Chapter - 2: Customizing and Embedding Multimedia Components in Web Pages

Learning Objectives

After studying this unit the students will be able to:

- Understand the definition of Multimedia and what it means to use it. Its format.
- Discover the kinds of media used in multimedia and understand how to combine them. Learn about formats of Multimedia.
- Describe the different methods of defining images, video and flash on Web pages.

Introduction

Multimedia is many things rolled into one. What do you think of when you hear the word Multimedia? Is it merely a mash up of media elements? Or is it everything we see, hear, read, and touch in websites, video games, phone, phone apps, retail kiosks, and bank ATMs? There are all forms of multimedia, and the list of uses grows daily. We are drawn into multimedia at every run, whether we like it or not. The goal of this content is to demystify the meaning and process of creating digital multimedia.

Multimedia has become an inevitable part of any presentation. It has found a variety of applications right from entertainment to education. The evolution of internet has also increased the demand for multimedia content.

Multimedia is the media that uses multiple forms of information content and information processing (e.g. text, audio, graphics, animation, video, interactivity) to inform or entertain the user. Multimedia also refers to the use of electronic media to store and experience multimedia content. Multimedia is similar to traditional mixed media in fine art, but with a broader scope. The term “rich media” is synonymous for interactive multimedia.

Resource Requirement

Hardware: A computer system

Software: Simple web pages does not required any software.

2.1 Customizing and Embedding Multimedia Components in Web Pages

Introduction: Multimedia comes in many different formats. It can be almost anything you can hear or see.

Examples: Pictures, music, sound, videos, records, films, animations, and more.

Modern Web pages have often embedded multimedia elements, and modern browsers have support for various multimedia formats.

Multimedia elements (like sounds or videos) are stored in media files.

The most common way to discover the type of a file, is to look at the file extension. When a browser sees the file extension .htm or .html, it will treat the file as an HTML file. The .xml extension indicates an XML file, and the .css extension indicates a style sheet file. Pictures are recognized by extensions like .gif, .png and .jpg.

Multimedia files also have their own formats with different extensions like: .swf, .wav, .mp3, and .mp4.

Advantages & Disadvantages of Using Multimedia on Web Pages:

Since the introduction of the Mosaic Web browser in 1993, Web designers have added multimedia elements to Web pages. What started as the simple addition of a few images expanded to include different types of multimedia and immersive environments. However, usability experts like Dr. Jakob Nielsen of the Nielsen Norman Group have expressed concerns about the negative impact of multimedia on the Web.

Advantages:

- **Greater Immersion:** Adding multimedia elements to a Web page make it easier to draw in viewers. While video is the most popular multimedia addition, sites also add audio and interactive content to attract and hold the attention of the viewers.
- **Enhanced Page Rankings for SEO:** While the value of multimedia remains controversial in the search engine optimization world, surveys conducted by Forrester Research indicate that video content, done correctly, is a major benefit to a site's overall SEO strategy. The company discovered in 2010 that websites with videos were 53 times more likely than text-based websites to appear on the first page of search engine results.
- **Better Branding:** While HTML 5 text-based sites are more elaborate than websites of the past, they are still limited in many ways. It is hard to represent a brand's image without including audio or video content to support it. As such, multimedia sites are frequently preferred by marketing departments because of their ability to completely present branding.

Disadvantages:

- **Potential Damage to Search Engine Rankings:** While video content can help a site with search engines, images that are not handled correctly can damage a sites ranking. Sites lacking links an automated "spider" program can follow end up being ignored by search engines. Creators of multimedia content who do not keyword-

optimize the content negate any SEO work on the non multimedia portion of the site. As a result, the site appears lower in search results, which affects its overall traffic flow.

- **Loading Times:** While the days of measuring page load times on a slow, dial-up modem are over, multimedia content still takes longer to load than static content. Presenting a user who visits a site with a screen that says "Please Wait. Loading" frequently results in a viewer clicking away to a different page.

- **Compatibility:** Every browser can display at least some subset of HTML. Multimedia elements not as widely supported. The best example of this is the absence of Flash multimedia on Apple's mobile devices. As of the middle of 2012, the devices still did not support Flash, causing sites that depend upon Flash to display incorrectly on iPads and iPhones. This problem applies to other types of multimedia, as well. A site that uses the Windows Media format for its multimedia content will frequently not work correctly for users on computers that lack a plug-in for Windows Media.

Assessment:

Answer the following questions:

Q1. Define multimedia and its various types?

Q2. Advantages and Disadvantages of multimedia in web pages?

Q3. Why we need internet browser? Also explain web page?

Q4. List 5 internet browser which supports multimedia?

Q5. Full form of HTML is _____ and XML is_____?

2.2 Compatible Multimedia File Formats for Web Pages

Images

A single still video image, whether created by a drawing or paint program or scanned from a book or grabbed with a video camera, can be stored in any of a wide variety of file formats. The data will be stored in a raster or a vector file format. A raster image is one composed of a field of pixels, each characterized by a color, and is usually created in paint programs, by scanning a picture or by grabbing an image. A vector format is created almost always by a drawing/CAD program and consists not of pixels, but objects such as curves, shades, and characters.

Raster formats can be generally separated into two categories. Lossy formats lose resolution (sharpness) when converted to, while lossless formats preserve image information. For example, when converting from a GIF (lossless) to a JPEG (lossy), some information is lost. However, lossy formats tend to be much smaller than their lossless

counterparts, and for most photographic images, there will be almost no subjective difference.

The following list of image file formats is not inclusive, but describes the formats that comprise the majority of files encountered on the Internet. All of the following formats are raster formats unless otherwise stated.

1) **.gif:** GIF, which stands for Graphics Interchange Format, is a graphics file format originally popularized by CompuServe. GIF files are encoded, 256 color (8-bit) images which use a lossless compression technique and can be opened by almost all graphics programs including xv, Lview, and Photoshop.

2) **.jpg, .jpeg, .jfif:** JPEG stands for Joint Photographic Experts Group. JPG (more accurately JFIF) files are true color (16.7 million colors, or 24-bit) images that are compressed using a lossy compression algorithm called JPEG. This means that files may degrade in quality when they are JPEG encoded. However, this degradation is not noticeable for most scanned photographs and images with smoothly colored areas. Do not use JPEG encoding on line art or cartoon images. JPEG files are significantly smaller than most other formats and can be opened and saved with many graphics programs on all platforms.

