HTML, XHTML, and XML

3rd Edition

Tutorial 7

Working with Multimedia

Thanks to the author of the textbook for providing these slides. I made slight changes/additions.
Turgay Korkmaz

Objectives

- Explore various multimedia applications on the Web

- Learn about sound file formats and properties

- Embed a sound clip

- Work with object parameters

- Work with ActiveX objects

- Insert IE conditional comments

Objectives

- Learn about video file formats and properties
- Embed a video clip
- Work with the embed element
- Nest embedded objects
- Explore the history of Java
- Embed a Java applet
- Work with applet parameters

A Web site for lovers of classic films

Jumbo Popcorn

| Home | Movies | Actors | Directors | Genres | My Picks | Links |

Royal Wedding (1951) ★★★

insert audio clip of the film overture

Overview
Title Page
User Comments
Reviews
Quotes
Trivia
Awards

Showings
Trailers
TV Schedule
DVD Details
Technical Specs
Soundtrack

Featuring
Fred Astaire
Jane Powell
Peter Lawford
Keenan Wynn
Alan Jay Lerner

You Might Also Enjoy
Finian's Rainbow
Seven Brides for 7 Brothers
Top Hat
Swing Time
Three Little Words
Roberta
Shall We Dance?
The Gay Divorcee
Easter Parade
Funny Face
Daddy Long Legs

Cast

scrolling marquee

Royal Wedding
Produced by: Arthur Freed
Directed by: Stanley Donen
Written by: Alan Jay Lerner

Synopsis

Tom Bowen (Fred Astaire) and Ellen Bowen (Jane Powell) are a brother and sister dance team from New York. Their agent (Keenan Wynn) books them in London for performances during the time of the royal wedding. Aboard a cruise ship to London, Ellen becomes involved with aristocrat and playboy, Lord John Brindale (Peter Lawford). In London, Tom meets and falls in love Anne Ashmond (Sarah Churchill), a dancer in his show. Despite a few minor complications, it all ends happily as the two couples find love and marriage on the day of the royal wedding.

Royal Wedding is famous for several dance sequences, including a classic number in which Astaire appears to dance on the ceiling and walls of his hotel room. Jane Powell proves to be an elegant and athletic partner for Astaire; though perhaps his best duet of the movie takes place

Listen Up

The music for *Royal Wedding* was composed by Burton Lane, who is best known for his work in *Finian's Rainbow* (1947) and his Grammy Award-winning *On a Clear Day You Can See Forever* (1965). Lane's greatest musical accomplishment may very well be his discovery of an 11-year-old singing phenom named Frances Gumm, whom the world now knows better as Judy Garland.

In Focus

The high point of *Royal Wedding* is the "Ceiling Dance" in which Fred Astaire appears to literally dance on the ceiling and walls of his hotel room. The effect was accomplished by putting the whole set inside of a 20-foot diameter rotating cage. As the cage turned, Astaire would seamlessly dance across the four sides of the box, creating the illusion of weightlessness. The same technique would later be used to simulate a zero gravity environment in *2001: A Space Odyssey*.
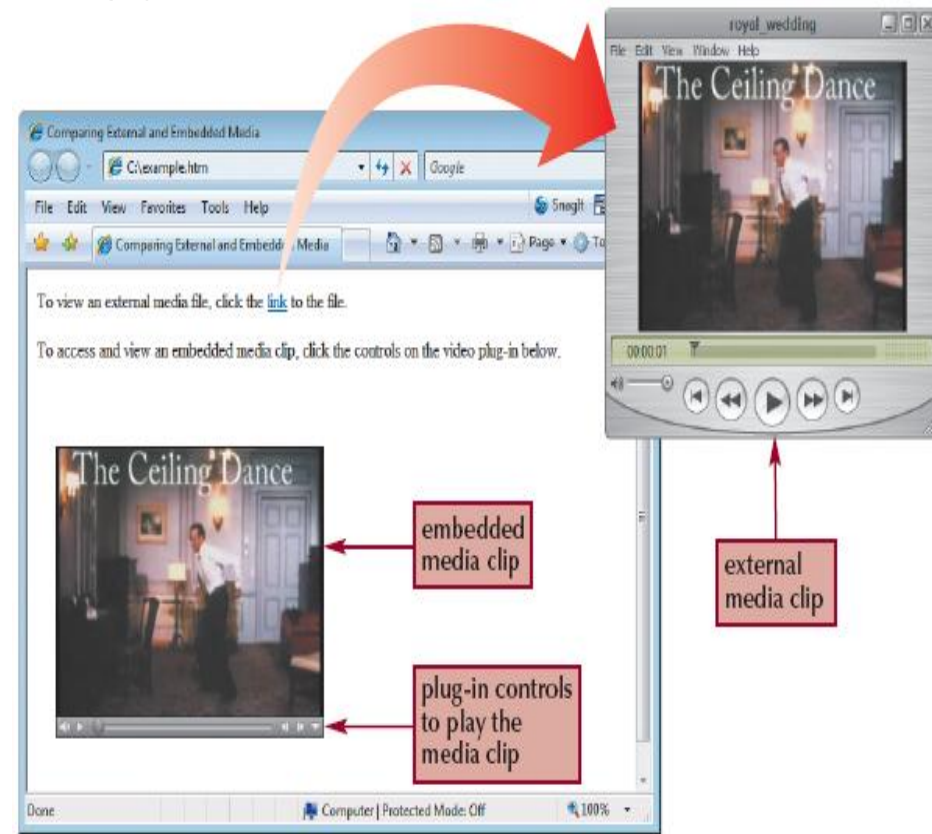
4

Introducing Multimedia

- When creating web pages with multimedia (e.g., picture, video, sound), you need to consider the issue of bandwidth (data rate, capacity)
- **Bandwidth** is a measure of the amount of data that can be sent through a communication pipeline each second.
  - Web servers and upload bandwidth
  - Client computers and download bandwidth
  - *Do you know your DSL or cable modem bandwidth?*
- **Limit the multimedia content on a Web site**
- Reduce the size/quality of multimedia objects

Introducing Multimedia

❑ Multimedia can be added to a Web page in two different ways:

