Name: ______________________________

ID: ________________________________

Photo Tagging

For our next problem we'll create a program which allows the user to add tags identifying people in a photograph. To keep things simple, the page will use just a single photograph which you can add rectangular tags to. A real webpage would need additional functionality such as supporting multiple photos.

Here's a screenshot of what the webpage should look like before adding tags:

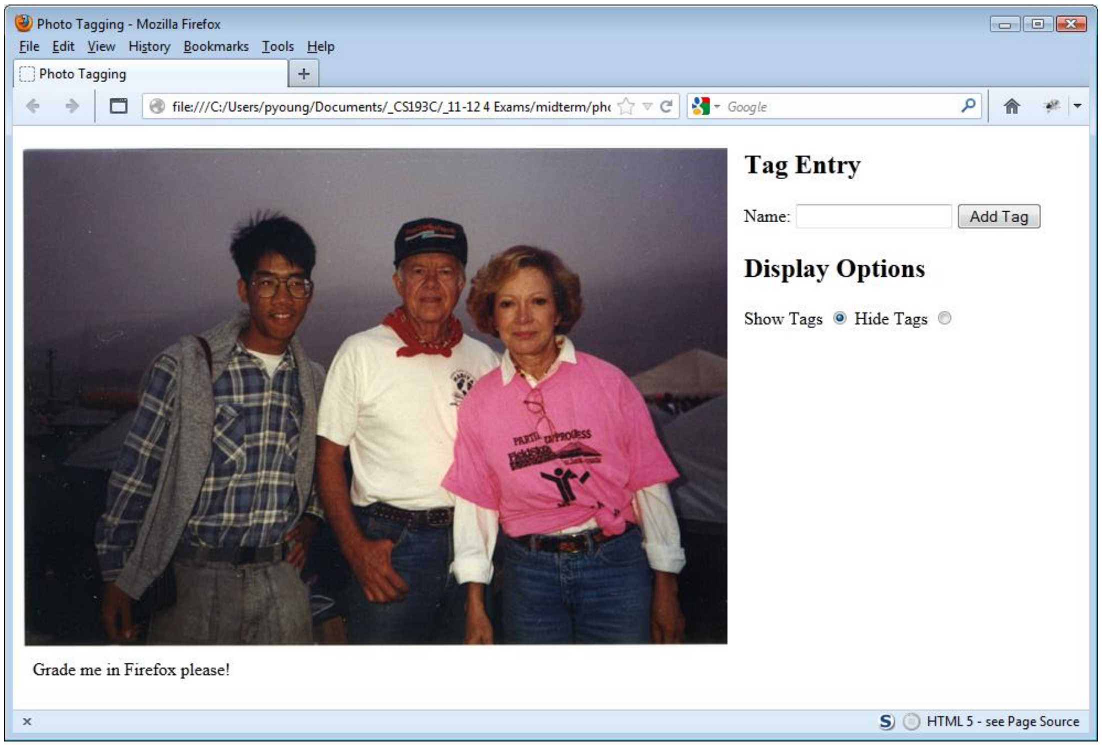


Photo Tagging - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Photo Tagging
file:///C:/Users/pyoung/Documents/_CS193C/_11-12 4 Exams/midterm/ph
Google
HTML 5 - see Page Source

Tag Entry

Name: Add Tag

Display Options

Show Tags [✓ ●] Hide Tags ○

Grade me in Firefox please!

And here it is after adding some tags:

The behavior of the webpage should be as follows:

The user enters a name in the Tag Entry "Name" text field and clicks on the "Add Tag" button. The user then specifies the actual tag rectangle using a two-click process. First they will click the mouse where they want the top-left corner of the tag rectangle to go, and then they will click the mouse where they want the bottom-right corner of the tag rectangle to go. You may always assume that the second click is always below and to the right of the first click.

When the second click occurs, you should display a new tag rectangle along with the specified tag name. The user can continue adding as many tags as they want. There is no ability provided for removing tags, although all tags can be hidden simultaneously using the "Display Option" controls.

