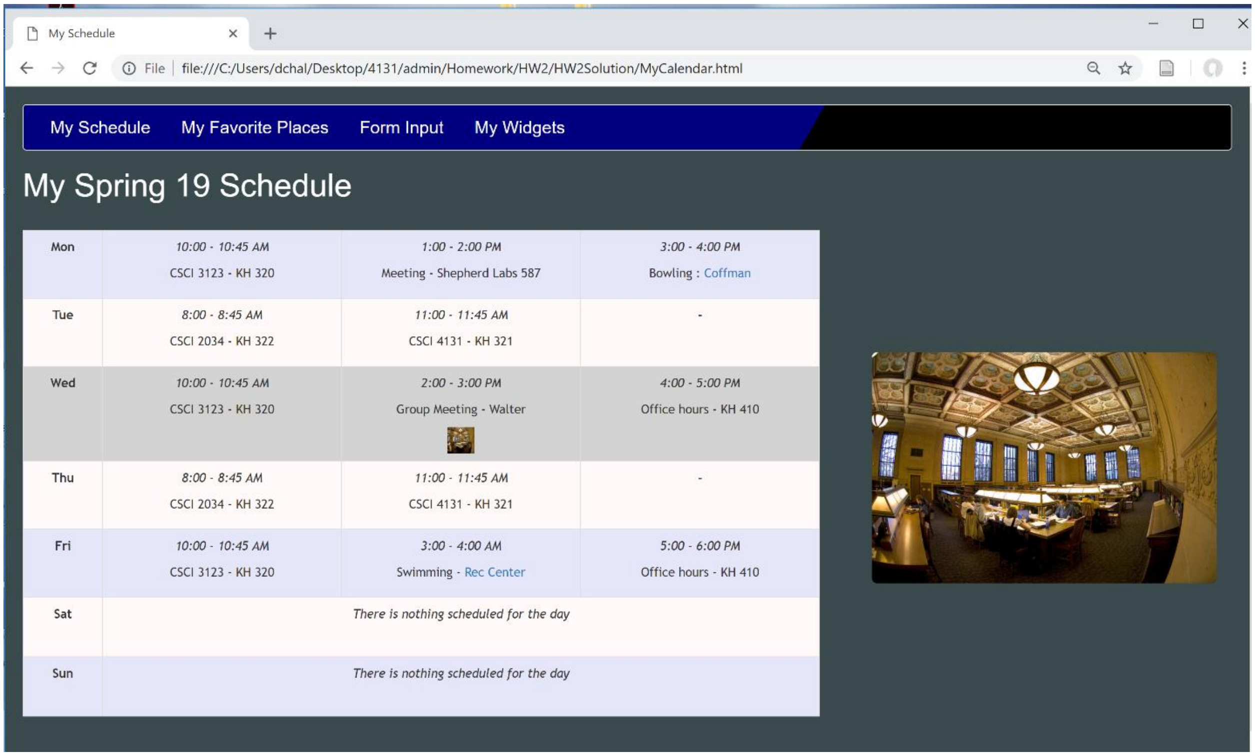


My Schedule
File
file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/MyCalendar.html
My Schedule
My Favorite Places
Form Input
My Widgets

My Spring 19 Schedule

Mon	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*1:00 - 2:00 PM* Meeting - Shepherd Labs 587	*3:00 - 4:00 PM* Bowling : Coffman
Tue	*8:00 - 8:45 AM* CSCI 2034 - KH 322	*11:00 - 11:45 AM* CSCI 4131 - KH 321	-
Wed	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*2:00 - 3:00 PM* Group Meeting - Walter	*4:00 - 5:00 PM* Office hours - KH 410
Thu	*8:00 - 8:45 AM* CSCI 2034 - KH 322	*11:00 - 11:45 AM* CSCI 4131 - KH 321	-
Fri	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*3:00 - 4:00 AM* Swimming - Rec Center	*5:00 - 6:00 PM* Office hours - KH 410
Sat	*There is nothing scheduled for the day*		
Sun	*There is nothing scheduled for the day*		

Figure 1. Schedule displayed when page is initially displayed



My Schedule
File
file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/MyCalendar.html
My Schedule
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My Spring 19 Schedule

