Unit 8 – Multimedia

Objectives	- Learn how to integrate multimedia elements to your web page.
Required Reading	- Lesson 11 – Integrating Multimedia: Sound, Video, and More Lemay, p. 345
Resources	- Embedded Media HTML Generator http://cit.ucsf.edu/embedmedia/step1.php http://www.w3schools.com/media/default.asp
Assignment	- Create a new web page (named **mini_project_5.html**) and add a sound file and/or a small movie to your mini_project_5.html file. **Please refer to mini project 5 instruction for details.** - **Mini Project 5 will be due on July 20th at 11:45 pm**

I. Important Concepts

Many of the multimedia options Lemay describes in this chapter are browser dependent, meaning they will only work correctly if you're using the browser that supports them. Throughout the short history of graphical interface browsers, Internet Explorer and Mozilla or Netscape have built capabilities into their browser software that the other doesn't support. That's why it's so important to test your web site on different platforms and with different browsers. Sometimes an earlier version of the browser doesn't support something that a later version will. Sometimes IE or Mozilla/Netscape will develop support for a HTML element that the other will then start supporting in their subsequent versions. Oh, it's a messy world out there!

If you stay fairly current with your browser software, you'll have better luck being able to view the latest innovations. In version 4 and above, plug-ins are automatically installed, giving you access to a variety of multimedia files.

1. Embed Multimedia Elements

1.1 The combination of embed and object tags

Lemay introduces three ways of adding media files to a web page, which are using the embed tag, the object tag, and the combination of embed and object tags. <embed> is a self-close tag like <img>. Below is an example of using <embed>.

```
<embed src="filename.xxx" width="xxx" height="xxx" autoplay="xxx" controller="xxx" loop="xxx" />
```

You may not use the exact same set of attributes like this example. The required attributes vary on media types (e.g. Quick Time, Real Media, Flash, and Windows Media). Refer to pages 356 to 360 in the Lemay book for more information about attributes for <embed>.

However, <embed> is not a valid tag in xhtml. <object> is used to replace <embed> in xhtml. Below is an example of the <object> structure.

```
<object data="filename.xxx" type="xxx/xxxxx">
    <param name="xxx" value="xxx" />
    <param name="xxx" value="xxx" />
</object>
```

Refer to page 360 for detailed explanation on using <object>. The value goes to the type attribute depends on what file format the audio/video file you use. Lemay lists the common audio file formats on page 373 and video file format on page 374. For example, if you add a MP3 file named song.mp3, the opening object tag will look like,

```
<object data="song.mp3" type="audio/x-mpeg">
```

Unfortunately, **without having the embed tag, the media file will work ONLY in Internet Explorer** not in Mozilla (Firefox)/Netscape. In other words, the media file will not work Mozilla (Firefox)/Netscape using <object> alone. Therefore, using the **combination of embed and object tags** is a must to make media files work in both browsers. In other words, the page will not pass xhtml validation since you have to use <embed> on your page. Below is an example of using the combination of embeds and object tags.

```
<object classid=”xxxxxxxx” codebase=”xxxxxxxx” width="xxx" height="xxx" type=”xxxx”>
    <param name=”src” value=" filename.xxx " />
    <param name=’”xxx” value=”xxx” />
    <param name=’”xxx” value=”xxx” />

<embed src=”filename” width=”xxx” height=”xxx” autoplay=”xxx” controller=”xxx” loop=”xxx” />

</object>
```

Different types of media (e.g. Quick Time, Real Media, Flash, and Windows Media) have their own classid, codebase, and type. Refer to Lemay’s book pages 361 to 371 for the value of classid, codebase, and type for each type of media. Between opening and closing object tags, the param tags are used to set the parameters of the embedded media, such as the media file source, autoplay, loop, and etc. It must have <param>; the one that used to specify the media file source. <param> is a bit different than other tags. Only certain things can be the value for its name attributes. For example, for the required param to specify the file source, name should be equal to src (Real Media and QuickTime), movie (Flash), or filename (Windows Media) depending on what media type you are using (i.e. **<param** name=”src/movie/filename” value="filename.xxx" **/>**). Refer to pages 361 to 371 in the Lemay book for more attributes of <param> supported by each media type.

1.2 Embedded Media HTML Generator

The embedded media HTML generator (http://cit.ucsf.edu/embedmedia/step1.php) is provided by University of California, San Francisco. It is developed to ease the burden of inserting video and animations into web pages.