The "Display Options" controls work independently of the "Tag Entry" controls. If the user clicks on the "Hide Tags" radio button *all* the tags (including their rectangles/borders and labels) are hidden. When the user clicks on the "Show Tags" radio button, *all* the tags reappear.

You may assume that the "Show Tags" radio button is checked any time the user is creating a new tag – we don't care what the behavior of your webpage is if the user adds a tag while tags are hidden.

We're not particularly concerned with the overall layout of the Photo Tagging webpage. The controls should appear to the right of the image, and should include all the controls shown in the screenshots, but definitely don't spend a lot of time trying to make your webpage look exactly like mine. You may assume that the window will always be wide enough to display the photo and the controls.

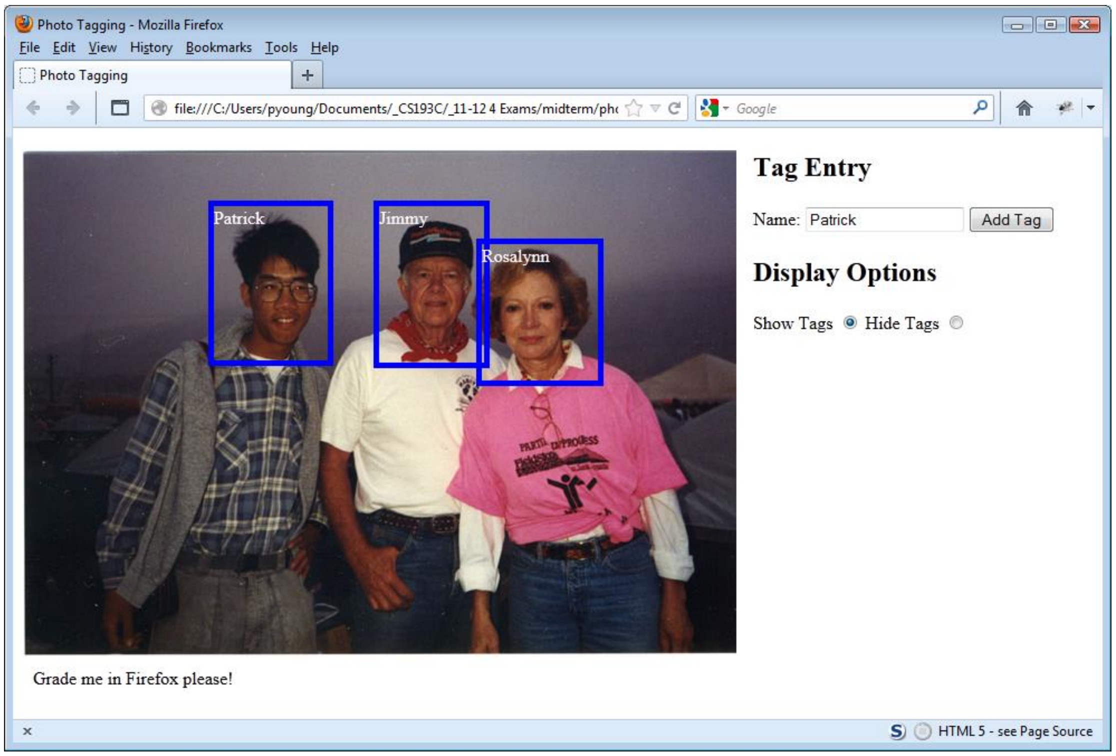


Photo Tagging - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Photo Tagging
file:///C:/Users/pyoung/Documents/_CS193C/_11-12 4 Exams/midterm/ph
Google
Patrick
Jimmy
Rosalynn
HTML 5 - see Page Source

Tag Entry

Name: Patrick [Add Tag]

Display Options

Show Tags [✓ ●] Hide Tags ○

Grade me in Firefox please!

Hints:

- In my solution, the tag rectangles are divs. You are welcome to do the same or come up with an alternate solution.

