

# Web page

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A **Web page** or **webpage** is a resource of information that is suitable for the World Wide Web and can be accessed through a web browser. This information is usually in HTML or XHTML format, and may provide navigation to other web pages via hypertext links.

Web pages may be retrieved from a local computer or from a remote web server. The web server may restrict access only to a private network, e.g. a corporate intranet, or it may publish pages on the World Wide Web. Web pages are requested and served from web servers using Hypertext Transfer Protocol (HTTP).

Web pages may consist of files of static text stored within the web server's file system (static web pages), or the web server may construct the (X)HTML for each web page when it is requested by a browser (dynamic web pages). Client-side scripting can make web pages more responsive to user input once in the client browser.

A web page is a type of web document.



A screenshot of a web page.

## Contents

- 1 Filename extensions
- 2 Color, typography, illustration and interaction
  - 2.1 Multimedia
  - 2.2 Dynamic behavior
- 3 Browsers
- 4 Elements of a web page
- 5 Rendering
- 6 URL
- 7 Viewing a web page
- 8 Creating a web page
- 9 Saving a web page
- 10 See also
- 11 References

## Filename extensions

Static web pages usually have the filename extension `.htm` or `.html`. Server-side dynamic web pages usually reflect the language or technology used at the server, such as PHP, JavaServer Pages, or many others, taking associated URL/filename extensions (e.g. `.php` or `.jsp`). These technologies do ensure that simple (X)HTML and other texts are provided to the web browser in the same way as for static web pages. A webpage is a document on the World Wide Web, consisting of the HTML file and any files with scripts or graphics, often linked to other documents on the web.

## Color, typography, illustration and interaction

Web pages usually include instructions as to the colors of text and backgrounds and very often also contain links to images and sometimes other media to be included in the final view.

Layout, typographic and color-scheme information is provided by Cascading Style Sheet (CSS) instructions, which can either be embedded in the HTML or can be provided by a separate file, which is referenced from within the HTML. The latter case is especially relevant where one lengthy stylesheet is relevant to a whole website: due to the way HTTP works, the browser will only download it once from the web server and use the cached copy for the whole site.

Images are stored on the web server as separate files, but again HTTP allows for the fact that once a web page is downloaded to a browser, it is quite likely that related files such as images and stylesheets will be requested as it is processed. An HTTP 1.1 web server will maintain a connection with the browser until all related resources have been requested and provided. Browsers usually render images along with the text and other material on the displayed web page.

### Multimedia

Other media such as sound or video files may also be embedded within web pages, as part of the page or via hyperlinks. Games, animations and other computer-generated material can also be embedded using technologies such as Adobe Flash and Java applets. All of these depend on the client browser's ability to handle the material, and upon the client user's desire and ability to enable (when not enabled by default) these features on their machine.

### Dynamic behavior

Details on dynamic web page

Client-side computer code such as JavaScript or code implementing Ajax techniques can be provided either embedded in the HTML of a web page or, like CSS stylesheets, as separate, linked downloads specified in the HTML (using for example `.js` file extensions for JavaScript files). These scripts may run on the client computer, if the user allows them to, and can provide a degree of interactivity between the web page and the user after the page has downloaded.

## Browsers

A web browser can have a Graphical User Interface, like Internet Explorer, Mozilla Firefox, or Opera, or can be text-based, like Lynx. Web users with visual impairments may use a screen reader to read out the displayed text, or they may use a more specialized voice browser in the first place. Such users will want to enjoy the benefit of the web page without images and other visual media.

Users of fully graphical browsers still may disable the download and viewing of images and other media, to save time, network bandwidth or merely to simplify their browsing experience. Users may also prefer not to use the fonts, font sizes, styles and color schemes selected by the web page designer and may apply their own CSS styling to their viewed version of the page.

The World Wide Web Consortium (W3C) and Web Accessibility Initiative (WAI) recommend that all web pages should be designed with all of these options in mind.

## Elements of a web page

A *web page*, as an information set, can contain many kinds of information, which is able to be seen, heard or interact by the end user:

### Perceived (rendered) information:

- *Textual information*: with diverse render variations.
- *Non-textual information*:
  - *Static images* on raster graphics, typically GIF, JPEG or PNG; or vector formats as SVG or Flash.
  - *Animated images* typically Animated GIF and SVG, but also may be Flash, Shockwave, or Java applet.
  - Audio, typically MIDI or WAV formats or Java applets.
- *Interactive information*: more complex, glued to interface; see dynamic web page.
  - For "on page" interaction:
    - *Interactive text*: see DHTML.
    - *Interactive illustrations*: ranging from "click to play" image to games, typically using *script orchestration*, Flash, Java applets, SVG, or Shockwave.
    - *Buttons*: forms providing alternative interface, typically for use with *script orchestration* and DHTML.
  - For "between pages" interaction:
    - *Hyperlinks*: standard "change page" reactivity.
    - *Forms*: providing more interaction with the server and server-side databases.

### Internal (hidden) information:

- *Comments*
- *Metadata* with semantic meta-informations, Charset informations, DTD, etc.
- *Diagramation and style information*: information about rendered items (like image size attributes) and visual specifications, as Cascading Style Sheets (CSS).
- *Scripts*, usually JavaScript, complement interativity and functionality.

Note: on server-side the web page may also have "Processing Instruction Information Items".