Mon	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*1:00 - 2:00 PM* Meeting - Shepherd Labs 587	*3:00 - 4:00 PM* Bowling : Coffman
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Wed	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*2:00 - 3:00 PM* Group Meeting - Walter	*4:00 - 5:00 PM* Office hours - KH 410
Thu	*8:00 - 8:45 AM* CSCI 2034 - KH 322	*11:00 - 11:45 AM* CSCI 4131 - KH 321	-
Fri	*10:00 - 10:45 AM* CSCI 3123 - KH 320	*3:00 - 4:00 AM* Swimming - Rec Center	*5:00 - 6:00 PM* Office hours - KH 410
Sat	*There is nothing scheduled for the day*		
Sun	*There is nothing scheduled for the day*		

Figure 2. Schedule page as displayed when pointing device hovers over item on Schedule with location Walter

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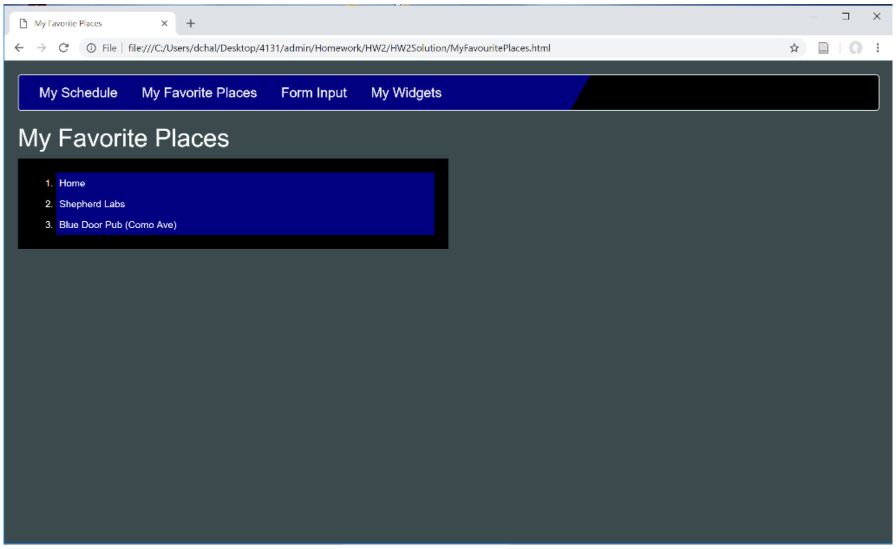
As depicted in Figure 2, a small thumbnail image is displayed on the schedule, and a larger version of the image is displayed next to the schedule. The thumbnail image should disappear when the pointing device moves off of the cell with Walter as the location. If the pointing device is moved to another cell on the calendar with a location, a thumbnail and large image of that location should be displayed on the schedule. If the mouse moves onto a empty cell on the schedule or off of the schedule, the last large image displayed should persist, and no thumbnail picture should be displayed.

Add a page with a list of links to your favorite places.

Using HTML and CSS, you should create a page containing a list of links to your favorite places.

Figure 3 below pictures an example of what your page might look like (it can and should contain a list of your favorite places, which is probably different than the one shown – and the final layout and styling is up to you).


My Favorite Places
file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/MyFavouritePlaces.html
My Schedule
My Favorite Places
Form Input
My Widgets

My Favorite Places

1. Home
2. Shepherd Labs
3. Blue Door Pub (Como Ave)

Figure 3: Webpage with list of hyperlinks to information about each favorite place listed. Note, the hyperlinks should function correctly, and the navigation bar should enable navigation to other pages on your website.