3) **.ps, .eps, .epsi:** Postscript (PS), Encapsulated Postscript (EPS), and Encapsulated Postscript with preview image (EPSI) are all *vector* graphics file formats. They are mainly used to store printed or printable documents and are in widespread use.

4) **.pdf:** PDF stands for Portable Document Format and is created by Adobe Acrobat. An Enhancement of the Postscript language, PDF files contain all the same text and page layout information but can include many WWW features such as images, links, and heading references. PDF files can be viewed using Adobe Acrobat software.

5) **.tif, .tiff:** TIFF (Tagged Image File Format) files are uncompressed true color images. Most graphics programs allow you to store TIFFs with compression. These files can be opened by many graphics programs including xv, Lview, and Photoshop.

6) **.tga:** TGA (Targa) files, like TIFFs, are uncompressed true color (24-bit) images. They can be opened by many graphics programs including xv, Lview, and Photoshop.

7) **.pict:** A PICT file is a standard Macintosh image file format and can be either a raster image or a vector image, depending on the program that created it. Most Macintosh applications will open them.

8) **.bmp:** BMP files are Windows Bitmap files. They are usually 8-bit color images (256 colors) and can be viewed by many programs including Windows Paintbrush. BMP files can be used as backgrounds for the Windows desktop.

9) **.pcx:** A PCX is a Zsoft paint file. PCXs are openable by Windows Paintbrush.

10) **.pbm,.ppm,.pgm:** Portable Bitmap, Portable Pixmap, and Portable Graymap are all file formats used by the PBMtools set of Unix graphics utilities. Most commonly used on Unix workstations, they are openable by Photoshop in addition to xv.

11) **.psd:** PSD signifies an Adobe Photoshop graphic file. They are openable on Pentium and Macintosh systems by Adobe Photoshop.

12) **.cvs:** A CVS is a *vector* graphic file format and is openable by Canvas.

13) **.cgm:** A Computer Graphics Metafile, CGM, is also a vector format and can be opened by Canvas and ClarisDraw.

14) **.wpg:** WPG are WordPerfect graphics files that can be opened with Lview.

15) **.wmf:** WMF files are Windows MetaFiles that can be opened by Canvas.

16) **.xpm, .xbm:** X PixMap or X bitmap files are usually small files used in the X Window System.

Different file formats work with different programs, although almost all drawing/paint programs will read and write JPEG, GIF, and TIFF formats. GIF and JPEG formats are popular for FTP and the WWW because they are much smaller than other formats, so more of them can be stored. GIF and JPEG formats are not compressible, so it is generally a waste of effort to run a compression program on them. However, other file formats often compress by large amounts. PICT and TIFF formats work best with word processing and desktop publishing programs like Microsoft Word 6.0 and Adobe Pagemaker 6.0.

Movies

Movies, as they are labelled here, consist of a series of still images, sometimes with embedded audio information, united in such a way as to produce a single playable file. MPEG and QuickTime are the two most commonly encountered movie formats on the Internet.

1) **.avi:** AVI is a file format developed by Microsoft and primarily used in Windows. AVIs are compressed movies that can be viewed in Windows environments with Media Player and on Unix workstations with xanim.

2) **.flc, .fli:** An FLC is an Autodesk Flick movie and is a raw, uncompressed series of frames. They take up more space than other formats, but the image quality is higher. You can play them within Windows with Media Player.

3) **.mov, .MooV, .qt:** Any of these file extensions means that the file is an Apple Quicktime movie. Applications that can view QuickTime video include: Simple Text, WordPerfect, and Microsoft Word. Flattened QuickTime video clips can be viewed on

Unix workstations with xanim and on IBM-compatible personal computers with Media Player.

4) **.mpg, .mpeg:** MPEG files use the MPEG-1 video compression routine, a universal protocol for creating and displaying time coded data created by the Motion Picture Experts Group. MPEG video clips can be viewed with **mpeg_play** on Unix workstations, Sparkle on Macintoshes, and MPEG_PLAY on IBM-compatible personal computers.

Sound

Files containing data used to recreate audio on a computer are called audio files and are also available in many different formats. Similar to image formats, audio files can either store a digital sampling of the sound wave (sound files, like a raster image) or contain a digital encoding of the type, shape, and timing of all the notes used in the composition (music files, like vector images).

1) **.au:** An AU is an audio sound file native to Sun workstations. It is playable by wplany on Pentium computers or with Netscape's built-in AU player.

2) **.iff :** An IFF is a sound file playable on Pentium computers with wplany and on Unix workstations with xanim.

3) **.mid, .rmi:** MIDI files can be played with the Windows MIDI sequencer. They are music files that conform to the MIDI standard. Play them with Media Player on the Pentium computers, or load them into MusicProse or Finale on a Macintosh.

4) **.mod:** A MOD file is a music file format originally from the Commodore Amiga, but which is now popular on IBM-compatible computers.

5) **.qt:** A QuickTime movie can contain just sound and no video. Any program that can play QuickTime can play QT sound files.

6) **.snd:** An SND is a Macintosh clickable sound format. It is playable on any Macintosh and on Pentium computers with wplany.

7) **.voc:** VOC (voice) files were originally popularized by Creative Labs. They are sound files similar to WAV. These files are openable on Pentium computers with wplany.

8) **.wav:** WAV (wave) files are Microsoft's native audio sound format. WAV files can include 8-bit or 16-bit sound, in mono or stereo. They can be played on Pentium computers with Media Player and wplany.

Music software packages such as MusicProse and Finale, can also be used to compose music, but they use their own proprietary music formats.

Multimedia on the Web

Once you have the appropriate software, you have to configure your WWW browser to automatically play/display any downloaded multimedia file. This procedure varies by both platform and software, but is somewhat similar.

Helper applications are programs which can stand on their own but are referred to from within a WWW browser to enhance its capability to play/display multimedia file formats. Normally, you must tell your browser which programs to use for which file format encountered. Since Netscape Navigator is the most popular WWW browser for most computer platforms, its method of setting and using helper applications is be described below.