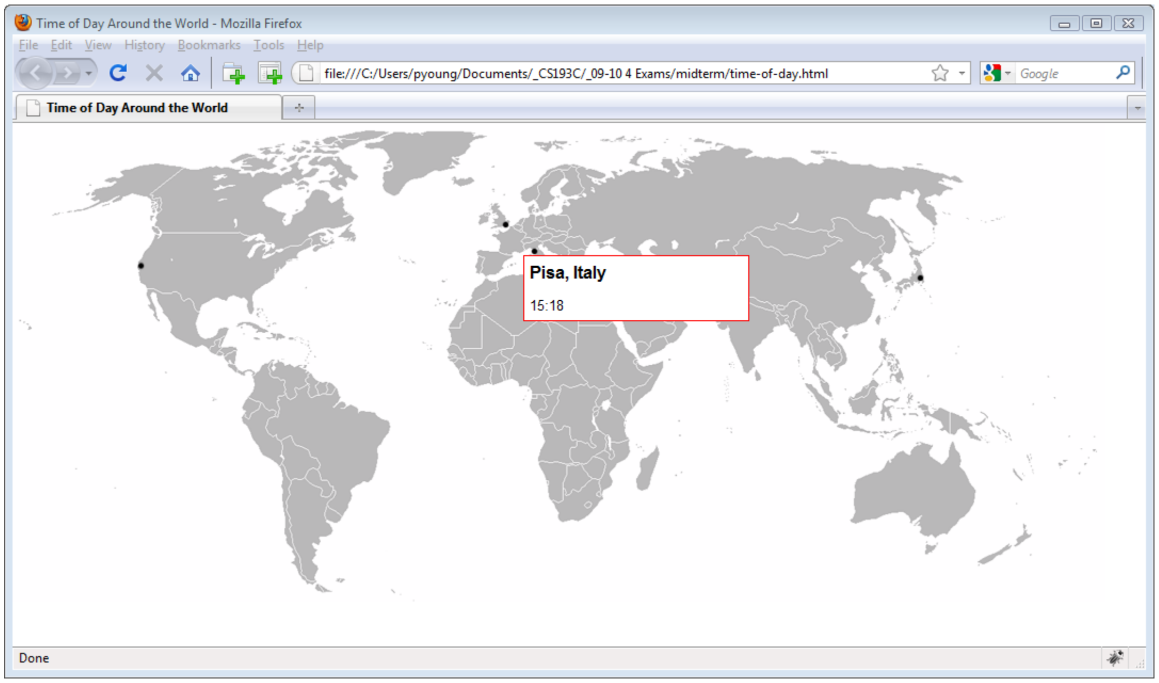
- A correct solution allows the user to create as many tags as they want. If you can't figure out how to do that, you can limit them to just three tags, but you won't receive full credit for the problem.

- If you find that your tag rectangles are getting created right on the "Add Tag" button itself, what's happening is that the user's click on the "Add Tag" button is also getting passed on to the window during event bubbling and your program is using that same click as the first of the two clicks to specify the tag rectangle. There are a number of possible solutions to this, which I'll leave for you to discover.

Time of Day

For this problem you will develop a map which displays the time of day in different cities around the world. The time of day will be displayed in a popup. To keep things simple you may display time using a 24-hour clock format (i.e., 20:15 instead of 8:15pm) – you can use the traditional method if you're more comfortable with it, but it will probably be a bit more work.

Here is a screenshot of the webpage in action:


Time of Day Around the World - Mozilla Firefox
File Edit View History Bookmarks Tools Help
file:///C:/Users/pyoung/Documents/_CS193C/_09-10 4 Exams/midterm/time-of-day.html
Google
Time of Day Around the World
Pisa, Italy
15:18
Done

As you can see the webpage simply consists of a big map image. This image is provided for you as the `world.png` file.

The program has the following features:

- When the x and y coordinates of the cursor are both within 10 pixels of one of the cities on the map a popup will display, showing the name of the city and the current time in that city.

- The popup should appear next to the city. You can use a preset location for each city's popup, or you can place the popup so that its top-left corner is at or near the mouse location which triggers the popup.

- The popup will remain visible until the cursor moves off of the popup.

- The popup should not move while it is visible. After the cursor moves off of the popup and it disappears, it may of course appear in a different location – for example if the user moves the cursor on top of a different city.

