



MULTIMEDIA POSSIBILITIES OF WEB-TECHNOLOGIES

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ABSTRACT

This article discusses multimedia possibilities of Web-technologies.

Multimedia technologies every day more and more penetrate into various spheres of human activity. At the same time, thanks to the ability to visually, spectacularly present information, multimedia allows you to implement the fundamental principle of visibility at a qualitatively new level. To create such products a wide range of computer software. To work effectively with these softwares, you need to know the features of these tools. Multimedia is content that is presented simultaneously in different forms: sound, animated computer graphics, video. Multimedia is considered a computer technology that allows the presentation of content through a combination of different types of information - both through traditional static information (text, graphics) and through dynamic information (animation, speech, music, video). Multimedia is a single digital space. Multimedia is classified as linear, non-linear, hypermedia and live media. To create and play multimedia products of different classes, different types of software are required. Media editors and players are categorized as "Office Applications" in the classification of computer programs.

When creating and maintaining Web sites with multimedia content, information resources using multimedia tools, the developer must consider the following:

- analysis, design and development of sites through a combination of various artistic and creative means;
- design and development of digital animations, images, presentations, games, sound and video clips and Internet applications using multimedia software;
- Liaise with network specialists on issues such as web site security and hosting, web server security, space allocation, user access, business continuity, website backup and disaster recovery;



- design, development, and integration of machine code with other specialized inputs, including image files, sound files, and scripting languages.

When working with multimedia, you may notice that some types of multimedia data are directly supported by the browser, such as regular bitmap images in GIF, JPEG or PNG format (placed on pages using the tag). The browser also supports its own <BGSOUND> tag to link to the background music page, and the DYN SRC attribute of the tag, which can be used to place a movie on the page. But these features are not standard. In order for the previous version of HTML (HTML 4) to display video or audio on a Web page, it was necessary to use some third-party plugin that was embedded in the HTML code using special tags. In HTML 4, it is possible to use three different elements for embedding media - <applet>, <embed>, <object>. For example, the following elements can serve as multimedia plug-ins:

- Flash player plugin;
- VLC player plugin;
- QuickTime player plugin.

Therefore, often in order for the user to be able to see a multimedia video file on some site, he needs to install an additional plug-in, which is not always very convenient because it requires additional time, and sometimes even knowledge. The most common and widely used plugin today is the Flash player. The Flash player has one small drawback - it sometimes slows down the browser.

The multimedia capabilities of HTML5 make it redundant to use Adobe Flash and many other add-on programs. Music and videos can be played directly in the browser. More convenient placement of photos and images without using any additional programs that are required for this in HTML4.0. Entering data in HTML5 is getting easier and safer. The correctness of data entry is monitored in real time directly during entry. In HTML4, error checking and reporting occurs after the document has been submitted, which can create problems for users. Text and image become one. The ability to display images and text on Internet sites is completely changing. With HTML5, developers get new ways to design websites that make them as beautiful as glossy magazines. The new Canvas feature allows you to place animations, graphics with dynamic content, and small games directly on websites. When using HTML4, this requires additional programs such as Adobe Flash. With Canvas, it's possible to create user interfaces and games on a whole new level.

With HTML5, the life of the end user becomes noticeably easier:

- installation of numerous additional programs is not required.
- HTML5, unlike HTML4, is compatible, in addition to PCs and laptops, also with tablets, smartphones and modern TV models that provide Internet access.
- HTML5 provides a single standard for displaying content, regardless of browser type.

The Flash platform is also used for animation and interface design, it is used to create more complex advertising and in three-dimensional graphics. It is constantly evolving and improving. And in the coming years, it will not be possible to abandon Flash technology. The reason for this, he cited, is that it will take a long time for all web clients to transition to HTML5 support. In the near future, HTML5 and Adobe Flash technologies will coexist.

Support for many data formats is not included in the browser - there are so many formats that it is simply impossible to cover everything. The problem is solved by using



additional programs. Each such program is "responsible" for its own data format. And, when the Web browser receives any data that it cannot process directly, it loads the appropriate program. Multimedia data that is not supported by the browser is placed on the page using a special tag. Using the corresponding attribute, the name of the data file is set, which will be processed by the additional program. The program reads the data from the file, processes it and generates some kind of screen output based on it, or behaves in some other way. It remains for the browser to determine which program is needed to process data of a particular format. Each data format has its own unique identifier, called the MIME type (Multipurpose Internet Mail Extensions - multipurpose Internet mail extensions). An additional program during installation tells the system what type of MIME it is "too tough". Correspondences of MIME types to data formats and programs that process them are recorded in the Windows Registry. The table lists some MIME types and their corresponding data formats.

File types	MIME types
RAR, ZIP archive	application/x-tar application/x-zip-compressed
ASF audio and video record	video/x-ms-asf
WMV audio and video record	video/x-ms-wmv
AIFF audio record	audio/aiff
AU audio record	audio/basic
MIDI audio record	audio/mid
MP3 audio record	audio/mpeg
WAV audio record	audio/wav
WMA audio record	audio/x-ms-wma
AVI video record	video/avi
Indeo (IVF) video record	video/x-ivf
MPEG video record	video/mpeg
Business card used by email programs to store information about the addressee	text/x-vcard
ART graphic file	image /x-jg
BMP graphic file	image /bmp
GIF graphic file	image/gif
JPEG graphic file	image /jpeg
Macromedia Flash graphic file	application/futuresplash
TIFF graphic file	image/tiff
Adobe Acrobat document	application/pdf
HTML document	text/html
Microsoft Excel document	application/x-msexcel
Microsoft Word document	application/msword
RTF document	application/msword
XML document	text/xml
application	application/x-msdownload



HTML (HTA) application	application/hta
HTML style sheet	text/css
Text document	text/plain

Additional programs that expand the capabilities of the Web browser are divided into two varieties that differ in the principle of operation:

- Browser plugins (plugins) are small, specialized programs implemented as dynamic Windows DLLs. They are loaded by the browser itself in order to process a particular file. If the required extension module is not installed, then the browser can download and install it itself.
- ActiveX controls. A common extension standard for the Windows operating system can also be used to "animate" Web pages. With all the features of plug-ins, ActiveX controls can be supported not only by browsers, but also by all programs installed on the system. An ActiveX control is uniquely identified by a GUID (Global Unique Identifier), which, along with the supported MIME data types, is recorded in the Registry. ActiveX controls are not supported by all browsers.

The ones listed above affect editors and media players. They determine the vector for the further development of multimedia and show the functionality that will be implemented in the near future. The prospects for multimedia are diverse, the areas of application will expand, among other things, due to the emergence of new information technologies and ways of processing information. The combination of multimedia with other technologies will contribute to their more dynamic development and even greater integration into all spheres of society.

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