- **External media**: media file accessed through a link
  - Useful for a low bandwidth
- **Embedded media**: placed within a Web page as an embedded object
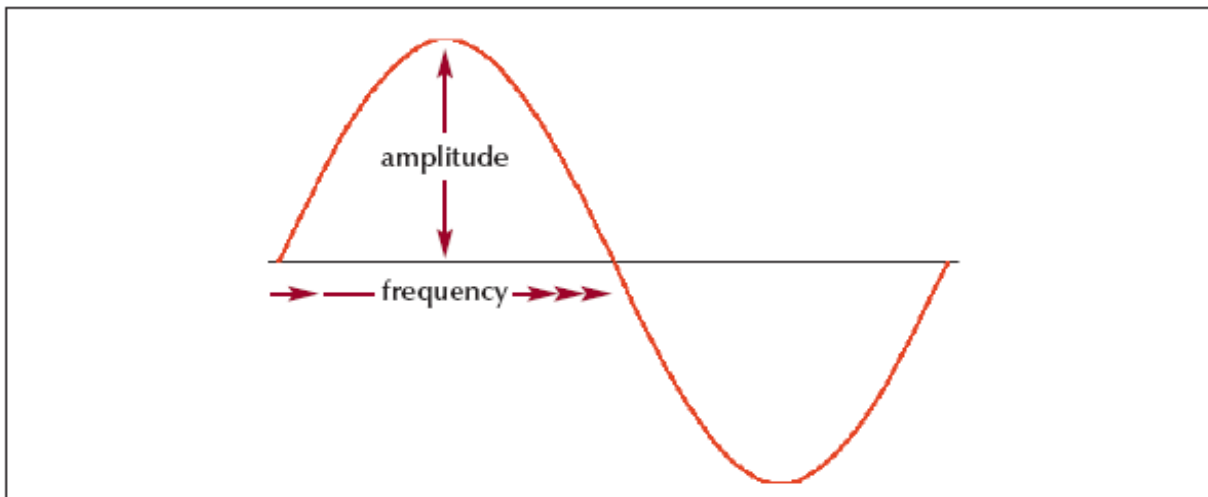- To play media, browser may need plug-in or add-on

EXPLORING DIGITAL AUDIO
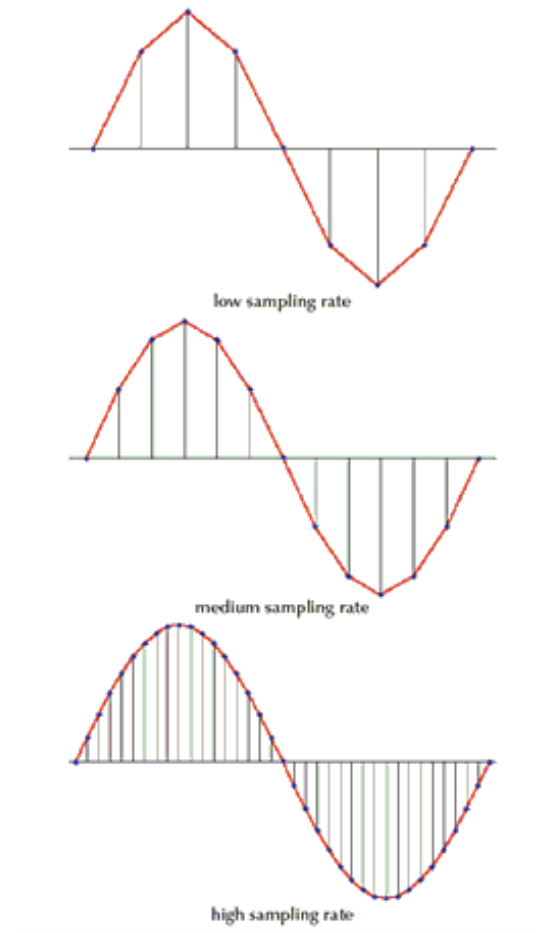
Exploring Digital Audio

- Every sound wave is composed of two components:
  - **Amplitude**- the height of the wave
    - Relates to sound's volume
  - **Frequency**- the speed at which the sound wave moves
    - Relates to sound's pitch
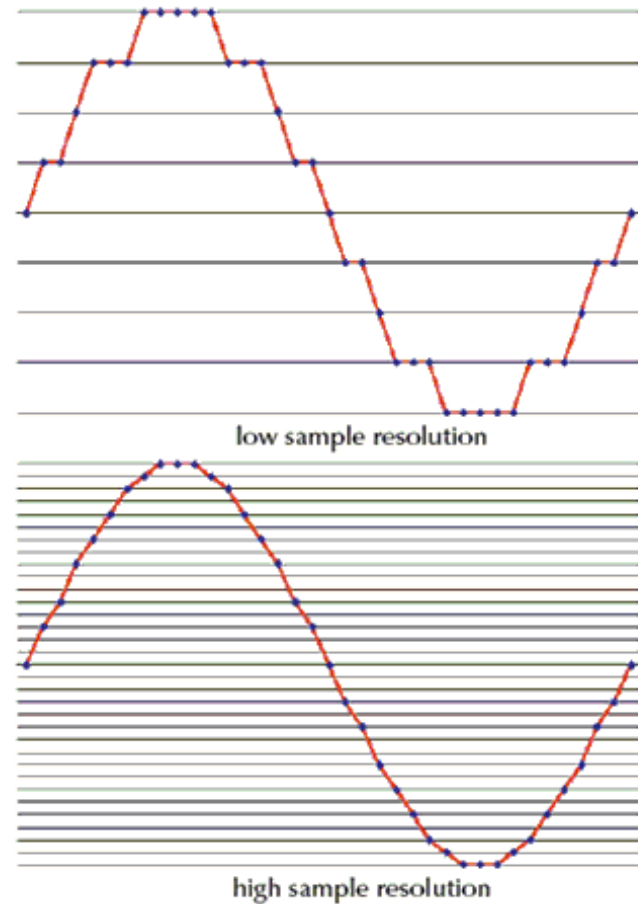

8

Digital Audio: Sampling

- You hear sounds as a continuously varying signal

- Must be converted to digital format to store as a computer file

- **Digital** recording measures the sound's amplitude at discrete moments in time

  - Each measurement is called a **sample**

    - Samples per second taken is called the **sampling rate**

low sampling rate

medium sampling rate

high sampling rate

Digital Audio: Resolution

- **Sampling resolution** (also called quantization or **bit depth**) indicates the precision in measuring the sound within each sample.

  - 8-bit
  - 16-bit
  - 32-bit

low sample resolution

high sample resolution

Digital Audio File Formats

- There are different sound file formats used for different operating systems.
- Different file formats provide varying levels of **sound quality** and **file compression**.