Netscape for Macintosh or IBM-compatible computers can be customized to automatically respond to almost any file format encountered. To do this:

Pull down the Options menu and select Preferences.

From the selection box at the top of the window that opens, choose Helper Applications.

Now, find the row corresponding to the multimedia file format you wish to automate with a helper application, and select the radio button corresponding to the action you wish Netscape to take: save, launch helper application, or use Netscape's built-in viewer.

If you want Netscape to open a helper application, you must click once on Browse and select an appropriate program.

Assessment:

Answer the following questions:

Q1. How can you differentiate between music, image and sound data without open?

Q2. Why today's web site containing more and more multimedia?

Q3. Write tags which are used in to add images in web page?

2.3 Embedding Audio in Web Pages

Introduction

Embedding a sound on a page means to include the sound commands in the HTML document. It will be nice to hear a background music while working with html files. And now it is very simple to include an audio file into HTML page. There are different syntax for different browsers.

For example, Internet Explorer support the BGSOUND and Netscape support an embed tag for embedding music.

We have observed many times that free music downloads are available at various sites which we can listen. Those websites will give us a trail to download and hear the music at glance. We can just use those files for embedding in our html pages. In such cases, the embed tag is used much for the simplicity.

In Internet Explorer (IE) the audio can be included using <BGSOUND> tag. bgsound tag works only in IE and not in any other browsers.

Example Code: <bgsoundsrc="he-knows.wav" LOOP="-1" >

The audio can be included using <embed> tag for Netscape like browsers.

Example Code: <EMBED SRC="he-knows.mp3" HIDDEN="true" AUTOSTART="true" LOOP="infinite" Height=145 width=160></EMBED>

This will include back-ground music into our webpage. If we want to display the audio controls in the browser, we can set the hidden attribute to false. Here in the above example we have used Loop=-1 which will play the file again and again. If you want to play it only once just set the loop to false.

Various Quick and Easy Ways to Embed MP3 Files into the Site

Now, we are going to look at some easy ways to embed MP3 files into our website. All of these methods are free and take mere minutes to implement.

Simple Player with Editable Parameters

a) **Using the Object Tag**:

Apart from the non standard Embed tag, we can also use the <object> tag for embedding various media into our web pages. But, it is not still effective for cross-browser functions.

You can specify some parameters related to the document with the param tag. Parameters can be height, width, background color, loop, and autoplay. IE sometimes needs a src parameter to understand the location

Example Code:

```
<object data="music.wav" type="audio/x-mplayer2" width="320" height="240">
<param name="src" value="music.wav">
<param name="autoplay" value="false">
<param name="autoStart" value="0">
<param name="bgcolor" value="#FFFFFF">
Hear the sound : <a href="music.wav">music</a>
</object>
```

Type attribute specifies the application/media player type you are using. We can use the following types for our media player:

1) Windows Media Player : type="application/x-mplayer2".
2) Quicktime: type="video/quicktime".
3) RealPlayer: type="audio/x-pn-realaudio-plugin".

Step by Step Implementation to Embed Sound in the Web Page.

We would require HTML Editor to edit the web page and Sound file that is to be embedded in the system

Below Steps should be Processed to Embed the Audio Files:

1) Open the Web page in an HTML editor. HTML editor must have the ability to edit the source code to follow these steps.
2) Start with an object element:

   <object>

3) We'll add 4 parameters to the object. The first is "src" that tells the browser where to find the sound file. In this example, the sound file is eureka.wav and is found in the same directory as the Web page:

   <param name="src" value="eureka.wav" />

4) If you want the sound file to play immediately after it's loaded, make the auto start parameter "true" otherwise make it "false":

   <param name="autostart" value="true" />

5) The parameter autoplay is similar to autostart, just used by other browsers, set it the same as the autostart parameter:

   <param name="autoplay" value="true" />

6) Use the controller parameter to tell the browser if a controller should be displayed to give your readers more control over the sound:

   <param name="controller" value="true" />

7) Inside the <object></object> element, add an embed element:

   <embed />

8) Add the following four attributes that are the same as the parameters to the object:

   <embed src="eureka.wav" controller="true" autoplay="true" autostart="True" />

9) Add the correct MIME type for your sound file into the type attribute:

<embed src="eureka.wav" controller="true" autoplay="true" autostart="True" type="audio/wav" />

10) Add the pluginspage attribute so that people who don't have the correct plugin for your sound file can go download it. For WAV files, I recommend QuickTime:

<embed src="eureka.wav" controller="true" autoplay="true" autostart="True" type="audio/wav" pluginspage="http://www.apple.com/quicktime/download/" />

11) When you're done, your HTML should look like this:

<object>
<param name="autostart" value="true">
<param name="src" value="eureka.wav">
<param name="autoplay" value="true">
<param name="controller" value="true">
<embed src="eureka.wav" controller="true" autoplay="true" autostart="True" type="audio/wav" />
</object>

There are Some Important Tips and Measure which should be taken Care of, to make this Procedure Work:

1) Don't validate your Web page with the embed tag. It won't validate because that tag is not part of the specification. But only Safari supports the object tag for sound.

2) Check out the embed tag for additional attributes. Many of them you can use as parameters on your object as well.

3) I recommend always setting the controller="true" attribute. That way, if someone doesn't want to hear sound on your Web page, they can turn it off.

4) For the most accessible (and valid) sound, just link to your sound file.

Eureka sound file

That gives your customers the choice to listen or not.

b) Google Reader MP3 Player

Google Reader has an inbuilt MP3 player that is pretty much the same as Gmail player but it also works on non-Google websites. Google has an advantage that it is a free resource. This player has volume controls, no Google branding and it auto-detects the duration of the music file so our readers know how long the song will last.

