What is Multimedia?

Multimedia is everything you can hear or see: texts, books, pictures, music, sounds, CDs, videos, DVDs, Records, Films, and more.

Multimedia comes in many different formats. On the Internet you will find many of these elements embedded in web pages, and today's web browsers have support for a number of multimedia formats.

In this tutorial you will learn about different multimedia formats and how to use them in your web pages.

Multimedia Sound Formats:

The MIDI Format

The MIDI (Musical Instrument Digital Interface) is a format for sending music information between electronic music devices like synthesizers and PC sound cards.

The MIDI format was developed in 1982 by the music industry. The MIDI format is very flexible and can be used for everything from very simple to real professional music making.

MIDI files do not contain sampled sound, but a set of digital musical instructions (musical notes) that can be interpreted by your PC's sound card.

The downside of MIDI is that it cannot record sounds (only notes). Or, to put it another way: It cannot store songs, only tunes.

The upside of the MIDI format is that since it contains only instructions (notes), MIDI files can be extremely small. The example above is only 23K in size but it plays for nearly 5 minutes.

The MIDI format is supported by many different software systems over a large range of platforms. MIDI files are supported by all the most popular Internet browsers.

Sounds stored in the MIDI format have the extension .mid or .midi.

The RealAudio Format

The RealAudio format was developed for the Internet by Real Media. The format also supports video.

The format allows streaming of audio (on-line music, Internet radio) with low bandwidths. Because of the low bandwidth priority, quality is often reduced.

Sounds stored in the RealAudio format have the extension .rm or .ram.

The AIFF Format

The AIFF (Audio Interchange File Format) was developed by Apple.

AIFF files are not cross-platform and the format is not supported by all web browsers.

Sounds stored in the AIFF format have the extension .aif or .aiff.

The SND Format

The SND (Sound) was developed by Apple.

SND files are not cross-platform and the format is not supported by all web browsers.

Sounds stored in the SND format have the extension .snd.

The WAVE Format

The WAVE (waveform) format is developed by IBM and Microsoft.

It is supported by all computers running Windows, and by all the most popular web browsers.

Sounds stored in the WAVE format have the extension .wav.

The MP3 Format (MPEG)

MP3 files are actually MPEG files. But the MPEG format was originally developed for video by the Moving Pictures Experts Group. We can say that MP3 files are the sound part of the MPEG video format.

MP3 is one of the most popular sound formats for music recording. The MP3 encoding system combines good compression (small files) with high quality. Expect all your future software systems to support it.

Sounds stored in the MP3 format have the extension .mp3, or .mpga (for MPG Audio).

What Format To Use?

Multimedia VideoFormats:

The AVI Format

The AVI (Audio Video Interleave) format was developed by Microsoft.

The AVI format is supported by all computers running Windows, and by all the most popular web browsers. It is a very common format on the Internet, but not always possible to play on non-Windows computers.

Videos stored in the AVI format have the extension .avi.

The Windows Media Format

The Windows Media format is developed by Microsoft.

Windows Media is a common format on the Internet, but Windows Media movies cannot be played on non-Windows computer without an extra (free) component installed. Some later Windows Media movies cannot play at all on non-Windows computers because no player is available.

Videos stored in the Windows Media format have the extension .wmv.

The MPEG Format

The MPEG (Moving Pictures Expert Group) format is the most popular format on the Internet. It is cross-platform, and supported by all the most popular web browsers.

Videos stored in the MPEG format have the extension .mpg or .mpeg.

The QuickTime Format

The QuickTime format is developed by Apple.

QuickTime is a common format on the Internet, but QuickTime movies cannot be played on a Windows computer without an extra (free) component installed.

Videos stored in the QuickTime format have the extension .mov.

Multimedia Video Formats:

The RealVideo Format

The RealVideo format was developed for the Internet by Real Media.

The format allows streaming of video (on-line video, Internet TV) with low bandwidths. Because of the low bandwidth priority, quality is often reduced.

Videos stored in the RealVideo format have the extension .rm or .ram.

The Shockwave (Flash) Format

The Shockwave format was developed by Macromedia.

The Shockwave format requires an extra component to play. This component comes preinstalled with the latest versions of Netscape and Internet Explorer.

Videos stored in the Shockwave format have the extension .swf.

Multimedia Document Formats:

The Portable Document Format (PDF) is the file format created by Adobe Systems in 1993 for document exchange. PDF is used for representing two-dimensional documents in a device-independent and display resolution-independent fixed-layout document format. Each PDF file encapsulates a complete description of a 2-D document (and, with Acrobat 3-D, embedded 3-D documents) that includes the text, fonts, images, and 2-D vector graphics that compose the document.

When the PDF first came out in the early 1990s, its general adoption was slow.[2] At that time, the PDF-creation tools (Acrobat) and the viewing and printing software had to be bought. Early versions of PDF had no support for external hyperlinks, reducing its usefulness on the World Wide Web; the additional size of the PDF document compared to plain text meant significantly longer download times over the slower modems common at the time, and rendering the files was slow on less powerful machines. Additionally, there were competing formats such as Envoy, Common Ground Digital Paper and even Adobe's own PostScript format (.ps); in those early years, the PDF file was mainly popular in desktop publishing workflow.

Adobe soon started distribution at no cost of the Acrobat Reader (now Adobe Reader) program, and continued supporting the original PDF, which eventually became the de facto standard for printable documents.

The PDF combines three technologies:

* A sub-set of the PostScript page description programming language, for generating the layout and graphics.
* A font-embedding/replacement system to allow fonts to travel with the documents.
* A structured storage system to bundle these elements and any associated content into a single file, with data compression where appropriate.

Microsoft Compiled HTML Help

Microsoft Compiled HTML Help is a proprietary format for online help files, developed by Microsoft and first released in 1997 as a successor to the Microsoft WinHelp format. It was first introduced with the release of Windows 98, and is still supported and distributed through Windows XP and Vista platforms.

HTML Help files are made with help authoring tools. Microsoft ships the HTML Help Workshop with supported versions of Microsoft Windows and makes the tool available for free download. There are also a lot of third-party help authoring tools available.

The Microsoft Reader .LIT file format is basically a modification of the HTML Help CHM format.

In 2002, Microsoft announced some security risks associated with the .CHM format, as well as some security bulletins and patches [1]. They have since announced their intentions not to develop the .CHM format further, and will be moving to a new generation of Windows Help called Microsoft Assistance Markup Language in the Windows Vista operating system.

Multimedia Document Formats:

Microsoft Compiled HTML Help (continued)

A CHM help file has a ".chm" extension. It has a set of web pages written in a subset of HTML and a hyperlinked table of contents. CHM format is optimized for reading, as files are heavily indexed. All files are compressed together with LZX compression. Most CHM browsers have the capability to display a table of contents outside of the body text of the help file.