Format	Description
AIFF/AIFC	Audio Interchange File Format. AIFF was developed by Apple for use on the Macintosh operating system. AIFF sound files can be either 8 bit or 16 bit, can be mono or stereo, and can be recorded at several different sampling rates.
AU	Also called mlaw (mu-law) format. One of the oldest sound formats, it is primarily used on UNIX workstations. AU sound files have 8-bit sample resolutions, use a sampling rate of 8 kHz, and are recorded in mono.
MIDI	Musical Instrument Digital Interface. MIDI files cannot be used for general sound recording, like other sound formats, but are limited to synthesizers and music files. The MIDI format represents sound by recording each note's pitch, length, and volume. MIDI files tend to be much smaller in size than other sound formats.
MP3	The most popular format for downloading and storing music, MP3 compresses sound files to roughly one-tenth the size of uncompressed files while maintaining good audio quality.
RealAudio	A popular sound format on the Web, RealAudio files are designed for real-time playing over low- to high-bandwidth connections. RealAudio files tend to be much smaller than AU or WAV files, but the sound quality is usually not as good.
SND	The SND format is used primarily on the Macintosh operating system for creating system sounds. This format is not widely supported on the Web.
WAV	WAV is the standard audio format for Windows PCs and is commonly used for storing uncompressed CD-quality sound files. In its uncompressed format, a WAV file will require about 10 megabytes per minute of sound; however, compression algorithms are available to reduce the file size.
WMA	Windows Media Audio is a proprietary audio format developed by Microsoft to compete with MP3s, offering near or better levels of compression than MP3s.

11

Working with
Embedded Objects

- An **embedded object** is any media clip, file, program, or other object that can be run or viewed from within a Web page.

```
<object attributes>
    … parameters …
</object>
```

```
<object
    data="name.mp3"
    type="MIME type">
…
</object>
```

- Browsers need the appropriate **plug-ins** or add-on to run embedded objects

Note: there was an <embed> element. Browsers still support it.
But it is not part of W3C, so don't use it b/c XHTML will reject it…

Working with Embedded Objects

- The Multipurpose Internet Mail Extensions (MIME) **types** identify the type of data contained in the file

Format	File Extension	MIME Type
AIFC	aifc	audio/x-aiff
AIFF	aif	audio/x-aiff
AIFF	aiff	audio/x-aiff
AU	au	audio/basic
MIDI	mid	audio/mid
MIDI	rmi	audio/mid
MP3	mp3	audio/mpeg
MP3	mp3	audio/x-mpeg
RealAudio	ra	audio/x-pn-realaudio
RealAudio	ram	audio/x-pn-realaudio
SND	snd	audio/basic
WAV	wav	audio/wav
WAV	wav	audio/x-wav

Working with Embedded Objects

```
<div class="boxContent">
    <h2>Listen Up</h2>

    <p style="text-align: center">

        <object data="overture.mp3" type="audio/mpeg">
        </object>

    </p>

    <p>The music for <i>Royal Wedding</i> was composed by Burton Lane,
        who is best known for his work in <i>Finian's Rainbow </i>(1947)
        and his Grammy Award-winning <i>On a Clear Day You Can See
        Forever </i>(1965). Lane's greatest musical accomplishment may
        very well be his discovery of an 11-year-old singing phenom named
        Frances Gumm, whom the world now knows better as Judy Garland.</p>
</div>
```

MIME type of an MP3 sound file

MP3 sound file

The above code just tells the browser the source and the type of the object, but it does not define how to render or play the sound clip. We can do this using **parameters**…

Working with Embedded Objects

Parameters define the
- **appearance** and
- **behavior** of embedded objects

- Use the **width** and **height** attributes to determine the appearance of a media player

```
<object data="overture.mp3" type="audio/mpeg"
width="280" height="25">

</object>
```

Plug-in	Width	Description	Image
QuickTime Player	17px	Displays only the play button	
	33px	Adds the popup menu button	
	49px	Adds a volume control	
	74px	Adds a progress bar	
	106px	Adds fast-forward and reverse buttons	
	150px	Extends the length of the progress bar	
Windows Media Player	42px	Displays only the play button	
	66px	Adds the stop button	
	164px	Adds fast-forward and reverse buttons	
	279px	Adds a volume control	

Listen Up

The music for *Royal Wedding* was composed by Burton Lane, who is best known for his work in *Finian's Rainbow* (1947) and his Grammy Award-winning *On a Clear Day You Can See Forever* (1965). Lane's greatest musical accomplishment may very well be his discovery of an 11-year-old singing phenom named Frances Gumm, whom the world now knows better as Judy Garland.

sound clip with Windows Media Player

Listen Up

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sound clip with QuickTime Player

Working with Embedded Objects

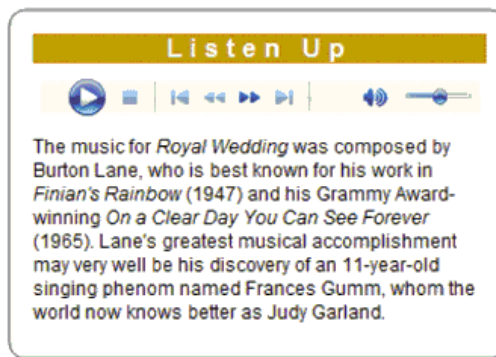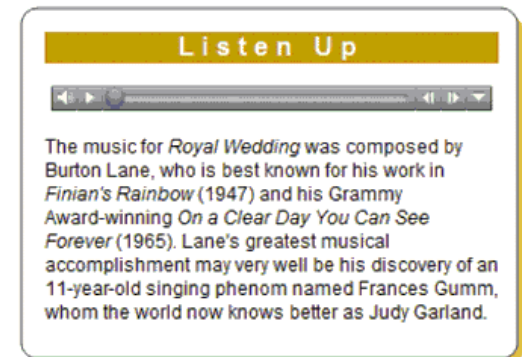**Parameters** define the

- **appearance** and
- **behavior** of embedded objects

```
<object data="overture.mp3" type="audio/mpeg"
width="280" height="25">
    <param name="src" value="overture.mp3" />
    <param name="autoplay" value="false" />
    <param name="autostart" value="false" />
    <param name="controller" value="true" />
    <param name="showcontrols" value="true" />
</object>
```