Here's a live example followed by the HTML embed code:

To use this MP3 player on our website or blog, write the following code and replace the MP3_FILE_URL with the link to your M**P3 file.**

<embed type="application/x-shockwave-flash"flashvars="audioUrl=**MP3_FILE_URL**" src="http://www.google.com/reader/ui/3523697345-audio-player.swf" width="400px" height="27px" quality="best"></embed>

<audioUrl=http://LINK" width="400" height="27" allowscriptaccess="never" quality="best" bgcolor="#ffffff" wmode="window" flashvars="playerMode=embedded">

Example:

<embed height="27px" width="400px" pluginspage="http://www.macromedia.com/go/getflashplayer" flashvars="playerMode=embedded" wmode="transparent" bgcolor="#ffffff" quality="best" allowscriptaccess="never" src=http://www.google.com/reader/ui/3523697345-audio-player.swf?audioUrl=MP3_FILE_URL

type="application/x-shockwave-flash" classname="audio-player-embed"/>

c) Yahoo! MP3 Player (inactive)

Yahoo! offers a code generator (Easy Listener) to help us to create a Flash based MP3 player that matches our website color theme and layout. Though this Easy Listener MP3 player requires you to pass the address of the web page that contain the MP3 file(s), we can directly pass the MP3 link and it will work just fine.

It supports auto play and we can decide where the meta data associated with the MP3 file should be displayed.

Example:

<embed src="http://webjay.org/flash/dark_player" width="400" height="40" wmode="transparent" flashVars="playlist_url=**MP3_FILE_URL**&skin_color_1=-145,-89,-4,5&skin_color_2=-141,20,0,0" type="application/x-shockwave-flash" />

d) Yahoo Media Player

The Yahoo Media Player takes a drastically different approach by presenting viewers with a very minimal piece of text and a play button instead of a full-fledged player. However, when we click the play button, a floating player pops up that stays on screen as we scroll.

If we maintain an MP3 blog or run a podcast and regularly link to MP3 files, it makes little sense to embed a separate Flash player with every MP3 file. It is would therefore recommend using the Yahoo Media Player that auto-detects links to MP3 files in our web pages and creates an embedded player for each link.

All we have to do is to insert the following link in our blog template and all MP3 hyperlinks will be converted into inline MP3 players. This also has the shuffle feature and visitors can easily skip to any song in the playlist.

For the **Yahoo player**, it works similar to Yahoo Media Player, we first insert following link in our blog template and all MP3 hyperlinks will be converted into inline MP3 player.

<script type="text/javascript"

src="http://mediaplayer.yahoo.com/js"></script>

Also note that even before we click the play button, the Yahoo player is docked and ready to go at the bottom left of the window. Just click on the arrow to slide it out.

e) Odeo MP3 Player (inactive)

Odeo offers a pretty impressive MP3 player that works perfect in web pages as well as RSS readers but a small issue is that Odeo Player requires you to type the exact duration of the song in the embed code. You can skip this step but then the progress bar won't reflect the true status when you play the song. And there are no volume controls.

To use Odeo MP3 player in your website, add the following code replacing MP3_FILE_URL and DURATION with relevant values.

<embed type="application/x-shockwave-flash"
src="http://www.odeo.com/flash/audio_player_standard_gray.swf" width="400"
height="52" allowScriptAccess="always" wmode="transparent"
flashvars="audio_duration=**DURATION**&external_url=**MP3_FILE_URL**" />

f) MixPod

MixPod creates a free flash widget to embed into our site. There are pros and cons to using this service compared to those above. The cons are that we have to sign up (free) and the player displays a link to MixPod. The pros are that we get a plethora of great design options, embedded song information including artist and song name, the ability to adjust the color scheme to match that of our site, and access to popular songs and playlists.

Setting up a MixPod is super easy and requires no knowledge of coding beyond where to paste the snippet of code they give us. All we do is paste in our MP3 link, insert the artist/track info for all the songs in your playlist, and choose your skin and colors. Then MixPod provides you with a rather large chuck of code to paste into the site. The result is pretty slick.

MixPod is just one of many providers of free flash players you can embed into your site.

g) Helper Applications - A New search

When the World Wide Web first got started, back when Mosaic was the browser and this new thing called Netscape 1.0 came out, sounds were available, but they were played with the use of a helper application.

Helper applications were programs that attached to the Netscape browser. In order to play a sound file, like .wav, .au, or .aiff, you will need to attach an application that the browser can use to play the sound.

We can use a program called WHAM. It's great and it plays a great many types of sound files.

What Happens is this:

- The browser gets the sound file and downloads the entire thing.
- Once the download is complete, the helper application is launched.
- The browser loads the sound file into the application.
- The application plays the sound.

Offering a Sound Via Helper Application

If we have a sound, would like to offer, follow this format:

<A HREF="http://www.yoursite.com/filename.wav"> Click Here</A>

Notice it's nothing more than a simple link pointing to the sound file. Place the sound file in the same directory as the page that calls for it and the browser will take it from there. Just need to be take care of and must be sure to FTP transfer the sound file to our site as "binary" or "raw data," as any other way can corrupt it.

By making the hypertext link to a sound file we are taking the chance that the person viewing the page on our site has an appropriate helper application.

h) Using a Plug-in

Plug-ins are programs that helps browser to perform at a higher level. A sound plug-in does basically the same thing the helper application does, except it works inside the Netscape Navigator window rather than starting up as a whole other program. Instead of WHAM popping up and Netscape being pushed to the back while the sound runs, a sound plug-in works inside of Netscape Navigator allowing user to continue playing with the page while the sound is running.

i) MIDI

It's an acronym that stands for Musical Instrument Digital Interface. That's a program that acts as a go-between for an instrument and something that creates the sound. Sort of like running a guitar through a computer and then out a speaker.

A midi file over the Web works as a program that runs the sound card. The midi file is not simply read and reproduced like a .wav or an .au file. The midi file sort of "plays" the sound card. It tells the sound card what note to produce and for what duration. Put enough of these notes together and it sounds like music. Most of the midi music that we hear sounds like a bad little Casio keyboard. Probably because that's the level at which our sound card can reproduce the sounds. Higher level sound cards can reproduce the MIDI just as clear as any instrument could. It's really amazing when you hear it.