You’re allowed to use the generator to help you insert video and animations into web pages in this unit assignment. Although the generator seems to save your from the hassle to find the values for the classid and codebase attributes, **the code is not xhtml compliant**. **The object and embed tags are written in upper case. Also, the param and embed tags are not self-closed. Be sure to fix them after you paste the code to your page.**

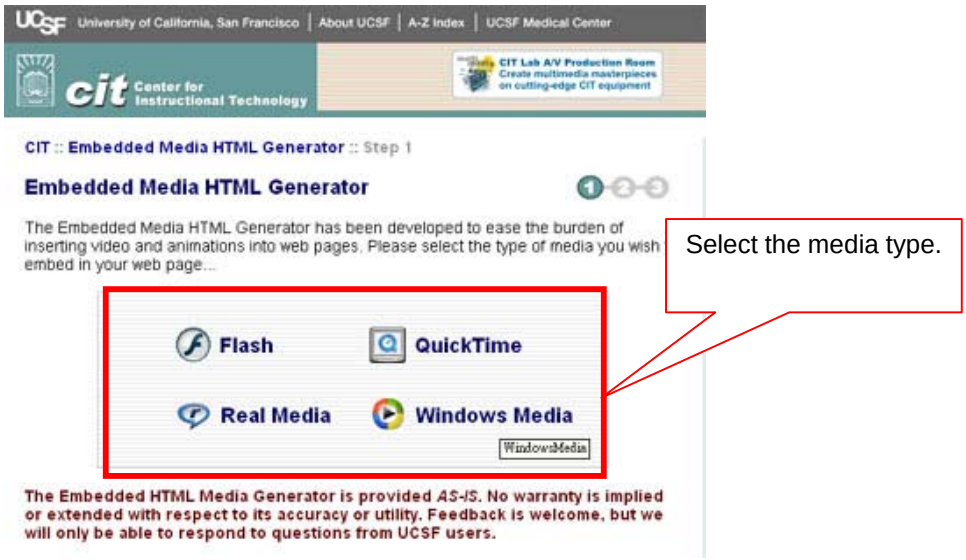
Below are the steps to use the generator:

Step 1. Prepare the media element and upload it to your bengal space: Acquire the media element that you wish to use before you use the generator to create the embedded media html code. Check if the file has appropriate file size (less than 50MB) for delivering over the Internet. Also, check the file extension to determine the media type, which you will need in the next step. Here is the list of media types:

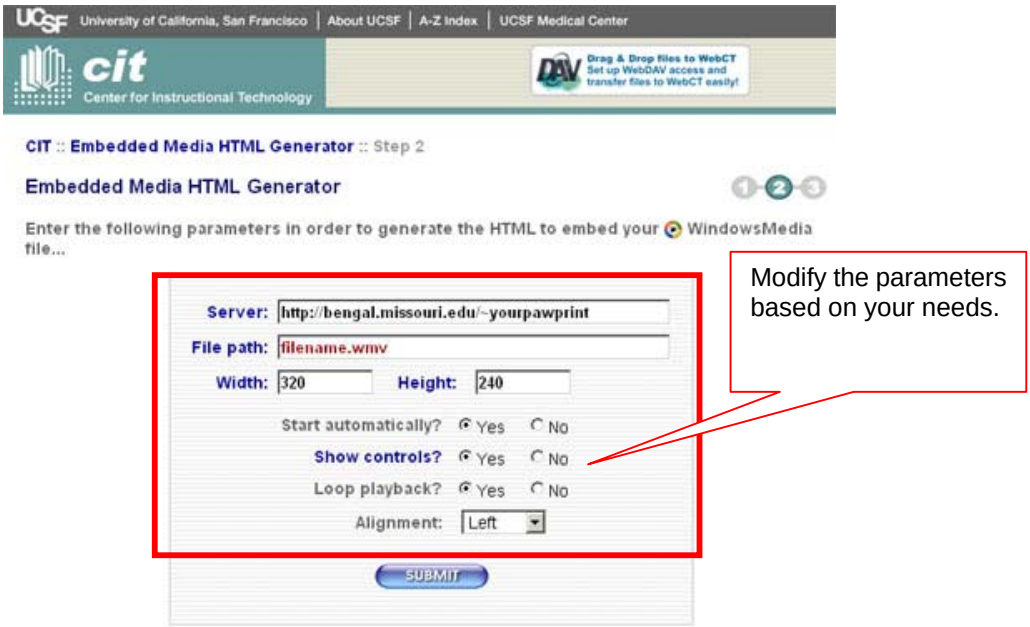
- RealMedia (.rm or .ram files),
- QuickTime (.mov files),
- Windows Media (.wmv or .wma files), or
- Flash animations (.swf files).

Then, upload the media file to your bengal space.

Step 2. Select the media type: Click on the application used to create the media element, which has been determined in the previous step.