- You do not have to update the time while the popup is visible. However, the time should be updated to the current time the next time it appears.

We will only support four cities for this problem. However, store the city information in an array. We should be able to add more cities by simply adding more dots on the map in the image file and adding additional data items to your array, without further changes to either your JavaScript or the HTML

Here is the city information you will need:

Stanford, California: located at (121,135) on the map image, time difference from UTC[1] = -7

London, United Kingdom: (463, 96) on the map image, time difference from UTC = +1

Pisa, Italy: (490,121) on the map image, time difference from UTC = +2

Tokyo, Japan: (852, 145) on the map image, time difference from UTC = +9

To determine the current time, you can create a Date object. If you do not provide any parameters when constructing it, you will get a Date object corresponding to the current data and time. To learn more about the JavaScript Date object do a Google search or try visiting this webpage:

http://www.w3schools.com/jsref/jsref_obj_date.asp

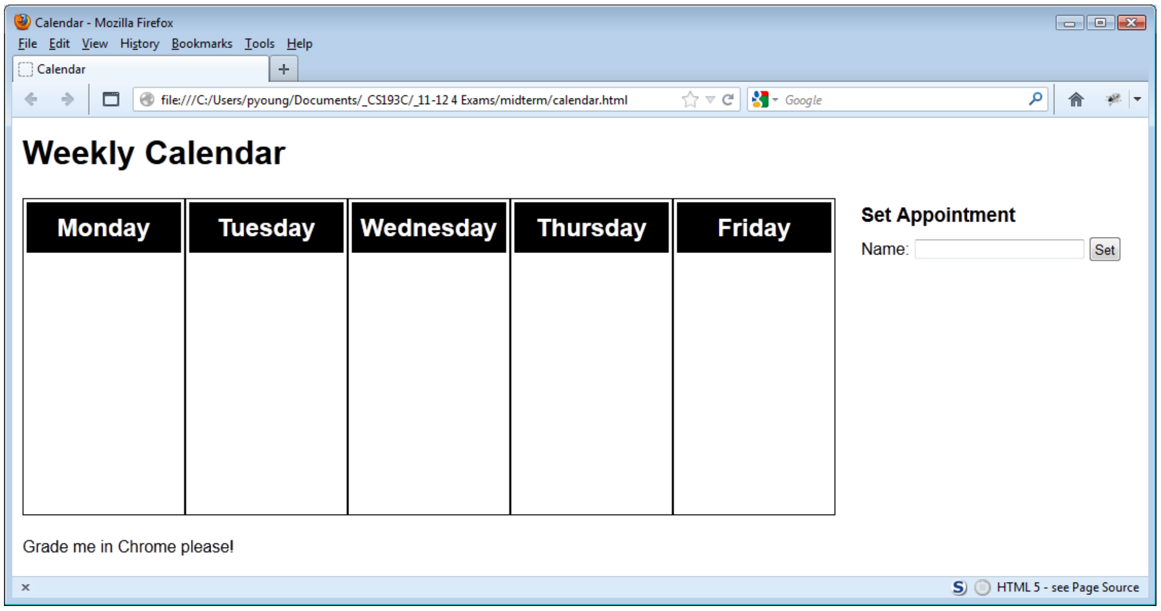
If you are at a loss on how to start out, I recommend building this problem in stages. Here are the steps I took in creating my solution:

- First I made sure I was getting coordinates properly in my event handlers.
- Next I had the event handler display the popup with static information (i.e., the same information regardless of the city, and without looking up the correct time).
- Then I had the event handler display the popup only when the mouse coordinates were in the appropriate coordinate range.
- I then modified the popup to display the city name.
- I added the current time in UTC to the popup.
- I modified the time in UTC to the time appropriate for the city.
- I next changed the location of the popup to appear over the city.
- Finally I set the code so that the popup would go away when the cursor moved off of the popup.

Calendar

Create the following webpage:

[1] Times zones are relative to UTC or Coordinated Universal Time (also known as Greenwich Mean Time). This is the time system the JavaScript Date object will use. If you're curious as to why London is not UTC = 0, it's because London is currently in BST (British Summer Time) similar to our own Daylight Savings Time.