Format for an Embed:

<EMBED SRC="peanuts.mid" AUTOSTART=FALSE LOOP=FALSE WIDTH=145 HEIGHT=55 ALIGN="CENTER">
</EMBED>

Important Points:

- **Embed** tells the browser an embed sound is here -- go get the plug-in. Remember, embed commands are associated with plug-ins.
- **Note:** If no plug-in is available, the browser will do one of three things:
  1) Do nothing. This is true of very early level browsers or browsers other than Netscape.
  2) Put up a dialogue box asking you how you want to handle the file.
  3) Tell you a plug-in is needed and ask you if you'd like to go get it.
- **Height/Width** deals with the plug-ins control panel size on the page. The control panel at the top of the page was giving a size of 145 pixels wide by 55 pixels high.

  If we do not want a panel, add the command HIDDEN="yes" or set the height and width to zero.
- **Src** stands for "source." It tells the browser where to go to get the audio file.
- **Autostart** deals with whether we want the sound to play by itself or by the viewer starting the file after the plug-in box pops up. Its value can be either TRUE or FALSE.

  True starts the file straight away. It will play the sound when the page loads.

  False prompts the viewer. It will wait for the user to click on the play button.

  Note: we used "false" above. "True" would have started the file straightaway upon load.
- **Loop** works the same way. The default value is FALSE which plays the file only once. Setting this to TRUE will play the sound continuously. "True" loops the sound so it plays forever. Make the loop "false" if you only want it played once.

2.4 Embedding Video in Web Pages

Different Ways to Embed Video into a Web Page

Since digital camcorders and video editing software became accessible to the large audience, it's no longer a challenge for anybody to make a video. This fact underlies a lot of web trends, namely the sky-rocketing popularity of video sharing portals and widespread use of video content across websites and blogs. A good piece of video can help us to deliver our message more effectively, educate readers, stimulate discussion and get our brand going far beyond our own domain. Happily, it's not a problem nowadays to integrate a video into a web page, as there's a lot of different tools to assist with this task. Some of them are free, others are pricey. Here is a roundup of the most popular means of **web video embedment.**

- **Youtube Embed Code**

  If anyone run a branded channel on YouTube, there's a good opportunity to use YouTube embedding facilities.

  There are some obvious marketing benefits of this method:

  Once submitted, our video gets involved into the full cycle of YouTube life with its views, search queries, comments, ratings, playlists, etc. Thus, it increases the chances of our video content attracting visitors to our resource.

  The embedment procedure is fast and easy:

  We upload a video to our channel, go to the player, acquire the embed code and paste it into our web page. YouTube also provides additional options to customize the player like play in HD, switch to HTTPS, suggest other videos, etc.

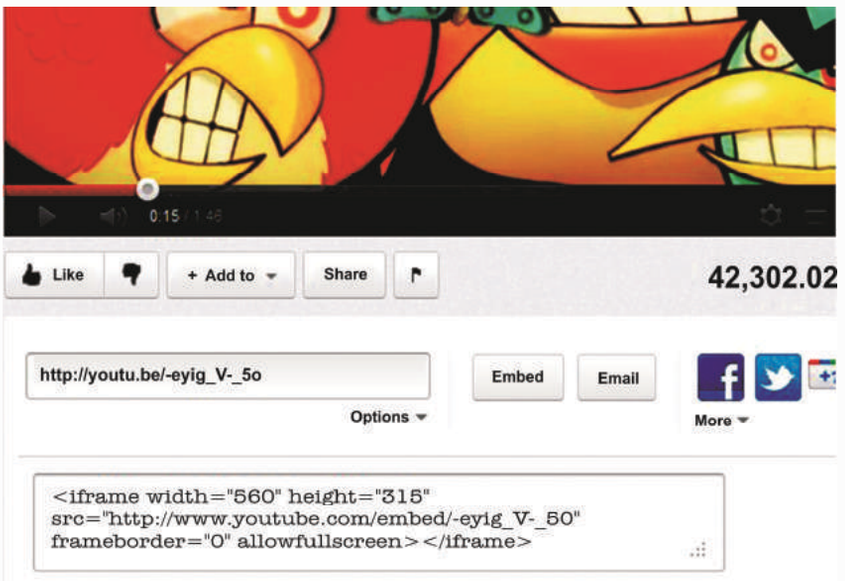

Figure-2.1

- **Vimeo Embed Code**

Vimeo is YouTube's main rival, especially in the area of video embedment options. Vimeo videos are also viewed by thousands of web users and can be easily integrated into other websites or blogs. Vimeo player is very handsome and streamlined. The blue “Embed” button in the upper right of the video leads to a dialog box with the embedding options. Basic account holders are allowed to customize player size, text colors and add other elements, while Vimeo Plus members enjoy the complete control over the player, including options to choose what happens next and where the video can appear.