Plug-in	Parameter	Description	Value(s)
QuickTime Player	autoplay	Starts playing the clip automatically when the page loads	true | false
	bgcolor	Sets the background color for the space allotted to the object	#rrggbb | color name
	controller	Specifies whether or not to show the object controls	true | false
	endtime	Specifies the time in the clip at which playback ends	hh:mm:ss
	href	Specifies a page to load when the user clicks on the object	url
	loop	Plays the clip in a continuous loop, forward, backward, or both (palindrome)	true | false | palindrome
	src	The source of the clip	url
	starttime	Specifies the time in the clip at which playback begins	hh:mm:ss
	volume	Sets the initial audio volume	0 - 255
Windows Media Player	autostart	Starts playing the clip automatically when the page loads	true | false
	filename	The source of the clip	url
	mute	Specifies whether or not the clip should be initially muted	true | false
	selectionstart	Specifies the time in the clip at which playback begins	seconds
	selectionstop	Specifies the time in the clip at which playback ends	seconds
	playcount	Specifies the number of times the clip will play	integer
	showcontrols	Specifies whether or not to show the object controls	true | false
	volume	Sets the initial audio volume	-10,000 - 0

Working with ActiveX Components

- **ActiveX** is a technology that allows components (mini programs) to run from within a variety of Windows programs (e.g., IE or MS word)

- ActiveX objects are referred to as ActiveX controls

- There are 1000s of ActiveX controls identified by a **class id**

ActiveX Control	Class ID
Flash Shockwave Player	D27CDB6E-AE6D-11cf-96B8-444553540000
QuickTime Player	02BF25D5-8C17-4B23-BC80-D3488ABDDC6B
RealAudio Player	CFCDAA03-8BE4-11cf-B84B-0020AFBBCCFA
Windows Media Player	6BF52A52-394A-11d3-B153-00C04F79FAA6
Java applet	8AD9C840-044E-11D1-B3E9-00805F499D93

- Only designed for Windows *(other OS users cannot use it)*

Working with ActiveX Components

- Each ActiveX control is identified by a **class id**

  `classid="clsid:id"`

- **cab** or **cabinet files** automatically install the necessary software on the user's computer

  `codebase="url"`

```
<object data="overture.mp3" type="audio/mpeg"
 classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
 codebase="http://www.apple.com/qtactivex/qtplugin.cab"
 width="280" height="25">
    <param name="src" value="overture.mp3" />
    <param name="autoplay" value="false" />
    <param name="autostart" value="false" />
    <param name="controller" value="true" />
    <param name="showcontrols" value="true" />
</object>
```

Now we can use QuickTime Player in IE, but other browser will ignore the whole object because they do not know ActiveX, classid or codebase..

IE Conditional Comments

Internet Explorer will run the code for the ActiveX QuickTime component

```
<!--[if IE]><!-->
    <object data="overture.mp3" type="audio/mpeg"
     classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
     codebase="http://www.apple.com/qtactivex/qtplugin.cab"
     width="280" height="25">
<!--<![endif]-->

<!--[if !IE]><!-->
    <object data="overture.mp3" type="audio/mpeg"
     width="280" height="25">
<!--<![endif]-->

    <param name="src" value="overture.mp3" />
    <param name="autoplay" value="false" />
    <param name="autostart" value="false" />
    <param name="controller" value="true" />
    <param name="showcontrols" value="true" />
</object>
```

Non-IE browsers will run the standard code for the embedded MP3 sound clip

Textbook Pg 429

```
<!--[if IE]><!-->
    <object data="overture.mp3" type="audio/mpeg"
     classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
     codebase="http://www.apple.com/qtactivex/qtplugin.cab"
     width="280" height="25">
<!--<![endif]-->

<!--[if !IE]><!-->
    <object data="overture.mp3" type="audio/mpeg"
     width="280" height="25">
<!--<![endif]-->

    <param name="src" value="overture.mp3" />
    <param name="autoplay" value="false" />
    <param name="autostart" value="false" />
    <param name="controller" value="true" />
    <param name="showcontrols" value="true" />
</object>
```

Creating Background Sound

- The parameters for Windows Media Player to create a hidden clip that starts automatically are:

```
<param name="autostart" value="true" />
<param name="showcontrols" value="false" />
```

- For QuickTime Player

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

<param name="hidden" value="true" />
```

- You can also use the bgsound element

```
<bgsound src="url" balance="value" loop="value" volume="value" />
```

Session 7.2

EXPLORING DIGITAL VIDEO

Exploring Digital Video

- Digital video adds a visual element to a Web page as well as provides information

- Video files are composed of a series of single images called **frames**

- The number of frames shown in a period of time is the **frame rate**

- Reducing the frame rate reduces the size of your file
  - This is one way to control file size of video files

- **Data rate** is the amount of data that has to be processed by the video player each second to play the video clip

- **CoDec (Co**mpression **Dec**ompression)

Video File Formats and Players

Format	Filename Extension	MIME Type	Description
AVI	.avi	video/x-msvideo	Audio/Video Interleaved. AVI is a common video file format developed by Microsoft for use with Windows. It is not always possible to play AVI files on non-Windows computers unless special software has been installed on the computer.
Flash Video	.flv	video/x-flv	FLV is a proprietary file format developed by Adobe to deliver video over the Internet using the popular Adobe Flash Player. It is the preferred file format for online video sites such as YouTube and Google Video.
MPEG	.mpg, .mpeg, .mp3	video/mpeg	Moving Pictures Group. The MPEG format allows for high compression of the video file, resulting in a smaller file size. MPEG files have good support across various browsers and operating systems but tend to be much larger than flash videos.
QuickTime	.mov	video/quicktime	QuickTime is a video format developed by Apple Computer for Windows and Apple computers. Like MPEG, QuickTime employs a compression algorithm that can result in smaller file sizes. QuickTime files require QuickTime Player, available for either Windows or the Macintosh.
RealVideo	.rm, .rv	application/vnd.rn-realmedia	RealVideo is a video format developed by RealNetworks for transmitting live video over the Internet at both low and high bandwidths. It uses a variety of data compression techniques and requires the installation of the RealPlayer media player.
Shockwave Flash	.swf	application/x-shockwave-flash	SWF is a proprietary file format developed by Adobe to deliver multimedia and vector graphics on the Web. An SWF file can contain animations, video, audio, interactive scripts, and control buttons. SWF files can be played using Adobe Flash Player either as a browser plug-in or a stand-alone player.
Windows Media	.wmv	video/x-ms-wmv	Developed by Microsoft, WMV is a popular video format for creating streaming video on the Web. The WMV format offers good compression and video quality, but is primarily designed for Windows users.

Video	Adobe Flash Player	Windows Media Player	QuickTime Player	RealPlayer
.asf		yes		
.avi		yes		
.mov	yes		yes	
.mp4	yes		yes	yes
.mpg		yes	yes	yes
.rm				yes
.swf	yes			
.wmv		yes		

XML, 23

Working with Flash

- A **Shockwave Flash** or **swf** file contains the video, audio, animations, interactive scripts, program controls, and other features that provide real-time interactive animation

