

## WEB PAGES THE BEGINNING

Click the link to see a copy of first webpage

Check the Glossary PDF in Elearn for help with the underlined words or click on the link below.  
SMART Thesaurus

The first web page went live on August 6, 1991. It was dedicated to information on the World Wide Web project and was made by Tim Berners-Lee. It ran on a NeXT computer at the European Organization for Nuclear Research, CERN. It outlined how to create Web pages and explained more about hypertext.

Web pages that followed after this were very similar, and were entirely text based, with links to other pages and always featured single column designs. A basic version of HTML was born, but was not very widely used.

The single column was popular for the next few years. At this point, the web was just used for sharing information, and styling was not even a thought.

## WEB PAGES TODAY

A web page is a document that can be viewed on a web browser. Today it can contain text, images, sounds, animations, videos and hyperlinks to other web pages. Most web pages are written using HTML, HTML5, XML and CSS. Web pages can be either static or dynamic

## WEB PAGES

### STATIC

Click the link to see the first banner.

A static website uses HTML and CSS and there are no options for the user to input data. The only form of interactivity on a static website is hyperlinks

Static websites usually come with a fixed number of pages that have a specific layout. Used for websites needing 3 pages or less, small community projects could opt for this option. In a blog, static elements might include the basic layout and banner for the site.

## WEB PAGES DYNAMIC

Dynamic websites contain elements that allow the user to interact with the site. They can automatically update sections of a site based on information from other sites, applications, the user or databases.

Contact forms and search boxes are basic types of dynamic interaction.

On a web page like a blog, dynamic elements might include a feed widget and RSS links to other blogs. A dynamic website uses HTML and CSS but it also includes scripting languages, such as JavaScript and PHP. Scripting is a form of programming designed to execute at runtime.

A dynamic website can be called a web application (or web app) because it is programmed like a software application. A software application is stored on a computer's hard drive, but a web application is stored on a server and used through a web browser.

## WEB PAGES

### CLIENT-SIDE SCRIPTS FRONT-END

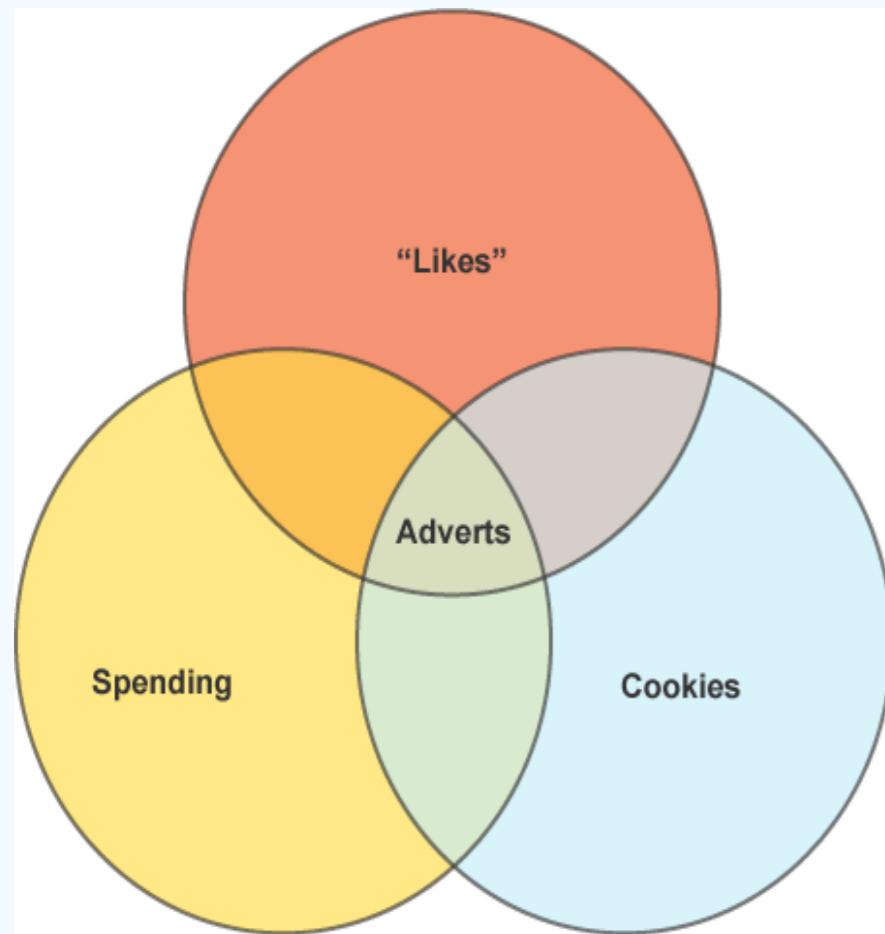
A client-side script is a program that is processed within the client browser. These kinds of scripts are small programs which are downloaded, compiled and run by the browser. JavaScript is an important client-side scripting language and widely used in dynamic websites. The script can be embedded within the HTML or stored in an external file.