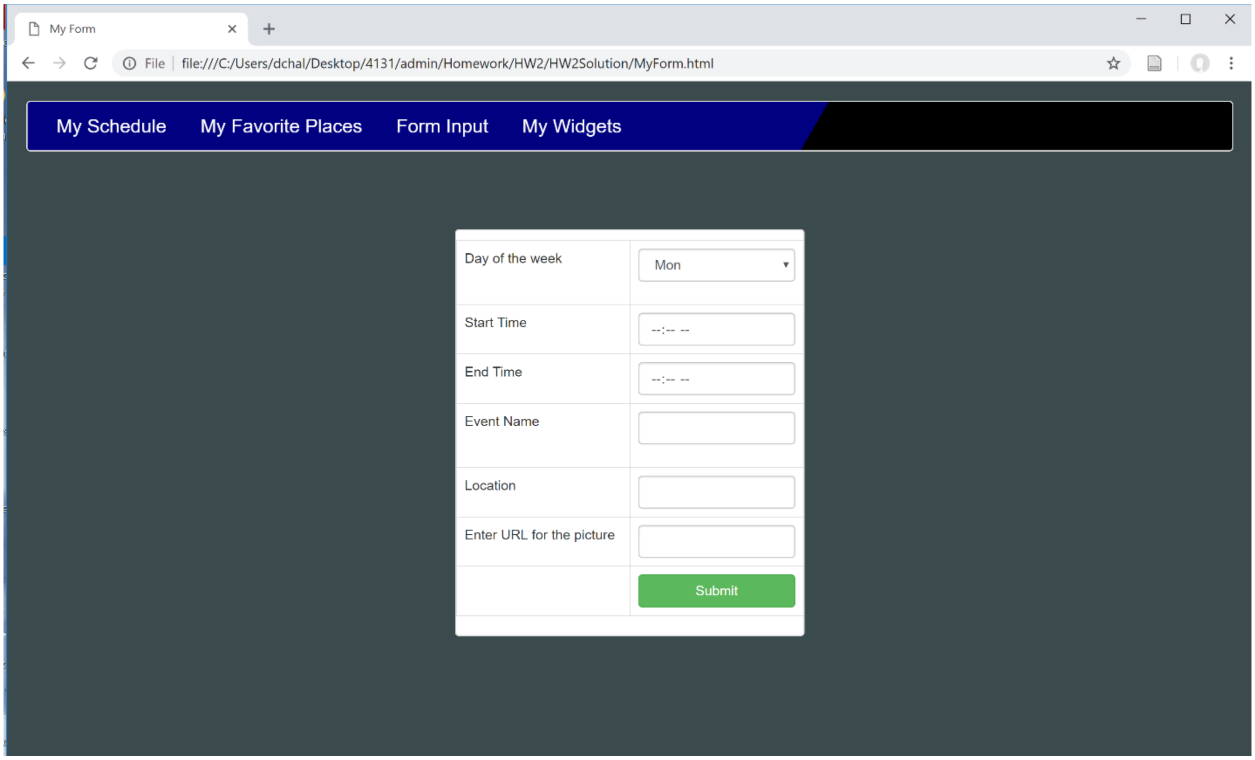
Add a Form Page:

Using HTML, CSS and JavaScript as necessary, create and add a Web page with a form for adding new events to your schedule (we will not implement its functionality in this assignment).

The form should use HTML-5 input elements wherever possible to accept the following mandatory input:

Day of the week;
Start Time;
End Time;
Event Name;
Event Location, and
A uniform resource locator (URL) specifying information about, or a picture of, the event location.

Figure 4 below pictures an example what your form might look like (the final styling is up to you).


My Form
File | file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/MyForm.html
My Schedule
My Favorite Places
Form Input
My Widgets
Submit

Day of the week: Mon

Start Time: --:-- --

End Time: --:-- --

Event Name

Location

Enter URL for the picture

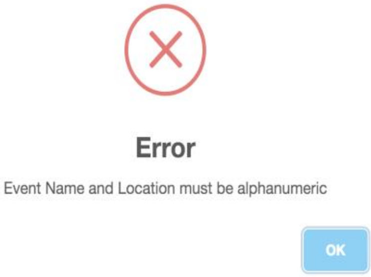
On the form page, you must ensure all fields accept syntactically legal input (using HTML-5 elements and/or JavaScript and regular Expressions). Specifically,

- The day of the week should be a drop down selection that permits only the days of the week shown on your schedule to be selected e.g., Monday through Friday inclusive, or Sunday – Saturday inclusive).

- Start time and end time should be elements which accept times using a 12 hour clock (12:00am – 11:59am, 12:00pm – 11:59pm)

- Event Name and Location should accept only alphanumeric characters. Acceptable Alphanumeric characters are specified in the following ranges: number: 0-9, lower case characters: a-z, upper-case characters: A-Z and spaces.

- A dialog box indicating an error should be displayed if non-alphanumeric characters are included in the Event name and/or location fields – it should be similar to the error message pictured in Figure 5 below. (Your message can be different, but it should indicate and error occurred for the Event name and/or location. You can display different dialog boxes for errors in the Event name and location – but that is not mandatory).