```
<object type="application/x-shockwave-flash"
        data="file.swf" width="value" height="value">
   <param name="movie" value="file.swf" />
   parameters
</object>
```

- IE inserts the Flush Player as an ActiveX

```
<!--[if IE]><!-->
   <object data="rwdance.swf" type="application/x-shockwave-flash"
    classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
    codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=9,0,115,0"
    width="280" height="239">
<!--<![endif]-->

<!--[if !IE]><!-->
   <object data="rwdance.swf" type="application/x-shockwave-flash"
    width="280" height="239">
<!--<![endif]-->

      <param name="movie" value="rwdance.swf" />
   </object>
```

Flash Player parameters and values

Parameter	Description	Value(s)
bgcolor	Sets the background color of the Flash player	#rrggbb	color name
flashvar	Contains text values that are passed to the Flash player as variables to control the behavior and content of the movie	text
id	Identifies the embedded Flash movie so that it can be referenced	text
loop	Plays the movie in a continuous loop	true	false
menu	Displays the full Flash pop-up when the user right-clicks the movie	true	false
name	Names the embedded Flash movie so that it can be referenced	text
play	Starts playing the movie automatically when the page loads	true	false
quality	Sets the playback quality of the movie; low values favor playback speed over quality; high values favor display quality over playback speed	low	autolow	autohigh	medium	high	best
scale	Defines how the movie clip is scaled within the defined space; a value of showall makes the entire clip visible in the specified area without distortion; a value of noborder scales the movie to fill the specified area, without distor-	showall	noborder	exactfit

transparent colors in the movie

```
<!--[if !IE]><!-->
    <object data="rwdance.swf" type="application/x-shockwave-flash"
     width="280" height="239">
<!--<![endif]-->

        <param name="movie" value="rwdance.swf" />
        <param name="quality" value="high" />
        <param name="menu" value="false" />
    </object>
```

Textbook
Pg 439

Working with QuickTime Video

```
<p style="text-align: center">

<!--[if IE]><!-->
    <object data="rwdance.mov" type="video/quicktime"
    classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
    codebase="http://www.apple.com/qtactivex/qtplugin.cab"
    width="280" height="239">
<!--<![endif]-->

<!--[if !IE]><!-->
    <object data="rwdance.mov" type="video/quicktime"
    width="280" height="239">
<!--<![endif]-->

        <param name="src" value="rwdance.mov" />
        <param name="autoplay" value="false" />
        <param name="controller" value="true" />
    </object>

</p>
```

In Focus

The high point of *Royal Wedding* is the "Ceiling Dance" in which Fred Astaire appears to literally dance on the ceiling and walls of his hotel room. The effect was accomplished by putting the whole set inside of a 20-foot diameter rotating cage. As the cage turned, Astaire would seamlessly dance across the four sides of the box, creating the illusion of weightlessness. The same technique would later be used to simulate a zero gravity environment in *2001: A Space Odyssey*.
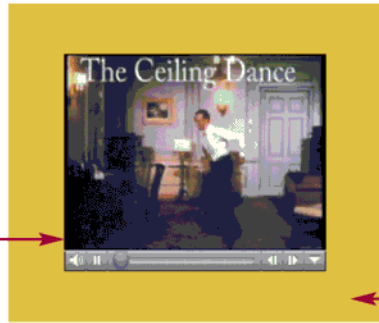
Parameters of the QuickTime Player

Parameter	Description	Value(s)
autohref	Automatically loads the Web page specified in *url*	*url*
goto	Plays a movie from the numbered list specified	*integer*
href		
kioskmode		
movieid		
moviename		
playeveryframe		
qtnext		
qtsrc	Loads a file or stream different from the one specified in the src parameter	*url*
qtsrcchokedspeed	Limits the outgoing bandwidth from to a specified data rate	
saveembedtags	Preserves the current parameter v loading a new movie	
scale	Defines how the movie should be r the defined space; use tofit to char ie's dimension to fit the space, asp movie to the space while retaining ratio, and *n* to scale the movie by a	
showlogo	Shows the QuickTime logo until th ready to play	
target	Places the movie within the QuickT within a named frame, or replaces movie with the new movie	

```
<!--[if !IE]><!-->
    <object data="rwdance.mov" type="video/quicktime"
        width="280" height="239">
<!--<![endif]-->

        <param name="src" value="rwdance.mov" />
        <param name="autoplay" value="false" />
        <param name="controller" value="true" />
        <param name="scale" value="0.7" />
        <param name="bgcolor" value="#F0BC4C" />
    </object>
```

In Focus

The high point of *Royal Wedding* is the "Ceiling Dance" in which Fred Astaire appears to literally dance on the ceiling and walls of his hotel room. The effect was accomplished by putting the whole set inside of a 20-foot diameter rotating cage. As the cage turned, Astaire would seamlessly dance across the four sides of the box, creating the illusion of weightlessness. The same technique would later be used to simulate a zero gravity environment in *2001: A Space Odyssey*.

player is scaled to 70% of space assigned to the object

object background is set to a light brown

```
<p style="text-align: center">

<!--[if IE]><!-->
   <object data="rwdance.wmv" type="video/x-ms-wmv"
    classid="clsid:6BF52A52-394A-11d3-B153-00C04F79FAA6"
    codebase="http://activex.microsoft.com/activex/controls/mplayer/en/nsmp2inf.cab#Version=6,4,5,715"
    width="280" height="245" >
<!--<![endif]-->

<!--[if !IE]><!-->
   <object data="rwdance.wmv" type="video/x-ms-wmv"
    width="280" height="245" >
<!--<![endif]-->

      <param name="url" value="rwdance.wmv" />
      <param name="autostart" value="false" />
      <param name="showcontrols" value="true" />
   </object>