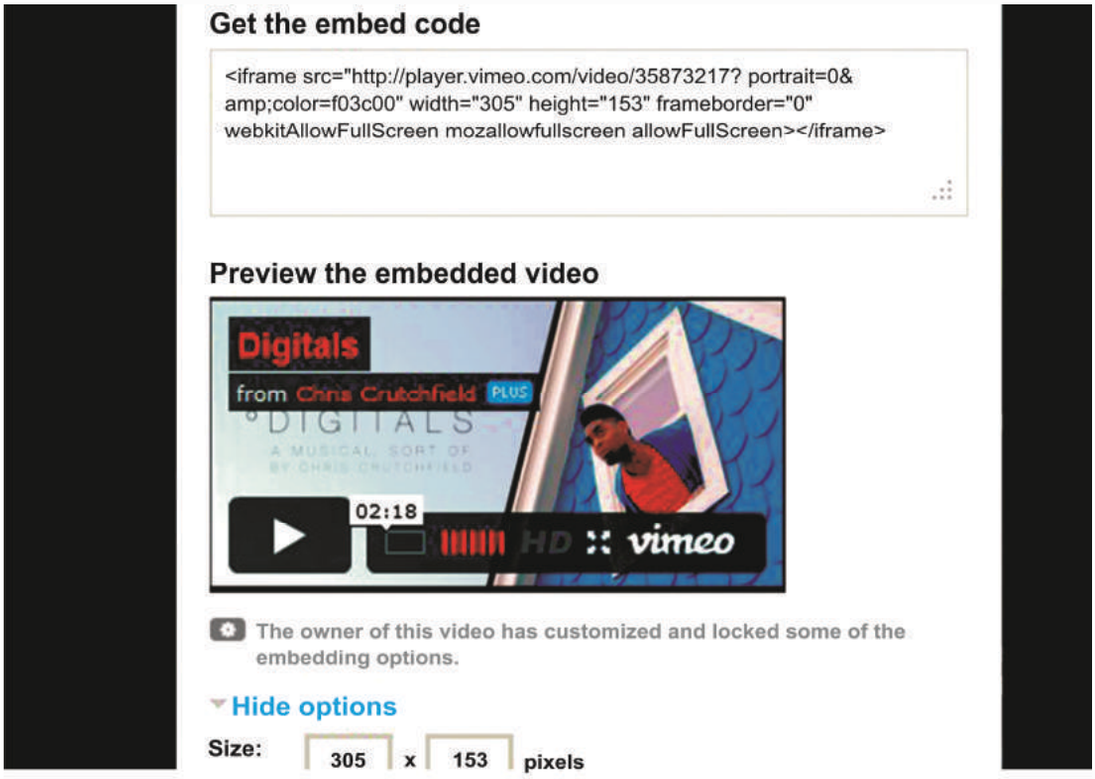

Figure-2.2

- **Facebook Video Integration**

Facebook doesn't officially provide any video embedding options, still if a video is available only on Facebook, there is a workaround. Each video on Facebook has an id which shows in the URL, e.g.

http://www.facebook.com/video/video.php?v=2894326448598. Copy the last digits and paste them into the following code instead of xxx in the video link:

<objectwidth="400"height="224">

<paramname="allowfullscreen"value="true"/>

<paramname="allowscriptaccess"value="always"/>

<paramname="movie"value="http://www.facebook.com/v/xxx"/>

<embedsrc="http://www.facebook.com/v/xxx"type="application/x-shockwave-flash"

allowscriptaccess="always"allowfullscreen="true"width="400"height="224">

</embed>

</object>

Then we can put that code on any web pages and the Facebook video will play just like any other Flash video. We can optionally change the player size, add more parameters like autoplay or loop.

- **Html5 Video**

HTML5 is one of the most straightforward new techniques of video embedment. The new <video> tag in HTML5 markup allows web developers to add videos into a web page without any special plugins. To make the most of HTML5 video, we have to prepare the video in three variants – H.264, Theora OGG and WebM, since different web browser support this or that video codec for the new HTML5 standard. The sample code for HTML5 video looks like this:

<videowidth="320"height="240"controls autoplay poster="video.jpg">

<sourcesrc="movie.mp4"type="video/mp4"/>

<sourcesrc="movie.ogg"type="video/ogg"/>

Your browser does not support the video tag.

</video>

This method has one obvious disadvantage – HTML5 video isn't supported by old versions of Internet Explorer (5, 6, 7, 8) which are still used by the majority of web users. So the old-style Flash embedding code inside the HTML5 video element is often provided as fallback.

- **Freemake Video Converter**

If we don't want to outsource video hosting to third-party websites, it's possible to make a video web-ready with the help of Free Video Converter from Freemake.com. This video converter outputs to Flash FLV and SWF formats. The main advantage of this tool is that it provides ready HTML code and step-by-step instructions on how to embed it. Alternatively, we can convert the videos to HTML5 supported format, the converter will prepare all three video variants in a batch and show how to integrate them into HTML5 markup. The software is for Windows only.

Figure-2.3

- **Oembed**

OEmbed is an open standard for embedding videos and images into a website. We can use the video URL available on YouTube, Vimeo, Dailymotion, Flickr, Scribd, Hulu and supported resources. The simple API allows websites to display embedded content when a user posts a link to that resource, without having to parse the resource directly. So we don't have to copy and paste HTML code from a hosting website every time we wish to embed a video. The best example of OEmbed integration is Facebook's status update: when we paste a YouTube link in the status bar, it is automatically rendered in the video player. OEmbed easily integrates into WordPress via Shortcode API, the instructions are provided.

- **Quick Media Converter**

Quick Media Converter is another Windows-based converter for audio and video. It outputs to Flash, QuickTime, RealMedia, H.264, OGG, so it is possible to make a streaming video for HTML or HTML5 web integration. Video parameters are easily customizable. However, no embed code or batch mode conversions are provided.

Figure-2.4

- **Free Video Coding**

Free Video Coding is an online service which helps us to create a web video player. Once we enter the website, we get into the FreeVideoCoding wizard. We just need to answer simple questions and the app will create custom HTML video codes based on the answers. Then we can choose WMV, MOV, SWF, FLV, RM, MPEG, and even AVI for the output.

Figure-2.5

- **Video Lightbox**

Video LightBox is a wizard program for Windows and Mac that helps users easily insert video to the website or blog, in a few clicks without writing a single line of code. It is free for non-commercial use, business licenses need to purchase it. To embed a video, we need to add a video URL (from YouTube, Facebook, Google Video, Metacafe, Vimeo, MySpace) or drag and drop a desktop video file, then select the template and publish the result to our website via a built-in FTP client.

Video LightBox offers a wide range of video player templates: rounded, rectangular, in Polaroid, Mac, Facebook or even a yellow sticker style.