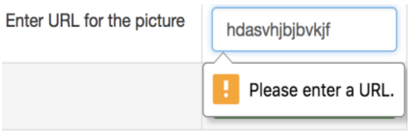


Error

Event Name and Location must be alphanumeric

Figure 5: Example error message displayed if there is an error in the Event name or Location input to the form.

- Finally, the URL should be syntactically validated as syntactically legal URL (it may not really exist, but the form should be correct). As shown in Figure 6 below, an error should be displayed if a syntactically incorrect URL is entered.

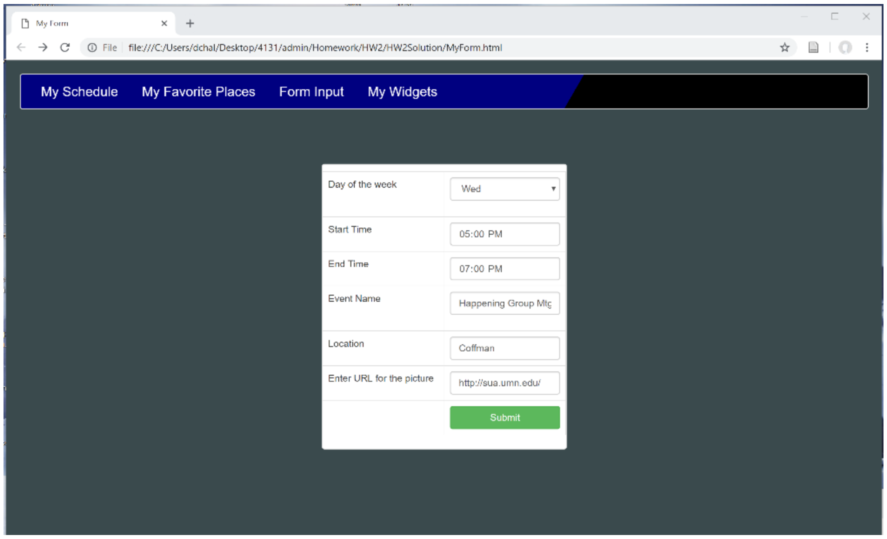


Enter URL for the picture: hdasvhjbjbvkjf

Please enter a URL.

Figure 6: An error should be displayed to the user if they enter syntactically incorrect URL

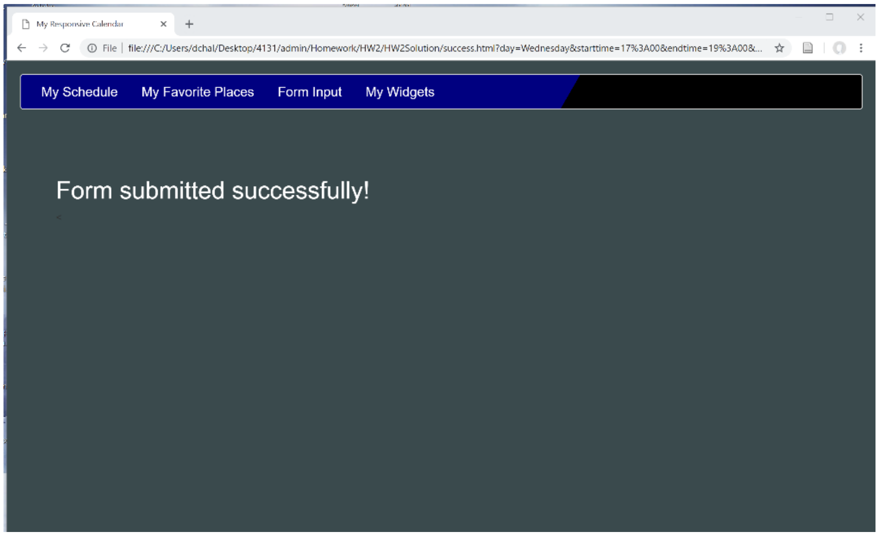
Once the form is filled out with legal input (as pictured in Figure 7 below), it should display an HTML page indicating that the form was successfully submitted (as pictured in Figure 8 below). The action attribute on your form should specify the URL of your success page - see https://www.w3schools.com/tags/att_form_action.asp for a discussion on how to accomplish this.