</p>
```
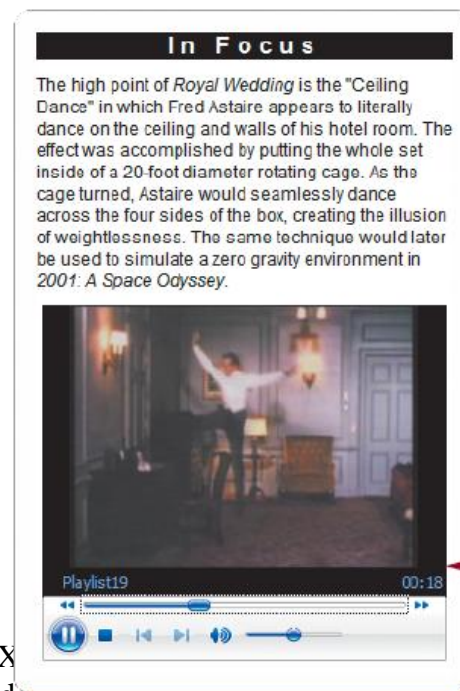
In Focus

The high point of *Royal Wedding* is the "Ceiling Dance" in which Fred Astaire appears to literally dance on the ceiling and walls of his hotel room. The effect was accomplished by putting the whole set inside of a 20-foot diameter rotating cage. As the cage turned, Astaire would seamlessly dance across the four sides of the box, creating the illusion of weightlessness. The same technique would later be used to simulate a zero gravity environment in *2001: A Space Odyssey*.

Playlist19   00:18

Windows Media Player

Video-related parameters of the Windows Media Player

Parameter	Description	Value(s)
fullscreen	Specifies whether the video content is played back in full-screen mode	true | false
rate	Specifies the playback rate, where a value of 0.5 indicates a playback at half-speed and a value of 2 plays the video back at twice normal speed	*value*
stretchtofit	Specifies whether the video automatically sizes to fit the video window	true | false
url	Specifies the name of the media file to play	*url*
windowlessvideo	Specifies whether the Windows Media player renders the video in windowless mode, in which the video is rendered directly on the page where you can apply special effects or overlay the video with text	true | false

Introducing the embed Element

- To make your pages backward compatible, you can use the embed element along with the object tag to insert multimedia content

```
<embed src="file.swf" type="application/x-shockwave-flash"
       pluginspage="http://www.macromedia.com/go/getflashplayer"
       width="value" height="value">
</embed>

<embed src="file.mov" type="video/quicktime"
       pluginspage="http://www.apple.com/quicktime/download"
       width="value" height="value">
</embed>

<embed src="file.wmv" type="video/x-ms-wmv"
       pluginspage="http://www.microsoft.com/Windows/MediaPlayer"
       width="value" height="value">
</embed>
```
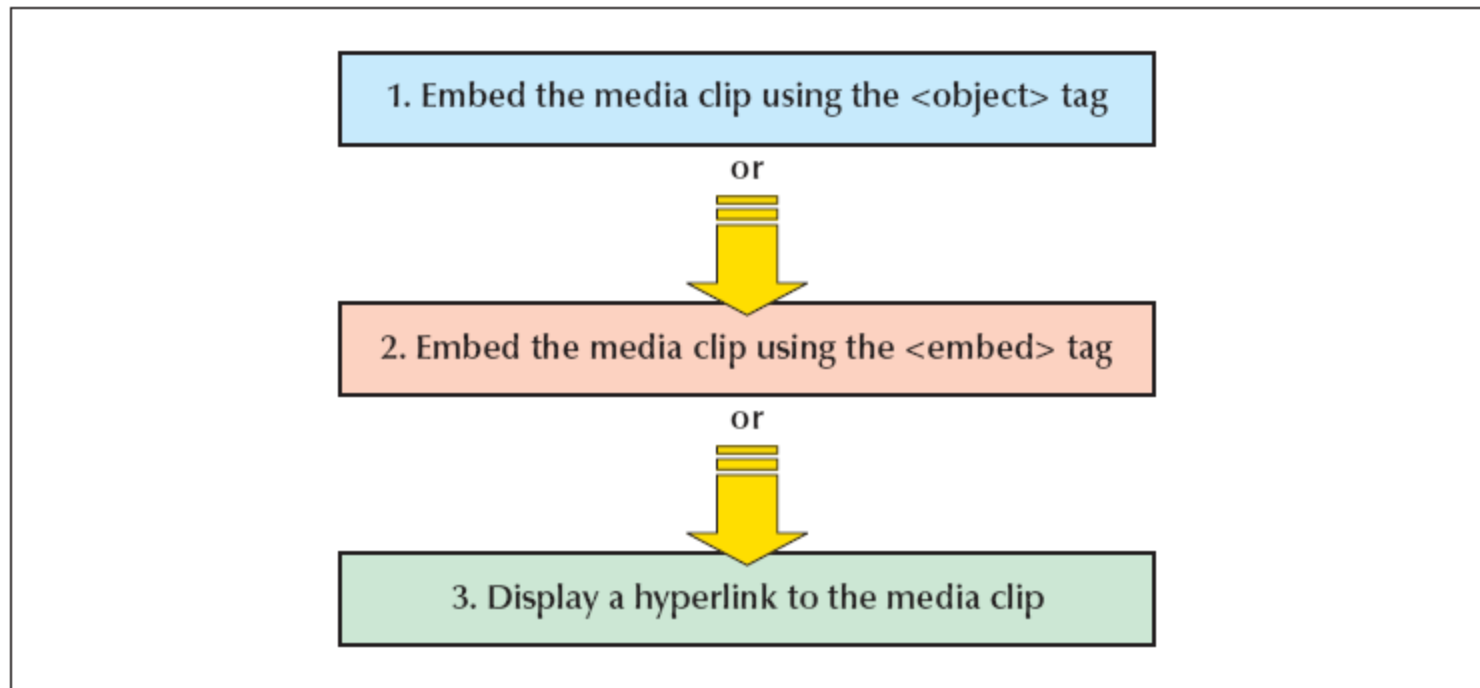
Attribute	Description	Value(s)
align	Specifies the horizontal alignment of the embedded element	absbottom | absmiddle | baseline | bottom | left | middle | right | texttop | top
alt	Specifies alternate text to be displayed in place of the embedded element	text
classid	Provides the classid for an ActiveX object or Java applet inserted as an embedded element	text
code	The location of class file used with embedded Java applets	url
codebase	The location of a Java applet class file if it differs from the location of the Web page	url
height	The height of the embedded element in pixels	value
id	Provides the id of the embedded element	text
name	Provides the name of the embedded element	text
pluginspage	Provides the location of a document containing instructions for installing the plug-in if it is not already installed	url
pluginurl	Provides the location of an installation file for installing the plug-in specified by the embedded element	url
src	The source of the media file used by the embedded element	url
type	The MIME type of the embedded element	mime-type
width	The width of the embedded element in pixels	value

Nesting Embedded Objects

- Provide support for as many browser configurations as possible

1. Embed the media clip using the <object> tag

or

2. Embed the media clip using the <embed> tag

or

3. Display a hyperlink to the media clip

Nesting Embedded Objects

display as an ActiveX control

display using the <embed> tag

display as a hypertext link

```
<object data="video.mov" type="video/quicktime"
 classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
 codebase="http://www.apple.com/qtactivex/qtplugin.cab"
 width="320" height="260">

    <param name="src" value="video.mov" />
    <param name="autoplay" value="false" />

    <embed src="video.mov" type="video/quicktime"
     pluginspage="http://www.apple.com/quicktime/download"
     width="320" height="260" autoplay="false">

        Click to <a href="video.mov">download</a> the movie clip.