The web page can also contain dynamically adapted information elements, dependent upon the rendering browser or end-user location (through the use of IP address tracking and/or "cookie" information).

From a more general/wide point of view, some information (grouped) elements, like a navigation bar, are uniform for all website pages, like a standard. These kind of "website standard information" are supplied by technologies like web template systems.

## Rendering

Web pages will often require more screen space than is available for a particular display resolution. Most modern browsers will place scrollbars in the window to allow the user to see all content. Scrolling horizontally is less prevalent than vertical scrolling, not only because those pages do not print properly, but because it inconveniences the user more so than vertical scrolling would. However, web pages may utilize page widening for various purposes.

A web page can either be a single HTML file, or made up of several HTML files represented using frames. Frames have been known to cause problems with navigation, printing, and search engine

rankings<sup>[1]</sup>, although these problems occur mostly in older-generation browsers. Their primary usage is to allow certain content which is usually meant to be static, such as page navigation or page headers, to remain in one place while the main content can be scrolled as necessary. Another merit of using a framed web page is that only the content in the "main" frame will be reloaded.<sup>[2]</sup> Frames are rendered very differently, depending on the host browser and for this reason, the usage of frames is typically frowned upon in professional web page development communities<sup>[3]</sup>. With design technologies such as CSS becoming more widespread in their usage, the effect frames provide can be made possible using a smaller amount of code and by using only one web page to display the same amount of content.

When web pages are stored in a common directory of a web server, they become a website. A website will typically contain a group of web pages that are linked together, or have some other coherent method of navigation. The most important web page to have on a website is the index page. Depending on the web server settings, this index page can have many different names, but the most common are `index.htm` and `index.html`. When a browser visits the homepage for a website, or any URL pointing to a directory rather than a specific file, the web server will serve the index page to the requesting browser. If no index page is defined in the configuration, or no such file exists on the server, either an error or directory listing will be served to the browser.

When creating a web page, it is important to ensure it conforms to the World Wide Web Consortium (W3C) standards for HTML, CSS, XML and other standards. The W3C standards are in place to ensure all browsers which conform to their standards can display identical content without any special consideration for proprietary rendering techniques. A properly coded web page is going to be accessible to many different browsers old and new alike, display resolutions, as well as those users with audio or visual impairments.

## URL

Details on URI.

Typically, web pages today are becoming more dynamic. A dynamic web page is one that is created server-side when it is requested, and then served to the end-user. These types of web pages typically do not have a permalink, or a static URL, associated with them. Today, this can be seen in many popular forums, online shopping, and even on Wikipedia. This practice is intended to reduce the amount of static pages in lieu of storing the relevant web page information in a database. Some search engines may have a hard time indexing a web page that is dynamic, so static web pages can be provided in those instances.

## Viewing a web page

In order to graphically display a web page, a web browser is needed. This is a type of software that can retrieve web pages from the Internet. Most current web browsers include the ability to view the source code. Viewing a web page in a text editor will also display the source code, not the visual product.

## Creating a web page

To create a web page, a text editor or a specialized HTML editor is needed. In order to upload the created web page to a web server, traditionally an FTP client is needed.

The design of a web page is highly personal. A design can be made according to one's own preference, or a pre-made web template can be used. Web Templates let web page designers edit the content of a web page without having to worry about the overall aesthetics. Many people publish their own web pages using products like Geocities from Yahoo, Tripod, or Angelfire. These web publishing tools offer free page creation and hosting up to a certain size limit.

Other ways of making a web page is to download specialized software, like a Wiki, CMS, or forum. These options allow for quick and easy creation of a web page which is typically dynamic. Wikipedia, WordPress, and Invision Power Board are examples of the above three web page options.

## Saving a web page

A local copy of a web page may be saved to one's computer, as long as no copyright laws are violated. Most GUI browsers will contain all the options for saving a web page. These include, but are not limited to:

- Saving the rendered text without formatting or images - Hyperlinks are not identified, but displayed as plain text
- Saving the HTML file as it was served - Overall structure will be preserved, although some links may be broken
- Saving the HTML file and changing relative links to absolute ones - Hyperlinks will be preserved
- Saving the entire web page - All images will be saved, as well as links being changed to absolute
- Saving the HTML file including all images, stylesheets and scripts into a single MHTML file. This is supported by Internet Explorer, Mozilla, Mozilla Firefox and Opera. Mozilla and Mozilla Firefox only support this if the MAF plugin has been installed. An MHTML file is based upon the MHTML standard.

Common web browsers, like Mozilla Firefox, Internet Explorer and Opera, give the option to not only print the currently viewed web page to a printer, but optionally to "print" to a file which can be viewed or printed later. Some web pages are designed, for example by use of CSS, so that hyperlinks, menus and other navigation items, which will be useless on paper, are rendered into print with this in mind. Space-wasting menus and navigational blocks may be absent from the printed version; other hyperlinks may be shown with the link destinations made explicit, either within the body of the page or perhaps listed at the end.

## See also

- Dead link
- Domain name
- Guestbook
- Homepage
- HTML element
- Web document
- Web template
- Website

## References

1. ^ [http://www.itc.virginia.edu/desktop/web/frames\\_problems.html](http://www.itc.virginia.edu/desktop/web/frames_problems.html)
2. ^ <http://www.ironspider.ca/frames/frames101.htm>
3. ^ <http://www.agnr.umd.edu/intranet/webtips/frames.html>

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