External scripts are sent to the client from the server when they are requested. Scripts can also be executed as a result of the user doing something like pressing a page button.

Client-side scripts can often be looked at if the user chooses to view the source code of the page. JavaScript code is widely copied and recycled.

## WEB PAGES

### CLIENT-SIDE SCRIPT



Actions on a web page that take place client-side include the following.

Validation rules

Flash games

Advertising

Responsive design

Cookies

## WEB PAGES

### SERVER-SIDE SCRIPTS BACK-END

A server-side script is processed on the web server when the user requests information. These kinds of scripts can run before a web page is loaded. They are needed for anything that requires dynamic data, such as storing user login details. Some common server-side languages include PHP, Python, Ruby and Java. These execute like programming languages on the server.

When a server-side script is processed, the request is sent to the server and the result is sent back to the client. This is useful for websites which store large amounts of data, such as search engines or social networks - it would be very slow for the client browser to download all the data.

# WEB PAGES

## SERVER-SIDE SCRIPTS

Actions on a web page that take place server-side.

- Accessing a databases
- Information update
- Search engines

## WEB PAGES

### API

Many web pages and applications are now highly integrated with external services around the web. For example, websites often embed functions like maps and videos. Each website does not create these functions independently - they use an application programming interface (API).

APIs make it easier for groups and organisations to share content online.

APIs are invisible to the user of the website, but are of interest to people creating web apps

## WEB PAGES

## MASHUPS

A mashup is a website or application which mixes code from different external sources. There are many pieces of code that could be embedded into a site to create a mashup, including photo galleries, social media feeds and RSS news feeds.

## WEB PAGES

## CLOUD COMPUTING

Cloud computing is storing and using services online, rather than storing them locally on a device such as a hard drive. Cloud computing is becoming more popular as web browsers become more powerful and network coverage is more widely available.

It is increasingly easy to use cloud services using native apps or web apps on smartphones, tablets and desktop machines – as long as there is a web connection in range.

Cloud storage is used to store files such as documents and photos. The files are stored on a server owned by the service provider.

## WEB PAGES

## CLOUD COMPUTING ADVANTAGES

**Backing up** - data backed up in the cloud with a reliable provider can be more reliable than storing your information on a hard drive or USB flash memory stick.

**Compatibility** - documents and files are designed to be compatible across different machines and browsers.

**Cost** – the user doesn't need to buy the latest software as it might be freely accessible through web apps.

**Independence** – the user can work with their files on different computers.

**Reliable software** - web software and browsers are updated online. The user doesn't have to download the latest updates.

## WEB PAGES

## CLOUD COMPUTING DRAWBACKS

**Connection** – the user can only access their information if they have a network connection.

**Copyright** – the user sometimes loses legal rights to their original material if they store it online.

**Security**- data stored online is vulnerable to security attacks.

**Software**- web apps do not usually have as many detailed functions as a full software package.

**Storage**- it is not always possible to store more than a few gigabytes online with one provider,

### Ownership

Cloud services are useful, but using them means we are sharing our data with service providers. Organisations such as government departments and banks are likely to create their own cloud servers because they have extra restrictions with regards to the data they hold.