    </embed>

</object>
```

Object nesting for the overture.mp3 file

```
<!--[if IE]><!-->
  <object data="overture.mp3" type="audio/mpeg"
    classid="clsid:02BF25D5-8C17-4B23-BC80-D3488ABDDC6B"
    codebase="http://www.apple.com/qtactivex/qtplugin.cab"
    width="280" height="25">
<!--<![endif]-->

<!--[if !IE]><!-->
  <object data="overture.mp3" type="audio/mpeg"
    width="280" height="25">
<!--<![endif]-->

    <param name="src" value="overture.mp3" />
    <param name="autoplay" value="false" />
    <param name="autostart" value="false" />
    <param name="controller" value="true" />
    <param name="showcontrols" value="true" />

    <embed src="overture.mp3" type="audio/mpeg"
      width="280" height="25"
      autoplay="false" autostart="false"
      controller="true" showcontrols="true">

        Click to <a href="overture.mp3">download</a> the movie overture.

    </embed>

  </object>
```

the <embed> tag will be used by browsers that do not support the <object> tag

browsers that do not support embedded MP3 files will still display a hypertext link to the file

Object nesting for the rwdance.swf file

```
<!--[if IE]><!-->
  <object data="rwdance.swf" type="application/x-shockwave-flash"
    classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
    codebase="http://download.macromedia.com/pub/shockwave/cabs/flash/swflash.cab#version=9,0,115,0"
    width="280" height="239">
<!--<![endif]-->

<!--[if !IE]><!-->
  <object data="rwdance.swf" type="application/x-shockwave-flash"
    width="280" height="239">
<!--<![endif]-->

    <param name="movie" value="rwdance.swf" />
    <param name="quality" value="high" />
    <param name="menu" value="false" />

    <embed src="rwdance.swf" type="application/x-shockwave-flash"
      width="280" height="239"
      movie="rwdance.swf" quality="high" menu="false">

        To view the movie clip, install Adobe Flash.

    </embed>

  </object>
```

browsers that do not support Flash will display a message suggesting that Flash be installed

34
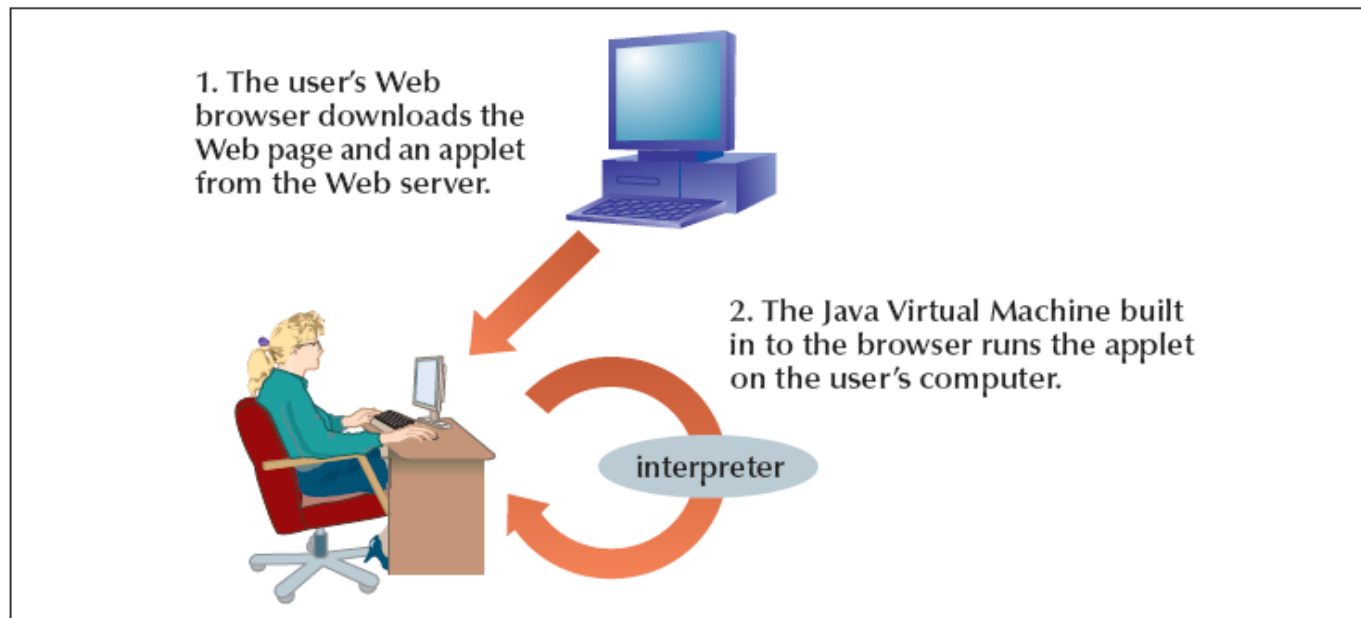
Session 7.3

WORKING WITH JAVA APPLETS

Introducing Java

- **Oak** was developed by Sun Microsystems as an operating system intended to be used by common appliances and devices

- Oak was renamed **Java** in 1995

- Wikipedia: Java is a general-purpose, concurrent, class-based, object-oriented language that is specifically designed to have as few implementation dependencies as possible. It is intended to let application developers "write once, run anywhere".

- Each Java program works with a **Java Virtual Machine (JVM)**

- A Java program is stored in an executable file called a **class file**

Applets and Java Virtual Machines

- A Java **applet** is a small program written in the Java programming language and included in a web page.
- **Applets** are displayed as embedded objects on a Web page in an **applet window**
- Several libraries of Java applets are available

1. The user's Web browser downloads the Web page and an applet from the Web server.

2. The Java Virtual Machine built in to the browser runs the applet on the user's computer.

interpreter

Embedding Java Applets

Embed CrediRoll.class applet to display text in a scrolling marquee

```
<div class="boxContent">
    <h2>Cast</h2>
    <p style="text-align: center">

    <!--[if IE]><!-->
        <object classid="clsid:8AD9C840-044E-11D1-B3E9-00805F499D93"
         type="application/x-java-applet"
         width="260" height="130">
            <param name="code" value="CreditRoll.class" />
    <!--<![endif]-->