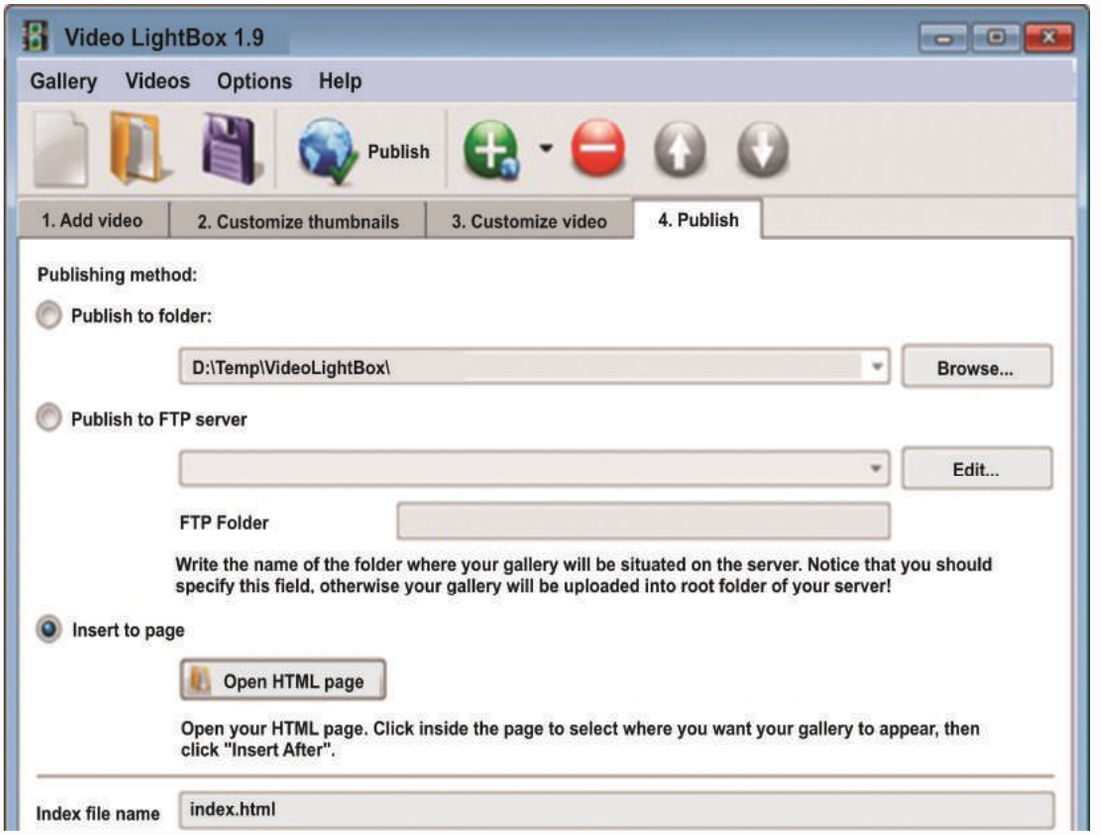

Figure-2.6

- **Easy HTML 5 Video**

Easy HTML5 Video, as the name hints, is developed to convert videos into HTML5 supported WebM, MP4, and OGG formats. It provides all formats in a batch, embed code and Flash fallback. Plus, it features additional options such as the ability to publish video from the software interface, specify controls for the HTML5 video player, select the video thumbnail, resize video and add a watermark. The program works for Windows and Mac OS, to use it for business purpose, it is required to buy a license for the same.

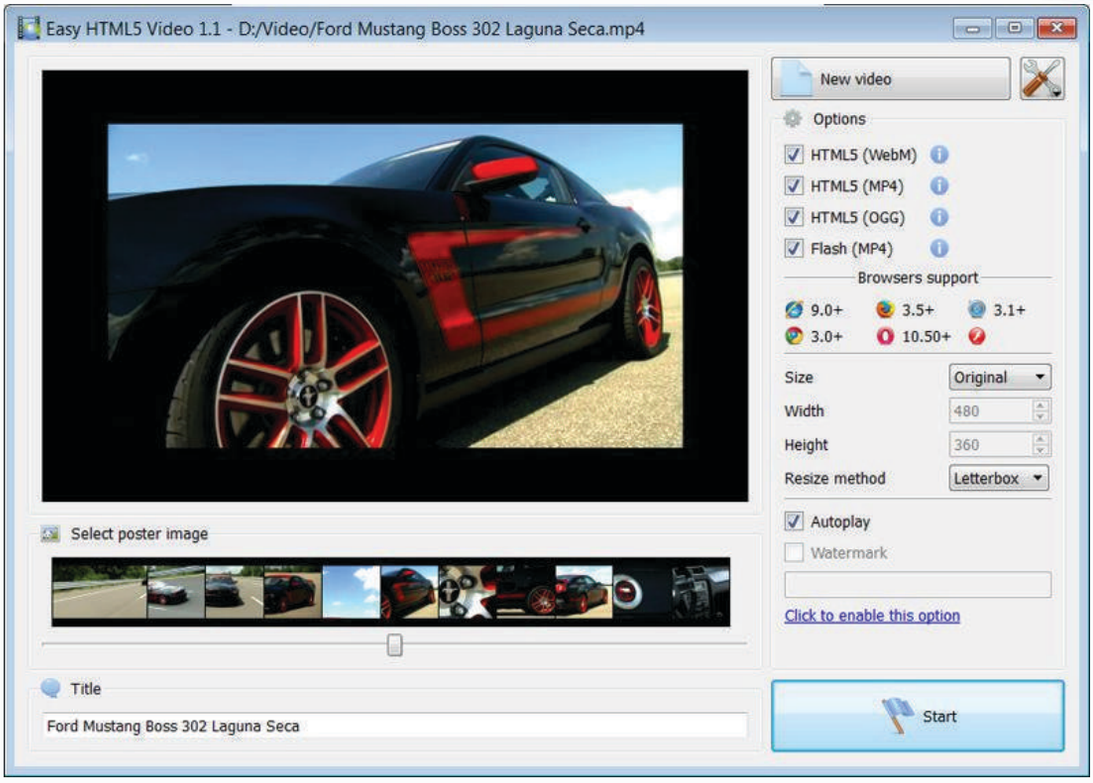

Figure-2.7

The methods listed above are well suited for both novice and savvy web developers, each of them having their own pros and cons. Thus, if you opt for a third-party video hosting, keep in mind that the existence of the videos will be fully dependent on the video channel policy. Self-hosted videos can hardly be deleted or republished outside our own resource, but we won't reap the marketing benefits of additional video broadcasting. So it's up to us to decide which method of video embedding to pursue. Still don't forget that posting videos on a regular basis will surely diversify our web content and maximize our online business presence.

2.5 Embedding Flash Files in Web Pages

There are many ways to insert your Flash project into a web page. This page will cover several different methods, including using the Adobe Dreamweaver program, or doing it manually by writing out the code.