Step 3. Set the parameters: Type “http://bengal.missouri.edu/~yourpawprint” (without quotation marks) in the “Server” text field and type the relative pathname in the “File path” text field. You also have the options in setting other parameters, such as width, height, start automatically, show controls, loop playback, and alignment. Click on the submit button.

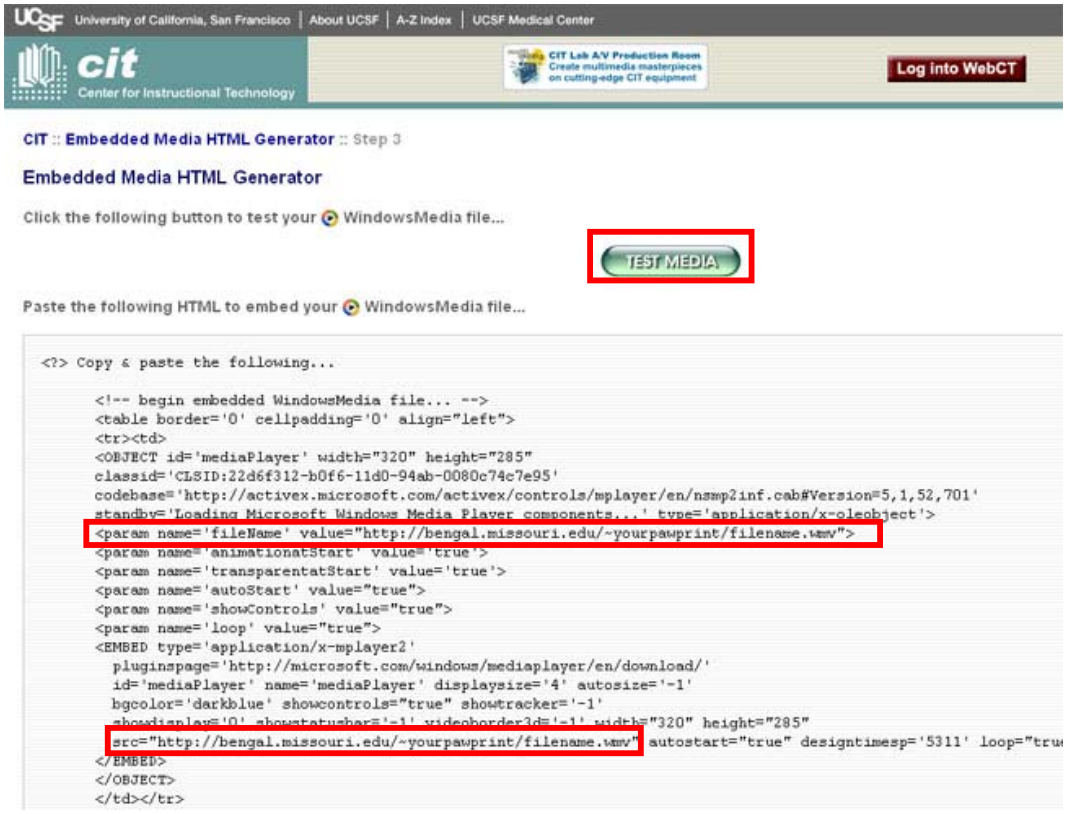


Step 4. Test the media file and insert the code to your page: Click on the "TEST MEDIA" button to see if the media file plays properly. The "TEST MEDIA" feature will work only when the media file is on the server already and the absolute pathnames are used for the file source. As you can see from the screenshot below, the absolute pathnames are used in both

<param name="filename" value="http://bengal.missouri.edu/~yourpawprint/filename.wmv"> and

<embed ….. src=" http://bengal.missouri.edu/~yourpawprint/filename.wmv" …. />.

After checking if the media file works, you can select only the code between the opening object and closing object tags, or copy the entire <table> created by the generator. As mentioned above, the object and embed tags are written in upper case. Also, the param and embed tags are not self-closed. Be sure to fix them after you paste the code to your page.



2. Resources for Embedding Multimedia Elements

If you want to experiment with adding audio to your web site, you can find audio clips in much the same way that clip art files are available. Remember that much of the audio on the web is copyright protected and is there illegally. Protect yourself by avoiding use of any content that you are not absolutely sure is copyright-free. Creating your own audio and graphics files is the safest choice, although you obviously need some experience in digital media to do that. The easies one is by using some examples below:

- http://zone.missouri.edu/files/introweb/danna_trip.mov
- http://zone.missouri.edu/files/introweb/paris_dream.mov
- http://zone.missouri.edu/files/movies/reflector.mov
- http://zone.missouri.edu/files/introweb/classic.mpeg
- http://zone.missouri.edu/files/introweb/adams.swf
- http://zone.missouri.edu/files/introweb/snowmans_revenge.swf