Calendar - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Calendar
file:///C:/Users/pyoung/Documents/_CS193C/_11-12 4 Exams/midterm/calendar.html
Google
HTML 5 - see Page Source

Weekly Calendar

Monday Tuesday Wednesday Thursday Friday

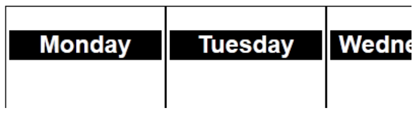
Set Appointment

Name: Set

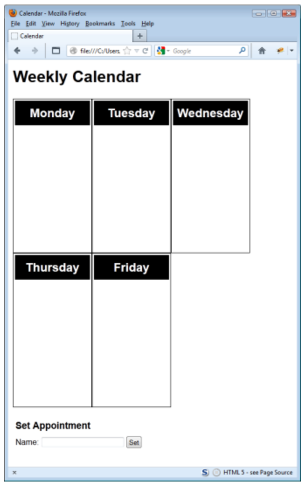
Grade me in Chrome please!

Your solution does not have to be a pixel-perfect recreation, but it should meet the following guidelines.

- Use CSS floating for layout. **Do <u>not</u> use tables.**
- Use Sans-Serif fonts throughout.
- Each day-of-week rectangle is 150 pixels wide and 300 pixels tall with an additional 3 pixels of padding and a 1 pixel solid black border.
- The “Weekly Calendar” text should be an h1 element, the individual day titles (e.g., “Monday”, “Tuesday”) should be created using h2 elements. How you create the rest is up to you.
- While the day titles don’t have to match exactly, they should look similar, so the following (which is what you’ll get if you just use all the default settings) is **<u>not</u>** acceptable:

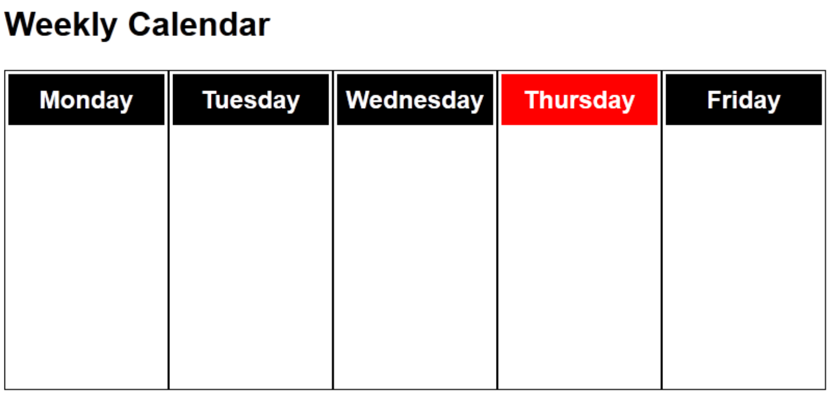


- We don’t care if the “Set Appointment” section ends up below the actual week calendar if the window narrows. But the days of week must not collapse. In other words, your calendar must <u>not</u> do this as the window narrows (instead a horizontal scrollbar should appear).



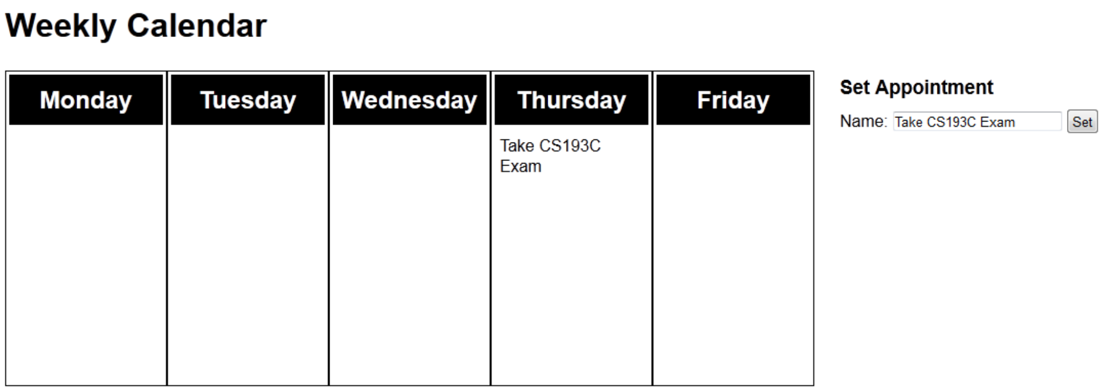
Support the following behavior using JavaScript:

When the user clicks anywhere within a particular day-of-week rectangle, that day becomes selected, and the day's title changes from white-on-black to white-on-red to indicate the current selection like this:



The user can change the selection by clicking on another day-of-week rectangle. If the user clicks anywhere in the window other than on a day-of-week rectangle, the selection is cleared and all days go back to the standard white-on-black day title displayed.

The user sets an appointment by entering text into the "Name" textfield, selecting a day, and clicking on the "Set" button. When this happens the text from the textfield is added to the current day-of-week rectangle below the title, and it should look something like this:

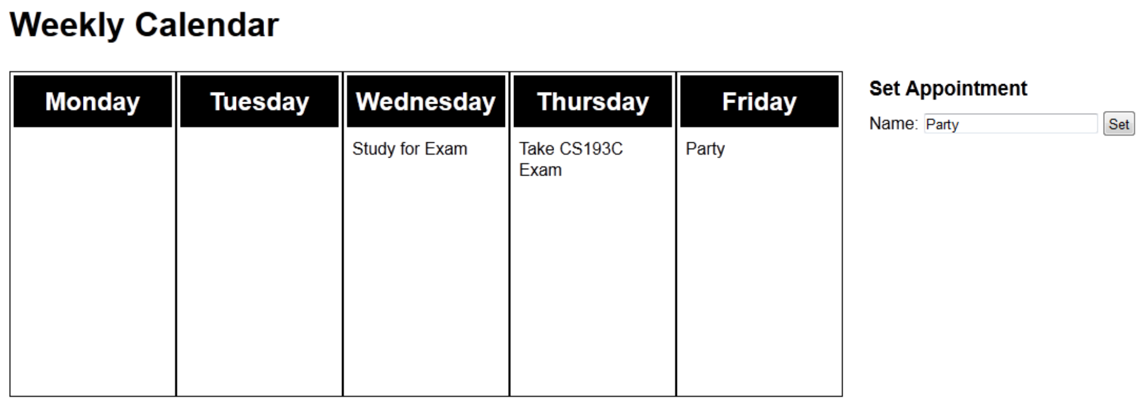


Note that since clicking on the “Set” button is clicking outside of one of the day-of-week rectangles, clicking on the “Set” button will clear the current selection so as shown in the example “Thursday” is no longer selected and is now displayed as white-on-black. You’re welcome to maintain the current selection if you want, but this will require extra work and is not necessary (and will not garner any extra points).

To keep things simple, each day of the week may only have a single appointment set on it. Setting an appointment on a day that already has an appointment changes the appointment text to the new text. The old text is gone.

You may assume that the appointment text is short and will fit in the day rectangle. Clicking on the “set” button if there is no current selection does nothing (but should not cause an error).

Naturally as many or as few of the days as desired may have appointments. Here we have three appointments:



Weekly Calendar

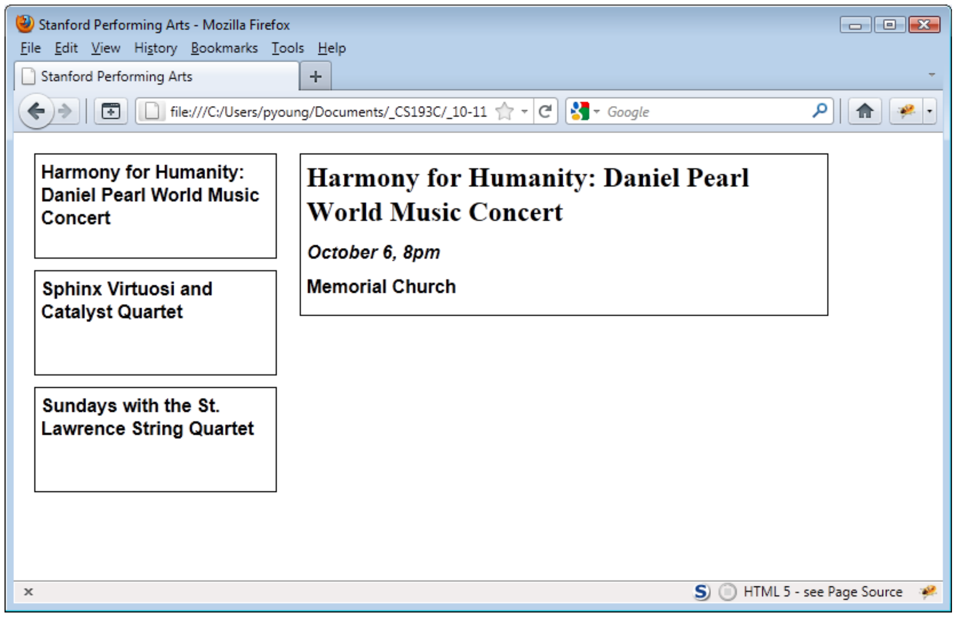
Monday	Tuesday	Wednesday	Thursday	Friday
		Study for Exam	Take CS193C Exam	Party

Set Appointment

Name: Party

Performance Marquee

For our next problem we will create a page displaying information on performing arts events at Stanford. Here's a screenshot showing the webpage:


Stanford Performing Arts - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Stanford Performing Arts
file:///C:/Users/pyoung/Documents/_CS193C/_10-11
Google
HTML 5 - see Page Source

Harmony for Humanity: Daniel Pearl World Music Concert

Sphinx Virtuosi and Catalyst Quartet

Sundays with the St. Lawrence String Quartet

Harmony for Humanity: Daniel Pearl World Music Concert

October 6, 8pm

Memorial Church

Formatting

This webpage consists of two columns. The left hand column displays short information on three different performances. The right column provides more detailed information on a single performance. Here is the formatting information you need for the webpage:

- Set the width of each of the individual event items in the left column to 200-pixels wide by 80-pixels tall. You may assume that information placed within the items will always be short enough to fit in 80 pixels.

- These event boxes should have a 1 pixel black border, a 10-pixel margin, and 5 pixels of padding and text should appear in 12pt bold sans-serif font.

- The detailed information box on the right will be 450-pixels wide with height determined by the item displayed – this box can increase or decrease in height depending on the length of information items shown.

- The title information in the detailed information box should be 18pt bold serif, the date/time should be 12 pt, bold, italics sans-serif, and the location should be 12pt bold sans-serif.

- In this detailed information box, location and date/time should have 10-pixels top and bottom margin to put some space between the items.

- I created all items as div elements, however, you can use other types of HTML elements if you prefer.

- As with the previous problem you may use a CSS reset if desired.

You may use any reasonable values for anything you need not listed here.

Information

Your webpage should be setup to display information on a number of different events. The midterm downloads includes a file with the actual data, so you don't need to type them in. Here is a partial list:

> Harmony for Humanity: Daniel Pearl World Music Concert
> October 6, 8pm
> Memorial Church
>
> Sphinx Virtuosi and Catalyst Quartet
> October 19, 8pm
> Dinkelspiel Auditorium
>
> Sundays with the St. Lawrence String Quartet
> October 23, 8pm
> Dinkelspiel Auditorium
>
> Merce Cunningham Dance Company
> November 1, 8pm
> Memorial Auditorium
>
> Jazz @ the Cantor with Loren Schoenberg
> November 9, Noon
> Cantor Arts Center

Store the event information in an array containing object literals, so that it will be easy for a non-programmer such as a web designer to add in additional events, even if they don't have a strong understanding of JavaScript.