Different ways to Embed Flash file into a Web Page

- **Inserting Flash into a Dreamweaver Page**

  Inserting Flash into Dreamweaver is a pretty straightforward process. Within Dreamweaver, pull down the **Insert** menu and select **Media**, then select **Flash**

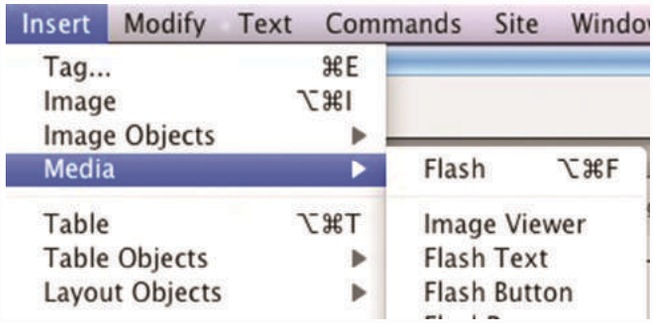

Figure-2.8

Dreamweaver will present us with an accessibility box. Use the **title** field to describe the project.

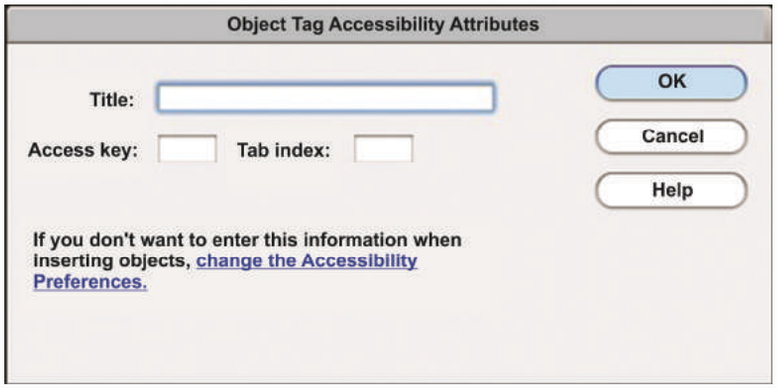

Figure-2.9

- **Inserting Flash into Web Pages Manually with Code**

There are times, particularly when using a content management system, where we will have to insert some Flash media into a web page by typing out the code manually. To insert Flash onto a web page or content management system manually, we must first upload the SWF file to a web server using a protocol called FTP or through an upload form on the content management system.

Once we have the URL to our SWF file on the web, we can use the code samples below, simply swapping out **somefilename.swf** for our own URL, and change the **width** and **height** to the dimensions of our own Flash project. The code below can appear complex, but works for all Flash content. Here is the gist of the code:

```
<object width="550" height="400">
<param name="movie" value="somefilename.swf">
<embed src="somefilename.swf" width="550" height="400">
</embed>
</object>
```

This above block of code uses two primary tags:

1. The <object> tag, and
2. The <embed> tag.

The <object> tag is the web standard for embedding content on to a web page, but the <embed> is a carryover from the days of the Netscape browser, and is not actually a valid tag in web standards. However, it is still widely used today to embed Flash content due to its wide compatibility with multiple browsers. Many popular sites like YouTube still offer embed code follows the above format.

- **Embedding Flash Media so it Validates**

A much better alternative, that is standards compliant, is to include what are called **comment tags** that are used by Internet Explorer browsers. This method is a pseudo hack, but conforms to the W3 standard and helps to achieve a standardization across the World Wide Web.

```
<!--[if !IE]> -->
<object type="application/x-shockwave-flash" data="somefilename.swf"
width="300" height="200">
<!-- <![endif]-->
<!--[if IE]>
<object classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab
#version=6,0,0,0"
width="300" height="200">
<param name="movie" value="somefilename.swf" />
<!-->
</object>
<!-- <![endif]-->
```

Note that in each of these examples, there are two locations we must swap out with the URL to our flash file. Also, we should remember to set the correct width and height (there are two locations in each of the examples above). We can also create our own web standards embed code using the Validifier Online Tool.

A third method for embedding Flash content is to use some JavaScript programming code to embed Flash content. This is generally seen as the best method, as it circumvents lots of issues and bugs with embedding Flash across multiple browsers; such as the notorious click-to-activate security features in some Internet Explorer browsers that forces the user to click on the Flash content to activate it before they can interact with it. Often, this method is not possible to do within a content

management system by a user, unless the feature is built into the CMS. The code to do this is beyond the scope of this tutorial, but the more popular tools to do this is called SwfObject.

Steps for Embedding Flash Files (SWF files) is Shown below:

Step 1: Upload the SWF file(s) to an external Web host.

We need find a Web host (e.g. FTP server) and upload our SWF on it. Generally, an account and password are required.

Step 2: Once we have successfully uploaded the SWF files to an external Website, add the following code to any of the sections in the Web page, Blog, MySpace or even a post:

```
&lt;script language="javascript">
document.write('&lt;objectclassid="clsid:D27CDB6E-AE6D-11cf-96B8-
444553540000"
codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab
#version=9.0.0.0" width=" 720" height="540" ID="swf" VIEWASTEXT>');
document.write(' &lt;param name="movie"
value=http://www.wondershare.com/pro/flash-gallery-factory-deluxe.html />');
document.write(' &lt;param name="quality" value="high" />');
document.write(' &lt;param name="wmode" value="window" />');
document.write(' &lt;param name="allowScriptAccess" value="always" />');
document.write(' &lt;param name="allowFullScreen" value="True" />');
document.write(' &lt;embedsrc=http://www.flash-slide-show.com/demo.swf
quality="high" name="sf" allowScriptAccess="always" allowFullScreen="true"
pluginspage="http://www.macromedia.com/go/getflashplayer" type="application/x-
shockwave-flash"
width="720" height="540">&lt;/embed>');
document.write('&lt;/object>');
&lt;/script>
```

Step 3: Replace the SWF file link http://www.wondershare.com/pro/flash-gallery-factory-deluxe.html with your own path and file name. Save the changes.

Assessment:

Answer the following questions:

Q1. Write tags used in to add audio file in web page?

Q2. Write tags used in to add video file in web page?

Q3. Write tags used in to add flash file in web page?

Q4. What is CSS and what are the current version available of it?