    <!--[if !IE]><!-->
        <object classid="java:CreditRoll.class"
         type="application/x-java-applet"
         width="260" height="130">
    <!--<![endif]-->

    Tom Bowen ... Fred Astaire<br />
    Ellen Bowen ... Jane Powell<br />
    Lord John Brindale ... Peter Lawford<br />
    Anne Ashmond ... Sarah Churchill<br />
    Irving Klinger ... Keenan Wynn<br />
    Edgar Klinger ... Keenan Wynn<br />
    James Ashmond ... Albert Sharpe

    </object>

    </p>
</div>
```

ActiveX

<object> tag for IE

<object> tag for non-IE browsers

browsers that don't support Java will still display the abbreviated cast list

Inserting Java Parameters

Adding parameters for font style and scrolling speed

```html
<!--[if !IE]><!-->
  <object classid="java:CreditRoll.class"
   type="application/x-java-applet"
   width="260" height="130">
<!--<![endif]-->

    <param name="fontsize" value="14" />
    <param name="bgcolor" value="CE9314" />
    <param name="textcolor" value="FFFFFF" />

    <param name="speed" value="100" />
    <param name="vspace" value="3" />
    <param name="fadezone" value="20" />

    <param name="repeat" value="yes" />

    <param name="text1" value="Royal Wedding" />
    <param name="text2" value="Produced by: Arthur Freed" />
    <param name="text3" value="Directed by: Stanley Donen" />
    <param name="text4" value="Written by: Alan Jay Lerner" />
    <param name="text5" value="Orignal Music by: Burton Lane" />
    <param name="text6" value="---- o ----" />
    <param name="text7" value="" />
    <param name="text8" value="Fred Astaire ... Tom Bowen" />
    <param name="text9" value="Jane Powell ... Ellen Bowen" />
    <param name="text10" value="Peter Lawford ... Lord John Brindale" />
    <param name="text11" value="Sarah Churchill ... Anne Ashmond" />
    <param name="text12" value="Keenan Wynn ... Irving Klinger" />
    <param name="text13" value="Keenan Wynn ... Edgar Klinger" />
    <param name="text14" value="Albert Sharpe ... James Ashmond" />
    <param name="text15" value="Eddie ... Wilson Benge" />
    <param name="text16" value="Charles Gordon ... Francis Bethencourt" />
    <param name="text17" value="Dick ... William Cabanne" />
    <param name="text18" value="Harry ... Jimmy Fairfax" />
    <param name="text19" value="Billy ... John Hedloe" />

    <param name="url" value="http://www.imdb.com/title/tt0043983" />

  Tom Bowen ... Fred Astaire<br />
  Ellen Bowen ... Jane Powell<br />
  Lord John Brindale ... Peter Lawford<br />
  Anne Ashmond ... Sarah Churchill<br />
  Irving Klinger ... Keenan Wynn<br />
  Edgar Klinger ... Keenan Wynn<br />
  James Ashmond ... Albert Sharpe

</object>
```

parameters to set the font size and style

parameters to control the scrolling speed

parameters to set

marquee text

url of the scrolling marquee

Cast

Royal Wedding

Produced by: Arthur Freed

Directed by: Stanley Donen

Written by: Alan Jay Lerner

39

Jumbo Popcorn

Home | Movies | Actors | Directors | Genres | My Picks | Links

Royal Wedding (1951) ★★★

Overview
- Title Page
- User Comments
- Reviews
- Quotes
- Trivia
- Awards

Showings
- Trailers
- TV Schedule
- DVD Details
- Technical Specs
- Soundtrack

Featuring
- Fred Astaire
- Jane Powell
- Peter Lawford
- Keenan Wynn
- Alan Jay Lerner

You Might Also Enjoy
- Finian's Rainbow
- Seven Brides for 7 Brothers
- Top Hat
- Swing Time
- Three Little Words
- Roberta
- Shall We Dance?
- The Gay Divorcee
- Easter Parade
- Funny Face
- Daddy Long Legs

scrolling marquee

Cast

Royal Wedding
Produced by: Arthur Freed
Directed by: Stanley Donen
Written by: Alan Jay Lerner

Synopsis

Tom Bowen (Fred Astaire) and Ellen Bowen (Jane Powell) are a brother and sister dance team from New York. Their agent (Keenan Wynn) books them in London for performances during the time of the royal wedding. Aboard a cruise ship to London, Ellen becomes involved with aristocrat and playboy, Lord John Brindale (Peter Lawford). In London, Tom meets and falls in love Anne Ashmond (Sarah Churchill), a dancer in his show. Despite a few minor complications, it all ends happily as the two couples find love and marriage on the day of the royal wedding.

Royal Wedding is famous for several dance sequences, including a classic number in which Astaire appears to dance on the ceiling and walls of his hotel room. Jane Powell proves to be an elegant and athletic partner for Astaire; though perhaps his best duet of the movie takes place with a hat rack he discovers on the cruise to England. This is one of Astaire's best and I highly recommend it.

Listen Up

The music for *Royal Wedding* was composed by Burton Lane, who is best known for his work in *Finian's Rainbow* (1947) and his Grammy Award-winning *On a Clear Day You Can See Forever* (1965). Lane's greatest musical accomplishment may very well be his discovery of an 11-year-old singing phenom named Frances Gumm, whom the world now knows better as Judy Garland.

In Focus

The high point of *Royal Wedding* is the "Ceiling Dance" in which Fred Astaire appears to literally dance on the ceiling and walls of his hotel room. The effect was accomplished by putting the whole set inside of a 20-foot diameter rotating cage. As the cage turned, Astaire would seamlessly dance across the four sides of the box, creating the illusion of weightlessness. The same technique would later be used to simulate a zero gravity environment in *2001: A Space Odyssey.*

40

EXTRAS

Creating a Scrolling Marquee with **Internet Explorer**

InSight

- An alternative to using an applet to create a box with scrolling text is to create a marquee element

```
<marquee attributes> content </marquee>
```

  where attributes is one or more of the marquee elements, and content is the page content that appears in the marquee box

Embedding Other Objects

A Web site for lovers of classic films

Inline images

```
<img src="jplogo.jpg" alt="Jumbo Popcorn"
  width="300" height="200" />
```

can be replaced by

```
<object data="jplogo.jpg" type="image/jpeg"
  width="300" height="200" />
  <h1>"Jumbo Popcorn</h1>
</object>
```

Embedding Other Objects

- HTML files

```
<object data="url" type="text/html"
     width="value" height="value" />
</object>
```