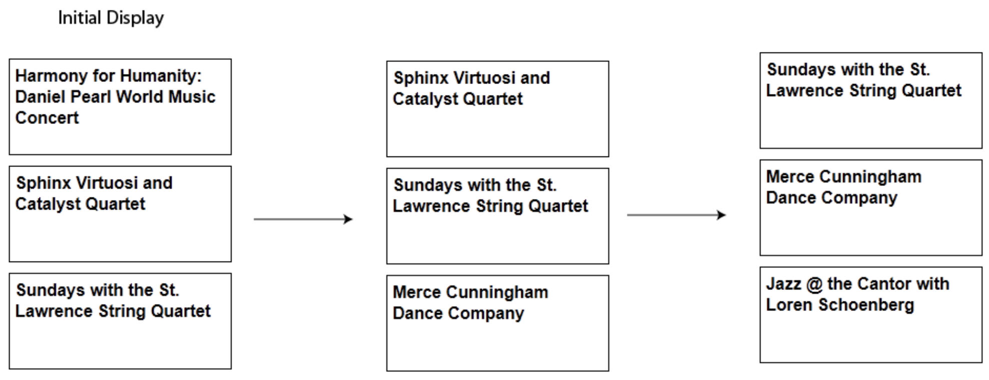
Behavior

Updating Left-hand Boxes

As you can see from the screenshot above, only three items can be displayed at once. These three boxes should initially display the first three items in the data array.

Your program will change the items displayed in the left hand column every 3 seconds, beginning 3 seconds after the webpage finishes loading.

When updated, the item in the top box will be removed, the item in the second box will move to the top, the item in the third box will move to the second box, and the next undisplayed item will move to the third box:



Initial Display
Harmony for Humanity: Daniel Pearl World Music Concert
Sphinx Virtuosi and Catalyst Quartet
Sundays with the St. Lawrence String Quartet
Sphinx Virtuosi and Catalyst Quartet
Sundays with the St. Lawrence String Quartet
Merce Cunningham Dance Company
Sundays with the St. Lawrence String Quartet
Merce Cunningham Dance Company
Jazz @ the Cantor with Loren Schoenberg

When the final item is reached, start over. For example, with the short event list provided in the previous section of this handout after the “Jazz @ the Cantor” item is displayed, start over again, treating “Harmony for Humanity” as the next item.[2]

I recommend you use the setInterval and clearInterval functions to get your boxes to update and to stop updating (see “Halting and Restarting Event Box Updating Behavior” section below):

http://www.w3schools.com/jsref/met_win_setinterval.asp

and

http://www.w3schools.com/jsref/met_win_clearinterval.asp

Updating Right-hand Box

The right-hand detailed event information box should start off with information on the first data item provided (currently the “Harmony for Humanity” concert, although this should change if someone modified the array storing event information).

When the mouse moves on top of one of the left-hand event boxes, update the information in the right-hand detailed information box so that it matches whatever is displayed in the selected left-hand box. Note the user does not have to click on a left-hand event box, merely moving the mouse over it is sufficient.

For example, if the user moves the mouse over a left-hand box listing the Merce Cunningham Dance Company performance, update the right-hand box to display the “Merce Cunningham Dance Company” as the new title, along with showing the Merce Dance’s November 1, 8pm date/time, and the Merce Dance’s Memorial Auditorium location.

Halting and Restarting Event Box Updating Behavior

Whenever the mouse moves over a left-hand event box, the event box updating behavior should halt (i.e., you will no longer update event boxes every 3 seconds). The items in the three left-hand boxes will not change contents as long as the mouse remains over one of the left-hand event box. When the mouse moves back out of the left-hand box, begin changing contents again in 3 seconds and continue changing at 3-second intervals until the user again moves the mouse on top of any of the left-hand event boxes.

Changes in Response to Data Array Changes

If the contents of the event array are changed to reflect a different set of performing arts events, naturally your webpage should be displayed differently. In particular,

- When the webpage is loaded, make sure that the item details in the right-hand event details box always correspond to the first performing arts event in your array.
- Also make sure that when the webpage is loaded the three items listed in the three left-hand event boxes correspond to the first three performing arts events in your JavaScript array.

[2] The actual data provided with the midterm downloads has additional items, so “Jazz @ the Cantor” will actually be followed by “Julliard String Quartet” and “A Chanticleer Christmas” before restarting with “Harmony for Humanity.”