My Form
File
file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/MyForm.html
My Schedule
My Favorite Places
Form Input
My Widgets

Day of the week	Wed
Start Time	05:00 PM
End Time	07:00 PM
Event Name	Happening Group Mtg
Location	Coffman
Enter URL for the picture	http://sua.umn.edu/

Figure 7: A form that has been successfully filled out by the user – it can be submitted without errors, so the action specified in the form action attribute can be executed



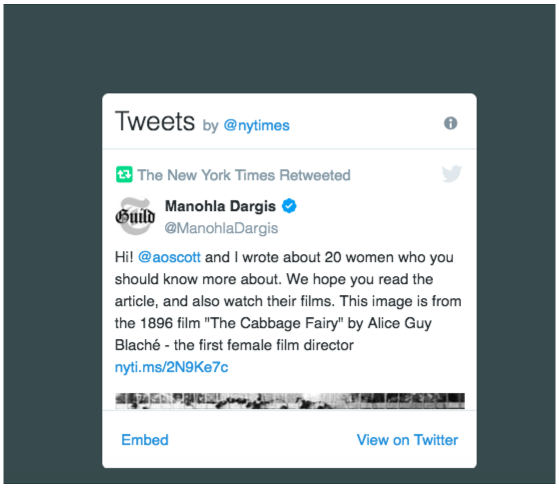
file:///C:/Users/dchal/Desktop/4131/admin/Homework/HW2/HW2Solution/success.html?day=Wednesday&starttime=17%3A00&endtime=19%3A00&...

Form submitted successfully!

Figure 7: Web page that is displayed upon successful submission of the form. You must create this web (i.e., HTML and CSS) page. Note that the navigation bar on this page should enable navigation to any of the four pages of your website

Updates to the Widgets Page

1. **First**, replace the Twitter Tweet with a Twitter Timeline Stream widget on the **My Widgets** Page, as pictured below in Figure 8. See the link https://developer.twitter.com/en/docs/twitter-for-websites/timelines/overview.html to get details about how to accomplish this.



Hi! @aoscott and I wrote about 20 women who you should know more about. We hope you read the article, and also watch their films. This image is from the 1896 film "The Cabbage Fairy" by Alice Guy Blaché - the first female film director nyti.ms/2N9Ke7c

Figure 8: A twitter stream – this should replace the tweet from assignment 1

2. **Second**, Embed an Instagram widget as pictured in Figure 9 below onto the My Widgets page using following link as reference. https://www.instagram.com/developer/embedding/
Note – you should add “http” to the source link you obtain from Instagram (see: https://stackoverflow.com/questions/37322148/why-is-instagram-embed-code-only-showing-an-instagram-icon-not-the-image. for an explanation.

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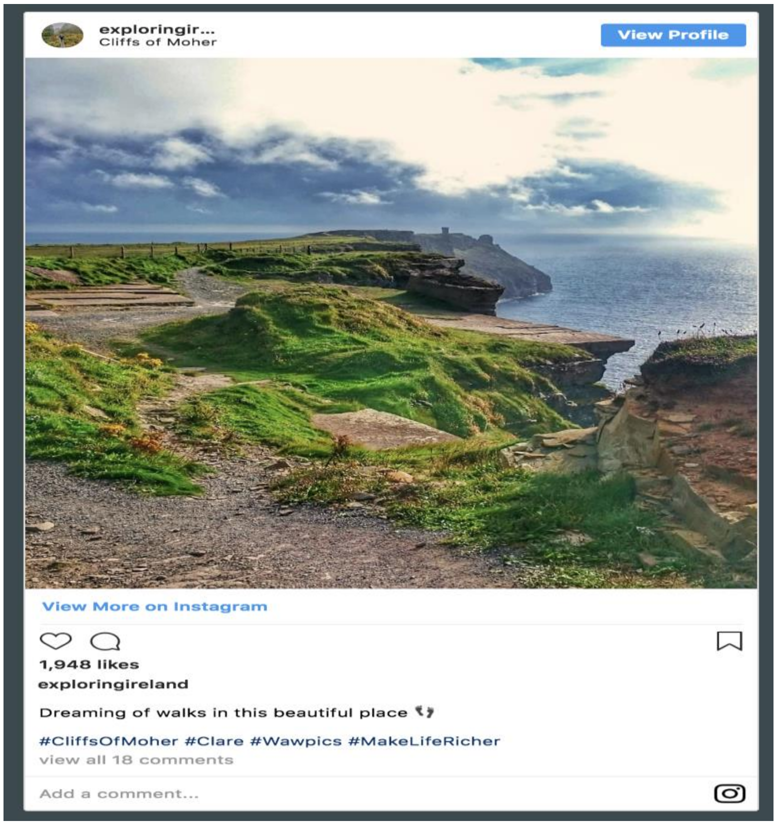


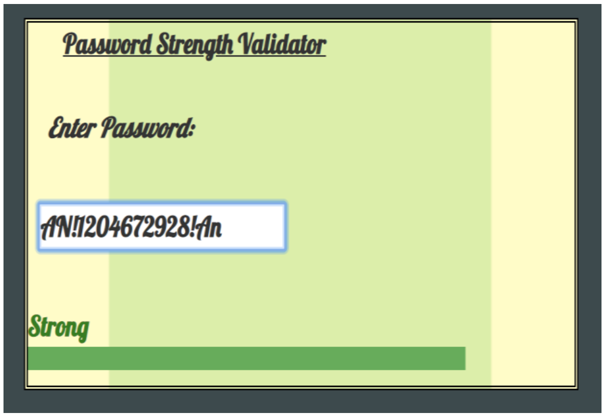
Dreaming of walks in this beautiful place 👣

#CliffsOfMoher #Clare #Wawpics #MakeLifeRicher

Figure 9: An Instagram widget should be added to your widgets page

3. **Third**, add a password strength check Widget on the My Widgets page. This JavaScript widget will check the strength of a password entered by the user. Use the jQuery example given in the link to help you write a plain JavaScript code without using the jQuery library (in other words, you must not use jQuery to implement this widget).

   Your JavaScript code should display the strength of the password as you type it using a progress bar layout as illustrated in Figures 10 and 11 below.
   https://www.formget.com/password-strength-checker-in-jquery/



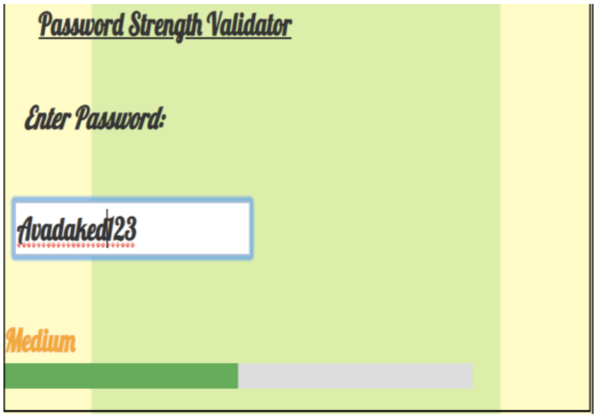
Password Strength Validator

Enter Password:

AN!1204672928!An

Strong

Figure 10: Example of the password checking widget indicating a strong password



Password Strength Validator

Enter Password:

Avadaked123

Medium

Figure 11: Example of the password checking widget indicating a medium strength password

Finally, you should style your widgets page so the widgets are displayed side by side and displayed toward the center of the page. Scroll-bars are permitted on this page as indicated in Figure 12 below:

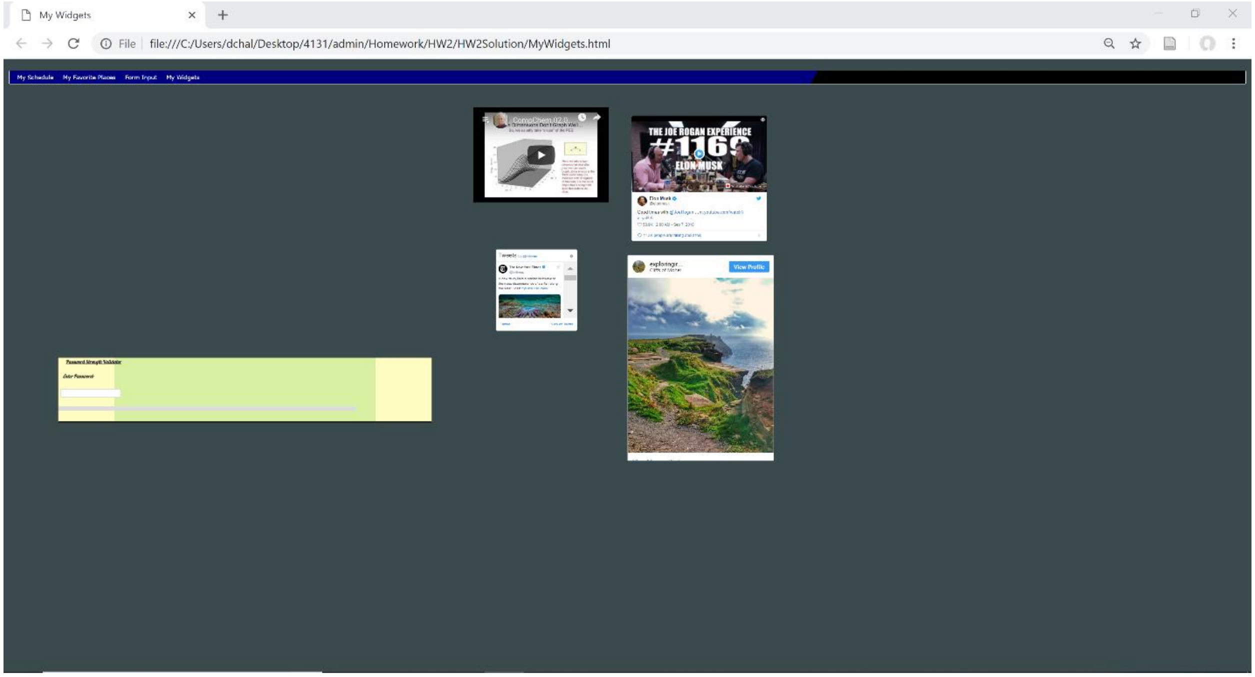


Figure 12: Widgets as displayed on the widgets page

Grading Criteria

- **a.** The navigation bar should be styled and updated to enable navigation between all four pages of your updated website (and navigation from the form success page to the four base pages). **(5 points)**

- **b.** Update your Schedule page as follows:

  - a. Each item on your schedule should have a time range, an event name, and an event location. The event location on each item can be associated with a hyperlink describing something about the location. The events on your calendar should be displayed in ascending order based on the start time of the event. **(5 points)**

  - *b.* A thumbnail image of the location and a pop-up image of the location should be displayed when your mouse hovers over an event calendar.
    A larger pop-up image of the thumbnail image of the location should be displayed to the center right of the schedule, and the schedule and image should be displayed on one page without a scrollbar. **(20 points)**

- **c.** Create a new page containing the list of hyperlinks to your favorite places from assignment 1 **(5 points)**

- **d.** Create a new page named consisting of a schedule input form that will be used to add events to your Schedule in later assignments. **(5 points)**
  - a. The form should use HTML5 input elements and/or JavaScript to perform basic validation on the form's input files from the calendar as specified in the required functionality discussion above **(10 points)**
  - b. Upon successfully entering data into the form that enables the form to be successfully submitted (i.e., submitted without displaying an error), the form should display a success page THAT YOU CREATE, which enables navigation to the other four pages in your website. **(10 points)**

- **e.** Update your widgets page according to the requirements discussed previously as follows
  - a. Add a Twitter **Stream** (that should replace the tweet on your page from assignment 1). **(5 points)**
  - b. Add an Instagram widget. **(5 points)**
  - **c.** Add a Password Strength validator written solely in JavaScript (it cannot use jQuery) that behaves the same as the jQuery example we provide **(15 points)**

- **f.** Style all your webpages with CSS. Specifically, create and use a single external style file, entitled **style.css** to style the pages on your Website. Your webpages should not contain any inline or embedded styling. Your styling should be accomplished using css commands (i.e., css code) that are specified in your **style.css** file. **(10 points)**

- **g.** With the exception of the embedded widgets on the updated widget page, HTML and CSS files pass w3schools validators (http://validator.w3.org and https://jigsaw.w3.org/css-validator) without errors. Warnings are accepted. (**5 points)**

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SUBMISSION INSTRUCTIONS:

Your submission should be packaged in a tar file or zip file. When opened, it must create a directory titled '<UMN internet ID>' containing all of your files (HTML, CSS, Pictures, and additional external JavaScript file (If used). You will lose 10 points if you do not do this correctly.

Submit your homework via the class Moodle Page with the Homework 2 Submission Link.

Additional:

We have provided some images you can use with the assignment in the images folder with the assignment on Moodle. You are responsible for legally obtaining any other images you use.

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